

CARGILL FERTILIZER, INC.

8813 Highway 41 South - Riverview, Florida 33569 - Telephone 813-677-9111 - TWX 810-876-0648 - Telex 52666 - FAX 813-671-6146

May 25, 2001

CERTIFIED MAIL: 7000 0520 0014 8871 4005

Mr. Al Linero, P.E.
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED
MAY 29 2001
BUREAU OF AIR REGULATION

Dear Mr. Linero:

RE: CARGILL FERTILIZER - RIVERVIEW PLANT EXPANSION
DEP FILE NO. 0570008-036-AC; PSD-FL-315

This letter serves as a response to the comments made by the Department in two letters dated April 24, 2001 and April 26, 2001, in reference to the Riverview Plant Expansion project and also includes a change to the Prevention of Significant Deterioration (PSD) application.

Cargill is adding to the application information a second animal feed ingredient (AFI) granulation train (AFI Plant No. 2). Details on this new emissions unit are attached. This includes revised pages of the air permit application form provided in Attachment A and project description, PSD information, and revised air modeling results provided in Attachment B. Because of the addition of the AFI Plant No. 2, nitrogen dioxide (NO₂) concentrations for the project were predicted to be greater than the PSD Class II significant impact levels. As a result, compliance with the ambient air quality standards (AAQS) and PSD Class II increments were determined by modeling the project's nitrogen oxide (NO_x) emissions with background NO_x emission sources. For the AAQS analysis, a non-modeled background concentration was added to the impacts from modeled sources to produce a total air quality impact. Since the project's impacts were predicted to be less than the PSD Class I significant impact levels, no additional modeling was required to address compliance with the PSD Class I increments. The analyses that address the project's impacts for demonstrating compliance with the AAQS and PSD increments have been incorporated as part of the responses to this letter.

The following are responses to the Department's comments in the letter dated April 24, 2001:

The values included in the initial application for emissions in the year 2000 were estimates as the AORs were not completed at that time. These values have been updated and are included in the attachments. Also attached to EPC's copy of this letter is the permitting application fee of \$480.

The following are responses to the Department's comments in the letter dated April 26, 2001 in the order that they appeared:

1. Cargill has incorporated the sulfuric acid emissions from the plant as a separate input to the regional haze analysis performed with the CALPUFF model. Refer to Attachment B for results of the revised analysis.
2. Revised sulfur dioxide (SO₂) Class I increment consumption modeling is provided in Attachment B.
3. Onsite truck traffic was requested to be explicitly modeled and included in the modeling



recycled paper

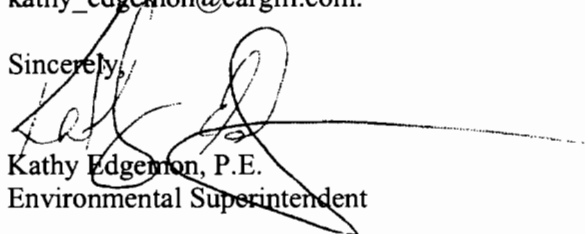
analyses to be compared to the PM₁₀ ambient air quality standards and PSD increments. Cargill is not aware of this request being made to any other direct competitor in the state of Florida and is concerned that the application of this requirement is not being uniformly applied.

Onsite truck traffic has been included in the PM₁₀ ambient AAQS analysis, but was not included in the PSD increment analysis. Not enough information is available to estimate onsite truck traffic during the 1974 baseline period. However, from knowledge by longtime employees, peak daily truck traffic was much greater during 1974. Although annual truck traffic may have been slightly less in 1974 than at the present time, many of the roads were that are now paved were unpaved in 1974. Therefore, it is believed that fugitive dust emissions and, therefore, PM₁₀ impacts due to truck traffic in 1974 were much higher than present conditions or future projected conditions. As a result, increment expansion for PM₁₀ would have resulted due to PM₁₀ impacts from truck traffic. As a conservative modeling approach, these increment expansion emissions were not modeled.

4. The SO₂ modeling analysis has been revised to include facilities with SO₂ emissions greater than 1 ton per year (TPY) within the significant impact area (SIA) and 0.5 km beyond the SIA. Other changes to the emission inventories have also been made. Refer to Attachment B.
5. Similar to the SO₂ modeling analysis, the PM₁₀ modeling analysis has been revised to include facilities that have PM₁₀ emissions within the SIA and 0.5 km beyond the SIA. Refer to Attachment B.
6. Refer to Attachment B for revised modeling analysis and results.
7. The USFWS proposed a sulfuric acid mist limit of 0.09 lb SAM/ton H₂SO₄ versus the proposed limit by Cargill of 0.12 lb SAM/ton H₂SO₄. The Cargill proposed limit of 0.12 lb SAM/ton H₂SO₄ is a reduction from the existing limit of 0.15 lb SAM/ton H₂SO₄ and the modeling analyses have concluded that there will be no expected effects at Cargill's proposed emission limit. In addition, to accept a lower limit Cargill would need to modify the existing mist elimination systems in order to have assurance of meeting the lower limit. During the permitting effort for the No. 7 Sulfuric Acid Plant in 1998, these modifications were estimated to be \$300,000 per year. Using this value, the cost effectiveness for the emission reductions for the No. 8 Sulfuric Acid Plant is estimated to be \$20,300/ton and for the No. 9 Sulfuric Acid Plant is estimated to be \$16,100/ton. Cargill does not feel this cost is justified for the minimal environmental benefit.

If you have any questions, please call me at (813) 671-6369 or email me at kathy_edgemon@cargill.com.

Sincerely,


Kathy Edgemon, P.E.
Environmental Superintendent

cc: Jellerson
EPCHC, Alice Harman, P.E. (CERTIFIED MAIL: 7000 0520 0014 8871 3992)
File P-05-01



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ADMINISTRATIVE OFFICES,
LEGAL & WATER MANAGEMENT DIVISION
THE ROGER P. STEWART ENVIRONMENTAL CENTER
1900 - 9TH AVENUE • TAMPA, FLORIDA 33605
PHONE (813) 272-5960 • FAX (813) 272-5157

AIR MANAGEMENT DIVISION
FAX (813) 272-5605

WASTE MANAGEMENT DIVISION
FAX (813) 276-2256

WETLANDS MANAGEMENT DIVISION
FAX (813) 272-7144

1410 N. 21ST STREET • TAMPA, FLORIDA 33605

May 23, 2001

David Jellerson
Environmental Manager
Cargill Fertilizer, Inc.
8813 Highway 41, South
Riverview, FL 33569

RECEIVED

MAY 29 2001

BUREAU OF AIR REGULATION

RE: Proposed New Stack at the Phosphoric Acid Plant

Dear Mr. Jellerson:

Pursuant to our meeting on April 4, 2001 and your letter of May 11, 2001, EPC staff has reviewed the preliminary request to construct a new Phosphoric Acid Plant stack of 300 feet. It is our understanding that this new stack be used as part of the Net Environmental Benefit Program for the Gypsum Stack expansion for reducing the off-site odors.

Based on our review, it appears that the request may qualify as an operating change under Rule 62-213.410 (3), F.A.C. Our preliminary determination is based on limited information and the assumption that the new stack causes no concern with the modeling performed for the facility. The information required in the rule would need to be submitted to FDEP-SW District for a final determination.

Thank you for sharing this information with us. If you have any questions, please contact Alice Harman or myself at (813) 272-5530.

Sincerely,

Jerry Campbell
Director
Air Management Division

pp

cc: Jerry Kissel, P.E. – Florida Department of Environmental Protection – SW District
Al Linero, P.E. – Florida Department of Environmental Protection – Tallahassee

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E-Mail: epcinfo@epchc.org

RECEIVED

MAY 29 2001

BUREAU OF AIR REGULATION

ADDENDUM TO THE
REVISED
PSD APPLICATION FOR
FACILITY EXPANSION
CARGILL FERTILIZER, INC.
RIVERVIEW, FLORIDA

Prepared For:
Cargill Fertilizer, Inc.
8813 U.S. Highway 41 South
Riverview, FL 33569

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

May 2001
0137558

DISTRIBUTION:
4 Copies - FDEP
2 Copies - Cargill Fertilizer, Inc.
2 Copies - Golder Associates Inc.

ATTACHMENT A
UPDATES TO APPLICATION LONG-FORM



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: Cargill Fertilizer, Inc.	
2. Site Name: Tampa Plant	
3. Facility Identification Number: 0570008 [] Unknown	
4. Facility Location: Street Address or Other Locator: 8813 U.S. Highway 41 South City: Riverview County: Hillsborough Zip Code: 33569	
5. Relocatable Facility? [] Yes [X] No	6. Existing Permitted Facility? [X] Yes [] No

Application Contact

1. Name and Title of Application Contact: Kathy Edgemon, Environmental Superintendent	
2. Application Contact Mailing Address: Organization/Firm: Cargill Fertilizer, Inc. Street Address: 8813 Highway 41 South City: Riverview State: FL Zip Code: 33569	
3. Application Contact Telephone Numbers: Telephone: (813) 671 - 6369 Fax: (813) 671 - 6149	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

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

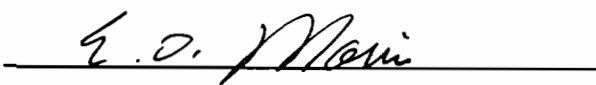
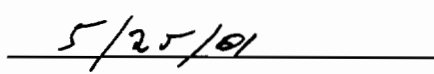
- Initial Title V air operation permit for an existing facility which is classified as a Title V source.
- Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a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

- 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: Mr. E. O. Morris, Vice President of Environment, Health, and Safety
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: Cargill Fertilizer, Inc. Street Address: 8813 Highway 41 South City: Riverview State: FL Zip Code: 33569
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (813) 671 - 6161 Fax: (813) 671 - 6149
4. Owner/Authorized Representative or Responsible Official Statement: <i>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.</i>  Signature  Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: David A. Buff Registration Number: 19011
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:*

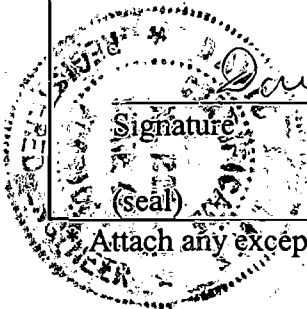
(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions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



Signature

Date

5/18/01

Attach any exception to certification statement.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type	Processing Fee
064-069, 074	Molten Sulfur Handling System	AC1A	
005	No. 8 Sulfuric Acid Plant	AC1A	
006	No. 9 Sulfuric Acid Plant	AC1A	
007	Enhanced Phosphate Products Plant (Formerly GTSP)	AC1A	
073	Phosphoric Acid Production Facility	AC1A	
078	Animal Feed Ingredient Plant No. 1	AC1A	
055	No. 5 DAP Manufacturing Plant	AC1A	
	Animal Feed Ingredient Plant No. 2	AC1A	

Application Processing Fee

Check one: Attached - Amount: \$: \$7,500.00 Not Applicable

Construction/Modification Information

1. Description of Proposed Project or Alterations:

This application is for the proposed modification of the Molten Sulfur Handling System, Phosphoric Acid Plant, the GTSP Plant, the Animal Feed Ingredient (AFI) Plant, the No. 5 DAP Plant, and addition of a second AFI granulation train. This application also addresses a modification to the maximum production rate and emissions rates for the Nos. 8 and 9 Sulfuric Acid Plants.

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

3. Projected Date of Completion of Construction: **31 May 2005**

Application Comment

[Empty box for Application Comment]

Facility Regulatory Classifications

Check all that apply:

1. <input type="checkbox"/> Small Business Stationary Source?	<input type="checkbox"/> Unknown
2. <input checked="" type="checkbox"/> Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. <input type="checkbox"/> Synthetic Minor Source of Pollutants Other than HAPs?	
4. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)?	
5. <input type="checkbox"/> Synthetic Minor Source of HAPs?	
6. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS?	
7. <input checked="" type="checkbox"/> One or More Emission Units Subject to NESHAP?	
8. <input type="checkbox"/> Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters):	

List of Applicable Regulations

62-212.400 - PSD Preconstruction Review	

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions Cap	5. Pollutant Comment
		lb/hour	tons/year		
PM	A				Particulate Matter-Total
PM ₁₀	A				Particulate Matter-PM ₁₀
FL	A				Fluorides - Total
SO ₂	A				Sulfur Dioxide
NO _x	A				Nitrogen Oxides
H107	A				Hydrogen Fluoride
SAM	A				Sulfuric Acid Mist

C. FACILITY SUPPLEMENTAL INFORMATION

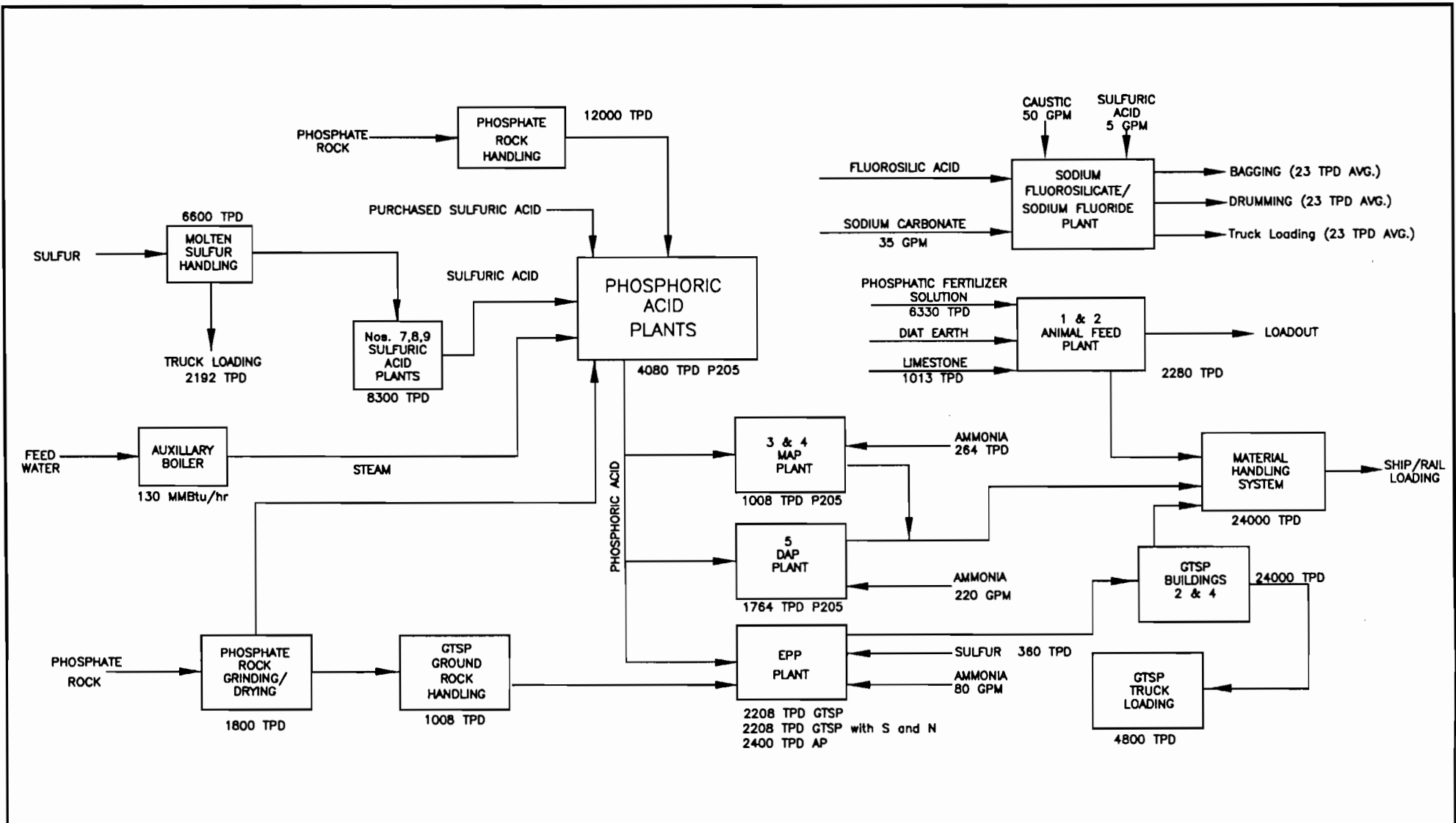
Supplemental Requirements


1. Area Map Showing Facility Location: [X] Attached, Document ID: <u>PSD Report</u> [] Not Applicable [] Waiver Requested
2. Facility Plot Plan: [X] Attached, Document ID: <u>PSD Report</u> [] Not Applicable [] Waiver Requested
3. Process Flow Diagram(s): [X] Attached, Document ID: <u>CR-FI-C3</u> [] 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: [X] Attached, Document ID: <u>PSD Report</u> [] Not Applicable [] Waiver Requested
6. Supplemental Information for Construction Permit Application: [X] Attached, Document ID: <u>PSD Report</u> [] Not Applicable
7. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities: <input type="checkbox"/> Attached, Document ID:_____ <input checked="" type="checkbox"/> Not Applicable
9. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID:_____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
10. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID:_____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID:_____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements: <input type="checkbox"/> Attached, Document ID:_____ <input checked="" type="checkbox"/> Not Applicable
13. Risk Management Plan Verification: <input type="checkbox"/> 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:_____) <input type="checkbox"/> Plan to be submitted to CEPPO (Date required:_____) <input checked="" type="checkbox"/> Not Applicable
14. Compliance Report and Plan: <input type="checkbox"/> Attached, Document ID:_____ <input checked="" type="checkbox"/> Not Applicable
15. Compliance Certification (Hard-copy Required): <input type="checkbox"/> Attached, Document ID:_____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT CR-F1-C3
PROCESS FLOW DIAGRAM



 Golder Associates GAINESVILLE, FLORIDA		SCALE	N/A	ATTACHMENT CR-FI-C3 Future Facility Process Flow Diagram Cargill Riverview
		DATE	05/18/01	
FILE Name	CR-FI-C3.dwg	DESIGN	N/A	PWIN 01375584-44-4-1\Figures\CAD\CR-FI-C3.dwg
PROJECT No.	01375584-0300	COND	N/A	
REV.	1	LAST REVIEWED	PAC	FIGURE
		REVIEW	N/A	

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)			
<input type="checkbox"/> 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).			
<input checked="" type="checkbox"/> 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.			
<input type="checkbox"/> 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)			
<input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.			
<input type="checkbox"/> 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):			
Animal Feed Ingredient Plant No. 1			
4. Emissions Unit Identification Number: <input type="checkbox"/> No ID			
ID: 78, 79, 80, 81 <input type="checkbox"/> ID Unknown			
5. Emissions Unit Status Code:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit? <input type="checkbox"/>
A		28	
9. Emissions Unit Comment: (Limit to 500 Characters)			
Requested minor changes to permit for the existing Animal Feed Ingredient Plant.			

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

Potential/Fugitive Emissions

1. Pollutant Emitted: FL		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 2.11 lb/hour		4. Synthetically Limited? [] 9.25 tons/year	
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: Reference: BACT and Permit No. 0570008-014-AV		7. Emissions Method Code: 2	
8. Calculation of Emissions (limit to 600 characters): Defluorination system supports Nos. 1 and 2 granulation systems.			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:		4. Equivalent Allowable Emissions: 2.11 lb/hour 9.25 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 13A or 13B			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):			

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)			
<input checked="" type="checkbox"/> 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).			
<input type="checkbox"/> 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.			
<input type="checkbox"/> 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)			
<input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.			
<input type="checkbox"/> 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): No. 2 Animal Feed Ingredient Granulation Train.			
4. Emissions Unit Identification Number:		<input checked="" type="checkbox"/> No ID	
ID:		<input type="checkbox"/> ID Unknown	
5. Emissions Unit Status Code: C	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: 28	8. Acid Rain Unit? <input type="checkbox"/>
9. Emissions Unit Comment: (Limit to 500 Characters)			

Emissions Unit Control Equipment

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

Material Handling Baghouses; Dryer Venturi Scrubber

2. Control Device or Method Code(s): **53, 75**

Emissions Unit Details

1. Package Unit:	
Manufacturer:	Model Number:
2. Generator Nameplate Rating: 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:	75	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:	1,200	TPD
5. Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8,760 hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):		
<p>Production rate refers to maximum daily animal feed ingredient production rate.</p>		

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? AFI Plant		2. Emission Point Type Code: 2	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: V	6. Stack Height: 155 feet	7. Exit Diameter: 6.0 feet	
8. Exit Temperature: 150 °F	9. Actual Volumetric Flow Rate: 109,400 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):			
14. Emission Point Comment (limit to 200 characters): Represents the granulation system No. 2 scrubber stack. See PSD Report for all stack parameters.			

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

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type) (limit to 500 characters): No. 2 AFI Granulation Train – Mineral Products, Phosphate Rock, Other Not Classified		
2. Source Classification Code (SCC): 3-05-019-99		3. SCC Units: Tons Produced
4. Maximum Hourly Rate: 50	5. Maximum Annual Rate: 438,000	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): Maximum hourly and annual production rate based on 1200 TPD of AFI production.		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type) (limit to 500 characters): AFI Dryer In-Process Fuel Use – Natural Gas General		
2. Source Classification Code (SCC): 3-90-006-99		3. SCC Units: Million Cubic Feet Burned
4. Maximum Hourly Rate: 0.075	5. Maximum Annual Rate: 657	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1,000
10. Segment Comment (limit to 200 characters): Represents annual average fuel usage of 75 MMBtu/hr for the rotary dryer in the granulation train.		

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

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type) (limit to 500 characters): AFI Dryer In Process Fuel Use – Distillate Oil-General		
2. Source Classification Code (SCC): 3-90-005-99	3. SCC Units: 1,000 Gallons Burned	
4. Maximum Hourly Rate: 0.536	5. Maximum Annual Rate: 214.4	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.5	8. Maximum % Ash:	9. Million Btu per SCC Unit: 140
10. Segment Comment (limit to 200 characters): Represents annual average fuel usage of 75 MMBtu/hr for the rotary dryer. Limited to 400 hr/yr of operation.		

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

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	053	075	EL
PM ₁₀	053	075	EL
NO _x			NS
CO			NS
SO ₂			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: 13.14 lb/hour 57.57 tons/year	4. Synthetically Limited? [<input checked="" type="checkbox"/>]
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: Reference:	7. Emissions Method Code: 2
8. Calculation of Emissions (limit to 600 characters): See Table 2-7 of Part B	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Emissions set equal to those proposed for the existing AFI Granulation Train. Includes emissions from the granulation system venturi scrubber and the milling, classification, and cooling equipment baghouse.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: 13.14 lb/hour 57.57 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 5	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Proposed BACT Limit	

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

Potential/Fugitive Emissions

1. Pollutant Emitted: PM₁₀		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 13.14 lb/hour		4. Synthetically Limited? <input checked="" type="checkbox"/> [X]	
		57.57 tons/year	
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: Reference:		7. Emissions Method Code: 2	
8. Calculation of Emissions (limit to 600 characters): See Table 2-7 of Part B			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Emissions set equal to those proposed for the existing AFI Granulation Train. Includes emissions from the granulation system venturi scrubber and milling, classification, and cooling equipment baghouse.			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:		4. Equivalent Allowable Emissions: 13.14 lb/hour 57.57 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 5			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Proposed BACT limit.			

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

Potential/Fugitive Emissions

1. Pollutant Emitted: SO₂	2. Total Percent Efficiency of Control:
3. Potential Emissions: 38.1 lb/hour	4. Synthetically Limited? <input checked="" type="checkbox"/> [X] 7.8 tons/year
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: 71 Reference: AP-42	7. Emissions Method Code: 3
8. Calculation of Emissions (limit to 600 characters): Emissions due to firing No. 2 Fuel Oil (0.5% S) as backup fuel for 400 hours or less annually.	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): AP-42 emission factor of 142 S, where S equals the sulfur content (WT%) of the fuel oil. In this case, 0.5%.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.5% S fuel	4. Equivalent Allowable Emissions: 38.1 lb/hour 7.8 tons/year
5. Method of Compliance (limit to 60 characters): Fuel Analysis and Fuel Usage Records	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Requested by Applicant	

H. VISIBLE EMISSIONS INFORMATION
(Only Regulated Emissions Units Subject to a VE Limitation)

Visible Emissions Limitation: Visible Emissions Limitation _____ of _____

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: [<input checked="" type="checkbox"/>] Rule [<input type="checkbox"/>] Other
3. Requested Allowable Opacity: Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9.	
5. Visible Emissions Comment (limit to 200 characters): Rule 62-296.705(2)(a) for scrubber stack.	

I. CONTINUOUS MONITOR INFORMATION
(Only Regulated Emissions Units Subject to Continuous Monitoring)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[<input type="checkbox"/>] Rule [<input type="checkbox"/>] Other
4. Monitor Information: Manufacturer: _____ Model Number: _____ Serial Number: _____	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

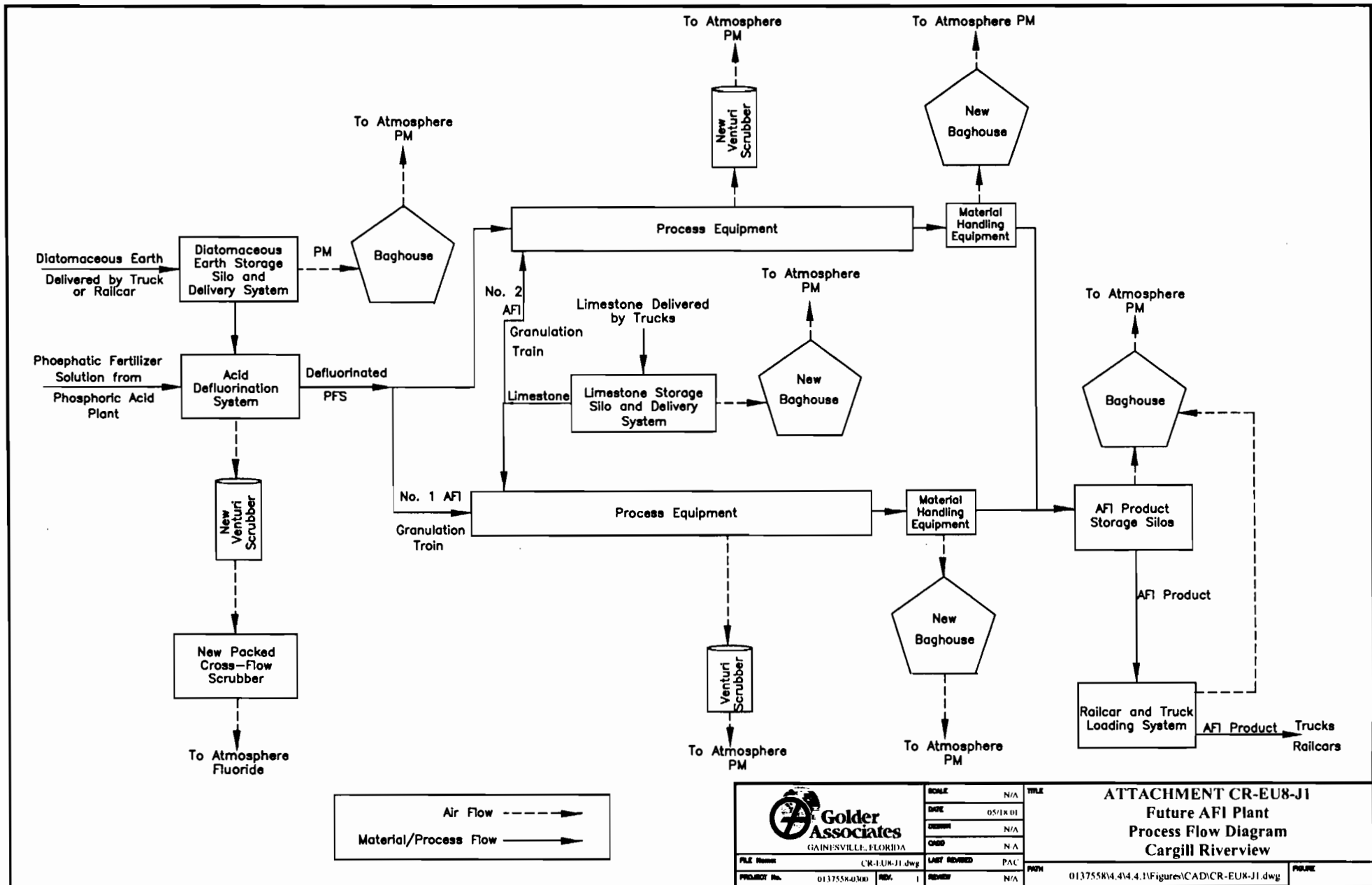
**J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)****Supplemental Requirements**


1. Process Flow Diagram [X] Attached, Document ID: <u>CR-EU8-J1</u> [] Not Applicable [] Waiver Requested
2. Fuel Analysis or Specification [X] Attached, Document ID: <u>CR-EU8-J2</u> [] Not Applicable [] Waiver Requested
3. Detailed Description of Control Equipment [] Attached, Document ID: _____ [X] Not Applicable [] Waiver Requested
4. Description of Stack Sampling Facilities [] Attached, Document ID: _____ [X] Not Applicable [] Waiver Requested
5. Compliance Test Report [] Attached, Document ID: _____ [] Previously submitted, Date: _____ [X] Not Applicable
6. Procedures for Startup and Shutdown [] Attached, Document ID: _____ [X] Not Applicable [] Waiver Requested
7. Operation and Maintenance Plan [] Attached, Document ID: _____ [X] Not Applicable [] Waiver Requested
8. Supplemental Information for Construction Permit Application [X] Attached, Document ID: <u>PSD Report</u> [] Not Applicable
9. Other Information Required by Rule or Statute [] Attached, Document ID: _____ [X] Not Applicable
10. Supplemental Requirements Comment:

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Acid Rain Part Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ <input type="checkbox"/> Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

ATTACHMENT CR-EU8-J1
PROCESS FLOW DIAGRAM



 Golder Associates GAINESVILLE, FLORIDA		SCALE	N/A	TITLE	ATTACHMENT CR-EU8-J1 Future AFI Plant Process Flow Diagram Cargill Riverview	
		DATE	05/18/01			
FILE Name	CR-1.06-J1.dwg	DESIGN	N/A	PLOT	01375584.414.4.1\Figures\CAD\CR-EU8-J1.dwg	FIGURE
PROJECT No.	01375584.030	CADD	N/A			
		LAST REVISED	PAC			
		REVIEW	N/A			

ATTACHMENT CR-EU8-J2

FUEL ANALYSIS

Attachment CR-EU8-J2

Animal Feed Plant No. 2
Fuel Analysis

Fuel	Density (lb/scf)/ (lb/gal)	Moisture (%)	Weight % Sulfur	Weight % Nitrogen	Weight % Ash	Heat Capacity
Natural Gas	0.048	<0.01	<0.001	0.62	--	1,000 Btu/scf
No. 2 Fuel Oil	6.83	<0.01	0.5	0.006	<0.01	140,000 Btu/gal

ATTACHMENT B

**PSD REPORT FOR AFI PLANT NO. 2 AND
REVISIONS TO PSD APPLICATION TABLES**

1.0 INTRODUCTION

Cargill Fertilizer, Inc. (Cargill) is proposing to construct a second animal feed ingredient (AFI) granulation train (dryer, pug mill, and cooler/classifier) at its existing AFI Plant located at the Riverview facility. The new granulation train will be located in an area west of the existing AFI plant. The second AFI granulation train will be designed to produce a total of 1,200 tons per day (TPD) and 438,000 tons per year (TPY) of granular animal feed phosphate product. With the new granulation train, the AFI plant will be designed to produce a combined total of 2,280 TPD and 832,200 TPY of granular animal feed phosphate product. The modified defluorination area within the AFI plant, as described in the February Prevention of Significant Deterioration (PSD) permit application, will be used to support the second granulation train.

Process support equipment will also be added as part of this project. This equipment will include a new venturi scrubber and cyclones to control PM emissions from the granulation system, and a new milling, classification, and cooling equipment baghouse.

Cargill intends to permit the proposed second granulation train as an additional new emissions unit in the Riverview expansion PSD application dated February 2001. As a result, emissions of fluorides (F), particulate matter (PM), particulate matter less than 10 microns (PM_{10}), nitrogen oxides (NO_x), sulfur dioxide (SO_2), and sulfuric acid mist (SAM) from the second granulation train and the increased F emissions from the AFI plant defluorination area will be subject to PSD review. The changes to the existing AFI granulation train and defluorination area, as described in the February 2001 PSD application, will also be implemented.

The remainder of this report supplements the previously submitted PSD application as follows:

1. Revised Florida Department of Environmental Protection (FDEP) Long Form application, which incorporates the second AFI granulation train and the expanded AFI defluorination area;
2. Revised Section 2.0 emission and control equipment tables;
3. Revised Section 3.0 PSD applicability tables;
4. Best available control technology (BACT) analysis for the AFI second granulation train sources as well as the expanded defluorination area;
5. Revised Section 6.0 tables providing the results of additional air quality impact analysis, including impacts of Riverview facility truck traffic emissions (Note: Impacts of NO_x

emissions are now above significant impact levels; therefore, a full air quality analysis is presented for NO_x); and

6. Revised additional impact analysis (impact on soils, vegetation, and visibility), including impacts on PSD Class I areas.

2.0 PROJECT DESCRIPTION

2.1 GENERAL

The second AFI granulation train, like the existing granulation train, will be designed to produce calcium phosphates. Phosphoric acid is defluorinated in the existing defluorination area and fed to the granulation area where it is reacted with limestone to produce animal feed phosphates. After reaction, the calcium phosphate product is discharged to a pug mill where the material is granulated. The material is discharged into a dryer. The solids are discharged from the dryer to the solids handling section of the granulation plant where the product is classified, cooled, and dusted. Product material is then transferred to bulk storage where it is subsequently loaded into trucks or railcars.

Cargill is proposing to construct a second AFI granulation train with a production capacity of 1,200 TPD and 438,000 TPY of granular animal feed phosphate product. The proposed project will consist of a duplication of the existing process and control equipment associated with the granulation train (i.e., screens, pug mill, dryer, and cooler/classifier), with the modifications described in the February 2001 PSD application. Both granulation trains will use the existing limestone and diatomaceous earth (DE) unloading system and AFI loadout system (i.e., silos, bins, and loading equipment). A flow diagram of the existing AFI plant and the proposed AFI second granulation train is presented in Attachment CR-EU8-J1.

The No. 2 granulation system will be constructed identical to the No. 1 granulation system, except where described below.

2.2 GRANULATION PROCESS

The No. 2 granulation system will be designed to produce up to 1,200 TPD and 438,000 TPY of AFI. The No. 2 granulation system dryer will also operate primarily on natural gas, using No. 2 fuel oil as a backup. No. 2 fuel oil burning will be limited to 400 hours per year (hr/yr). The new dryer will be similar in design to the No. 1 granulation system dryer, except that it will have a maximum heat input rate of 75 million British thermal units per hour (MMBtu/hr).

Scrubbed exhaust gases from the new granulation plant dryer and reaction system will be sent to a venturi scrubber and then to a new stack adjacent to the second granulation plant building. The new venturi scrubber will be similar in design to the existing venturi scrubber, controlling emissions from the No. 1 granulation system. The milling, classification, and cooling equipment will be vented to a baghouse and through a separate stack. A plot plan of the AFI plant area, with the new sources, is shown in Figure 2-2.

2.3 POLLUTION CONTROL EQUIPMENT AND EMISSIONS

Table 2-3 presents a revised summary of the stack and vent geometry and operating data for all modified emissions units including the No. 2 granulation system and No. 2 milling, classification, and cooling equipment baghouse. A revised summary of pollution control equipment and allowable emission rates for the existing and proposed AFI plants are presented in Table 2-7. The table lists allowable emission rates for F, PM, and PM₁₀. Future potential combustion-related emissions for the two granulation trains are presented in Tables 2-11a and 2-11b, respectively.

3.0 AIR QUALITY REVIEW REQUIREMENTS

3.1 PSD REVIEW

Presented in Table 3-3 are the future potential emissions from all emissions units at the facility that are being modified or otherwise affected by the proposed project, including the addition of the second AFI granulation train. The future potential emissions are based on information from Section 2.0. The revised net increase in emissions due to the proposed modification at the facility is shown in Table 3-4. Also included are contemporaneous emission increases which have occurred at Cargill in the last 5 years. As shown, the net increase exceeds the PSD significant emission rates for PM, PM₁₀, carbon monoxide (CO), SO₂, NO_x, SAM, and F. As a result, PSD review applies to these pollutants.

Table 2-2 presents revised average actual emissions for calendar years 2000 and 1999 for all modified emissions units affected by the proposed project. Actual emissions for 2000 and 1999 are from the facility's Annual Operating Report (AOR).

3.2 EMISSION STANDARD

3.2.1 NEW SOURCE PERFORMANCE STANDARDS

There are currently no Federal New Source Performance Standards (NSPS) that apply to the AFI plant.

3.2.2 STATE OF FLORIDA STANDARDS

Since the provisions of Rule 62-296.403(1)(a) through (h) do not apply to the AFI plant, the provisions of paragraph (i) would apply. This provision states that a BACT determination would apply to the source, as determined pursuant to Rule 62-212.400(6), Florida Administrative Code (F.A.C.). Therefore, a BACT determination must be made regarding F emissions from the AFI plant. The BACT analysis for the proposed project is presented in Section 4.0.

4.0 AMBIENT MONITORING ANALYSIS

4.1 NO_x AMBIENT MONITORING ANALYSIS

A background NO_x concentration must be estimated to account for NO_x sources, which are not explicitly included in the atmospheric dispersion modeling analysis. To estimate reasonable background NO_x concentrations, a review of recent, available NO_x monitoring data in the area of Cargill was performed. Presented in Table 4-3 is a summary of ambient NO_x data available for 1999 and 2000, for all monitors located within 20 kilometers (km) of the Cargill site. Two stations are located within 20 km of Cargill, which have continuous NO_x monitors. The monitors are operated by Hillsborough County Environmental Protection Commission. Data recoveries exceed 93 percent for one monitor and 88 percent for the other monitor.

The monitors show that ambient NO_x annual average concentrations were well below the Ambient Air Quality Standard (AAQS) of 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). For purposes of an ambient NO_x background concentration modeling analysis, the highest annual average concentration occurring over the 2-year period was selected. This concentration is 21 $\mu\text{g}/\text{m}^3$, measured in Tampa (Gandy Blvd.), approximately 14.8 km from Cargill's facility. This monitor is likely impacted by several existing point sources, such as Cargill and Tampa Electric's Big Bend power station, which are already included explicitly in the modeling dispersion analysis. As a result, this background concentration is conservatively high.

5.0 BEST AVAILABLE CONTROL TECHNOLOGY ANALYSIS

5.1 REQUIREMENTS

In the case of the proposed addition of the second AFI granulation train and the defluorination system production increase at Cargill, PM/PM₁₀, SO₂, NO_x, F, and SAM are the pollutants requiring BACT analysis. The BACT analysis is presented in the following section.

5.2 BACT ANALYSIS FOR PM/PM₁₀

5.2.1 MATERIAL HANDLING SOURCES

The existing AFI plant uses a combination of baghouses, cyclones, and wet scrubbers to control PM/PM₁₀ emissions. Baghouses are used to control all raw material (DE and limestone) handling operations, as well as product loadout operations. Baghouse technology represents the state-of-the-art in controlling PM/PM₁₀ emissions for material handling sources. Baghouses are highly efficient and allow collected PM to be recovered as product. Although wet PM controls (i.e., scrubbers) could be employed, an additional liquid waste stream would be generated.

The current PM/PM₁₀ emission limit for the material handling sources at the existing AFI plant is 0.012 grain per dry standard cubic foot (gr/dscf), based on FDEP's BACT determination presented in Construction Permit No. 0570008-28-AC, issued on June 8, 1999. Given this recent BACT determination by FDEP, that the material handling sources in the existing AFI plant are identical or similar to the proposed material handling sources for the AFI plant No. 2 and that no other technology is capable of achieving lower PM/PM₁₀ levels than the proposed baghouse technology, Cargill is proposing an emission limit of 0.012 gr/dscf as BACT for these sources. This is also applicable to the proposed baghouse-controlling PM emissions from the second AFI milling, classification, and cooling equipment.

5.2.2 PROCESS EQUIPMENT

PM emissions from the AFI plant No. 2 reactor and dryer will be controlled by a new venturi scrubber. The venturi scrubber control is an efficient control device and is the most appropriate technology for gas streams that contain a significant amount of moisture or particulates that are "sticky." The exhaust gas stream from the animal feed dryers has these characteristics. This gas stream is combined with the gas stream from the reactor system prior to being scrubbed.

FDEP determined wet scrubber technology to be BACT in Construction Permit No. 0570008-028-AC, issued on June 8, 1999, for modifications to the existing AFI Plant. The permitted PM/PM₁₀ emission limits for the existing No. 1 AFI granulation train are 8 pounds per hour (lb/hr) and 35.04 TPY. Again, given this recent BACT determination by FDEP for an identical source, Cargill is proposing equivalent control equipment, capable of attaining the same emission rates, as BACT for the second AFI granulation system.

5.3 BACT ANALYSIS FOR FLUORIDE

In June 1999, FDEP issued a final Air Construction Permit allowing Cargill to make the modifications necessary to increase production of the existing AFI plant from 580 to 770 TPD of AFI. For that permit, FDEP determined a F emission rate of 0.5 pound per batch per hour (lb/batch-hr) and 1.0 lb/hr total to be BACT. Cargill is modifying the existing acid defluorination system with the addition of a fourth acid batch tank and production of defluorinated acid will increase proportionally with the increase in AFI production for both granulation systems; therefore, the maximum hourly F emission rate will increase to 2.11 lb/hr. The new packed scrubber is expected to provide equivalent or better F control. Given this recent BACT determination by FDEP and the increase in production afforded by the proposed modification, Cargill believes that a F emission limit of 0.5 lb/batch-hr or 2.11 lb/hr still represents BACT.

5.4 BACT ANALYSIS FOR NO_x

The new AFI plant dryer is a small source of NO_x due to fuel combustion in the dryer. Good combustion practices constitute BACT for NO_x for this source.

5.5 BACT ANALYSIS FOR SO₂ AND SAM

The AFI plant No. 1 is currently permitted to burn fuel oil as a backup fuel for only 400 hr/yr. The maximum sulfur content of the fuel oil is 0.5 percent. Cargill is also requesting the same fuel oil limitations for the AFI plant No. 2. As such, the potential emissions from each AFI plant are less than 10 TPY.

The only feasible alternative BACT is the use of lower sulfur oil (i.e., fuel oil with a maximum sulfur content of 0.05 percent). However, this would reduce total potential SO₂ emissions by only about 15 TPY. In addition, more fuel usage would result due to the lower heating value of 0.05-percent sulfur fuel oil[(about 136,000 British thermal units per gallon (Btu/gal) vs. about 140,000 Btu/gal for 0.5-percent sulfur oil]. Additional fuel oil usage is not desirable in the current national situation of reduced fuel oil and natural gas availability. Considering that fuel oil is used only as backup when natural gas is not available and fuel oil burning is limited to 400 hr/yr from each emissions unit, the current fuel oil with a maximum sulfur content of 0.5 percent is considered as BACT for these sources.

Since SAM can be emitted directly from fossil fuel combustion sources or can be formed as acidic precipitation or acid rain due to SO₂ emissions from these sources, BACT for SO₂ constitutes BACT for SAM.

6.0 AIR QUALITY IMPACT ANALYSIS

6.1 GENERAL APPROACH

The general modeling approach used in the current analyses, including air dispersion models and meteorological data, followed the same procedures and assumptions that were presented in the original application. These procedures included those used in the determination of the project's significant impact area, compliance with AAQS, and compliance with PSD Class I and II increments. For these analyses, the Industrial Source Complex Short-term (ISCST3, Version 00101) dispersion model [U.S. Environmental Protection Agency (EPA), 2000] was used to evaluate the pollutant impacts due to the proposed project in areas within 50 km of the proposed facility. For predicting maximum impacts at the Chassahowitzka National Wilderness Area (CNWA) PSD Class I area, the California Puff (CALPUFF) modeling system was used. Similar to the previous analyses, the meteorological data used in the ISCST3 model consisted of a concurrent 5-year period of hourly surface weather observations and twice-daily upper air soundings from the National Weather Service (NWS) stations at the Tampa International Airport in Tampa, Florida, and at Ruskin, Florida, respectively. The 5-year period of meteorological data was from 1991 through 1995. Meteorological data used with the CALPUFF model consisted of a CALMET-developed wind field for 1990.

6.2 EMISSION INVENTORY

6.2.1 SIGNIFICANT IMPACT ANALYSIS

The modified SO₂, NO_x, PM₁₀, and F emission rate increases and the physical and operational stack parameters for all project-affected sources are summarized in Tables 6-3 through 6-7. The stack, operating, and emission data including increases in SAM emissions for all project-affected sources are presented in Table 6-23. The current annual SO₂, PM₁₀, NO_x, SAM, and F emissions for these sources are presented in Table 2-2.

The revised current actual emissions of SO₂ and NO_x for all Cargill sources affected by the project are presented in Table 6-3, along with stack parameters. The revised SO₂ and NO_x emission inventory for all future Cargill sources are presented in Table 6-4.

The revised current actual PM₁₀ emission inventory for affected Cargill sources is presented in Table 6-5. The future Cargill PM₁₀ emission inventory is presented in Table 6-6. The last column of Table 6-6 indicates which future sources are affected by the proposed project. PM₁₀ emissions for all Cargill sources were developed using the same method and approach used to develop the SO₂ emissions.

The PM₁₀ emissions from road dust, due to truck traffic associated with the project, were also estimated. These emissions were estimated using emission factors for paved roads from the EPA publication, *Compilation of Air Pollutant Emission Factors*, AP-42. The PM₁₀ emissions were estimated for actual and future truck operations based on the number of trucks, vehicle weights, and vehicle miles traveled. The basis and the results of these calculations are provided in Appendix H.

The revised current (project-affected sources only) and future potential Cargill F emission inventories are presented in Table 6-7. The last column of Table 6-7 indicates which current and future sources are affected by the proposed Project. The F emissions for all Cargill sources were also developed using the same methods and approaches used to develop the SO₂ emissions.

The current actual and future SAM emission inventories for affected Cargill sources are presented in Table 6-23. The last column of Table 6-23 indicates which future sources are affected by the proposed project. The SAM emissions for all Cargill sources were developed using the same methods and approaches used to develop the SO₂ emissions.

All sources were modeled at locations that are relative to the location of the No. 9 Sulfuric Acid Plant stack. This modeling origin has been used in previous PSD applications for the Cargill Riverview facility.

6.2.2 AAQS AND PSD CLASS II ANALYSES

A listing of background SO₂, PM₁₀, and NO_x sources and their locations relative to the Cargill Riverview facility is provided in Tables 6-8, 6-9, and 6-9a, respectively. All facilities were evaluated using the North Carolina screening technique. Based on this technique, facilities whose annual (i.e., TPY) emissions are less than the threshold quantity, Q, are eliminated from the modeling analysis. Q is equal to 20 X (D-SIA), where D is the distance in km from the facility to Cargill-Riverview and SIA is the distance of the proposed project's SO₂, PM₁₀, and NO_x significant impact area (32.5, 6, and 2 km, respectively). It should be noted that the project's NO₂ impacts are now predicted to be greater

than the significant impact levels due to the addition of the No. 2 AFI granulation train. The SO₂ facilities that were not eliminated in the screening analysis were included in the AAQS and/or PSD Class II analyses.

Summaries of the modified SO₂, PM₁₀, and NO_x background source data that were used for the AAQS and/or PSD Class II analyses are presented in Appendix F.

Emission data for non-Cargill SO₂, PM₁₀, and NO_x PSD sources were obtained from FDEP and were supplemented with current and historical information obtained from Golder. In addition, emission data for non-Cargill PM₁₀ PSD sources were supplemented with data obtained from the Big Bend Transfer Company PSD analysis.

6.2.3 CARGILL RIVERVIEW PSD BASELINE INVENTORY

Summaries of Cargill's SO₂ and PM₁₀ sources for the PSD baseline year (1974) were provided in previous submittals for the project. A summary of Cargill's NO_x sources for the PSD baseline year (1988) is provided in Table 6-10a. These sources were used with Cargill's future sources from Tables 6-4 and 6-6 to determine the PSD increment consumption after completion of the proposed project.

6.2.4 PSD CLASS I ANALYSIS

The proposed project's impacts were predicted to exceed only the EPA proposed 3- and 24-hour SO₂ Class I significant impact levels at the CNWA PSD Class I area. A PSD Class I increment consumption analysis was, therefore, performed for SO₂. The SO₂ background source inventory for the CNWA was submitted in the original application.

6.3 RECEPTOR LOCATIONS

6.3.1 SITE VICINITY

To determine the PM₁₀, SO₂, and NO_x significant impact area for the proposed project, concentrations were predicted using polar grids. The receptor grids were comprised of 36 radials, spaced at 10-degree intervals and began at the plant property and extended out to 20 km for SO₂, PM₁₀, and F and out to 50 km for NO_x. Additional receptors were located along certain radials at distances of 34, 32, and 36 km to identify the significant impact distances for the 3-hour, 24-hour, and annual average SO₂ concentrations, respectively. The fenceline receptors were the same as those used in the original application.

The receptor locations out to 2 km from the facility, along with the future Cargill sources and buildings, are shown in Figure 6-1.

Based on the results of the significant impact analyses, the project's impacts were predicted to be significant out to maximum distances of 32.5, 27, and 15 km for SO₂ for the 3-hour, 24-hour, and annual averaging periods, respectively; 6 km for PM₁₀; and 2 km for NO₂.

6.3.2 CLASS I AREA

The receptors used in the PSD Class I area of the CNWA were the same as those used in the original application.

6.4 BACKGROUND CONCENTRATIONS

To estimate total air quality concentrations in the site vicinity, a background concentration must be added to the AAQS modeling results. The background concentration is considered to be the air quality concentration contributed by sources not included in the modeling evaluation.

The derivation of the background concentration for the modeling analysis was presented in Section 4.0. The SO₂ and PM₁₀ background concentrations were presented in the original application. Using the same approach for those pollutants, the annual average NO₂ background concentration was determined to be 21 µg/m³, based on the highest concentration measured near the project. This background concentration was added to model-predicted concentrations to estimate total air quality levels for comparison to AAQS.

6.5 BUILDING DOWNWASH EFFECTS

All significant building structures within Cargill's existing plant area were determined by a site plot plan. The revised plot plan of the proposed project was presented in Section 2.0 (Figure 2-2). A total of 19 building structures were evaluated. All building structures were processed in the EPA Building Input Profile (BPIP, Version 95086) program to determine direction-specific building heights and projected widths for each 10-degree azimuth direction for each source that was included in the modeling analysis. A revised listing of dimensions for each structure is presented in Table 6-13. Appendix G also contains revised BPIP input and output files.

6.6 MODEL RESULTS

6.6.1 SIGNIFICANT IMPACT ANALYSIS

A summary of the revised predicted maximum SO₂, NO_x, and PM₁₀ concentrations for the proposed facility expansion only for the screening analysis is presented in Table 6-14. The modeling results indicated that maximum predicted concentrations due to the proposed project only would be above the significant impact levels for SO₂, PM₁₀, and NO₂. As a result, additional modeling analyses were performed for SO₂, PM₁₀, and NO₂ to address compliance with AAQS and PSD increments.

6.6.2 AAQS ANALYSIS

A summary of the revised highest, second-highest (HSH) 3- and 24-hour average SO₂ concentrations; revised maximum annual and highest, sixth highest (H6H) 24-hour average PM₁₀ concentrations; and maximum annual average NO₂ concentrations predicted for all sources for the screening analysis is presented in Table 6-15. Based on the screening analysis results, modeling refinements were performed. The revised results of the refined modeling analysis are presented in Table 6-16.

The maximum predicted annual, HSH 24-hour, and HSH 3-hour SO₂ concentrations are 57.8, 264, and 1,167 $\mu\text{g}/\text{m}^3$, respectively. These concentrations include ambient non-modeled annual, 24-hour, and 3-hour concentrations of 8, 31, and 121 $\mu\text{g}/\text{m}^3$, respectively. The maximum predicted annual and HSH 3-hour concentrations are less than the annual and 3-hour AAQS of 60 and 1,300 $\mu\text{g}/\text{m}^3$, respectively. The HSH 24-hour concentration of 264 $\mu\text{g}/\text{m}^3$ is predicted to be greater than the 24-hour AAQS of 260 $\mu\text{g}/\text{m}^3$. However, the project does not have a significant impact at any receptor or during any time period when the AAQS is exceeded.

The maximum predicted annual and H6H 24-hour PM₁₀ concentrations are 55.6 and 227.6 $\mu\text{g}/\text{m}^3$, respectively. These concentrations include ambient non-modeled annual and 24-hour background concentrations of 23 and 39 $\mu\text{g}/\text{m}^3$, respectively. The maximum PM₁₀ concentrations are predicted to be greater than the AAQS of 50 and 150 $\mu\text{g}/\text{m}^3$, respectively. However, the project does not have a significant impact at any receptor or during any time period when the AAQS is exceeded.

The maximum predicted annual NO₂ concentration is 46.1 $\mu\text{g}/\text{m}^3$. This concentration includes an ambient non-modeled annual concentration of 21 $\mu\text{g}/\text{m}^3$, respectively. The maximum NO₂ concentration is predicted to be less than the AAQS of 100 $\mu\text{g}/\text{m}^3$.

6.6.3 SO₂, PM₁₀, AND NO₂ PSD CLASS II INCREMENT ANALYSIS

Summaries of the maximum SO₂ and PM₁₀ PSD increment consumption predicted for all sources for the screening analysis is presented in Table 6-17. Based on the screening analysis results, modeling refinements were performed. The results of the refined modeling analysis are presented in Table 6-18.

The maximum predicted annual and HSH 24-hour and 3-hour SO₂ increment consumption concentrations of 0.0, 49.7, and 296.6 $\mu\text{g}/\text{m}^3$, respectively, are less than the allowable PSD Class II increments of 20, 91, and 512 $\mu\text{g}/\text{m}^3$, respectively.

The maximum predicted annual PM₁₀ increment consumption concentration of 9.45 $\mu\text{g}/\text{m}^3$ less than the allowable PSD Class II increments of 17 $\mu\text{g}/\text{m}^3$. The HSH 24-hour PM₁₀ increment consumption concentration was predicted to be 96.0 $\mu\text{g}/\text{m}^3$. This impact occurs on TECO Gannon's property and the project has a zero contribution. A concentration of 31.8 $\mu\text{g}/\text{m}^3$ was predicted at the Gannon property line, and the project also had a zero contribution.

The maximum predicted annual NO₂ increment consumption concentration of 4.1 $\mu\text{g}/\text{m}^3$ is less than the allowable PSD Class II increment of 25 $\mu\text{g}/\text{m}^3$.

6.6.4 PSD CLASS I ANALYSIS

The revised maximum SO₂, NO_x, and PM₁₀ concentrations predicted for the proposed project (at the CNWA PSD Class I area only) are compared with the EPA's proposed PSD Class I significance levels in Table 6-19. All maximum predicted impacts were below the significant impact levels except for the 3- and 24-hour average SO₂ concentrations. Therefore, a full PSD Class I incremental analysis was performed for SO₂ for the 3- and 24-hour averaging periods.

The maximum 3- and 24-hour SO₂ PSD Class I increment consumption, due to all PSD-affecting sources, is summarized in Table 6-20. The 3- and 24-hour periods are listed where the maximum predicted PSD increment exceeded the allowable PSD Class I increments of 25 and 5 $\mu\text{g}/\text{m}^3$, respectively. For each receptor and time period that exceeded the allowable PSD Class I increment, the contribution from the proposed project only was determined to be well below the significant impact levels. Therefore, it is concluded that the proposed project does not contribute significantly to any of the modeled PSD Class I violations.

6.6.5 FLUORIDE IMPACTS

The revised maximum F concentrations due to the proposed project in the site vicinity and the Chassahowitzka Class I area are presented in Tables 6-21 and 7-1, respectively, for the annual, 24-, 8-, 3-, and 1-hour averaging times. There are no AAQS or PSD increments for F concentrations. However, F impacts are required for the additional impact analysis and AQRV analysis for the Class I area, presented in Section 7.0 of the original application.

At the site vicinity, the maximum predicted annual and 24-, 8-, 3-, and 1-hour F concentrations are 2.3, 10.7, 23.0, 27.6, and 82.8 $\mu\text{g}/\text{m}^3$, respectively. The maximum predicted annual and 24-, 8-, 3-, and 1-hour F concentrations at the CNWA are 0.0005, 0.009, 0.016, 0.053, and 0.065 $\mu\text{g}/\text{m}^3$, respectively.

7.0 ADDITIONAL IMPACT ANALYSIS

7.1 AQRV ANALYSIS

Due to the predicted increase in emissions of SO_2 , NO_x , PM_{10} , F, and SAM resulting from the addition of the No. 2 AFI granulation train, an AQRV analysis was performed. The maximum pollutant concentrations due to the addition of the proposed project's emissions predicted at the PSD Class I area of the CNWA are presented in Table 7-1. These results are based on using the CALPUFF model (see Appendix E of the original application).

Pollutant concentrations of NO_2 , PM_{10} , and F have increased slightly for all averaging times. SO_2 concentrations increased for all averaging times except the 3-hour. Although the pollutant concentrations have increased slightly, the conclusions that were reached in the original application have not changed.

7.2 REGIONAL HAZE

A refined regional haze analysis was performed for the proposed project. At the request of the U.S. Fish and Wildlife Service, the analysis was conducted by including the SAM emissions due to the proposed project as emissions of sulfate. In this regard, two scenarios were evaluated:

1. Accounting for SAM emissions from the burning of backup fuel oil (worse case), and
2. Not accounting for the SAM emissions from fuel oil burning (normal case).

The maximum predicted 24-hour visibility degradation due to the proposed project with fuel oil burning (Scenario 1) was 5.6 percent. Without fuel oil burning (Scenario 2), the maximum predicted 24-hour visibility degradation was 5.2 percent.

A plot of the distribution of 24-hour visibility degradation that is predicted to occur during the year is presented in Figure 7-1 for both emission scenarios. The figure indicates that there are two exceedances of the 5.0-percent criteria for the fuel oil burning case and one exceedance of the criteria for the non-fuel oil burning case. Based on this analysis, it can be concluded that the occurrence of 24-hour visibility degradation due to the proposed project's emissions is not frequent.

TABLES

Table 2-2. Average Actual Emissions^b for 2000 and 1999 -- Cargill Riverview (Revised 5/24/01)

Source Description	EU ID	Pollutant Emission Rate (TPY)								
		SO ₂	NO _x	CO	PM	PM ₁₀	VOC	TRS	SAM	Fluoride
A. Molten Sulfur Storage/Handling Facility										
Molten Sulfur Storage--Tank No. 1		*	*	*	*	*	*	*	*	*
Molten Sulfur Storage--Tank No. 2	064	0.73	--	--	0.54	0.54	0.52	0.35	--	--
Molten Sulfur Storage--Tank No. 3	065	0.73	--	--	0.54	0.54	0.52	0.35	--	--
Molten Sulfur Storage--Pit No. 7	066	0.03	--	--	0.20	0.20	0.02	0.01	--	--
Molten Sulfur Storage--Pit No. 8	067	0.03	--	--	0.23	0.23	0.02	0.02	--	--
Molten Sulfur Storage--Pit No. 9	068	0.03	--	--	0.26	0.26	0.02	0.02	--	--
Molten Sulfur Storage--Ship Unloading	069	0.15	--	--	0.20	0.20	0.11	0.07	--	--
Molten Sulfur Storage--Truck Loading Stn.	074	*	*	*	*	*	*	*	*	*
Total		1.69	--	--	1.97	1.97	1.21	0.82	--	--
B. No. 8 Sulfuric Acid Plant										
	005	1,349.15	44.05	--	--	--	--	--	14.09	--
C. No. 9 Sulfuric Acid Plant										
	006	1,211.29	51.23	--	--	--	--	--	10.75	--
D. Rock Mills										
No. 5 Rock Mill	100	0.03	4.76	3.99	2.34	2.34	0.26	--	--	--
No. 9 Rock Mill	101	0.03	4.70	2.50	2.30	2.30	0.25	--	--	--
No. 7 Rock Mill	106	0.01	1.58	1.33	0.67	0.67	0.08	--	--	--
Ground Rock Handling Storage System	034/102	--	--	--	0.09	0.09	--	--	--	--
Total		0.07	11.03	7.82	5.40	5.40	0.59	--	--	--
E. Phosphoric Acid Plant										
	073	--	--	--	--	--	--	--	--	3.59
F. GTSP Plant										
GTSP Plant	007	0.11	18.05	15.16	11.55	11.55	0.99	--	--	2.47
GTSP Ground Rock Handling Baghouse	008	--	--	--	3.80	2.84	--	--	--	--
GTSP Storage Building No. 2	070	--	--	--	--	--	--	--	--	14.96
GTSP Storage Building No. 4	071	--	--	--	--	--	--	--	--	14.08
GTSP Truck Loadout Baghouse	072	--	--	--	0.01	0.00	--	--	--	--
GTSP Truck Loadout Fugitive Emissions		--	--	--	0.03	0.01	--	--	--	--
Total		0.11	18.05	15.16	15.38	14.39	0.99	--	--	31.50
G. AFI Plant No. 1										
AFI Plant No. 1	078	0.04	5.71	4.80	16.37	16.37	0.31	--	--	1.05
DE Hopper Baghouse	079	--	--	--	0.02	0.02	--	--	--	--
Limestone Silo Baghouse	080	--	--	--	0.06	0.06	--	--	--	--
AFI Product Loadout Baghouse	081	--	--	--	0.65	0.65	--	--	--	--
AFI Product Loadout Fugitive Emissions		--	--	--	0.19	0.04	--	--	--	--
Total		0.04	5.71	4.80	17.30	17.14	0.31	--	--	1.05
H. No. 5 DAP Plant										
		0.02	3.90	3.28	6.66	6.66	0.21	--	--	8.37
I. Material Handling System										
West Baghouse Filter	051	--	--	--	0.64	0.64	--	--	--	--
South Baghouse	052	--	--	--	0.57	0.57	--	--	--	--
Vessel Ldg. System--Twr. Baghouse Exhaust	053	--	--	--	0.55	0.55	--	--	--	--
Building No. 6 Belt to Conveyor No. 7	058	--	--	--	0.32	0.32	--	--	--	--
Conveyor No.7 to Conveyor No. 8	059	--	--	--	0.64	0.64	--	--	--	--
Conveyor No.8 to Conveyor No. 9	060	--	--	--	0.64	0.64	--	--	--	--
Railcar Unloading of AFI Product		--	--	--	0.03	0.01	--	--	--	--
E. Vessel Ldg. Facility-Shiphold/Chokefeed	061	--	--	--	0.25	0.25	--	--	--	--
Total		--	--	--	3.62	3.60	--	--	--	--
Total Avg. Actual Emission Rates--2000 & 1999		2,562.36	133.98	31.05	50.32	49.16	3.32	0.82	24.84	44.51

* Emission unit did not operate for these years.

^b Emissions from the Annual Operating Report.

Table 2-3. Stack and Vent Geometry and Operating Data for the Modified Emissions Units -- Cargill Riverview (Revised 5/24/01)

Source	EU ID	Stack/Vent Release Height (ft)	Stack/Vent Diameter (ft)	Actual Exhaust Gas Flow Rate			Exhaust Gas Exit Temperature (Deg. F)	Exhaust Gas Water Vapor Content (%)	Exhaust Gas Velocity (ft/sec)
				ACFM	SCFM	DSCFM			
EXISTING OPERATIONS									
No. 8 Sulfuric Acid Plant	005	150	8.00	118,900	100,400	100,400	165	0.00%	39.4
No. 9 Sulfuric Acid Plant	006	150	9.00	159,600	137,000	137,000	155	0.00%	41.4
Phosphoric Acid Plant--Prayon Reactor/No. 1 Filtration Unit ^a	073	110	4.00	18,300	17,102	16,200	105	5.13%	24.2
Phosphoric Acid Plant--No. 1 Filtration Unit ^a /No. 2 Filtration Unit/Dorrco Reactor	073	110	4.83	38,900	35,720	33,400	115	6.48%	35.3
Phosphoric Acid Plant--No. 3 Filtration Unit	073	115	4.92	57,100	54,816	52,700	90	3.92%	41.3
GTSP Plant Common Stack	007	126	8.00	171,700	153,138	138,900	132	9.30%	51.1
AFI Defluorination System/Granulation System	078	136	6.00	108,400	94,300	79,600	147	15.60%	63.9
AFI Diatomaceous Earth Hopper	079	64	1.50	600	580	518	90	10.00%	5.7
AFI Limestone Silo	080	85	1.50	800	770	691	90	10.00%	5.7
AFI Product Loadout	081	30	3.00	21,100	20,300	18,300	90	10.00%	49.5
No. 5 DAP Plant	055	133	7.00	140,600	125,400	109,600	132	12.60%	60.9
MODIFIED OPERATIONS									
No. 8 Sulfuric Acid Plant	005	150	8.00	129,400	109,300	109,300	165	0.00%	39.4
No. 9 Sulfuric Acid Plant	006	150	9.00	171,100	146,900	146,900	155	0.00%	41.8
Phosphoric Acid Plant--Prayon Reactor	073	110	4.00	20,900	19,531	18,500	105	5.13%	24.2
Phosphoric Acid Plant--Nos. 1 and 2 Filtration Units	073	110	4.83	45,000	41,322	38,600	115	6.48%	35.3
Phosphoric Acid Plant--Dorrco Reactor and New Digester	073	110	4.83	55,000	50,947	47,600	110	6.48%	50.0
Phosphoric Acid Plant--No. 3 Filtration Unit	073	115	4.92	57,100	54,816	52,700	90	3.92%	41.3
EPP Plant--Common Stack	007	126	8.00	237,000	211,378	179,700	132	15.00%	25.0
AFI Defluorination System	078	35	3.00	25,400	23,700	23,000	105	3.00%	61.0
AFI Granulation System No. 1 (Reactor, Pug Mill, Granulator, Dryer)	078	136	6.00	109,400	94,700	90,000	150	5.00%	66.0
AFI Granulation System No. 2 (Reactor, Pug Mill, Granulator, Dryer)	--	155	6.00	109,400	94,700	90,000	150	5.00%	66.0
AFI Diatomaceous Earth Hopper	079	64	1.50	600	580	518	90	10.00%	5.7
AFI Milling Classification and Cooling Emission Equipment Baghouse No. 1	--	85	5.00	56,000	51,000	50,000	120	2.00%	45.0
AFI Milling Classification and Cooling Emission Equipment Baghouse No. 2	--	154	5.00	56,000	51,000	50,000	120	2.00%	45.0
AFI Limestone Silo	080	85	3.00	3,500	3,400	3,100	90	10.00%	5.7
AFI Product Loadout	081	30	3.00	23,100	22,200	20,000	90	10.00%	49.5
No. 5 DAP Plant	055	133	7.00	148,000	132,000	115,400	132	12.60%	64.1

^a No. 1 Filter can be vented to either the Teller scrubber or the Vescor scrubber.

Table 2-6. Maximum Emission Rates Due to Fuel Combustion for the Dryer at the Future EPP Plant (Revised 5/24/01)

Parameter	Units	No. Fuel Oil	Natural Gas						
Operating Data									
Annual Operating Hours	hr/yr	400	8,760						
Maximum Heat Input Rate	10 ⁶ Btu/hr	80	80						
Hourly Fuel Oil Usage ^a	10 ³ gal/hr	0.5714	N/A						
Annual Fuel Oil Usage	10 ³ gal/yr	229	N/A						
Maximum Sulfur Content	Weight %	0.5	N/A						
Hourly Natural Gas Usage ^b	scf/hr	N/A	80,000						
Annual Natural Gas Usage	10 ⁶ scf/yr	N/A	701						
<hr/>									
				No. 2 Fuel Oil		Natural gas		Maximum Total Emission Rate	
				Hourly Emission Rate	Annual Emission Rate	Hourly Emission Rate	Annual Emission Rate	Hourly Emission Rate	Annual Emission Rate
Pollutant	AP-42 Emissions Factor ^c			(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
Sulfur Dioxide									
Fuel oil	142 *(S)lb/10 ³ gal ^d			40.57	8.11	--	--	--	--
Natural gas	0.6 lb/10 ⁶ ft ³			--	--	0.048	0.21	--	--
Worse-Case Combination of Fuels				--	--	--	--	40.57	8.11
Sulfuric Acid Mist									
Fuel oil	2.4 *(S)lb/10 ³ gal ^{d,e}			0.70	0.14	--	--	0.70	0.14
Nitrogen Oxides									
Fuel oil	20 lb/10 ³ gal			11.43	2.29	--	--	--	--
Natural gas	100 lb/10 ⁶ ft ³			--	--	8.000	35.04	--	--
Worse-Case Combination of Fuels				--	--	--	--	11.43	35.04
Carbon Monoxide									
Fuel oil	5 lb/10 ³ gal			2.86	0.57	--	--	--	--
Natural gas	84 lb/10 ⁶ ft ³			--	--	6.720	29.43	--	--
Worse-Case Combination of Fuels				--	--	--	--	6.72	29.43
Volatile Organic Compounds									
Fuel oil	0.2 lb/10 ³ gal			0.11	0.023	--	--	--	--
Natural gas	5.5 lb/10 ⁶ ft ^{3f}			--	--	0.440	1.927	--	--
Worse-Case Combination of Fuels				--	--	--	--	0.44	1.93

Particulate matter emissions through the common plant stack are included in Table 2-5.

^a Based on the heat content of fuel oil of 140,000 Btu/gallon.

^b Based on the heat content of natural gas of 1,000 Btu/scf.

^c Emission factors for fuel oil are based on AP-42, Section 1.3, September 1998. Emission factors for natural gas are based on AP-42, Section 1.4, Jul

^d S denotes the weight-percent of Sulfur in fuel oil; Maximum sulfur content = 0.5%.

^e Sulfuric acid mist emission factor based on emission factor for SO₃ (AP-42, Section 1.3) converted to H₂SO₄ using molecular weight.

^f Based on methane comprised of 52% total VOC.

Table 2-7. Summary of Pollution Control Equipment and Allowable Emission Rates for the AFI Plant (Revised 5/24/01)

Source	EU ID	Control Equipment	Design Capacity	Operating Hours	Fluoride		PM/PM ₁₀		
					Allowable Emission Rate lb/hr	TPY	PM/PM ₁₀ gr/dscf	Allowable Emission Rate lb/hr	TPY
Existing AFI Plant									
Defluorination System/AFI Granulation System (Reactor, Pug Mill, Granulator, and Dryer System)	078	Packed Cross-Flow Scrubber/Venturi Scrubber	100,000 acfm	8,760	1.0	4.30	N/A	8.0	35.04
Diatomaceous Earth Hopper	079	Baghouse	518 dscfm	8,760	N/A	N/A	0.012	0.053	0.23
Limestone Silo	080	Baghouse	691 dscfm	8,760	N/A	N/A	0.012	0.071	0.31
AFI Product Loadout	081	Baghouse	18,280 dscfm	8,760	N/A	N/A	0.012	1.88	8.24
Total Emissions from the Existing AFI Plant						1.0	4.30	10.00	43.82
Modifications to the Existing AFI Plant									
Defluorination System	078	Venturi Scrubber (new)/Packed Cross-Flow Scrubber (new)	25,400 acfm	8,760	2.11	9.25	N/A	N/A	N/A
AFI Granulation System No. 1 (Reactor, Pug Mill, Granulator, and Dryer System)	--	Venturi Scrubber	90,000 dscfm	8,760	N/A	N/A	N/A	8.00	35.04
Diatomaceous Earth Hopper	079	Baghouse	518 dscfm	8,760	N/A	N/A	0.012	0.053	0.23
Milling, Classification, and Cooling Equipment Train No. 1	--	Baghouse (new)	50,000 dscfm	8,760	N/A	N/A	0.012	5.14	22.53
Limestone Silo	080	Baghouse (new)	3,110 dscfm	8,760	N/A	N/A	0.012	0.32	1.40
AFI Product Loadout	081	Baghouse	20,000 dscfm	8,760	N/A	N/A	0.012	2.06	9.01
Addition of AFI Plant No. 2									
AFI Granulation System No. 2 (Reactor, Pug Mill, Granulator, and Dryer System)	--	Venturi Scrubber (new)	90,000 dscfm	8,760	N/A	N/A	N/A	8.00	35.04
Milling, Classification, and Cooling Equipment Train No. 2	--	Baghouse (new)	50,000 dscfm	8,760	N/A	N/A	0.012	5.14	22.53
Total Emissions from the Modified AFI Plant						2.1	9.25	28.72	125.78

Table 2-10. Maximum Emission Rates Due to Fuel Combustion for the Dryer at the No. 5 DAP Plant (Revised 3/19/01)

Parameter	Units	No. Fuel Oil	Natural Gas				
Operating Data							
Annual Operating Hours	hr/yr	400	8,760				
Maximum Heat Input Rate	10 ⁶ Btu/hr	40	40				
Hourly Fuel Oil Usage ^a	10 ³ gal/hr	0.286	N/A				
Annual Fuel Oil Usage	10 ³ gal/yr	114	N/A				
Maximum Sulfur Content	Weight %	0.31	N/A				
Hourly Natural Gas Usage ^b	10 ⁶ scf/hr	N/A	0.040				
Annual Natural Gas Usage	10 ⁶ scf/yr	N/A	350				
Pollutant	AP-42 Emissions Factor ^c	No. 2 Fuel Oil		Natural gas		Maximum Total Emission Rate	
		Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)	Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)	Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)
Sulfur Dioxide							
Fuel oil	142 *(S)lb/10 ³ gal ^d	12.577	2.515	--	--	--	--
Natural gas	0.6 lb/10 ⁶ ft ³	--	--	0.024	0.105	--	--
Worse-Case Combination of Fuels		--	--	--	--	12.58	2.52
Sulfuric Acid Mist							
Fuel oil	2.4 *(S)lb/10 ³ gal ^{d,e}	0.217	0.043	--	--	0.217	0.043
Nitrogen Oxides							
Fuel oil	20 lb/10 ³ gal	5.714	1.143	--	--	--	--
Natural gas	100 lb/10 ⁶ ft ³	--	--	4.000	17.520	--	--
Worse-Case Combination of Fuels		--	--	--	--	5.71	17.52
Carbon Monoxide							
Fuel oil	5 lb/10 ³ gal	1.429	0.286	--	--	--	--
Natural gas	84 lb/10 ⁶ ft ³	--	--	3.360	14.717	--	--
Worse-Case Combination of Fuels		--	--	--	--	3.36	14.72
Volatile Organic Compounds							
Fuel oil	0.2 lb/10 ³ gal	0.057	0.011	--	--	--	--
Natural gas	5.5 lb/10 ⁶ ft ^{3f}	--	--	0.220	0.964	--	--
Worse-Case Combination of Fuels		--	--	--	--	0.22	0.96

Particulate matter emissions rates through the common plant stack are included in Table A-1.

^a Based on the heat content of fuel oil of 140,000 Btu/gallon.

^b Based on the heat content of natural gas of 1,000 Btu/scf.

^c Emission factors for fuel oil are based on AP-42, Section 1.3, September 1998. Emission factors for natural gas are based on AP-42, Section 1.4, July 1998.

^d S denotes the weight-percent of Sulfur in fuel oil; Maximum sulfur content = 0.31%.

^e Sulfuric acid mist emission factor based on emission factor for SO₃ (AP-42, Section 1.3) converted to H₂SO₄ using molecular weight.

^f Based on methane comprised of 52% total VOC.

Table 2-11a. Maximum Emission Rates Due to Fuel Combustion for the Dryer at the AFI Plant No. 1 (Revised 3/19/01)

Parameter	Units	No. Fuel Oil	Natural Gas							
<u>Operating Data</u>										
Annual Operating Hours	hr/yr	400	8,760							
Maximum Heat Input Rate	10 ⁶ Btu/hr	50	50							
Hourly Fuel Oil Usage ^a	10 ³ gal/hr	0.357	N/A							
Annual Fuel Oil Usage	10 ³ gal/yr	143	N/A							
Maximum Sulfur Content	Weight %	0.5	N/A							
Hourly Natural Gas Usage ^b	10 ⁶ scf/hr	N/A	0.050							
Annual Natural Gas Usage	10 ⁶ scf/yr	N/A	438							
<hr/>										
				<u>No. 2 Fuel Oil</u>		<u>Natural gas</u>		<u>Maximum Total Emission Rate</u>		
				Hourly	Annual	Hourly	Annual	Hourly	Annual	
				Emission	Emission	Emission	Emission	Emission	Emission	
				Rate	Rate	Rate	Rate	Rate	Rate	
				(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	
Pollutant	AP-42 Emissions Factor ^c									
<hr/>										
<u>Sulfur Dioxide</u>										
Fuel oil	142 *(S)lb/10 ³ gal ^d	25.357	5.071	--	--	--	--	--	--	
Natural gas	0.6 lb/10 ⁶ ft ³	--	--	0.030	0.131	--	--	--	--	
Worse-Case Combination of Fuels		--	--	--	--	25.36	5.07	--	--	
<u>Sulfuric Acid Mist</u>										
Fuel oil	2.4 *(S)lb/10 ³ gal ^{d,e}	0.437	0.087	--	--	0.437	0.087	--	--	
<u>Nitrogen Oxides</u>										
Fuel oil	20 lb/10 ³ gal	7.143	1.429	--	--	--	--	--	--	
Natural gas	100 lb/10 ⁶ ft ³	--	--	5.000	21.900	--	--	--	--	
Worse-Case Combination of Fuels		--	--	--	--	7.14	21.90	--	--	
<u>Carbon Monoxide</u>										
Fuel oil	5 lb/10 ³ gal	1.786	0.357	--	--	--	--	--	--	
Natural gas	84 lb/10 ⁶ ft ³	--	--	4.200	18.396	--	--	--	--	
Worse-Case Combination of Fuels		--	--	--	--	4.20	18.40	--	--	
<u>Volatile Organic Compounds</u>										
Fuel oil	0.2 lb/10 ³ gal	0.071	0.014	--	--	--	--	--	--	
Natural gas	5.5 lb/10 ⁶ ft ^{3f}	--	--	0.275	1.205	--	--	--	--	
Worse-Case Combination of Fuels		--	--	--	--	0.28	1.20	--	--	

Footnotes:

Particulate matter emissions rates through the common plant stack are included in Table A-1.

^a Based on the heat content of fuel oil of 140,000 Btu/gallon.

^b Based on the heat content of natural gas of 1,000 Btu/scf.

^c Emission factors for fuel oil are based on AP-42, Section 1.3, September 1998. Emission factors for natural gas are based on AP-42, Section 1.4, July 1998.

^d S denotes the weight-percent of Sulfur in fuel oil; Maximum sulfur content = 0.5%.

^e Sulfuric acid mist emission factor based on emission factor for SO₃ (AP-42, Section 1.3) converted to H₂SO₄ using molecular weight.

^f Based on methane comprised of 52% total VOC.

Table 2-11b. Maximum Emission Rates Due to Fuel Combustion for the Dryer at the AFI Plant No. 2

Parameter	Units	No. Fuel Oil	Natural Gas
<u>Operating Data</u>			
Annual Operating Hours	hr/yr	400	8,760
Maximum Heat Input Rate	10 ⁶ Btu/hr	75	75
Hourly Fuel Oil Usage ^a	10 ³ gal/hr	0.536	N/A
Annual Fuel Oil Usage	10 ³ gal/yr	214	N/A
Maximum Sulfur Content	Weight %	0.5	N/A
Hourly Natural Gas Usage ^b	10 ⁶ scf/hr	N/A	0.075
Annual Natural Gas Usage	10 ⁶ scf/yr	N/A	657

Pollutant	AP-42 Emissions Factor ^c	No. 2 Fuel Oil		Natural gas		Maximum Total Emission Rate	
		Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)	Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)	Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)
<u>Sulfur Dioxide</u>							
Fuel oil	142 *(S)lb/10 ³ gal ^d	38.036	7.607	--	--	--	--
Natural gas	0.6 lb/10 ⁶ ft ³	--	--	0.045	0.197	--	--
Worse-Case Combination of Fuels		--	--	--	--	38.04	7.61
<u>Sulfuric Acid Mist</u>							
Fuel oil	2.4 *(S)lb/10 ³ gal ^{d,e}	0.656	0.131	--	--	0.656	0.131
<u>Nitrogen Oxides</u>							
Fuel oil	20 lb/10 ³ gal	10.714	2.143	--	--	--	--
Natural gas	100 lb/10 ⁶ ft ³	--	--	7.500	32.850	--	--
Worse-Case Combination of Fuels		--	--	--	--	10.71	32.85
<u>Carbon Monoxide</u>							
Fuel oil	5 lb/10 ³ gal	2.679	0.536	--	--	--	--
Natural gas	84 lb/10 ⁶ ft ³	--	--	6.300	27.594	--	--
Worse-Case Combination of Fuels		--	--	--	--	6.30	27.59
<u>Volatile Organic Compounds</u>							
Fuel oil	0.2 lb/10 ³ gal	0.107	0.021	--	--	--	--
Natural gas	5.5 lb/10 ⁶ ft ³ ^f	--	--	0.413	1.807	--	--
Worse-Case Combination of Fuels		--	--	--	--	0.41	1.81

Footnotes:

Particulate matter emissions rates through the common plant stack are included in Table A-1.

^a Based on the heat content of fuel oil of 140,000 Btu/gallon.

^b Based on the heat content of natural gas of 1,000 Btu/scf.

^c Emission factors for fuel oil are based on AP-42, Section 1.3, September 1998. Emission factors for natural gas are based on AP-42, Section 1.4, July 1998.

^d S denotes the weight-percent of Sulfur in fuel oil; Maximum sulfur content = 0.5%.

^e Sulfuric acid mist emission factor based on emission factor for SO₂ (AP-42, Section 1.3) converted to H₂SO₄ using molecular weight.

^f Based on methane comprised of 52% total VOC.

Table 3-3. Future Potential Emissions from Modified/New/Affected Sources (Revised 5/24/01)

Source Description	EU ID	Pollutant Emission Rate (TPY)								
		SO ₂	NO _x	CO	PM	PM ₁₀	VOC	TRS	SAM	Fluoride
A. Molten Sulfur Storage/Handling Facility										
Molten Sulfur Storage--Tank No. 1		2.59	--	--	0.31	0.31	1.84	1.24	--	--
Molten Sulfur Storage--Tank No. 2	064	2.59	--	--	0.31	0.31	1.84	1.24	--	--
Molten Sulfur Storage--Tank No. 3	065	2.59	--	--	0.31	0.31	1.84	1.24	--	--
Molten Sulfur Storage--Pit No. 7	066	0.04	--	--	0.37	0.37	0.03	0.02	--	--
Molten Sulfur Storage--Pit No. 8	067	0.04	--	--	0.37	0.37	0.03	0.02	--	--
Molten Sulfur Storage--Pit No. 9	068	0.04	--	--	0.37	0.37	0.03	0.02	--	--
Molten Sulfur Storage--Ship Unloading	069	1.07	--	--	0.06	0.06	0.76	0.51	--	--
Molten Sulfur Storage--Truck Loading Station	074	0.04	--	--	0.02	0.02	0.03	0.02	--	--
Total		8.99	--	--	2.12	2.12	6.41	4.31	--	--
B. No. 8 Sulfuric Acid Plant										
	005	1,724.63	59.13	--	--	--	--	--	59.13	--
C. No. 9 Sulfuric Acid Plant										
	006	2,171.75	74.46	--	--	--	--	--	74.46	--
D. Rock Mills										
No. 5 Rock Mill	100	1.32	5.69	4.78	6.85	6.85	0.31	--	0.02	--
No. 9 Rock Mill	101	1.32	5.69	4.78	6.85	6.85	0.31	--	0.02	--
No. 7 Rock Mill	106	1.32	5.69	4.78	6.85	6.85	0.31	--	0.02	--
Ground Rock Handling and Storage System	034/102	--	--	--	1.78	1.78	--	--	--	--
Total		3.96	17.07	14.34	22.33	22.33	0.93	--	0.07	--
E. Phosphoric Acid Plant										
	073	--	--	--	--	--	--	--	--	10.03
F. EPP Plant										
EPP Ground Rock Handling	007	8.11	35.04	29.43	52.56	52.56	1.93	--	0.14	10.75
EPP Storage Building No. 2	008	--	--	--	4.16	4.16	--	--	--	--
EPP Storage Building No. 4	070	--	--	--	--	--	--	--	--	21.73
EPP Truck Loadout Baghouse	071	--	--	--	--	--	--	--	--	21.73
EPP Truck Loadout Baghouse	072	--	--	--	2.30	2.30	--	--	--	--
EPP Truck Loadout Fugitive Emissions		--	--	--	2.00	0.40	--	--	--	--
New Molten Sulfur Tank		0.66	--	--	0.85	0.85	0.47	0.32	--	--
Total		8.77	35.04	29.43	61.87	60.27	2.40	0.32	0.14	54.20
G. AFI Plant Defluorination System										
AFI Granulation System No. 1	078	--	--	--	--	--	--	--	--	9.25
AFI Granulation System No. 2		5.07	21.90	18.40	35.04	35.04	1.20	--	0.09	--
DE Hopper Baghouse	079	--	--	--	0.23	0.23	--	--	--	--
Milling, Classification, & Cooling Equipment Baghouse No. 1		--	--	--	22.53	22.53	--	--	--	--
Milling, Classification, & Cooling Equipment Baghouse No. 2		--	--	--	22.53	22.53	--	--	--	--
Limestone Silo Baghouse	080	--	--	--	1.40	1.40	--	--	--	--
AFI Product Loadout Baghouse	081	--	--	--	9.01	9.01	--	--	--	--
AFI Product Loadout Fugitive Emissions		--	--	--	0.20	0.04	--	--	--	--
Total		12.87	56.25	45.99	125.98	125.82	2.99	--	0.22	9.25
H. No. 5 DAP Plant										
	055	2.52	17.52	14.72	56.10	56.10	0.96	--	0.04	14.50
I. Material Handling System										
West Baghouse Filter ^a	051	--	--	--	4.60	4.60	--	--	--	--
South Baghouse ^a	052	--	--	--	4.60	4.60	--	--	--	--
Vessel Loading System--Tower Baghouse Exhaust ^c	053	--	--	--	3.20	3.20	--	--	--	--
Building No. 6 Belt to Conveyor No. 7 ^a	058	--	--	--	1.20	1.20	--	--	--	--
Conveyor No.7 to Conveyor No. 8 ^a	059	--	--	--	1.90	1.90	--	--	--	--
Conveyor No.8 to Conveyor No. 9 ^a	060	--	--	--	3.60	3.60	--	--	--	--
Railcar Unloading of AFI Product ^a		--	--	--	0.30	0.06	--	--	--	--
East Vessel Loading Facility-Shiphold/Chokefeed ^a	061	--	--	--	0.42	0.42	--	--	--	--
Total		--	--	--	19.82	19.58	--	--	--	--
Total Future Potential Emission Rates		3,933.49	259.47	104.48	288.22	286.22	13.69	4.63	134.06	87.98

^a Emission Rates based on Title V Permit No. 0570008-014-AV.

^b See Appendix B for calculation of emission rate.

^c Based on stack tests, see Appendix C and Section 2.0.

Table 3-4. Contemporaneous and Debottlenecking Emissions Analysis and PSD Applicability (Revised 5/24/01)

Source Description	Pollutant Emission Rate (TPY)								
	SO ₂	NO _x	CO	PM	PM ₁₀	VOC	TRS	SAM	Fluoride
Potential Emissions From Modified/New/Affected Sources^a									
A. Existing Molten Sulfur Storage/Handling Facility	8.99	--	--	2.12	2.12	6.41	4.31	--	--
B. Modified No. 8 Sulfuric Acid Plant	1,724.63	59.13	--	--	--	--	--	59.13	--
C. Modified No. 9 Sulfuric Acid Plant	2,171.75	74.46	--	--	--	--	--	74.46	--
D. Existing Nos. 5, 7, and 9 Rock Mills ^b	3.96	17.07	14.34	22.33	22.33	0.93	--	0.07	--
E. Modified Phosphoric Acid Plant	--	--	--	--	--	--	--	--	10.03
F. Modified EPP Plant	8.77	35.04	29.43	61.87	60.27	2.40	0.32	0.14	54.20
G. Modified AFI Plant No. 1 and Plant No. 2	12.87	56.25	45.99	125.98	125.82	2.99	--	0.22	9.25
H. Modified No. 5 DAP Plant	2.52	17.52	14.72	56.10	56.10	0.96	--	0.04	14.50
I. Existing Material Handling System ^b	--	--	--	19.82	19.58	--	--	--	--
Total Potential Emission Rates	3,933.49	259.47	104.48	288.22	286.22	13.69	4.63	134.06	87.98
Actual Emissions from Current Operations^c									
A. Molten Sulfur Storage/Handling Facility	1.69	--	--	1.97	1.97	1.21	0.82	--	--
B. No. 8 Sulfuric Acid Plant	1,349.15	44.05	--	--	--	--	--	14.09	--
C. No. 9 Sulfuric Acid Plant	1,211.29	51.23	--	--	--	--	--	10.75	--
D. Nos. 5, 7, and 9 Rock Mills	0.07	11.03	7.82	5.40	5.40	0.59	--	--	--
E. Phosphoric Acid Plant	--	--	--	--	--	--	--	--	3.59
F. GTSP Plant	0.11	18.05	15.16	15.38	14.39	0.99	--	--	31.50
G. AFI Plant No. 1	0.04	5.71	4.80	17.30	17.14	0.31	--	--	1.05
H. No. 5 DAP Plant	0.02	3.90	3.28	6.66	6.66	0.21	--	--	8.37
I. Material Handling System	--	--	--	3.62	3.60	--	--	--	--
Total Actual Emission Rates	2,562.36	133.98	31.05	50.32	49.16	3.32	0.82	24.84	44.51
TOTAL CHANGE DUE TO PROPOSED PROJECT	1,371.13	125.49	73.43	237.90	237.06	10.36	3.81	109.22	43.47
Contemporaneous Emission Changes									
A. Upgrade of Phosphate Rock Grinding System (June 1996)	2.70	--	3.99	--	--	0.31	0.00	0.00	--
B. AFI Plant Expansion (July 1996)	9.40	*	14.20	--	--	1.10	0.00	0.00	--
C. MAP Plant Expansion (May 1998)	0.61	2.23	0.56	*	*	0.04	0.00	0.00	*
D. DAP Plant Cooler Upgrade (August 1998) ^d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E. Reconstruction of Molten Sulfur Tank No. 1 (February 1999)	2.82	0.00	0.00	3.40	3.40	2.01	1.35	0.00	0.00
F. Molten Sulfur Increase/Truck Loadout (pending)	0.32	0.00	0.00	1.25	1.25	0.23	0.15	0.00	0.00
Total Contemporaneous Emission Changes	15.85	2.23	18.75	4.65	4.65	3.69	1.50	0.00	0.00
TOTAL NET CHANGE	1,386.98	127.72	92.18	242.55	241.71	14.05	5.31	109.22	43.47
PSD SIGNIFICANT EMISSION RATE	40	40	100	25	15	40	10	7	3
PSD REVIEW TRIGGERED?	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes

^a Total future potential emissions from Table 3-3.
^b Debottlenecking analysis revealed that emissions from these sources could potentially increase as part of this project.
^c Based on actual emissions for 2000 and 1999 from Tables A-1 and A-2, respectively.
^d Project was determined to not result in an increase in emissions of any pollutant.
^e Denotes that PSD review was triggered for this pollutant; therefore any previous contemporaneous increases/decreases are wiped clean.

Table 4-3. Summary of Ambient Nitrogen Dioxide Data for Monitoring Sites Within 20 km of Cargill Riverview, Inc.

City	Site ID No. (Distance from Cargill)	Monitoring Method	Year	Number of Observations	Percent of Data Recovery	Annual Concentration ($\mu\text{g}/\text{m}^3$)
Tampa	12-057-0081 (15.3 km)	Continuous	1999	7,863	90	13.2
			2000	7,668	88	15.0
Tampa	12-057-1065 (14.8 km)	Continuous	1999	8,675	99	18.8
			2000	8,129	93	20.7

Note: $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.

Source FDEP: Allsum Report; 1999, 2000.

Table 6-3. Stack Parameters and Current Actual SO₂ and NO_x Emission Rates for Affected Cargill Riverview Sources (Revised 5/24/01)

AIRS Number	Source	ISCST Source ID	Short-Term SO ₂ Emissions		Annual Average SO ₂ Emissions		Annual Average NO _x Emissions		Stack/Vent Release Height		Stack/Vent Diameter		Gas Flow Rate acfm	Gas Exit Temperature		Velocity		Discharge Direction (Vert./Horiz.)	Location ^a			
			lb/hr	g/sec	TPY	g/sec	TPY	g/sec	ft	m	ft	m		F	K	ft/sec	m/sec		ft	m	ft	m
5	Molten Sulfur Handling Pits 7, 8, and 9 ^b	MSPTSC	0.09	0.011	0.09	0.003	--	--	8.0	2.44 ^e	--	--	--	48.8	14.9 ^e	3.7	1.13 ^e	*	78	24	-238	-73
	Tanks 2 and 3 ^d	MSTKTL	2.12	0.27	1.61	0.05	--	--	36.0	10.97 ^f	--	--	--	29.1	8.86 ^f	16.7	5.10 ^f	'	650	-198	-380	-116
	No. 8 Sulfuric Acid Plant	NOSSAPC	366.7	46.2	1,349	38.8	44.1	1.27	150	45.72	8.0	2.44	118,938	165	347	39.4	12.02	V	340	104	-90	-27
6	No. 9 Sulfuric Acid Plant	NO9SAPC	475.0	59.8	1,211	34.8	51.2	1.47	150	45.72	9.0	2.74	159,602	155	341	41.8	12.74	V	0	0	0	0
	Phosphate Rock Grinding/Drying System																					
100	No. 5 Rock Mill Dust Collector	RKML5C	§	§	§	§	4.76	0.14	91	27.74	2.5	0.76	36,100	166	348	122.6	37.36	V	-1620	-494	510	155
106	No. 7 Rock Mill Dust Collector	RKML7C	§	§	§	§	1.58	0.05	91	27.74	3.0	0.91	20,000	165	347	47.2	14.39	V	-1638	-499	486	148
101	No. 9 Rock Mill Dust Collector	RKML9C	§	§	§	§	4.70	0.14	91	27.74	2.5	0.76	31,360	162	345	106.5	32.45	V	-1630	-497	460	140
7	GTSP/AP Manufacturing Plant	GTSPAPC	§	§	§	§	18.1	0.52	126	38.40	8.0	2.44	171,700	132	329	51.1	15.58	V	-1730	-527	50	15
78	AFI Defluorination & Granulation Scrubber	AFIPLTC	§	§	§	§	5.71	0.16	136	41.45	6.0	1.83	108,400	147	337	63.9	19.48	V	-1230	-375	490	149
55	No. 5 DAP Plant	DAPNO5C	§	§	§	§	3.90	0.11	133	40.54	7.0	2.13	121,732	132	329	52.7	16.07	V	-1744	-532	-380	-116

^a Relative to H₂SO₄ Plant No. 9 stack location.

^b AIRS Nos. 063, 064, 065, 066, 067, 068, 069, 074.

^c Location represented by centroids of pits.

^d Emissions were combined and represented by the tank closest to property boundary.

^{e,f} Volume source dimensions based on methods presented in accordance with ISCST3 User's Manual.

Source	Physical Dimensions (ft)		Model Dimensions (ft)		Sigma Z (H/2.15)
	Height (H)	Width (W)	Height (H or H/2)	Sigma Y (W/4.3)	
^c Pits	8.0	210	8.0	48.8	3.7
^f Tanks	36.0	125	36.0	29.1	16.7

[§] Insignificant source of SO₂, only natural gas used currently.

Table 6-4. Stack Parameters and Potential SO₂ and NO_x Emission Rates for Future Cargill Riverview Sources (Revised 5/24/01)

AIRS Number	Source	ISCST3 Source ID	Short-Term SO ₂ Emissions		Annual Average SO ₂ Emissions		Annual Average NO _x Emissions		Stack/Vent Release Height		Stack Vent Diameter		Gas Flow Rate acfm	Gas Exit Temperature		Velocity		Discharge Direction (Vert./Horiz.)	Location ^a				Modeled in Significant Impact Analysis? (Yes/No)
			lb/hr	g/sec	TPY	g/sec	TPY	g/sec	ft	m	ft	m		F	K	ft/sec	m/sec		X Coordinate		Y Coordinate		
																		ft	m	ft	m		
b	Molten Sulfur Handling																						
	Pits 7, 8, and 9 ^c	MSPITS	0.13	0.017	0.12	0.003	0.00	0.00	8.00	2.44 ^d	--	-- ^d	-- ^d	48.8	14.89 ^d	3.72	1.13 ^d	4	78	24	-238	-73	Yes
	Tanks 1, 2, and 3/Truck Loading	MSTKTL	3.34	0.421	8.88	0.255	0.00	0.00	33	10.06	0.83	0.25	665	110	316	20.48	6.24	V	-630	-192	-460	-140	Yes
4	No. 7 Sulfuric Acid Plant--24-hr/Annual Average	NO7SAP	466.70	58.803	2,044.0	58.799	70.13	2.02	150	45.72	7.50	2.29	109,924	152	340	41.47	12.64	V	-60	-18	-460	-140	No
	No. 7 Sulfuric Acid Plant--3-hr Average	NO7SAP	533.30	67.195	--	--	--	--															
5	No. 8 Sulfuric Acid Plant--24-hr/Annual Average	NO8SAP	393.75	49.612	1,724.6	49.612	59.13	1.70	150	45.72	8.00	2.44	129,400	165	347	42.91	13.08	V	340	104	-90	-27	Yes
	No. 8 Sulfuric Acid Plant--3-hr Average	NO8SAP	450.00	56.699	--	--	--	--															
6	No. 9 Sulfuric Acid Plant--24-hr/Annual Average	NO9SAP	495.83	62.474	2,171.8	62.474	74.46	2.14	150	45.72	9.00	2.74	171,100	155	341	44.83	13.66	V	0	0	0	0	Yes
	No. 9 Sulfuric Acid Plant--3-hr Average	NO9SAP	566.67	71.399	--	--	--	--															
	Phosphate Rock Grinding/Drying System																						
100	No. 5 Rock Mill Dust Collector	RKMLN05	6.59	0.830	1.32	0.038	5.69	0.16	91	27.74	2.50	0.76	36,100	166	348	122.57	37.36	V	-1,620	-494	510	155	Yes
106	No. 7 Rock Mill Dust Collector	RKMLN07	6.59	0.830	1.32	0.038	5.69	0.16	91	27.74	3.00	0.91	20,000	165	347	47.16	14.37	V	-1,638	-499	486	148	Yes
101	No. 9 Rock Mill Dust Collector	RKMLN09	6.59	0.830	1.32	0.038	5.69	0.16	91	27.74	2.50	0.76	31,360	162	345	106.48	32.45	V	-1,630	-497	460	140	Yes
7	EPP Manufacturing Plant	EPPPLNT	40.54	5.108	8.11	0.233	35.04	1.01	126	38.40	8.00	2.44	237,000	132	329	78.58	23.95	V	-1,730	-527	50	15	Yes
	Molten Sulfur Tank ^e	EPPMSTK	0.15	0.019	0.66	0.019	0.00	0.00	29	8.72	0.50	0.15	1	77	298	0.10	0.03	V	-1,730	-527	20	6	Yes
	Animal Feed Ingredient Plant No. 1																						
	Granulation System Scrubber	AFIGRAN	25.36	3.195	5.07	0.146	21.90	0.63	136	41.45	6.00	1.83	109,400	150	339	64.49	19.66	V	-1,230	-375	460	140	Yes
	Animal Feed Ingredient Plant No. 2																						
	Granulation System Scrubber	AFIGRN2	38.04	4.793	7.61	0.219	32.85	0.94	155	47.24	6.00	1.83	109,400	150	339	64.49	19.66	V	-1,415	-431	420	128	Yes
55	No. 5 DAP Plant	DAPN05	12.58	1.585	2.52	0.072	17.52	0.50	133	40.54	7.00	2.13	121,732	132	329	52.72	16.07	V	-1,744	-532	-380	-116	Yes
22,23,24	Nos. 3 and 4 MAP Plants and South Cooler	MAPN034	0.003	0.0004	0.01	0.0004	2.08	0.06	133	40.54	7.00	2.13	165,000	142	334	71.46	21.78	V	-1,800	-549	-170	-52	No

^a Relative to H2SO4 Plant No. 9 stack location.

^b AIRS Nos. 063, 064, 065, 066, 067, 068, 069, 074.

^c Location represented by centroids of pits

^d Volume source dimensions based on methods presented in accordance with ISCST3 User's Manual.

Source	Physical Dimensions (ft)		Model Dimensions (ft)		
	Height (H)	Width (W)	Height (H or H/2)	Sigma Y (W/4.3)	Sigma Z (H/2.15)
Pits 7, 8, and 9	8.0	210.0	8.0	48.8	3.72

* Assumed velocity, calculated flow rate.

Table 6-5. Stack Parameters and Actual PM₁₀ Emission Rates for Affected Cargill Riverview Sources (Revised 5/24/01)

AIRS Number Source	ISCST Source ID	Short-Term PM ₁₀ Emissions		Annual Average PM ₁₀ Emissions		Stack/Vent Release Height		Stack/Vent Diameter		Gas Flow Rate acfm	Gas Exit Temperature		Velocity		Discharge Direction* (Vert./Horiz.)	Location ^b				
		lb/hr	g/sec	TPY	g/sec	ft	m	ft	m		F	K	ft/sec	m/sec		X Coordinate		Y Coordinate		
																ft	m	ft	m	
6	Molten Sulfur Handling Pits 7, 8, and 9 ^f	MSPTSC	0.87	0.110	0.69	0.020	8.00	2.44 ^f	--	--	--	48.84	14.89 ^f	3.72	1.13 ^f	g	78	24	-238	-73
	Tanks 2 and 3 ^g	MSKTLC	2.65	0.333	1.28	0.037	36.00	10.97 ^h	--	--	--	29.07	8.86 ^g	16.74	5.10 ^g	*	-650	-198	-380	-116
	Phosphate Rock Grinding/Drying System																			
100	No. 5 Rock Mill Dust Collector	RKML5C	0.73	0.092	2.34	0.067	91	27.74	2.50	0.76	36,100	166	348	122.6	37.36	V	-1,620	-494	510	155
106	No. 7 Rock Mill Dust Collector	RKML7C	1.56	0.197	0.67	0.019	91	27.74	3.00	0.91	20,000	165	347	47.20	14.39	V	-1,638	-499	486	148
101	No. 9 Rock Mill Dust Collector	RKML9C	0.26	0.033	2.30	0.066	91	27.74	2.50	0.76	31,360	162	345	106.5	32.45	V	-1,630	-497	460	140
102	Ground Rock Silo Dust Collector	GRSLOC	0.05	0.006	0.09	0.003	67	20.42	0.80	0.24	1,200	80	300	39.79	12.13	H	-1,640	-500	526	160
7	GTSP/AP Manufacturing Plant	GTSPAPC	7.60	0.958	11.55	0.332	126	38.40	8.00	2.44	171,700	132	329	51.11	15.58	V	-1,730	-527	50	15
8	GTSP Ground Rock Handling	GTSPRHC	0.95	0.120	2.84	0.082	87	26.52	1.20	0.37	4,400	138	332	64.84	19.76	H	-1,880	-573	50	15
72	GTSP Truck Loading Station Baghouse	GTSP TLC	0.07	0.008	0.005	0.0001	38	11.58	2.70	0.82	2,200	77	298	6.55	2.00	H	-2,450	-747	30	9
	GTSP Truck Loading Station Fugitive	GTSP TFC	0.08	0.010	0.005	0.0001	27.50	8.38 ^h	--	--	--	139.5	42.53 ^h	25.38	7.80 ^h	h	-2,450	-747	30	9
	Animal Feed Ingredient Plant																			
78	AFI Defluorination & Granulation Scrubber	AFIPLTC	7.10	0.895	16.37	0.471	136	41.45	6.00	1.83	108,400	147	337	63.90	19.48	V	-1,230	-375	490	149
79	DE Hopper Baghouse	DEHOPBC	0.09	0.011	0.02	0.001	64	19.51	1.50	0.46	600	90	305	5.66	1.72	--	-1,840	-561	760	232
80	Limestone Silo Baghouse	LIMESBC	0.05	0.006	0.06	0.002	85	25.91	1.50	0.46	800	90	305	7.55	2.30	--	-1,090	-332	540	165
81	AFI Product Loadout Baghouse	AFIPLBC	2.22	0.280	0.65	0.019	30	9.14	3.00	0.91	21,100	90	305	49.75	15.16	V	-860	-262	528	161
	AFI Product Loadout Fugitive	AFIPLFC	0.05	0.006	0.04	0.001	50.00	15.24 ⁱ	--	--	--	63.72	19.42 ⁱ	46.51	14.18 ⁱ	i	-860	-262	528	161
35	No. 5 DAP Plant	DAPNOSC	1.30	0.164	6.66	0.192	133	40.54	7.00	2.13	121,732	132	329	52.72	16.07	V	-1,744	-532	-380	-116
	Material Handling Conveyor																			
51	West Baghouse	MHWESTC	0.70	0.088	0.64	0.018	30	9.14	3.50	1.07	33,000	80	300	57.17	17.42	V	-950	-290	-1,480	-451
52	South Baghouse	MHSOUTC	0.70	0.088	0.57	0.016	50	15.24	1.50	0.46	4,500	80	300	42.44	12.94	H	-1,030	-314	-1,650	-503
53	Tower East Baghouse	MHTWREC	0.30	0.038	0.55	0.016	30	9.14	2.50	0.76	12,000	80	300	40.74	12.42	H	-910	-277	-1,500	-457
58	Building No.6 Baghouse	MHBLD6C	0.62	0.078	0.32	0.009	30	9.14	1.20	0.37	3,630	80	300	53.49	16.30	H	-1,890	-576	-450	-137
59	Belt 7 to 8 Baghouse	BLT78BC	0.62	0.078	0.64	0.018	45	13.72	1.20	0.37	3,630	80	300	53.49	16.30	H	-1,890	-576	-580	-177
60	Belt 8 to 9 Baghouse	BLT89BC	0.70	0.088	0.64	0.018	75	22.86	1.60	0.49	6,930	80	300	57.44	17.51	H	-1,030	-314	-1,290	-393
	AFI Railcar Unloading	AFIRCUC	0.08	0.010	0.005	0.0001	15.00	4.57 ^j	--	--	--	13.95	4.25 ^j	13.95	4.25 ^j	i	-850	-259	-1,350	-411
61	East Vessel Loading Facility-Shiphold/Chokefeed	EVSHIPC	0.003	0.0004	0.25	0.007	30.00	9.14 ^k	--	--	--	3.49	1.06 ^k	6.98	2.13 ^k	k	-890	-271	-1,520	-463

Footnotes:

^f For modeling purposes, horizontal discharges were modeled with a velocity of 0.01 m/s.

^g Relative to H2SO4 Plant No. 9 stack location.

^h AIRS Nos. 063, 064, 065, 066, 067, 068, 069, 074.

ⁱ Location represented by centroids of pits.

^j Emissions were combined and represented by the tank closest to property boundary.

^k Volume source dimensions based on methods presented in accordance with ISCST3 User's Manual.

Source	Physical Dimensions (ft)		Model Dimensions (ft)		
	Height (H)	Width (W)	Height (H or H/2)	Sigma Y (W/4.3)	Sigma Z (H/2.15)
^f Pits 7, 8, and 9	8.0	210	8	48.8	3.7
^g Tanks 2 and 3	36.0	125	36	29.1	16.7
^h GTSP Truck Loading Station Fugitive	55.0	600	27.5	139.5	25.6
ⁱ AFI Product Loadout Fugitive	100.0	274	50	63.7	46.5
^j AFI Railcar Unloading	30.0	60	15	14.0	14.0
^k East Vessel Loading Facility-Shiphold/Chokefeed	30.0	15	30	3.5	7.0

Table 6-6 Stack Parameters and Potential PM₁₀ Emission Rates for Future Cargill Riverview Sources (Revised 5/24/01)

AIRS Number	Source	ISCST Source ID	Short-Term PM ₁₀ Emissions		Annual Average PM ₁₀ Emissions		Stack/Vent Release Height		Stack/Vent Diameter		Gas Flow Rate		Gas Exit Temperature		Velocity		Discharge Direction ^a (Vert./Horiz.)	Location ^c				Modeled in Significant Impact Analysis? (Yes/No)
			lb/hr	g/sec	TPY	g/sec	ft	m	ft	m	acfm	F		ft/sec	m/sec	X Coordinate		Y Coordinate				
												F	K			ft		m	ft	m		
b	Molten Sulfur Handling																					
	Pits 7, 8, and 9 ^d	MSPITS	1.31	0.165	1.10	0.032	8.00	2.44 ^e	-	-	-	48.84	14.89 ^f	3.72	1.13 ^g	*	78	24	-238	-73	Yes	
	Tanks 1, 2, and 3 Truck Loading	MSTKTL	0.28	0.036	1.02	0.029	33	10.06	0.83	0.25	665	110	316	20.48	6.24	V	-630	-192	-160	-140	Yes	
	Phosphate Rock Grinding/Drying System																					
100	No. 5 Rock Mill Dust Collector	RKMLN05	1.56	0.197	6.85	0.197	91	27.74	2.50	0.76	36,100	166	348	122.57	37.36	V	-1620	-494	510	155	Yes	
106	No. 7 Rock Mill Dust Collector	RKMLN07	1.56	0.197	6.85	0.197	91	27.74	3.00	0.91	20,000	165	347	47.16	14.37	V	-1638	-499	486	148	Yes	
101	No. 9 Rock Mill Dust Collector	RKMLN09	1.56	0.197	6.85	0.197	91	27.74	2.50	0.76	31,360	162	345	106.48	32.45	V	-1630	-497	460	140	Yes	
102	Ground Rock Silo Dust Collector	GRKSILO	0.41	0.052	1.78	0.051	67	20.42	0.80	0.24	1,200	80	300	39.79	12.13	H	-1640	-500	526	160	Yes	
7	EPP Manufacturing Plant	EPPLNT	12.00	1.512	52.56	1.512	126	38.40	8.00	2.44	237,000	132	329	78.58	23.95	V	-1730	-527	50	15	Yes	
	Molten Sulfur Tank ^h	EPFMSTK	0.19	0.024	0.85	0.024	28	8.72	0.50	0.15	1	77	298	0.10	0.03	V	-1730	-527	20	6	Yes	
8	EPP Ground Rock Handling	EPGRKH	0.95	0.120	4.16	0.120	87	26.52	1.20	0.37	4,400	138	332	64.84	19.76	H	-1880	-573	50	15	Yes	
72	EPP Truck Loading Station Baghouse	EPPLST	0.53	0.067	2.30	0.066	38	11.58	2.67	0.81	2,200	77	298	6.55	2.00	H	-2450	-747	30	9	Yes	
	EPP Truck Loading Station Fugitive	EPPLSF	0.20	0.025	0.40	0.012	27.50	8.38 ^h	-	-	-	139.53	42.53 ^h	25.58	7.80 ^h	h	-2450	-747	30	9	Yes	
	Animal Feed Ingredient Plant																					
	Granulation System Scrubber No. 1	AFIGRAN	8.00	1.008	35.04	1.008	136	41.45	6.00	1.83	109,400	150	339	64.49	19.66	V	-1230	-375	460	140	Yes	
	Granulation System Scrubber No. 2	AFIGRN2	8.00	1.008	35.04	1.008	155	47.24	6.00	1.83	109,400	150	339	64.49	19.66	V	-1415	-431	420	128	Yes	
79	DE Hopper Baghouse	DEHOPP8	0.05	0.007	0.23	0.007	64	19.51	1.50	0.46	600	90	305	5.66	1.72	-	-1840	-561	760	232	Yes	
	Milling, Classification, & Cooling Equipment Baghouse No. 1	COOLEQ1	5.14	0.648	22.53	0.648	85	25.91	5.00	1.52	56,000	120	322	47.53	14.49	V	-1110	-338	446	136	Yes	
	Milling, Classification, & Cooling Equipment Baghouse No. 2	COOLEQ2	5.14	0.648	22.53	0.648	154	46.94	5.00	1.52	53,478	120	322	45.39	13.84	V	-1365	-416	450	137	Yes	
80	Limestone Silo Baghouse	LIMESIB	0.32	0.040	1.40	0.040	85	25.91	3.00	0.91	3,500	90	305	8.25	2.52	-	-1090	-332	540	165	Yes	
81	AFI Product Loadout Baghouse	AFIPRLB	2.06	0.260	9.01	0.259	20	6.10	3.00	0.91	21,100	90	305	49.75	15.16	V	-860	-262	528	161	Yes	
	AFI Product Loadout Fugitive	AFIPRLF	0.03	0.003	0.12	0.003	50.00	15.24 ^h	-	-	-	63.72	19.42 ^h	46.51	14.18 ^h	h	-860	-262	528	161	Yes	
55	No. 5 DAP Plant	DAPN05	12.80	1.613	56.10	1.614	133	40.54	7.00	2.13	121,732	132	329	52.72	16.07	V	-1744	-532	-380	-116	Yes	
22,23,24	Nos. 3 and 4 MAP Plants and South Cooler	MAPN034	10.00	1.260	42.50	1.223	133	40.54	7.00	2.13	165,000	142	334	71.46	21.78	V	-1800	-549	-170	-52	No	
	Material Handling Conveyor																					
51	West Baghouse	MHWESTB	1.16	0.146	4.60	0.132	30	9.14	3.50	1.07	33,000	80	300	57.17	17.42	V	-950	-290	-1480	-451	Yes	
52	South Baghouse	MHSOUTB	1.16	0.146	4.60	0.132	50	15.24	1.50	0.46	4,500	80	300	42.44	12.94	H	-1030	-314	-1650	-503	Yes	
53	Tower East Baghouse	MHTWREB	0.80	0.101	3.20	0.092	30	9.14	2.50	0.76	12,000	80	300	40.74	12.42	H	-910	-277	-1500	-457	Yes	
58	Building No. 6 Baghouse	MHBLDG6	0.62	0.078	1.20	0.035	30	9.14	1.16	0.35	3,630	80	300	57.24	17.45	H	-1890	-576	-130	-137	Yes	
59	Belt 7 to 8 Baghouse	BLT78BH	0.62	0.078	1.90	0.055	45	13.72	1.16	0.35	3,630	80	300	57.24	17.45	H	-1890	-576	-580	-177	Yes	
60	Belt 8 to 9 Baghouse	BLT89BH	1.19	0.150	3.60	0.104	75	22.86	1.57	0.48	6,930	80	300	59.54	18.15	H	-1030	-314	-1290	-393	Yes	
	AFI Railcar Unloading	AFIRAIL	0.15	0.019	0.06	0.002	15.00	4.57 ⁱ	-	-	-	14.0	4.25 ⁱ	13.95	4.25 ⁱ	h	-850	-259	-1350	-411	Yes	
61	East Vessel Loading Facility-Shiphold/Chokefeed	EVSHIPL	0.10	0.013	0.42	0.012	30.00	9.14 ⁱ	-	-	-	3.49	1.06 ⁱ	6.98	2.13 ⁱ	h	-890	-271	-1520	-463	Yes	

^a For modeling purposes, horizontal discharges were modeled with a velocity of 0.01 m/s.

^b Relative to HZSO4 Plant No. 9 stack location.

^c AIRS Nos. 063, 064, 065, 066, 067, 068, 069, 074.

^d Location represented by centroids of pits.

^{e, h, i} Volume source dimensions based on methods presented in accordance with ISCST3 User's Manual.

Source	Physical Dimensions (ft)		Model Dimensions (ft)		
	Height (H)	Width (W)	Height (H or H/2)	Sigma Y (W/4.3)	Sigma Z (H/2.15)
^a Pits 7, 8, and 9	8.0	210	8.0	49	3.7
^b EPP Truck Loading Station Fugitive	55.0	600	27.5	140	25.6
^c AFI Product Loadout Fugitive	100.0	274	50	63.7	46.5
^d AFI Railcar Unloading	30.0	60	15	14.0	14.0
^e East Vessel Loading Facility-Shiphold/Chokefeed	30.0	15	30	3.5	6.98

^f Assumed velocity, calculated flow rate.

Table 6-7. Stack Parameters and Actual and Potential Fluoride Emission Rates for Current and Future Cargill Riverview Sources (Revised 5/24/01)

AIRS Number	Source	ISCST Model ID	Short-Term F Emissions		Annual Average F Emissions		Stack/Vent Release Height		Stack/Vent Diameter		Gas Flow Rate acfm	Gas Exit Temperature		Velocity		Discharge Direction (Vert./Horiz.)	Location ^c				Modeled in Significant Impact Analysis? (Yes/No)
			lb/hr	g/sec	TPY	g/sec	ft	m	ft	m		F	K	ft/sec	m/sec		X Coordinate		Y Coordinate		
CURRENT SOURCES																					
73	Phosphoric Acid Production Facility																				
	Prayon Reactor/No. 1 Filtration Unit	PAPPRAC	0.09	0.01	0.21	0.01	110	33.53	4.00	1.22	18,300	105	313.71	24.20	7.38	V	-1140	-347	940	287	Yes
	No. 1 Filtration Unit/No.2 Filtration Unit/Dorrco Reactor	PAPF12C	1.14	0.14	2.75	0.08	110	33.53	4.80	1.46	38,900	115	319.26	35.30	10.76	V	-1200	-366	1120	341	Yes
	No. 3 Filtration Unit	PAPF3C	0.26	0.03	0.63	0.02	115	35.05	4.90	1.49	57,100	90	305.37	41.30	12.59	V	-1350	-411	984	300	Yes
7	GTSP/AP Manufacturing Plant	GTSPAPC	1.55	0.20	2.47	0.07	126	38.40	8.00	2.44	171,700	132	328.71	51.11	15.58	V	-1730	-527	50	15	Yes
70,71	Two GTSP Storage Buildings	GTSPSTC	8.44	1.06	29.04	0.84	55	16.76 ^b	--	--	--	191	58.12 ^b	25.58	7.80 ^b	^b	-2680	-817	50	15	Yes
	Animal Feed Ingredient Plant																				
78	AFI Defluorination & Granulation Scrubber	AFIPLTC	0.17	0.02	1.05	0.03	136	41.45	6.00	1.83	108,400	147	337.04	63.90	19.48	V	-1230	-375	490	149	Yes
55	No. 5 DAP Plant	DAPNOSC	3.02	0.38	8.37	0.24	133	40.54	7.00	2.13	121,732	132	328.71	52.72	16.07	V	-1744	-532	-380	-116	Yes
FUTURE SOURCES																					
73	Phosphoric Acid Production Facility																				
	Prayon Reactor	PAPPRAY	0.57	0.07	2.51	0.07	110	33.53	4.00	1.22	20,900	105	313.71	27.72	8.45	V	-1140	-347	940	287	Yes
	Nos. 1 and 2 Filtration Units	PAPF12	0.57	0.07	2.51	0.07	110	33.53	4.83	1.47	45,000	115	319.26	40.93	12.48	V	-1200	-366	1120	341	Yes
	Dorrco Reactor and New Digester	PAPDORR	0.57	0.07	2.51	0.07	95	28.96	4.50	1.37	55,000	110	316.48	57.64	17.57	V	-1070	-326	1110	338	Yes
	No. 3 Filtration Unit	PAPF3	0.57	0.07	2.51	0.07	115	35.05	4.92	1.50	57,100	90	305.37	50.06	15.26	V	-1350	-411	984	300	Yes
7	EPP Manufacturing Plant	EPPPLNT	1.89	0.24	8.26	0.24	126	38.40	8.00	2.44	237,000	132	328.71	78.58	23.95	V	-1730	-527	50	15	Yes
70,71	Two EPP Storage Buildings	EPPST24	9.92	1.25	43.46	1.25	55	16.76 ^b	--	--	--	191	58.12 ^b	25.58	7.80 ^b	^b	-2680	-817	50	15	Yes
	Animal Feed Ingredient Plant Nos. 1 and 2																				
78	Defluorination System Scrubber	AFIDFS	2.11	0.27	9.25	0.27	35	10.67	3.00	0.91	25,400	105	313.71	59.89	18.25	V	-1230	-375	490	149	Yes
55	No. 5 DAP Plant	DAPNOS	3.30	0.42	14.50	0.42	133	40.54	7.00	2.13	121,732	132	328.71	52.72	16.07	V	-1744	-532	-380	-116	Yes
22,23,24	Nos. 3 and 4 MAP Plants and South Cooler	MAPNOS34	2.00	0.25	8.50	0.24	133	40.54	7.00	2.13	165,000	142	334.26	71.46	21.78	V	-1800	-549	-170	-52	No

^a Relative to H₂SO₄ Plant No. 9 stack location.

^b Volume source dimensions based on methods presented in accordance with ISCST3 User's Manual.

Source	Physical Dimensions (ft)		Model Dimensions (ft)		
	Height (H)	Width (W)	Height (H or H/2)	Sigma Y (W/4.3)	Sigma Z (H/2.15)
Two GTSP Storage Buildings	55.0	820	55.0	191	25.58

Table 6.8. Summary of Facilities with SO₂ Emission Sources in the Vicinity of Cargill Riverview (Revised 5/24/01)

Facility ID	Facility Name	Facility Location		Relative Location ^a				SO ₂ Emissions		Emissions Threshold (Q) [(Dist. - SIA) X 20] ^b	Included in Modeling Analysis? ^c	
		East (km)	North (km)	X (km)	Y (km)	Direction (deg.)	Distance (km)	Rate (TPY)	AAQS		PSD Class I and II	
0570022	MARATHON ASHLAND PETROLEUM L	362.2	3087.2	-0.7	4.7	352	5	0.02	No	No	No	
0571217	SEA 3 OF FLORIDA, INC.	360.1	3087.1	-2.8	4.6	329	5	0.4	No	No	No	
0570040	TECO - GANNON	360.1	3,087.5	-2.8	5.0	331	6	126,940.0	SIA	Yes	No	
0571209	APAC-FLORIDA, INC.	359.9	3,088.1	-3.0	5.6	331	6	57.6	SIA	Yes	No	
0570029	NITRAM, INC.	362.5	3089	-0.4	6.5	356	7	0.7	No	No	No	
0571242	NATIONAL GYPSUM - APOLLO BEACH	363.3	3,075.6	0.4	-6.9	177	7	86.1	SIA	Yes	Yes	
PRPSD	BIG BEND TRANSFER CO. L.L.C.	361.1	3,076.2	-1.8	-6.3	196	7	15.6	SIA	Yes	Yes	
0570408	PRODICA LLC	358.4	3088.4	-4.5	5.9	323	7	7.3	SIA	Yes	No	
0570039	TECO - BIG BEND	361.9	3,075.0	-1.0	-7.5	188	8	846,626.0	SIA	Yes	Yes	
0570286	TAMPA BAY SHIPBUILDING & REPAIR C	358.0	3,089.0	-4.9	6.5	323	8	12.0	SIA	Yes	No	
0570141	US AIR FORCE (MACDILL AFB)	353.5	3081.5	-9.4	-1.0	264	9	8.9	SIA	Yes	No	
0570061	TAMPA ARMATURE WORKS	365.6	3091.7	2.7	9.2	16	10 ^d	0.5	No	No	No	
0570442	GULF MARINE REPAIR CORPORATIO	360.3	3091.9	-2.6	9.4	345	10 ^d	8.4	SIA	Yes	No	
7775052	WOODRUFF & SONS, INC.	363.64	3092.27	0.7	9.8	4	10	0.4	No	No	No	
7775053	WOODRUFF & SONS, INC.	363.64	3092.27	0.7	9.8	4	10	0.4	No	No	No	
7775054	WOODRUFF & SONS, INC.	363.64	3092.27	0.7	9.8	4	10	0.3	No	No	No	
0570038	TECO - HOOKERS POINT	358.0	3,091.0	-4.9	8.5	330	10	13,519.4	SIA	Yes	No	
0570127	CITY OF TAMPA, MCKAY BAY	360.2	3,092.2	-2.7	9.7	344	10	1,460.9	SIA	Yes	Yes	
0570321	MANTUA MANUFACTURING CO.	364.7	3092.5	1.8	10.0	10	10	1.6	SIA	Yes	No	
0570041	FLORIDA HEALTH SCIENCES CTR, INC	356.4	3,091.0	-6.5	8.5	323	11	58.6	SIA	Yes	No	
0571205	STOROPACK, INC.	363.38	3093.22	0.5	10.7	3	11	0.0	No	No	No	
7771101	WOODRUFF AND SONS INC	364.33	3093.18	1.4	10.7	8	11	0.4	No	No	No	
0570077	VERLITE COMPANY	360.2	3093	-2.7	10.5	346	11	5.0	SIA	Yes	No	
0570057	GULF COAST RECYCLING, INC.	364.0	3,093.5	1.1	11.0	6	11	1,015.0	SIA	Yes	No	
0570054	SCRAP-ALL, INC.	359.4	3093.1	-3.5	10.6	342	11	1.0	SIA	Yes	No	
0570461	BLACKLIDGE EMULSIONS INCORPOR	359.5	3093.2	-3.4	10.7	342	11	0.0	No	No	No	
0570119	GULF COAST METALS	364.7	3093.6	1.8	11.1	9	11	0.1	No	No	No	
0570021	INTERNATIONAL SHIP REPAIR & MA	358.03	3092.75	-4.9	10.3	335	11 ^d	5.9	SIA	Yes	No	
0570261	HILLSBOROUGH RESOURCE RECOVERY	368.2	3,092.7	5.3	10.2	27	11	770.9	SIA	Yes	Yes	
0570163	GRIFFIN INDUSTRIES	364.1	3096.4	1.2	13.9	5	14	2.0	SIA	Yes	No	
0570028	NATIONAL GYPSUM COMPANY	348.8	3,082.7	-14.1	0.2	271	14	347.0	SIA	Yes	No	
7770380	KEARNEY DEVELOPMENT COMPANY	370	3094.78	7.1	12.3	30	14 ^d	1.6	SIA	Yes	No	
7770420	SOUTHERN CRUSHING SERVICES, INC.	364.2	3098.1	1.3	15.6	5	16	0.6	No	No	No	
0571151	WEYERHAEUSER COMPANY	362.8	3098.3	-0.1	15.8	360	16	0.2	No	No	No	
0570003	CF INDUSTRIES, INC.	362.8	3,098.4	-0.1	15.9	360	16	15.5	SIA	Yes	No	
0570089	ST.JOSEPHS HOSPITAL	353.3	3,095.9	-9.6	13.4	324	16	12.3	SIA	Yes	No	
0570180	FECF/CAST CRETE DIVISION	371.9	3,099.2	9.0	16.7	28	19	15.0	SIA	Yes	No	
1030011	FLORIDA POWER CORP., BARTOW	342.4	3,082.6	-20.5	0.1	270	21	63,539.2	SIA	Yes	No	
0570006	YUENGLING BREWING CO.	362.0	3,103.2	-0.9	20.7	358	21	14.5	SIA	Yes	Yes	
0570171	SPEEDLING, INC.	354.1	3,062.2	-8.8	-20.3	203	22	30.7	SIA	Yes	No	
0570409	CONIGLIO CONSTRUCTION AND DE	368.9	3104.2	6.0	21.7	15	23 ^d	1.2	SIA	Yes	No	
0570459	BAUSCH&LOMB PHARMACEUTICALS	366.39	3105.75	3.5	23.3	9	24	0.1	No	No	No	
0570076	DELTA ASPHALT	372.1	3,105.4	9.2	22.9	22	25 ^d	82.1	SIA	Yes	Yes	

Table 6.8. Summary of Facilities with SO₂ Emission Sources in the Vicinity of Cargill Riverview (Revised 5/24/01)

Facility ID	Facility Name	Facility Location		Relative Location ^a				SO ₂ Emissions Rate (TPY)	Emissions Threshold (Q) [(Dist. - SIA) X 20] ^b	Included in Modeling Analysis ^c	
		East (km)	North (km)	X (km)	Y (km)	Direction (deg.)	Distance (km)			AAQS	PSD Class I and II
0570460	JAMES HARDIE BUILDING PRODUCTS I	387.06	3089.52	24.2	7.0	74	25	0.2	No	No	No
1030473	GULF CENTRAL CREMATORY, INC.	337.08	3085.61	-25.8	3.1	277	26	0.7	No	No	No
1030013	FPC - BAYBORO	338.8	3,071.3	-24.1	-11.2	245	27	6,848.0	SIA	Yes	No
0570249	ALCOA EXTRUSIONS	385.6	3,097.0	22.7	14.5	57	27	30.2	SIA	Yes	Yes
0570320	DART CONTAINER CORPORATION OF	384.9	3098.2	22.0	15.7	54	27	0.1	No	No	No
1030443	LORAD CHEMICAL CORPORATION	336.5	3074.2	-26.4	-8.3	253	28	1.7	SIA	Yes	No
1030117	PINELLAS CO. RESOURCE RECOVERY F	335.2	3,084.1	-27.7	1.6	273	28	3,044.1	SIA	Yes	Yes
0810067	ATLAS-TRANSOIL, INC.	349.7	3,058.0	-13.2	-24.5	208	28	99.9	SIA	Yes	No
0810002	PINEY POINT PHOSPHATES, INC.	349.7	3,057.3	-13.3	-25.2	208	28	1,319.5	SIA	Yes	No
0810010	FLORIDA POWER & LIGHT - MANATEE P	367.3	3,054.2	4.4	-28.3	171	29	83,351.4	SIA	Yes	No
1030147	SONNY GLASBRENNER, INC.	334.3	3085.6	-28.6	3.1	276	29	2.8	SIA	Yes	No
0810001	COASTAL FUELS MARKETING, INC.	348.0	3,057.7	-14.9	-24.8	211	29	102.4	SIA	Yes	No
7770262	ANGELO'S RECYCLED MATERIALS	333.9	3084.8	-29.0	2.3	275	29	2.8	SIA	Yes	No
1030132	COOPER COIL COATING, INC.	333.99	3086.88	-28.9	4.4	279	29	0.1	No	No	No
1030288	BAYCARE SERVICES INC	333.1	3084.4	-29.8	1.9	274	30	0.1	No	No	No
0810024	FLORIDA POWER & LIGHT - PMS	347.5	3,056.6	-15.4	-25.9	211	30	97.3	SIA	Yes	No
0570296	INTERNATIONAL PETROLEUM CORP	389.0	3,098.0	26.1	15.5	59	30	111.2	SIA	Yes	No
0570370	PARADISE, INC.	388.5	3,099.0	25.6	16.5	57	30	18.6	SIA	Yes	No
1030012	FPC - HIGGINS	336.5	3,098.4	-26.4	15.9	301	31	24,803.7	SIA	Yes	No
0570075	CORONET INDUSTRIES, INC.	393.8	3,096.3	30.9	13.8	66	34	1,160.7	27	Yes	No
1050059	IMC PHOSPHATES COMPANY- NEW WA	396.7	3,079.4	33.8	-3.1	95	34	14,607.8	29	Yes	Yes
1030127	METAL CULVERTS	329.1	3,089.1	-33.8	6.6	281	34	9.1	39	No	No
1050057	IMC PHOSPHATES COMPANY - NICHOL	398.4	3,084.2	35.5	1.7	87	36	2,065.7	61	Yes	Yes
1050047	AGRIFOS, L.L.C. - NICHOLS	398.7	3,085.3	35.8	2.8	86	36	2,219.2	68	Yes	Yes
1030026	OVERSTREET PAVING COMPANY, INC.	326.2	3,086.9	-36.7	4.4	277	37	34.2	89	No	No
0570438	FLORIDA GAS TRANSMISSION COMPA	391.9	3,106.6	29.0	24.1	50	38	5.1	104	No	No
1050182	GEOLOGIC RECOVERY SYSTEMS	401.8	3,085.8	38.9	3.3	85	39	99.8	131	No	No
1050056	IMC PHOSPHATES COMPANY - PRAIRIE	402.9	3,087.0	40.0	4.5	84	40	419.1	155	Yes	No
0570005	CF INDUSTRIES, INC., PLANT CITY	388.0	3,116.0	25.1	33.5	37	42	7,520.6	187	Yes	Yes
1050233	TECO - POLK POWER STATION	402.5	3,067.4	39.6	-15.2	111	42	2,890.5	197	Yes	Yes
1010027	R.E. PURCELL CONST. CO., INC.	340.6	3,119.2	-22.3	36.7	329	43	28.0	209	No	No
1010041	APAC - FLORIDA, INC. - TAMPA DIVISIO	340.7	3,119.5	-22.2	37.0	329	43	157.7	213	No	No
1050048	MULBERRY PHOSPHATES, INC.	406.8	3,085.1	43.9	2.6	87	44	1,705.6	230	Yes	Yes
0810007	TROPICANA PRODUCTS, INC.	346.8	3,040.9	-16.1	-41.6	201	45	242.0	242	No	No
1050097	CUSTOM CHEMICALS CORPORATION	408.0	3,085.5	45.1	3.0	86	45	58.9	254	No	No
1050052	CF INDUSTRIES, INC. - BARTOW	408.3	3,082.5	45.4	0.0	90	45	1,827.0	258	Yes	Yes
1050055	IMC PHOSPHATES COMPANY - SO. PIER	407.5	3,071.4	44.6	-11.1	104	46	4,682.6	269	Yes	Yes
1050053	FARMLAND HYDRO, L.P. - GREEN BAY	409.5	3,080.1	46.6	-2.4	93	47	6,895.9	283	Yes	Yes
1050046	CARGILL FERTILIZER, INC. - BARTOW	409.8	3,086.6	46.9	4.1	85	47	6,101.8	292	Yes	Yes
0490015	HARDEE POWER PARTNERS,LTD	404.8	3,057.4	41.9	-25.1	121	49	9,693.7	327	Yes	Yes
1050003	LAKELAND ELECTRIC - LARSON POWER	408.9	3,102.5	46.0	20.0	67	50	12,119.4	353	Yes	Yes
1050146	PAVEX CORPORATION	413.0	3,086.2	50.1	3.7	86	50	75.0	355	No	No
1050100	SHELL EPOXY RESINS LLC	410.7	3,098.9	47.8	16.4	71	51	83.7	361	No	No
1050217	POLK POWER PARTNERS, L.P.	413.6	3,080.6	50.7	-1.9	92	51	436.9	365	Yes	Yes
1050004	LAKELAND ELECTRIC - MCINTOSH POW	409.0	3,106.2	46.1	23.7	63	52	35,366.8	387	Yes	Yes

Table 6.8. Summary of Facilities with SO₂ Emission Sources in the Vicinity of Cargill Riverview (Revised 5/24/01)

Facility ID	Facility Name	Facility Location		Relative Location ^a				SO ₂ Emissions	Emissions	Included in	
		East (km)	North (km)	X (km)	Y (km)	Direction (deg.)	Distance (km)	Rate (TPY)	Threshold (Q) [(Dist. - SIA) X 20] ^b	AAQS	PSD Class I and II
1050234	FPC - HINES	414.3	3,073.9	51.4	-8.6	99	52	47.0	393	No	No
1010017	FPC - ANCLOTE	324.4	3,118.7	-38.5	36.2	313	53	118,214.4	407	Yes	No
1050051	U.S. AGRI-CHEMICALS CORP. - FT. MEA	416.0	3,069.0	53.1	-13.5	104	55	4,405.5	446	Yes	Yes
1050223	FPC - TIGER BAY	416.3	3,069.3	53.4	-13.2	104	55	21.3	450	No	No
1050026	ALCOA ALUMINA AND CHEMICALS, L.	416.8	3,069.5	53.9	-13.0	104	55	93.3	459	No	No
1050231	ORANGE COGENERATION L.P.	418.7	3,083.0	55.8	0.5	89	56	11.0	466	No	No
1010056	PASCO COUNTY RESOURCE RECOVER	348.8	3,138.8	-14.1	56.3	346	58	412.5	510	No	No
1050298	POLK COUNTY SOLID WASTE DIVISIO	418.9	3,098.5	56.0	16.0	74	58	13.5	515	No	No
1010373	IPS AVON PARK CORP.	347.0	3,139.0	-15.9	56.5	344	59	165.9	524	No	No
0490043	IPS AVON PARK CORPORATION	408.8	3,044.5	45.9	-38.0	130	60	221.2	541	No	No
1010071	PASCO COGEN LIMITED	385.1	3,139.0	22.2	56.5	21	61	21.0	564	No	No
1050221	AUBURNDALE POWER PARTNERS, LP	420.8	3,103.3	57.9	20.8	70	62	598.0	580	Yes	Yes
1010028	OVERSTREET PAVING CO	355.9	3,143.7	-7.0	61.2	353	62	113.4	582	No	No
1050023	CUTRALE CITRUS JUICES USA, INC	421.6	3,103.7	58.7	21.2	70	62	1,693.0	598	Yes	Yes
1050037	SFE CITRUS PROCESSORS, L.P., LTD	421.7	3,104.2	58.8	21.7	70	63	188.8	604	No	No
1050007	OWENS-BROCKWAY GLASS CONTAIN	423.4	3,102.8	60.5	20.3	71	64	118.2	626	No	No
1050216	RIDGE GENERATING STATION, L.P.	427.0	3,100.3	64.1	17.8	74	67	284.7	681	No	No
0530357	D.A.B. CONSTRUCTORS INC	358.5	3,151.3	-4.4	68.8	356	69	14.0	730	No	No
1050263	POLK CORRECTIONAL INSTITUTION	423.0	3,118.2	60.1	35.7	59	70	41.9	748	No	No
1050090	FLORIDA DISTILLERS	428.0	3,108.1	65.1	25.6	69	70	17.2	749	No	No
0530004	CITRUS SERVICE, INC.	364.2	3,158.3	1.3	75.8	1	76	137.2	866	No	No
1050209	FLORIDA TREAT, INC.	434.8	3,109.2	71.9	26.7	70	77	2.7	884	No	No
0530017	E.R. JAHNA INDUSTRIES, INC.	386.7	3,155.8	23.8	73.3	18	77	8.4	891	No	No
1050002	CITRUS WORLD, INC.	441	3,087.3	78.1	4.8	86	78	3,982.3	915	Yes	No
0530040	APAC - FLORIDA, INC. - TAMPA DIVISI	360.04	3162	-2.9	79.5	358	80	90.6	941	No	No
0530021	FLORIDA CRUSHED STONE CO., INC.	360	3162.5	-2.9	80.0	358	80	3,696.6	951	Yes	Yes
0530032	CENTRAL POWER & LIME, INC.	360	3162.5 A	-2.9	80.0	358	80	8,563.7	951	Yes	Yes
0530351	GRUBBS CONSTRUCTION COMPANY	359.8	3163 A	-3.1	80.5	358	81	41.2	961	No	No

^a The Proposed Project is located at UTM Coordinates: East 362.9 km
North 3082.5 km

^b The significant impact area (SIA) determined by modeling equals 32.5 km

^c All facilities with emissions of less than 1 TPY were excluded from the modeling.

^d No source stack and operating parameters; therefore, these sources were not modeled.

Table 6-9. Summary of Facilities with PM Emissions Sources in the Vicinity of Cargill Riverview (Revised 5/24/01)

Facility ID	Facility Name	Site Description/Location	Facility Location		Relative Location ^a				PM Emissions Rate (TPY)	Emissions Threshold Q [(Dist. - SIA) X 20] ^b	Included in Modeling Analysis?	
			East (km)	North (km)	X (km)	Y (km)	Distance (km)	Direction (deg.)			AAQS	PSD Class II
0570150	DRAVO LIME, INC.	DRAVO LIME, INC.	362.9	3084.7	0.0	2.2	2.2	0	42.3	SIA	Yes	No
0570241	RINKER MATERIALS CORP.	RINKER MATERIALS CORP.	364.9	3084.4	2.0	1.9	2.8	46	3.0	SIA	Yes	No
0570317	JANET & CHARLIES WOOD	RECYCLING FAC.	363.1	3085.3	0.2	2.8	2.8	4		SIA	No	No
0570224	REED MINERALS DIVISION	REED MINERALS DIVISION	362.2	3085.5	-0.7	3.0	3.1	347	32.0	SIA	Yes	No
0570279	FLORIDA ROCK INDUSTRIES, INC.	FLORIDA ROCK INDUSTRIES, INC.	365.8	3085.0	2.9	2.5	3.8	49	21.9	SIA	Yes	No
0570022	MARATHON ASHLAND PETROLEUM LL	MARATHON TAMPA ASPHALT	362.2	3087.2	-0.7	4.7	4.8	352	0.1	SIA	Yes	No
0570056	BUILDING MATERIALS MAN. CORP.	BUILDING MATERIALS MAN. CORP.	362.2	3087.2	-0.7	4.7	4.8	352	50.8	SIA	Yes	No
0570255	LEHIGH PORTLAND CEMENT CO.	LEHIGH PORTLAND CEMENT CO.	360.7	3086.8	-2.2	4.3	4.8	333	11.1	SIA	Yes	No
0570024	IMC-AGRICO CO.	PORT SUTTON TERMINAL	361.5	3087.5	-1.4	5.0	5.2	344	383	SIA	Yes	No
0570344	POPS PAINTING, INC.	POPS PAINTING, INC. TAMPA TANK	362.8	3087.9	-0.1	5.4	5.4	359		SIA	No	No
0571102	FLORIDA CRUSHED STONE CO.	FLORIDA CRUSHED STONE CO.	359.5	3087.0	-3.4	4.4	5.6	323	89	SIA	Yes	No
0570040	TAMPA ELECTRIC CO.	GANNON	360.1	3087.5	-2.8	5.0	5.7	331	6,267	SIA	Yes	No
0570252	SOUTHDOWN, INC.	SOUTHDOWN, INC.	359.3	3087.1	-3.6	4.6	5.8	322	53	SIA	Yes	No
0570031	HOLNAM INC.	HOLNAM INC.	359.5	3087.3	-3.4	4.8	5.9	325	72	SIA	Yes	No
0571209	APAC-FLORIDA, INC.	APAC-FLORIDA, INC.	359.9	3088.1	-3.0	5.6	6.4	331	38	7	Yes	No
0570094	IMC-AGRICO CO. (BIG BEND)	IMC-AGRICO CO. (BIG BEND)	362.1	3076.1	-0.8	-6.4	6.4	187	76	9	Yes	No
0570033	CSX TRANSPORTATION, INC.	CSX TRANSPORTATION, INC.	362.4	3089.0	-0.5	6.5	6.5	356	242	10	Yes	No
0570029	NITRAM, INC.	NITRAM, INC.	362.5	3089.0	-0.4	6.5	6.5	356	222	10	Yes	No
0571242	NATIONAL GYPSUM CO.	APOLLO BEACH PLANT	363.3	3075.6	0.4	-6.9	6.9	177	99	18	Yes	Yes
0570014	EASTERN ASSOCIATION TERMINAL	ROCK PORT	360.2	3088.9	-2.7	6.4	6.9	337	266	19	Yes	No
0571100	CHEMICAL LIME CO. OF ALABAMA INC	CHEMICAL LIME CO. OF ALABAMA INC	358.2	3088.3	-4.7	5.8	7.5	321	67	29	Yes	No
PRPSD	BIG BEND TRANSFER CO. L.L.C.	BIG BEND	361.1	3076.2	-1.8	-6.3	6.6	196	383	11	Yes	Yes
0570039	TAMPA ELECTRIC CO.	BIG BEND STATION	361.9	3075.0	-1.0	-7.5	7.6	188	7,586	31	Yes	Yes
0570018	LAFARGE CORP.	LAFARGE CORP.	357.7	3090.6	-5.2	8.1	9.6	327	323	73	Yes	No
0570038	TAMPA ELECTRIC CO.	HOOKERS POINT STATION	358.0	3091.0	-4.9	8.5	9.8	330	1,536	76	Yes	No
0570127	CITY OF TAMPA - MCKAY BAY	REFUSE-TO-ENERGY FAC.	360.2	3092.2	-2.7	9.7	10.1	344	172	82	Yes	Yes
0570025	TRADEMARK NITROGEN CORP	TRADEMARK NITROGEN CORP	367.3	3092.6	4.4	10.1	11.0	24	1,463	100	Yes	No
0570261	HILLSBOROUGH CTY. R.R. FAC.	HILLSBOROUGH CTY. R.R. FAC.	368.2	3092.7	5.3	10.2	11.5	27	92	110	No	No
0570251	CONAGRA	CONAGRA	357.0	3092.5	-5.9	10.0	11.6	329	100	112	No	No
0570028	NATIONAL GYPSUM CO.	NATIONAL GYPSUM CO.	348.8	3082.7	-14.1	0.2	14.1	271	189	161	Yes	Yes
0570001	JOHNSON CONTROLS	BATTERY GROUP, INC	359.9	3102.5	-3.0	20.0	20.2	351	127	284	No	No
1030011	FLORIDA POWER CORP.	BARTOW PLANT	342.4	3082.6	-20.5	0.1	20.5	270	2,525	290	Yes	No
1030013	FLORIDA POWER CORP.	BAYBORO POWER PLANT	338.8	3071.3	-24.1	-11.2	26.6	245	195	412	No	No
1030117	PINELLAS CO.	RESOURCE RECOVERY FAC.	335.2	3084.1	-27.7	1.6	27.7	273	329	435	No	No
0810010	FLORIDA POWER & LIGHT	MANATEE POWER STATION	367.2	3054.1	4.3	-28.4	28.7	171	40,765	454	Yes	No
1030128	WEST COAST U-CART CONCRETE LTD	WEST COAST U-CART CONCRETE LTD	332.6	3080.1	-30.3	-2.4	30.4	265	57	488	No	No
	IMC - FORT LONESOME	IMC-AGRICO CO.	389.6	3067.9	26.7	-14.6	30.4	119	76	489	No	No
1030012	FLORIDA POWER CORP.	HIGGINS PLANT	336.5	3098.4	-26.4	15.9	30.8	301	1,260	496	Yes	No
0570075	CORONET INDUSTRIES, INC.	CORONET INDUSTRIES, INC.	393.8	3096.3	30.9	13.8	33.8	66	570	557	Yes	No
1050059	IMC-AGRICO CO.	NEW WALES	396.7	3079.4	33.8	-3.1	33.9	95	1,500	559	Yes	No
1050057	IMC-AGRICO CO.	NICHOLS	398.4	3084.2	35.5	1.7	35.5	87	1,514	591	Yes	Yes
1050047	AGRIFOS, L.L.C.	AGRIFOS, L.L.C. - NICHOLS	398.7	3085.3	35.8	2.8	35.9	86	557	598	No	No
1050034	IMC-AGRICO CO. (CFMO)	CENTRAL FL. MINERAL OP.	398.2	3075.7	35.3	-6.8	35.9	101	1,969	599	Yes	Yes
1030026	OVERSTREET PAVING CO.	OVERSTREET PAVING CO.	326.2	3086.9	-36.7	4.4	37.0	277	126	619	No	No
1050200	J. H. HULL, INC.	J. H. HULL, INC.	399.1	3070.6	36.2	-11.9	38.1	108	5	642	No	No
1030244	A-AMERICAN RENT ALL	A-AMERICAN RENT ALL	324.1	3079.2	-38.8	-3.3	38.9	265	2,190	659	Yes	Yes
1050056	IMC-AGRICO CO.(PRAIRIE)	IMC-AGRICO CO. (PRAIRIE)	402.9	3087.0	40.0	4.5	40.3	84	568	685	No	No
1050015	FLORIDA JUICE PARTNERS, LTD.	FLORIDA JUICE PARTNERS, LTD.	399.0	3101.8	36.1	19.3	40.9	62	140	699	No	No

Table 6-9. Summary of Facilities with PM Emissions Sources in the Vicinity of Cargill Riverview (Revised 5/24/01)

Facility ID	Facility Name	Site Description/Location	Facility Location		Relative Location ^a				PM Emissions Rate (TPY)	PM Emissions Threshold Q ((Dist. - SIA) X 20) ^b	Included in Modeling Analysis?	
			East (km)	North (km)	X (km)	Y (km)	Distance (km)	Direction (deg.)			AAQS	PSD Class II
0570005	CF INDUSTRIES, INC.	PLANT CITY PHOSPHATE	388.0	3116.0	25.1	33.5	41.9	37	957	717	Yes	Yes
1050233	TAMPA ELECTRIC CO.	POLK POWER STATION	402.5	3067.4	39.6	-15.2	42.4	111	222	727	No	No
1050048	MULBERRY PHOSPHATES, INC.	MULBERRY PHOSPHATES, INC.	406.8	3085.1	43.9	2.6	44.0	87	131	760	No	No
0810007	TROPICANA	BRADENTON	346.8	3040.9	-16.1	-41.6	44.6	201	904	772	Yes	Yes
1050052	CF INDUSTRIES, INC.	BARTOW PHOSPHATE COMPLEX	408.3	3082.5	45.4	0.0	45.4	90	567	788	No	No
1050055	IMC-AGRICO CO.(SO. PIERCE)	IMC-AGRICO CO. (SOUTH PIERCE)	407.5	3071.4	44.6	-11.1	46.0	104	777	799	No	No
1050009	FLORIDA TILE INDUSTRIES, INC.	FLORIDA TILE INDUSTRIES, INC.	405.4	3102.4	42.5	19.9	46.9	65	69	819	No	No
1050046	CARGILL FERTILIZER, INC.	CARGILL FERTILIZER - BARTOW	409.8	3086.6	46.9	4.1	47.1	85	409	822	No	No
1050053	FARMLAND HYDRO, L.P.	FARMLAND - GREEN BAY PLANT	410.3	3079.7	47.4	-2.8	47.5	93	410	830	No	No
0490015	HARDEE POWER PARTNERS,LTD	HARDEE POWER STATION	404.8	3057.4	41.9	-25.1	48.8	121	182	857	No	No
1050003	LAKELAND ELECTRIC & WATER UTIL.	LARSEN POWER PLANT	408.9	3102.5	46.0	20.0	50.2	67	631	883	No	No
1050050	U S AGRI-CHEMICALS CORP.	U S AGRI-CHEMICALS - BARTOW	413.2	3086.3	50.3	3.8	50.4	86	268	889	No	No
1050004	LAKELAND ELECTRIC & WATER UTIL.	MCINTOSH POWER PLANT	409.0	3106.2	46.1	23.7	51.8	63	3,924	917	Yes	Yes
1050034	IMC-AGRICO CO. -NORALYN MINE	IMC-AGRICO CO. -NORALYN MINE	414.7	3080.3	51.8	-2.2	51.8	92	973	917	Yes	No
1050234	FLORIDA POWER CORP.	HINES ENERGY COMPLEX	414.3	3073.9	51.4	-8.6	52.2	99	91	923	No	No
1010017	FLORIDA POWER CORP.	ANCLOTE POWER PLANT	324.4	3118.7	-38.5	36.2	52.8	313	3,471	937	Yes	No
1050051	U.S. AGRI-CHEMICALS CORP.	U.S. AGRI-CHEMICALS - FT. MEADE	416.0	3069.0	53.1	-13.5	54.8	104	137	976	No	No
1050223	FLORIDA POWER CORP.	TIGER BAY COGENERATION FAC.	416.3	3069.3	53.4	-13.2	55.0	104	70	980	No	No
1050026	ALCOA ALUMINA & CHEMICALS, L.L.C.	ALCOA ALUMINA & CHEMICALS, L.L.C.	416.8	3069.5	53.9	-13.0	55.4	104	69	989	No	No
1050045	PASCO PROCESSING, LLC		418.7	3083.6	55.8	1.1	55.8	89	191	996	No	No
1050145	BARTOW ETHANOL, INC.	BARTOW ETHANOL, INC.	418.8	3078.8	55.9	-3.7	56.0	94	281	999	No	No
1050198	PALEX, INC.	PALEX - HOMELAND	419.1	3078.1	56.2	-4.4	56.4	94	97	1,007	No	No

^a The proposed Cargill Riverview facility is located at UTM Coordinates:

East 362.90 (km)
North 3082.50 (km)

^b The significant impact area (SIA) determined by modeling equals:

6 (km)

^c Fugitive source emissions were not modeled.

Table 6-9a. Summary of Facilities with NO₂ Emission Sources in the Vicinity of Cargill Riverview

Facility ID	Facility Name	Facility Location		Relative Location ^a				NO ₂ Emissions Rate (TPY)	Emissions Threshold (Q) [(Dist. - SIA) X 20] ^b	Included in Modeling Analysis?	
		East (km)	North (km)	X (km)	Y (km)	Direction (deg.)	Distance (km)			AAQS	PSD Class II
0570317	JANET & CHARLIES WOOD RECYCLING PAC.	363.1	3085.3	0.2	2.8	4	2.8	199.7	16	Yes	No
0570022	MARATHON ASHLAND PETROLEUM LLC	362.2	3087.2	-0.7	4.7	352	4.8	2.6	55	No	No
0571217	SEA 3 OF FLORIDA, INC.	360.1	3087.1	-2.8	4.6	329	5.4	20.6	68	No	No
0570040	TECO - GANNON	360.1	3,087.5	-2.8	5.0	331	5.7	79088.0	75	Yes	No
0570029	NITRAM, INC.	362.5	3089	-0.4	6.5	356	6.5	301.6	90	Yes	Yes
0571242	NATIONAL GYPSUM	364.7	3075.63	1.8	-6.9	165	7.1	9.6	102	No	No
0570039	TECO - BIG BEND	361.9	3075	-1.0	-7.5	188	7.6	82624.0	111	Yes	No
0570286	TAMPA BAY SHIPBUILDING & REPAIR CO.	358	3089	-4.9	6.5	323	8.1	188.0	123	Yes	No
0570141	US AIR FORCE (MACDILL AFB)	353.5	3081.5	-9.4	-1.0	264	9.5	63.9	149	No	No
0570061	TAMPA ARMATURE WORKS	365.6	3091.7	2.7	9.2	16	9.6	14.7	152	No	No
0570442	GULF MARINE REPAIR CORP.	360.3	3091.9	-2.6	9.4	345	9.8	127.0	155	No	No
7775052	WOODRUFF & SONS, INC.	363.64	3092.27	0.7	9.8	4	9.8	5.7	156	No	No
7775053	WOODRUFF & SONS, INC.	363.64	3092.27	0.7	9.8	4	9.8	5.7	156	No	No
7775054	WOODRUFF & SONS, INC.	363.64	3092.27	0.7	9.8	4	9.8	3.9	156	No	No
0570038	TECO - HOOKERS POINT	358	3091	-4.9	8.5	330	9.8	4558.0	156	Yes	No
0570127	MCKAY BAY R.R.F.	360.2	3092.21	-2.7	9.7	344	10.1	744.6	162	Yes	No
0570321	MANTUA MANUFACTURING CO.	364.7	3092.5	1.8	10.0	10	10.2	12.8	163	No	No
7771101	WOODRUFF AND SONS INC	364.33	3093.18	1.4	10.7	8	10.8	5.7	176	No	No
0570077	VERLITE CO.	360.2	3093	-2.7	10.5	346	10.8	3.0	177	No	No
0570057	GULF COAST RECYCLING, INC.	364	3093.5	1.1	11.0	6	11.1	7.5	181	No	No
0570054	SCRAP-ALL, INC.	359.4	3093.1	-3.5	10.6	342	11.2	30.0	183	No	No
0570461	BLACKLIDGE EMULSIONS INC.	359.5	3093.2	-3.4	10.7	342	11.2	3.8	185	No	No
0570119	GULF COAST METALS	364.7	3093.6	1.8	11.1	9	11.2	12.7	185	No	No
0570021	INTERNATIONAL SHIP REPAIR & MARINE SERV.	358.03	3092.75	-4.9	10.3	335	11.3	89.0	187	No	No
0570261	HILLSBOROUGH CO. R.R.F.	368.2	3092.7	5.3	10.2	27	11.5	1541.7	190	Yes	No
0570163	GRIFFIN INDUSTRIES	364.1	3096.4	1.2	13.9	5	14.0	60.0	239	No	No
0570028	NATIONAL GYPSUM CO.	348.83	3082.69	-14.1	0.2	271	14.1	120.4	241	No	No
7770380	KEARNEY DEVELOPMENT CO.	370	3094.78	7.1	12.3	30	14.2	12.3	244	No	No
0571151	WEYERHAEUSER CO.	362.8	3098.3	-0.1	15.8	360	15.8	12.5	276	No	No
0570003	CF INDUSTRIES, INC.	362.8	3098.4	-0.1	15.9	360	15.9	12.7	278	No	No
0570089	ST.JOSEPHS HOSPITAL	353.3	3095.9	-9.6	13.4	324	16.5	31.9	290	No	No
0570001	JOHNSON CONTROLS BATTERY GROUP, INC	359.9	3102.5	-3.0	20.0	351	20.2	4.3	364	No	No
1030011	FPC - BARTOW PLANT	342.4	3082.6	-20.5	0.1	270	20.5	15373.6	370	Yes	No
0570006	YUENGLING BREWING CO.	362	3103.2	-0.9	20.7	358	20.7	24.5	374	No	No
0570236	WESTSHORE GLASS CORP	349.2	3098.5	-13.7	16.0	319	21.1	2.0	381	No	No
0570171	SPEEDLING, INC.	354.1	3062.2	-8.8	-20.3	203	22.1	7.8	403	No	No
0570409	CONIGLIO C&D DEB	368.9	3104.2	6.0	21.7	15	22.5	48.6	410	No	No
0570459	BAUSCH&LOMB PHARMACEUTICALS	366.39	3105.75	3.5	23.3	9	23.5	18.0	430	No	No
0570076	DELTA ASPHALT	372.1	3105.4	9.2	22.9	22	24.7	192.4	454	No	No
0570460	JAMES HARDIE BUILDING PRODUCTS INC,	387.06	3089.52	24.2	7.0	74	25.2	26.7	463	No	No
1030473	GULF CENTRAL CREMATORY, INC.	337.08	3085.61	-25.8	3.1	277	26.0	1.2	480	No	No
1030013	FPC -BAYBORO PLANT	338.8	3071.3	-24.1	-11.2	245	26.6	3837.8	492	Yes	No
0570249	ALCOA EXTRUSIONS	385.6	3097	22.7	14.5	57	26.9	34.5	499	No	No
0570320	DART CONTAINER CORP. OF FLORIDA	384.9	3098.2	22.0	15.7	54	27.0	15.5	501	No	No

Table 6-9a. Summary of Facilities with NO₂ Emission Sources in the Vicinity of Cargill Riverview

Facility ID	Facility Name	Facility Location		Relative Location ^a				NO ₂ Emissions Rate (TPY)	Emissions Threshold (Q) [(Dist. - SIA) X 20] ^b	Included in Modeling Analysis?	
		East (km)	North (km)	X (km)	Y (km)	Direction (deg.)	Distance (km)			AAQS	PSD Class II
1030443	LORAD CHEMICAL CORP.	336.5	3074.2	-26.4	-8.3	253	27.7	2.4	513	No	No
1030117	PINELLAS CO. R.R.P.	335.2	3084.1	-27.7	1.6	273	27.7	899.2	515	Yes	No
0810002	PINEY POINT PHOSPHATES, INC.	349.65	3057.34	-13.3	-25.2	208	28.4	168.6	529	No	No
0810010	FP & L - MANATEE PLANT	367.25	3054.15	4.4	-28.3	171	28.7	22732.2	534	Yes	No
1030147	SONNY GLASBRENNER, INC.	334.3	3085.6	-28.6	3.1	276	28.8	42.8	535	No	No
7775048	SONNY GLASBRENNER, INC.	334.3	3085.6	-28.6	3.1	276	28.8	23.7	535	No	No
0810001	COASTAL FUELS MARKETING, INC.	347.97	3057.73	-14.9	-24.8	211	28.9	45.0	538	No	No
7770262	ANGELO'S RECYCLED MATERIALS	333.9	3084.8	-29.0	2.3	275	29.1	42.8	542	No	No
1030132	COOPER COIL COATING, INC.	333.99	3086.88	-28.9	4.4	279	29.2	17.8	545	No	No
1030288	BAYCARE SERVICES INC	333.1	3084.4	-29.8	1.9	274	29.9	14.3	557	No	No
0810024	FP & L - PMS	347.5	3056.6	-15.4	-25.9	211	30.1	33.5	563	No	No
0570370	PARADISE, INC.	388.5	3099	25.6	16.5	57	30.5	3.5	569	No	No
1030012	PPC - HIGGINS PLANT	336.5	3098.4	-26.4	15.9	301	30.8	10027.0	576	Yes	No
1030075	ON CALL CREMATORY	331	3081.1	-31.9	-1.4	267	31.9	0.7	599	No	No
1030114	METAL INDUSTRIES, INC.	336.7	3101	-26.2	18.5	305	32.1	12.1	601	No	No
1030214	LIFE-LIKE PRODUCTS INC	330.3	3084.8	-32.6	2.3	274	32.7	8.6	614	No	No
1030129	PINELLAS PET CEMETERY	329.9	3081.6	-33.0	-0.9	268	33.0	0.9	620	No	No
7770037	APAC - FLORIDA, INC. - TAMPA DIVISION	392.61	3097.3	29.7	14.8	64	33.2	0.2	624	No	No
0570417	INTERNATIONAL PAPER	391.7	3099.3	28.8	16.8	60	33.3	0.7	627	No	No
0570075	CORONET INDUSTRIES, INC.	393.8	3096.3	30.9	13.8	66	33.8	227.5	637	No	No
0570091	TERRA ASGROW	388.6	3104.6	25.7	22.1	49	33.9	2.0	638	No	No
1050059	IMC-AGRIC CO. (NEW WALES)	396.7	3079.4	33.8	-3.1	95	33.9	639.7	639	Yes	Yes
1050228	SADLER DRUM CO.	396.2	3089.3	33.3	6.8	78	34.0	0.01	640	No	No
1030047	NATIONAL CREMATION SOCIETY	329.1	3088.9	-33.8	6.4	281	34.4	1.5	648	No	No
1030127	METAL CULVERTS	329.1	3089.1	-33.8	6.6	281	34.4	1.3	649	No	No
1050057	IMC PHOSPHATES CO. (NICHOLS)	398.4	3084.2	15.5	1.7	87	35.5	54.8	671	No	No
1050047	AGRIFOS, L.L.C.	398.7	3085.3	15.8	2.8	86	35.9	311.0	678	No	No
1030020	SPCA OF PINELLAS COUNTY	326.3	3086.2	-36.6	3.7	276	36.8	0.2	696	No	No
1030026	OVERSTREET PAVING CO., INC.	326.2	3086.9	-36.7	4.4	277	37.0	38.4	699	No	No
1010043	OAKCREST PET CEMETARY	359.4	3119.7	-3.5	37.2	355	37.4	0.0	707	No	No
0570438	FLORIDA GAS TRANSMISSION CO.	391.9	3106.6	29.0	24.1	50	37.7	46.1	714	No	No
1050319	CLARK ENVIRONMENTAL INC	401.2	3086.6	38.3	4.1	84	38.5	15.1	730	No	No
1050182	GEOLOGIC RECOVERY SYSTEMS	401.8	3085.8	38.9	3.3	85	39.0	69.8	741	No	No
1030217	ABC CREMATORY (PARKLAWN)	328.2	3101.4	-34.7	18.9	299	39.5	1.7	750	No	No
1050056	IMC PHOSPHATES CO. (PRAIRIE)	402.9	3087	40.0	4.5	84	40.3	61.5	765	No	No
1050015	METLIFE - LAKELAND PLANT	399	3101.8	36.1	19.3	62	40.9	53.6	779	No	No
0810069	PALMETTO FUNERAL HOME/CREMATORY	345.4	3044.7	-17.5	-37.8	205	41.7	0.2	793	No	No
1030091	MORTON PLANT MEASE HEALTH CARE	322.6	3093.1	-40.3	10.6	285	41.7	34.1	793	No	No
0570005	CF INDUSTRIES, INC., PLANT CITY PHOS	388	3116	25.1	33.5	37	41.9	694.0	797	No	No
1030070	MORTON PLANT MEASE HEALTH CARE	324.7	3099.7	-38.2	17.2	294	41.9	6.3	798	No	No
0810045	MANATEE COUNTY ANIMAL CONTROL	341.8	3046.2	-21.1	-36.3	210	42.0	0.3	800	No	No
1050148	GRAND EAGLE SERVICE, INC.	404.9	3084.1	42.0	1.6	88	42.0	1.8	801	No	No
1050233	TECO - POLK POWER STATION	402.45	3067.35	39.6	-15.2	111	42.4	3184.7	807	Yes	Yes
1050048	MULBERRY PHOSPHATES, INC.	406.8	3085.1	43.9	2.6	87	44.0	123.2	840	No	No

Table 6-9a. Summary of Facilities with NO₂ Emission Sources in the Vicinity of Cargill Riverview

Facility ID	Facility Name	Facility Location		Relative Location ^a				NO ₂ Emissions Rate (TPY)	Emissions Threshold (Q) [(Dist. - SIA) X 20] ^b	Included in Modeling Analysis?	
		East (km)	North (km)	X (km)	Y (km)	Direction (deg.)	Distance (km)			AAQS	PSD Class II
0810007	TROPICANA PRODUCTS, INC.	346.8	3040.9	-16.1	-41.6	201	44.6	1220.3	852	Yes	Yes
1050097	CUSTOM CHEMICALS CORP.	408	3085.5	45.1	3.0	86	45.2	1.6	864	No	No
1050055	IMC PHOSPHATES CO. (S. PIERCE)	407.5	3071.4	44.6	-11.1	104	46.0	208.7	879	No	No
1050099	AOC, L.L.C. (WAS ALPHIA OWENS CORN'G)	401	3108.5	38.1	26.0	56	46.1	46.5	883	No	No
1050174	PEPPERIDGE FARM, INC	403.3	3104.8	40.4	22.3	61	46.1	29.3	883	No	No
1050053	FARMLAND HYDRO, L.P.	409.5	3080.1	46.6	-2.4	93	46.7	256.5	893	No	No
1050009	FLORIDA TILE INDUSTRIES, INC.	405.4	3102.4	42.5	19.9	65	46.9	17.2	899	No	No
1050046	CARGILL FERTILIZER, INC.	409.8	3086.6	46.9	4.1	85	47.1	171.0	902	No	No
7775055	WOODRUFF & SONS, INC.	363.72	3034.25	0.8	-48.3	179	48.3	3.9	925	No	No
1050134	HEATH FUNERAL CHAPEL	407.1	3101.9	44.2	19.4	66	48.3	0.6	925	No	No
1050021	ASHLAND SPECIALTY CHEMICAL CO.	411.1	3085.9	48.2	3.4	86	48.3	6.7	926	No	No
0490015	HARDEE POWER PARTNERS,LTD	404.8	3057.4	41.9	-25.1	121	48.8	5183.2	937	Yes	Yes
0810164	FLOWERS BAKING CO. OF BRADENTON INC.	350.13	3034.59	-12.8	-47.9	195	49.6	5.3	952	No	No
1050127	JUICE BOWL PRODUCTS	409.4	3099.9	46.5	17.4	69	49.6	109.3	953	No	No
0810085	BELSPUR OAKS PET CREMATORY	348.7	3034.8	-14.2	-47.7	197	49.8	2.1	955	No	No
1050003	LAKELAND ELECTRIC - LARSON	408.9	3102.5	46.0	20.0	67	50.2	3825.0	963	Yes	Yes
1050146	PAVEX CORP.	413	3086.2	50.1	3.7	86	50.2	24.1	965	No	No
0810079	BENZ RESEARCH & DEVELOPMENT CORP.	348.4	3034.4	-14.5	-48.1	197	50.2	0.5	965	No	No
1050100	SHELL EPOXY RESINS LLC	410.7	3098.9	47.8	16.4	71	50.5	494.8	971	No	No
1050217	POLK POWER PARTNERS, L.P.	413.6	3080.6	50.7	-1.9	92	50.7	310.7	975	No	No
0810030	EATON AEROSPACE LLC	347.7	3033.5	-15.2	-49.0	197	51.3	1.0	986	No	No
1050004	LAKELAND ELECTRIC - MCINTOSH	409	3106.2	46.1	23.7	63	51.8	20807.0	997	Yes	Yes
1050234	FPC, HINES ENERGY COMPLEX	414.34	3073.91	51.4	-8.6	99	52.2	1283.0	1,003	No	No

^a The Proposed Project is located at UTM Coordinates:

East 362.9 km
North 3082.5 km

^b The significant impact area (SIA) determined by modeling equals

2.0 km

Table 6-10a. Stack Parameters and Baseline (1978) NO_x Emission Rates for Cargill, Riverview

AIRS Number	ISC ID No.	NO _x Emissions		Stack/Vent Release Height		Stack/Vent Diameter		Gas Flow Rate (acfm)	Gas Exit Temperature		Velocity		Location ^a				
		(TPY)	(g/sec)	(ft)	(m)	(ft)	(m)		(F)	(K)	(ft/sec)	(m/sec)	X Coordinate (ft)	(m)	Y Coordinate (ft)	(m)	
22,23	No. 3 and No. 4 MAP Plants and South Cooler	MAP34CB	0.40	0.012	90	27.43	3.33	1.01	35,000	140	333.15	66.98	20.42	-1800	-549	-170	-52
55	No. 5 DAP Plant	NO5DAPB	2.40	0.069	133	40.54	7.00	2.13	116,500	108	315.37	50.45	15.38	-1744	-532	-380	-116
43	Auxiliary Steam Boiler	AUXSTB	0.77	0.022	20	6.10	4.50	1.37	39,300	420	488.71	41.18	12.55	56	17	-180	-55
41	Sodium Silicofluoride/Sodium Fluoride Plant	SSFSFPB	0.74	0.021	40	12.19	1.67	0.51	5,400	120	322.04	41.09	12.52	-1352	-412	55	17
101,102	Phosphate Rock Grinding/Drying System	RKGRNDB	0.05	0.001	60	18.29	1.92	0.59	10,000	140	333.15	57.56	17.55	-1625	-495	485	148
7	GTSP/DAP Manufacturing Plant	GTSPAPB	6.10	0.175	126	38.40	8.00	2.44	140,000	125	324.82	46.42	14.15	-1730	-527	50	15
6	No. 9 Sulfuric Acid Plant ^b	NO9SAPB	41.40	1.191	150	45.72	9.00	2.74	149,000	152	340.00	39.04	11.90	0	0	0	0
5	No. 8 Sulfuric Acid Plant ^b	NO8SAPB	28.10	0.808	150	45.72	8.00	2.44	105,000	150	338.71	34.82	10.61	340	104	-90	-27
4	No. 7 Sulfuric Acid Plant ^b	NO7SAPB	30.90	0.889	150	45.72	7.50	2.29	122,000	170	350.00	46.03	14.03	-60	-18	-460	-140

^a Relative to H₂SO₄ Plant No. 9 stack location.

^b Based on emission factor of 0.12 lb/ton of 100% H₂SO₄: No. 7 H₂SO₄ - 514,991 tons H₂SO₄.

No. 8 H₂SO₄ - 468,283 tons H₂SO₄.

No. 9 H₂SO₄ - 689,423 tons H₂SO₄.

Notes:

Baseline Stack parameters for the No. 3 and No. 4 MAP Plants based on 1991 application.

Baseline Stack parameters for the No. 5 DAP Plant based on 1987 application.

Table 6-13. Building Dimensions Used in the Modeling Analysis (Revised 5/24/01)

Structure	Height		Length		Width	
	(ft)	(m)	(ft)	(m)	(ft)	(m)
<u>Phosphoric Acid Plant</u>						
South Building	100	30.48	95	28.96	60	18.29
North Building	100	30.48	90	27.43	80	24.38
<u>Dry Rock Processing Plant</u>						
Nos. 5/9 Mills Building	35	10.67	75	12.19	47	9.14
<u>Animal Feed Ingredient Plant</u>						
AFI Building No. 1	173	52.73	120	36.58	70	21.34
AFI Loadout Silos	100	30.48	274	83.52	37	11.28
AFI Building No. 2	147	44.81	90	27.43	60	18.29
<u>Material Storage Area</u>						
Building No. 6	74	22.56	790	240.79	120	36.58
Building No. 5	54.7	16.67	790	240.79	110	33.53
Building No. 4	54.7	16.67	830	252.98	100	30.48
Building No. 2 (Bottom)	62	18.90	830	252.98	100	30.48
Building No. 2 (Top)	70	21.34	410	124.97	120	36.58
GTSP Building	127	38.71	150	45.72	90	27.43
DAP 5 Building Tier A	86.5	26.37	160	48.77	50	15.24
DAP 5 Building Tier B	126.5	38.56	50	15.24	50	15.24
Map 3/4 Building	90	27.43	100	30.48	90	27.43
<u>Docks</u>						
West Building	30	9.14	330	100.58	85	25.91
East Building Tier A	30	9.14	370	112.78	30	9.14
East Building Tier B	45	13.72	30	9.14	30	9.14
Belt 8 to 9 Building	75	22.86	59	17.98	28	8.53
<u>Sulfuric Acid Plant</u>						
Auxiliary Boiler Building	18	5.49	80	24.38	50	15.24

Table 6-14. Maximum Predicted Significant Impacts for the Proposed Project, Cargill Riverview (Revised 5/24/01)

Pollutant/ Averaging Time	Concentration ^a (mg/m ³)	Receptor Location ^b		Time Period (YYMMDDHH)	EPA Significant Impact Level (mg/m ³)
		Direction (degree)	Distance (m)		
SO₂					
Annual	3.0	256.6	1,011	91123124	1
	3.0	90.0	1,000	92123124	
	3.1	90.0	1,000	93123124	
	2.6	70.0	900	94123124	
	3.0	80.0	1,000	95123124	
HIGH 24-Hour	86.2	256.6	1,011	91010424	5
	82.3	256.6	1,011	92022124	
	82.5	256.6	1,011	93110224	
	76.4	256.6	1,011	94120824	
	70.8	253.1	1,079	95110524	
HIGH 3-Hour	230.0	253.1	1,079	91101706	25
	208.4	281.7	1,172	92110403	
	193.9	281.7	1,172	93120403	
	234.3	256.6	1,011	94012306	
	261.7	256.6	1,011	95092106	
PM₁₀					
Annual	9.6	256.6	1,011	91102224	1
	9.9	205.3	515	92022124	
	10.0	211.8	601	93122824	
	9.5	211.8	601	94090624	
	10.7	211.8	601	95061524	
HIGH 24-Hour	11.7	250.0	2,000	91102224	5
	12.4	250.0	2,000	92022124	
	13.2	260.0	2,000	93122824	
	10.1	250.0	2,000	94090624	
	10.3	260.0	2,000	95061524	
NO_x^c					
Annual	2.1	256.6	1,011	91123124	1
	1.9	256.6	1,011	92123124	
	1.7	256.6	1,011	93123124	
	1.9	256.6	1,011	94123124	
	1.8	256.6	1,011	95123124	

^a Based on 5-year meteorological record, Tampa (surface)/ Ruskin (upper air), 1991 to 1995.

^b Relative to No. 9 Sulfuric Acid Plant stack.

^c Refined values.

Note: YYMMDDHH = Year, Month, Day, Hour Ending.

High - Highest Concentration.

Table 6-15. Maximum Predicted Pollutant Impacts After Completion of the Proposed Project
AAQS Screening Analysis, Cargill Riverview (Revised 05/24/01)

Pollutant/ Averaging Time	Concentration ($\mu\text{g}/\text{m}^3$) ^a			Receptor Location ^b		Time Period (YYMMDDHH)	Florida AAQS ($\mu\text{g}/\text{m}^3$)
	Total	Modeled Sources	Background	Direction (degree)	Distance (m)		
SO₂							
Annual	53.8	45.8	8	270	15,000	91123124	60
	50.9	42.9	8	90	1,000	92123124	
	53.3	45.3	8	90	1,000	93123124	
	50.1	42.1	8	70	900	94123124	
	52.8	44.8	8	80	900	95123124	
HSH 24-Hour	213.9	182.9	31	360	5,500	91081224	260
	222.0	191.0	31	100	900	92073024	
	241.1	210.1	31	10	6,000	93071724	
	205.8	174.8	31	70	600	94090324	
	215.5	184.5	31	256.6	1,011	95073124	
HSH 3-Hour	1,010.8	889.8	121	180	6,500	91042715	1,300
	981.3	860.3	121	180	6,500	92071815	
	1,043.5	922.5	121	220	5,000	93041512	
	869.6	748.6	121	200	7,500	94091012	
	933.6	812.6	121	160	7,500	95070812	
PM₁₀							
Annual	52.5	29.5	23 ^c	340	6,000	91123124	50
	53.1	30.1	23 ^c	340	6,000	92123124	
	50.3	27.3	23 ^c	350	6,000	92123124	
	52.9	29.9	23 ^c	350	6,000	93123124	
	50.6	27.6	23 ^c	340	6,000	93123124	
	50.5	27.5	23 ^c	340	5,500	93123124	
	54.0	31.0	23 ^c	350	6,000	94123124	
	51.7	28.7	23 ^c	340	6,000	94123124	
	52.4	29.4	23 ^c	340	6,000	95123124	
	51.7	28.7	23 ^c	350	6,000	95123124	
	H6H 24-Hour	157.0	118.0	39 ^d	350	6000	
162.1		123.1	39 ^d	350	6000	92111824	
159.7		120.7	39 ^d	350	6000	92110724	
155.9		116.9	39 ^d	350	6000	92101324	
175.9		136.9	39 ^d	350	6000	93111024	
166.9		127.9	39 ^d	350	6000	93100324	
166.7		127.7	39 ^d	350	6000	94102824	
165.2		126.2	39 ^d	350	6000	94012024	
NO_x							
Annual	39.1	18.1	21	330	2,000	91123124	100
	40.4	19.4	21	330	2,000	92123124	
	42.2	21.2	21	340	2,000	93123124	
	42.9	21.9	21	340	2,000	94123124	
	45.2	24.2	21	340	2,000	95123124	

^a Based on 5-year meteorological record, Tampa (surface)/ Ruskin (upper air), 1991 to 1995

^b Relative to No. 9 Sulfuric Acid Plant stack.

^c Cargill Riverview sources contributed less than 0.3 $\mu\text{g}/\text{m}^3$ to these exceedences of the AAQS standard.

^d Cargill Riverview sources contributed 0.0 $\mu\text{g}/\text{m}^3$ to this exceedence of the AAQS standard.

Note: YYMMDDHH = Year, Month, Day, Hour Ending
HSH = Highest, Second-Highest
H6H = Highest, Sixth-Highest

Table 6-16. Maximum Predicted Concentrations for All Sources Compared to the AAQS - Refined Analysis (Revised 05/24/01)

Pollutant/ Averaging Time	Concentration ($\mu\text{g}/\text{m}^3$) ^a			Receptor Location ^b		Time Period (YYMMDDHH)	Florida AAQS ($\mu\text{g}/\text{m}^3$)
	Total	Modeled Sources	Background	Direction (degree)	Distance (m)		
<u>SO₂</u>							
Annual	57.8	49.8	8	270	14,400	91123124	60
HSH 24-Hour	261	230	31 ^c	3.0	5,800	91081224	260
	261	230	31 ^c	2.5	5,800	93071724	
	262	231	31 ^c	2.0	5,800	91081224	
	262	231	31 ^c	1.5	5,800	93071724	
	262	231	31 ^c	1.0	5,800	91081224	
	261	230	31 ^c	1.0	5,700	93071724	
	261	230	31 ^c	0.5	5,800	93071724	
	262	231	31 ^c	0.5	5,700	91081224	
	263	232	31 ^c	360.0	5,700	93071724	
	260	229	31 ^c	360.0	5,800	91081224	
	264	233	31 ^c	359.5	5,700	93071724	
	264	233	31 ^c	359.0	5,700	93071724	
	264	233	31 ^c	358.5	5,700	93071724	
	263	232	31 ^c	358.0	5,700	91081224	
	262	231	31 ^c	357.5	5,700	93071724	
	261	230	31 ^c	357.0	5,700	91081224	
HSH 3-Hour	1,074	953	121	178	7,000	91071912	1,300
	1,167	1046	121	177	7,000	92041215	
	1,072	951	121	223	4,800	93041512	
<u>PM₁₀</u>							
Annual	55.6	32.6	23 ^d	348.5	6000	94123124	50
H6H 24-Hour	227.6	188.6	39 ^c	347.5	6000	93100624	150
<u>NO_x</u>							
Annual	43.0	22.0	21	335	2,000	93123124	100
	43.8	22.8	21	345	2,000	94123124	
	46.1	25.1	21	335	2,000	95123124	

^a Based on 5-year meteorological record, Tampa (surface)/ Ruskin (upper air), 1991 to 1995

^b Relative to No. 9 Sulfuric Acid Plant stack.

^c Cargill Riverview sources contributed 0.0 $\mu\text{g}/\text{m}^3$ to this exceedence of the AAQS standard.

^d Cargill Riverview sources contributed less than 0.3 $\mu\text{g}/\text{m}^3$ to these exceedences of the AAQS standard.

Note: YYMMDDHH = Year, Month, Day, Hour Ending
HSH = Highest, Second-Highest
H6H = Highest, Sixth-Highest

Table 6-17. Maximum Predicted Pollutant Impacts After Completion of the Proposed Project
PSD Class II Screening Analysis, Cargill Riverview (Revised 05/24/01)

Pollutant/ Averaging Time	Concentration ^a ($\mu\text{g}/\text{m}^3$)	Receptor Location ^b		Time Period (YYMMDDHH)
		Direction (degree)	Distance (m)	
SO₂				
Annual	< 0.0	All	All ^c	91123124
	< 0.0	All	All ^c	92123124
	< 0.0	All	All ^c	93123124
	< 0.0	All	All ^c	94123124
	< 0.0	All	All ^c	95123124
HSH 24-Hour	36.3	30	27,000	91092724
	39.3	30	27,000	92102924
	37.1	30	26,000	93112624
	36.3	30	27,000	94091124
	36.7	30	26,000	95101224
HSH 3-Hour	256.6	30	32,000	91041603
	211.3	30	32,500	92122406
	170.2	30	32,000	93121224
	223.0	30	32,500	94012306
	216.2	30	32,500	95041503
PM₁₀				
Annual	2.4	330	6,000	91123124
	2.2	330	6,000	92123124
	2.3	330	6,000	93123124
	2.3	330	6,000	94123124
	2.1	330	6,000	95123124
HSH 24-Hour	17.8	330	6,000	91081324
	22.4	330	6,000	92071924
	20.3	330	6,000	93082924
	24.8	330	5,500	94120724
	18.7	330	6,000	95092624
NO_x				
Annual	4.1	256.6	1,011	91123124
	3.6	256.6	1,011	92123124
	3.4	256.6	1,011	93123124
	3.8	256.6	1,011	94123124
	3.5	256.6	1,011	95123124

^a Based on 5-year meteorological record, Tampa (surface)/ Ruskin (upper air), 1991 to 1995^b Relative to No. 9 Sulfuric Acid Plant stack.^c Maximum concentrations were predicted to be less than zero at all receptors.

Note: YYMMDDHH = Year, Month, Day, Hour Ending

HSH = Highest, Second-Highest

Table 6-18. Maximum Predicted Concentrations for All Sources Compared to the PSD Class II Increment, Refined Analysis (Revised 05/24/01)

Pollutant/ Averaging Time	Concentration ^a (ug/m ³)	Receptor Location ^b		Time Period (YYMMDDHH)	Increment (ug/m ³)
		Direction (degree)	Distance (m)		
SO₂					
Annual	< 0.0	All	All ^c	All years	20
HSH 24-Hour	44.4	26	26,900	92042324	91
	49.7	27	27,000	93100624	
HSH 3-Hour	262.8	30	32,500	91041603	512
	296.6	25	32,500	94080306	
PM₁₀					
Annual	9.45	330.5	5,800	91123124	17
H2H 24-Hour	31.8 ^d	327.5	5,600	94101724	30
NO_x					
Annual	4.1	256.6	1,011	91123124	25

^a Based on 5-year meteorological record, Tampa (surface)/ Ruskin (upper air), 1991 to 1995

^b Relative to No. 9 Sulfuric Acid Plant stack.

^c Maximum concentrations were predicted to be less than zero at all receptors.

^d Impact predicted at TECO Gannon property line. Maximum concentration of 96.0 ug/m³ predicted on Gannon property; project's contribution is zero for both values.

Note: YYMMDDHH = Year, Month, Day, Hour Ending

Table 6-19. Summary of Maximum Pollutant Concentrations Predicted for the Project Only
Compared to the EPA Class I Significant Impact Levels and PSD Class I Increments (Revised 5/24/01)

Pollutant	Averaging Time	Maximum Concentration ^a ($\mu\text{g}/\text{m}^3$)	EPA Class I Significant Impact Levels ($\mu\text{g}/\text{m}^3$)	PSD Class I Increments ($\mu\text{g}/\text{m}^3$)
SO ₂	Annual	0.009	0.1	2
	24-Hour	0.220	0.2	5
	3-Hour	1.21	1.0	25
PM ₁₀ ^b	Annual	0.005	0.2	4
	24-Hour	0.083	0.3	8
NO ₂	Annual	0.0005	0.1	2.5

^a Highest concentration predicted with CALPUFF model and CALMET Tampa Bay Domain, 1990.

^b Impacts include Sulfuric Acid Mist.

Table 6-20. Summary of Maximum 3-Hour and 24-Hour Average SO₂ Concentrations Predicted for PSD Sources at the Chassahowitzka NWA Compared to the Allowable PSD Class I Increments (Revised 5/24/01)

Averaging Time	Maximum Concentration ^a (ug/m ³)	Project's Contribution (ug/m ³)	Receptor Location (m)		Period Ending (Julian day/hour/year)	PSD Class I Increments (ug/m ³)	Significant Impact Levels (ug/m ³)
			UTM East	UTM North			
24-Hour	5.18	0.0006	342000	3174000	135/23/90	5	0.2
	4.99	0.000	343000	3176200	180/23/90		
	5.79	0.000	340300	3165700	253/23/90		
	5.84	0.000	340300	3167700	253/23/90		
	5.44	0.000	340300	3169800	253/23/90		
	5.51	0.000	340700	3171900	253/23/90		
	5.39	0.000	340300	3165700	069/23/90		
	5.12	0.000	339000	3183400	277/23/90		
	5.54	0.000	336500	3183400	277/23/90		
	5.82	0.000	334000	3183400	277/23/90		
	5.57	0.000	331500	3183400	277/23/90		
	5.43	0.0009	334000	3183400	347/23/90		
	5.55	0.00009	340300	3165700	257/23/90		
	5.09	0.00005	340300	3167700	257/23/90		
3-Hour	39.7	<0	336500	3183400	347/17/90	25	1.0
	35.0	0.0004	341100	3183400	347/14/90		
	35.2	0.0075	339000	3183400	239/14/90		
	32.4	<0	334000	3183400	347/17/90		
	27.6	0.0076	334000	3183400	239/14/90		
	27.2	<0	339000	3183400	347/17/90		
	27.0	<0	336500	3183400	347/14/90		

^a Concentrations are second-highest or lower exceedences predicted with CALPUFF model and CALMET Tampa Bay Domain, 1990.

Table 6-21. Predicted Fluoride Impacts due to the Proposed Project, Cargill Riverview (Revised 5/24/01)

Averaging Time	Concentration ^a ($\mu\text{g}/\text{m}^3$)	Receptor Location ^b		Time Period (YYMMDDHH)
		Direction (degree)	Distance (m)	
Fluorides				
Annual	2.2	268	1050	91123124
	1.9	262	1026	92123124
	2.0	262	1026	93123124
	2.3	262	1026	94123124
	2.2	262	1026	95123124
HIGH 24-Hour	8.7	262	1026	91102224
	8.4	262	1026	92032924
	9.3	268	1050	93122824
	9.0	262	1026	94090624
	10.7	210	700	95120424
HIGH 8-Hour	16.1	262	1026	91063008
	13.7	260	1100	92090308
	18.6	268	1050	93122808
	16.0	268	1050	94072124
	23.0	210	700	95120408
HIGH 3-Hour	20.6	268	1050	91101509
	22.7	268	1050	92013003
	22.9	251	1006	93042906
	24.2	270	1100	94072121
	27.6	273	1083	95071209
HIGH 1-Hour	38.8	326	2094	91071208
	36.5	212	701	92030301
	55.2	251	1006	93042906
	46.8	268	1050	94092710
	82.8	273	1083	95071207

^a Based on 5-year meteorological record, Tampa (surface)/ Ruskin (upper air), 1991 to 1995.

^b Relative to No. 9 Sulfuric Acid Plant stack.

Note: YYMMDDHH = Year, Month, Day, Hour Ending.

High = Highest Concentration.

Table 6-22. Predicted Sulfuric Acid Mist Impacts due to the Proposed Project, Cargill Riverview

Averaging Time	Concentration ^a ($\mu\text{g}/\text{m}^3$)	Receptor Location ^b		Time Period (YYMMDDHH)
		Direction (degree)	Distance (m)	
<u>Sulfuric Acid Mist</u>				
Annual	0.20	90	1000	91123124
	0.25	90	1000	92123124
	0.25	90	1000	93123124
	0.21	70	900	94123124
	0.25	80	1000	95123124
HIGH 24-Hour	2.45	110	800	91080924
	2.83	90	1000	92073124
	2.94	80	900	93060624
	2.14	120	1000	94061124
	2.56	257	1011	95061524
HIGH 8-Hour	5.32	286	1226	91111916
	5.68	100	900	92061016
	5.98	80	900	93071716
	4.68	273	1083	94042916
	6.10	257	1011	95061516
HIGH 3-Hour	8.25	90	800	91040615
	8.58	100	800	92062215
	8.81	90	800	93073112
	7.40	40	800	94070415
	8.96	80	600	95070415
HIGH 1-Hour	13.1	297	1378	91080116
	11.1	48	505	92070913
	12.3	100	1400	93070710
	11.7	293	1332	94092810
	11.2	90	600	95081714

^a Based on 5-year meteorological record, Tampa (surface)/ Ruskin (upper air), 1991 to 1995.

^b Relative to No. 9 Sulfuric Acid Plant stack.

Note: YYMMDDHH = Year, Month, Day, Hour Ending.

High = Highest Concentration.

Table 6-23. Stack Parameters and Sulfuric Acid Mist Emission Rates for Affected Cargill - Riverview Sources

AIRS Number	Source	ISCST Source ID	Short-Term SAM Emissions		Annual Average SAM Emissions		Stack/Vent Release Height		Stack/Vent Diameter		Gas Flow Rate acfm	Gas Exit Temperature		Velocity		Discharge Direction (Vert./Horiz.)	Location ^a			
			lb/hr	g/sec	TPY	g/sec	ft	m	ft	m		F	K	ft/sec	m/sec		ft	m	ft	m
CURRENT SOURCES																				
5	No. 8 Sulfuric Acid Plant	NO8SAPC	4.08	0.514	14.09	0.405	150	45.72	8.0	2.44	118,938	165	347	39.4	12.02	V	340	104	-90	-27
6	No. 9 Sulfuric Acid Plant	NO9SAPC	4.90	0.617	10.75	0.309	150	45.72	9.0	2.74	159,602	155	341	41.8	12.74	V	0	0	0	0
FUTURE SOURCES																				
5	No. 8 Sulfuric Acid Plant	NO8SAP	13.50	1.701	59.1	1.701	150	45.72	8.00	2.44	129,400	165	347	42.91	13.08	V	340	104	-90	-27
6	No. 9 Sulfuric Acid Plant	NO9SAP	17.00	2.142	74.5	2.142	150	45.72	9.00	2.74	171,100	155	341	44.83	13.66	V	0	0	0	0
	Phosphate Rock Grinding/Drying System																			
100	No. 5 Rock Mill Dust Collector	RKMLNO5	0.11	0.014	0.02	0.001	91	27.74	2.50	0.76	36,100	166	348	122.57	37.36	V	-1,620	-494	510	155
106	No. 7 Rock Mill Dust Collector	RKMLNO7	0.11	0.014	0.02	0.001	91	27.74	3.00	0.91	20,000	165	347	47.16	14.37	V	-1,638	-499	486	148
101	No. 9 Rock Mill Dust Collector	RKMLNO9	0.11	0.014	0.02	0.001	91	27.74	2.50	0.76	31,360	162	345	106.48	32.45	V	-1,630	-497	460	140
7	EPP Manufacturing Plant	EPPPLNT	0.70	0.088	0.14	0.004	126	38.40	8.00	2.44	237,000	132	329	78.58	23.95	V	-1,730	-527	50	15
	Animal Feed Ingredient Plant																			
	Granulation System Scrubber No. 1	AFIGRAN	0.44	0.055	0.09	0.003	136	41.45	6.00	1.83	109,400	150	339	64.49	19.66	V	-1,230	-375	460	140
	Granulation System Scrubber No. 2	AFIGRN2	0.66	0.083	0.13	0.004	155	47.24	6.00	1.83	112,188	150	339	66.13	20.16	V	-1,415	-431	420	128
55	No. 5 DAP Plant	DAPNO5	0.22	0.027	0.04	0.001	133	40.54	7.00	2.13	121,732	132	329	52.72	16.07	V	-1,744	-532	-380	-116

^a Relative to H2SO4 Plant No. 9 stack location.

Table 7-1. Maximum Predicted Concentrations Due to the Project Only at the Class I Area of the Chassahowitza National Wilderness Area (Revised 5/24/01)

Pollutant	Concentrations ^a (mg/m ³) for Averaging Times				
	Annual	24-Hour	8-Hour	3-Hour	1-Hour
Sulfur Dioxide (SO ₂)	0.009	0.217	0.436	1.21	1.71
Nitrogen Dioxide (NO ₂)	0.0005	0.018	0.052	0.121	0.160
Particulates (PM ₁₀)	0.003	0.052	0.096	0.241	0.293
Fluorides (F)	0.0005	0.009	0.016	0.053	0.065
Sulfuric Acid Mist (SAM)	0.002	0.031	0.057	0.161	0.203

^a Highest Predicted with CALPUFF model and CALMET Tampa Bay Domain, 1990.

FIGURES

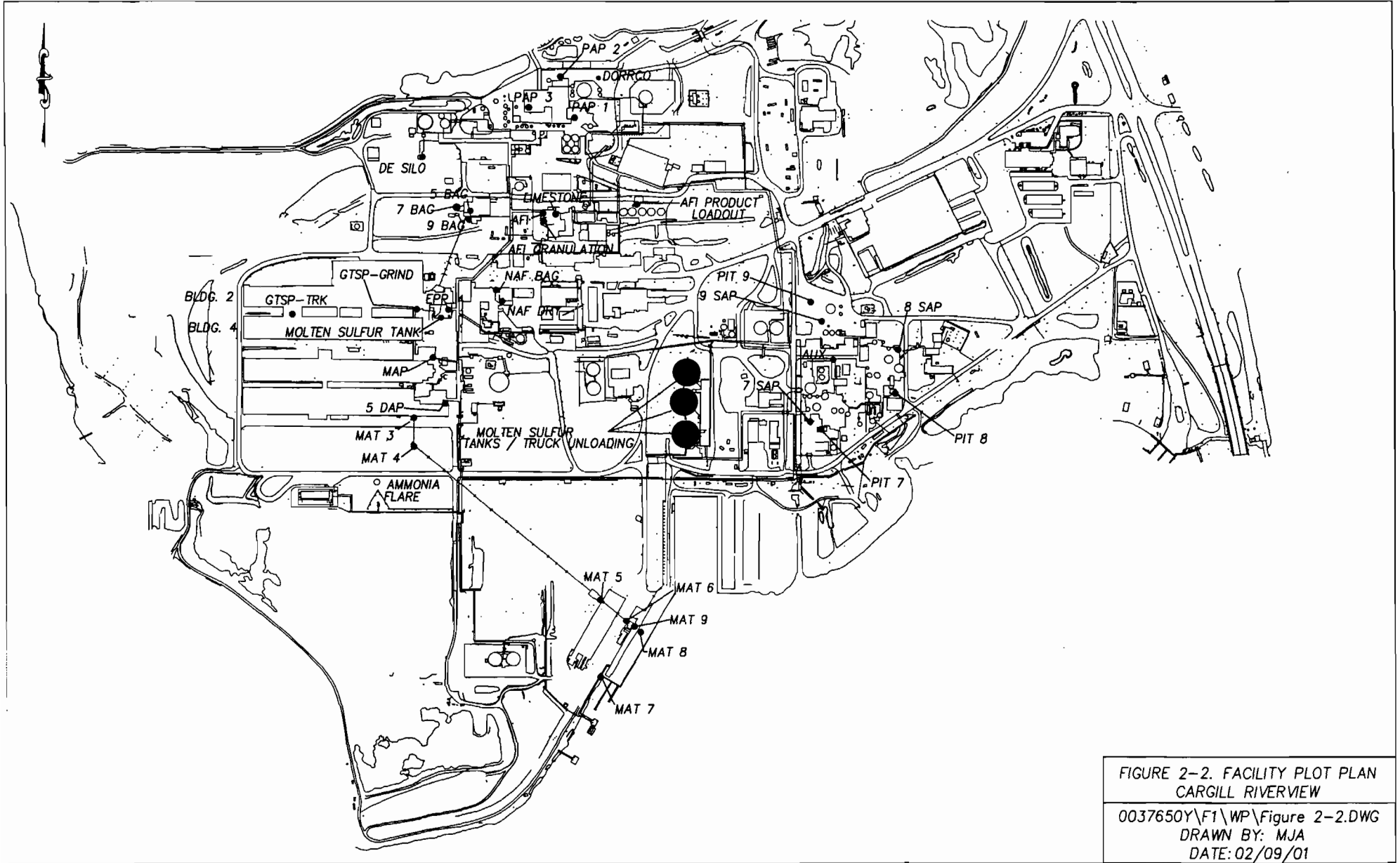
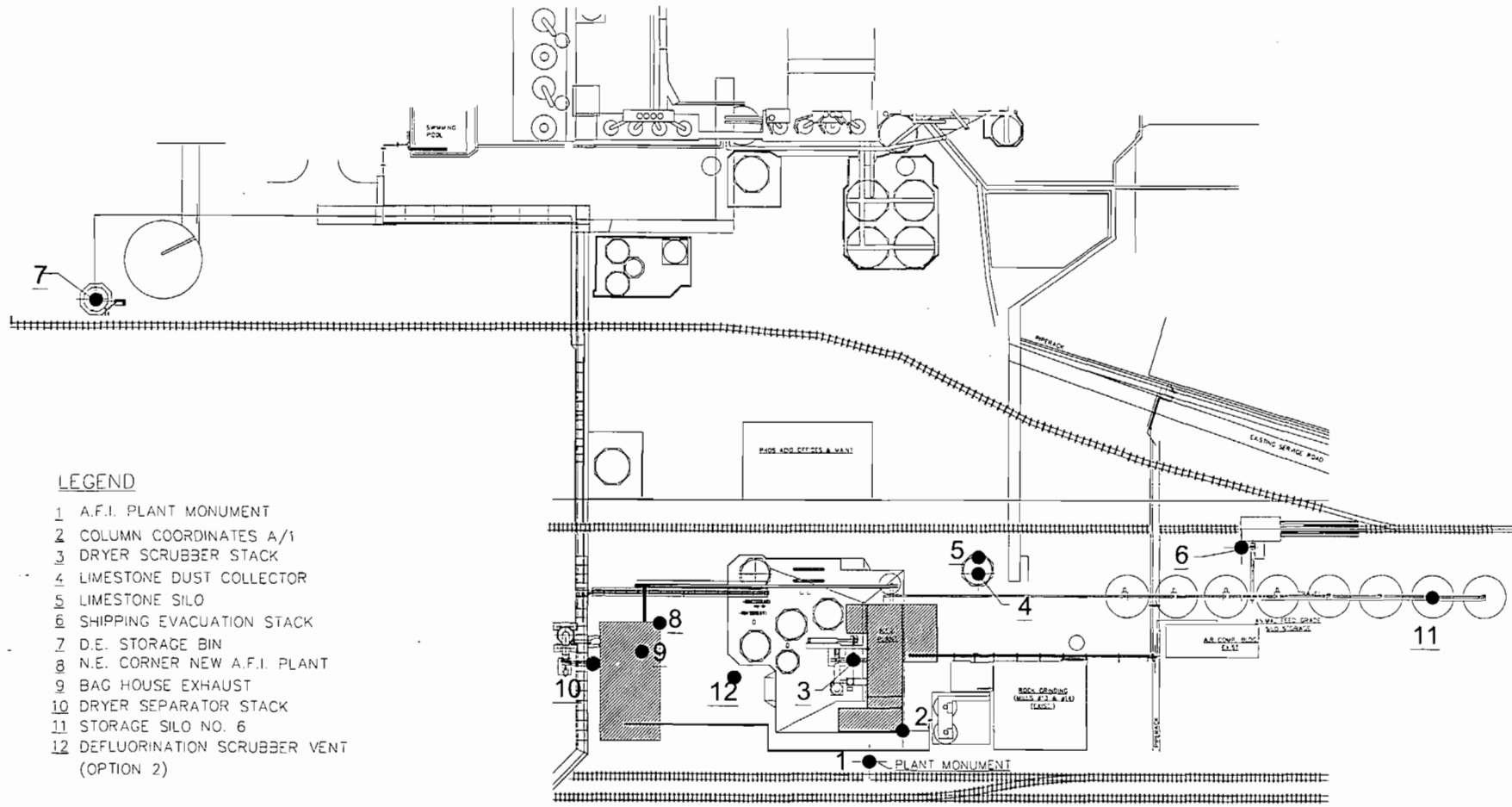


FIGURE 2-2. FACILITY PLOT PLAN
CARGILL RIVERVIEW
0037650Y\F1\WP\Figure 2-2.DWG
DRAWN BY: MJA
DATE: 02/09/01



LEGEND

- 1 A.F.I. PLANT MONUMENT
- 2 COLUMN COORDINATES A/1
- 3 DRYER SCRUBBER STACK
- 4 LIMESTONE DUST COLLECTOR
- 5 LIMESTONE SILO
- 6 SHIPPING EVACUATION STACK
- 7 D.E. STORAGE BIN
- 8 N.E. CORNER NEW A.F.I. PLANT
- 9 BAG HOUSE EXHAUST
- 10 DRYER SEPARATOR STACK
- 11 STORAGE SILO NO. 6
- 12 DEFLUORINATION SCRUBBER VENT (OPTION 2)

SHADED AREAS INDICATE WORK ON EXISTING AND NEW ADDITIONS TO ANIMAL FEED PHOSPHATE PLANT.

SOURCE: CARGILL.


 Golder Associates GAINESVILLE, FLORIDA	SCALE	N/A	TITLE	AFI PLANT NO. 2	
	DATE	05/18/01			
	DESIGN	N/A			
	CADD	N/A			
FILE Name:	Figure 2-3.dwg		LAST REVISED	ARZ 5-24-01	
PROJECT No.	013-7558	REV.	1	DATE	0137558\4.4\4.4.1\Figures\CAD\
		REV.	1		FIGURE
					2-3

Figure 6-1. Boundary and Near-Field Receptors, Future Cargill Sources and Building Locations
Used in the Air Modeling Analysis

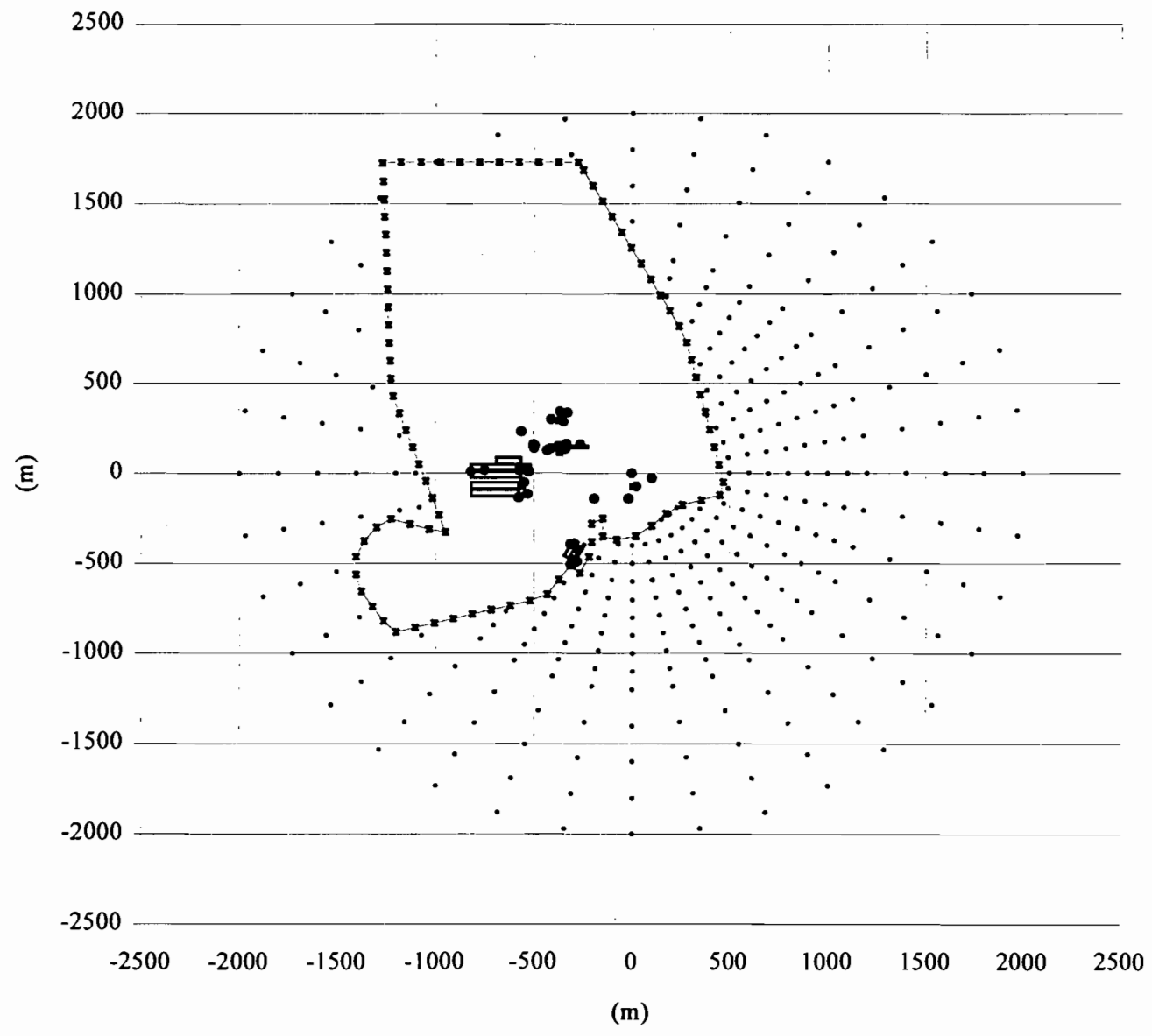
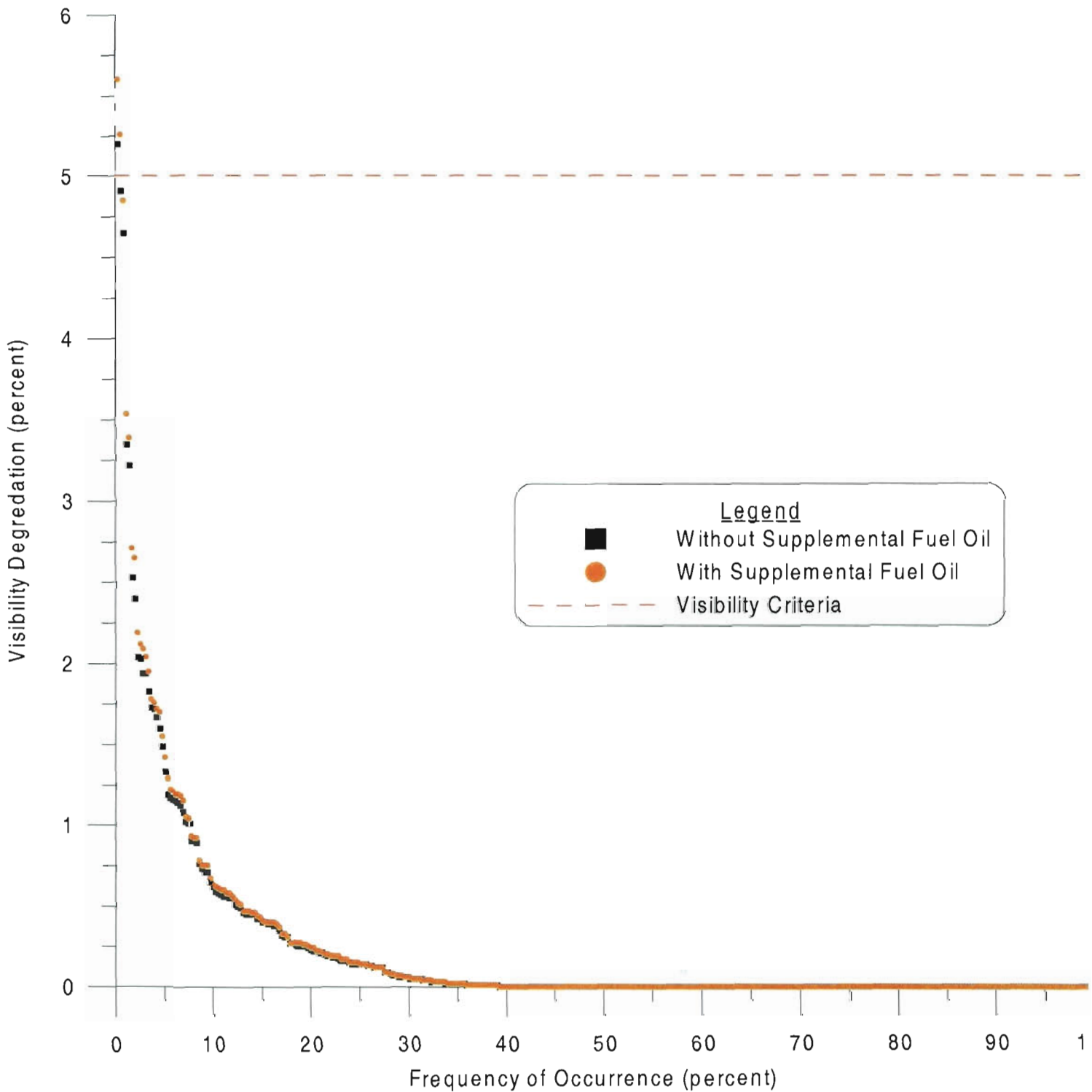


Figure 7-1. Annual Frequency Distribution of 24-Hour Visibility Impairment At the Chassahowitzka National Wildlife Refuge Due to the Proposed Cargill Riverview Project, With and Without the Use of Supplemental Fuel Oil



APPENDIX A

BASIS OF CURRENT ACTUAL EMISSIONS (ACTUAL)

Table A-1. Actual Emissions for 2000—Cargill Riverview (Revised 5/24/01)

Source Description	EU ID	Pollutant Emission Rate (TPY)								
		SO ₂	NO _x	CO	PM	PM ₁₀	VOC	TRS	SAM	Fluoride
A. Molten Sulfur Storage/Handling Facility										
Molten Sulfur Storage--Tank No. 1										
Molten Sulfur Storage--Tank No. 2	064	0.89	--	--	0.75	0.75	0.64	0.43	--	--
Molten Sulfur Storage--Tank No. 3	065	0.89	--	--	0.75	0.75	0.64	0.43	--	--
Molten Sulfur Storage--Pit No. 7	066	0.03	--	--	0.23	0.23	0.02	0.01	--	--
Molten Sulfur Storage--Pit No. 8	067	0.03	--	--	0.27	0.27	0.02	0.02	--	--
Molten Sulfur Storage--Pit No. 9	068	0.03	--	--	0.29	0.29	0.02	0.02	--	--
Molten Sulfur Storage--Ship Unloading	069	0.00	--	--	0.00	0.00	0.00	0.00	--	--
Molten Sulfur Storage--Truck Loading Stn.	074									
Total		1.87	--	--	2.29	2.29	1.34	0.91	--	--
B. No. 8 Sulfuric Acid Plant	005	1,574.21	47.23	--	--	--	--	--	14.56	--
C. No. 9 Sulfuric Acid Plant	006	851.03	49.34	--	--	--	--	--	8.22	--
D. Rock Mills										
No. 5 Rock Mill	100	0.03	4.40	3.69	1.87	1.87	0.23	--	--	--
No. 9 Rock Mill	101	0.03	4.54	0.91	1.93	1.93	0.24	--	--	--
No. 7 Rock Mill	106	0.02	3.15	2.65	1.34	1.34	0.17	--	--	--
Ground Rock Handling Storage System	034/102	--	--	--	0.09	0.09	--	--	--	--
Total		0.08	12.09	7.25	5.24	5.24	0.64	--	--	--
E. Phosphoric Acid Plant	073	--	--	--	--	--	--	--	--	3.99
F. GTSP Plant										
GTSP Ground Rock Handling	007	0.09	14.83	12.45	10.61	10.61	0.82	--	--	1.98
GTSP Storage Building No. 2	008	--	--	--	3.83	1.91	--	--	--	--
GTSP Storage Building No. 2	070	--	--	--	--	--	--	--	--	10.54
GTSP Storage Building No. 4	071	--	--	--	--	--	--	--	--	10.54
GTSP Truck Loadout Baghouse	072	--	--	--	0.01	0.01	--	--	--	--
GTSP Truck Loadout Fugitive Emissions		--	--	--	0.03	0.01	--	--	--	--
Total		0.09	14.83	12.45	14.48	12.53	0.82	--	--	23.06
G. AFI Plant No. 1										
DE Hopper Baghouse	078	0.04	6.02	5.05	15.60	15.60	0.33	--	--	0.46
Limestone Silo Baghouse	079	--	--	--	0.02	0.02	--	--	--	--
AFI Product Loadout Baghouse	080	--	--	--	0.06	0.06	--	--	--	--
AFI Product Loadout Baghouse	081	--	--	--	0.68	0.68	--	--	--	--
AFI Product Loadout Fugitive Emissions		--	--	--	0.20	0.04	--	--	--	--
Total		0.04	6.02	5.05	16.56	16.40	0.33	--	--	0.46
H. No. 5 DAP Plant	055	0.03	4.34	3.65	4.35	4.35	0.24	--	--	8.04
I. Material Handling System										
West Baghouse Filter	051	--	--	--	0.63	0.63	--	--	--	--
South Baghouse	052	--	--	--	0.58	0.58	--	--	--	--
Vessel Ldng. System--Twr. Baghouse Exhaust ^b	053	--	--	--	0.63	0.63	--	--	--	--
Building No. 6 Belt to Conveyor No. 7	058	--	--	--	0.30	0.30	--	--	--	--
Conveyor No.7 to Conveyor No. 8	059	--	--	--	0.63	0.63	--	--	--	--
Conveyor No.8 to Conveyor No. 9	060	--	--	--	0.63	0.63	--	--	--	--
Railcar Unloading of AFI Product		--	--	--	0.02	0.00	--	--	--	--
E. Vessel Ldg. Facility-Shiphold/Chokefeed	061	--	--	--	0.25	0.25	--	--	--	--
Total		--	--	--	3.66	3.64	--	--	--	--
Total Actual Emission Rates--2000		2,427.34	133.84	28.40	46.57	44.45	3.36	0.91	22.78	35.55

^a Emission unit did not operate for this year.^b See Tables A-3 and A-4 for emission calculations.

APPENDIX B

**BASIS OF POTENTIAL EMISSIONS FOR OTHER AFFECTED
SOURCES (FUTURE)**

Table B-4. Maximum Potential Emission Rates Due to Fuel Combustion, Nos. 5, 7, and 9 Rock Mills (each, Revised 3/19/01)

Parameter	Units	No. Fuel Oil	Natural Gas
Operating Data			
Annual Operating Hours	hr/yr	400	8,760
Maximum Heat Input Rate	10 ⁶ Btu/hr	13	13
Hourly Fuel Oil Usage ^a	10 ³ gal/hr	0.093	N/A
Annual Fuel Oil Usage	10 ³ gal/yr	37.14	N/A
Maximum Sulfur Content	Weight %	0.5	N/A
Hourly Natural Gas Usage ^b	10 ⁶ scf/hr	N/A	0.0130
Annual Natural Gas Usage	10 ⁶ scf/yr	N/A	113.88

Pollutant	AP-42 Emissions Factor ^c	No. 2 Fuel Oil		Natural gas		Maximum Total Emission Rate	
		Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)	Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)	Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)
Sulfur Dioxide							
Fuel oil	142 *(S)lb/10 ³ gal ^d	6.593	1.319	--	--	--	--
Natural gas	0.6 lb/10 ⁶ ft ³	--	--	0.008	0.034	--	--
Worse-Case Combination of Fuels		--	--	--	--	6.59	1.32
Sulfuric Acid Mist							
Fuel oil	2.4 *(S)lb/10 ³ gal ^{de}	0.114	0.023	--	--	0.114	0.023
Nitrogen Oxides							
Fuel oil	20 lb/10 ³ gal	1.857	0.371	--	--	--	--
Natural gas	100 lb/10 ⁶ ft ³	--	--	1.300	5.694	--	--
Worse-Case Combination of Fuels		--	--	--	--	1.86	5.69
Carbon Monoxide							
Fuel oil	5 lb/10 ³ gal	0.464	0.093	--	--	--	--
Natural gas	84 lb/10 ⁶ ft ³	--	--	1.092	4.783	--	--
Worse-Case Combination of Fuels		--	--	--	--	1.09	4.78
Volatile Organic Compounds							
Fuel oil	0.2 lb/10 ³ gal	0.019	0.004	--	--	--	--
Natural gas	5.5 lb/10 ⁶ ft ^{3f}	--	--	0.072	0.313	--	--
Worse-Case Combination of Fuels		--	--	--	--	0.07	0.31

Footnotes:

Particulate matter emissions rates for each rock mill are included in Table B-2.

^a Based on the heat content of fuel oil of 140,000 Btu/gallon.

^b Based on the heat content of natural gas of 1,000 Btu/scf.

^c Emission factors for fuel oil are based on AP-42, Section 1.3, September 1998. Emission factors for natural gas are based on AP-42, Section 1.4, July 1998.

^d S denotes the weight-percent of Sulfur in fuel oil; Maximum sulfur content = 0.5%.

^e Sulfuric acid mist emission factor based on emission factor for SO₃ (AP-42, Section 1.3) converted to H₂SO₄ using molecular weight.

^f Based on methane comprised of 52% total VOC.

APPENDIX F

SO₂ AND PM₁₀ AAQS, PSD INVENTORY

Appendix F-1. Summary of SO₂ Sources Included in the Air Modeling Analysis (Revised 5/24/01)

Facility ID	Facility Name EU ID Emission Unit Description	ISCST3 ID Name	Relative Location		Stack and Operating Parameters						Emission Rate		PSD Consuming (C), Expanding (E), or Baseline (B)	Modeled In			
			East (m)	North (m)	Height (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)		AAQS	Class II		
SOURCES IN ORIGINAL INVENTORY																	
0570040	TECO - GANNON																
	1 UNIT #1 STEAM GENERATOR	TECOGN1	-2800	5000	315	96.0	10.0	3.05	276.53	409	124.4	37.9	2,137	269.3	B	Yes	No
	2 125MW BOILER	TECOGN2	-2800	5000	315	96.0	10.0	3.05	298.67	421	126.3	38.5	2,137	269.3	B	Yes	No
	3 UNIT #3 BOILER	TECOGN3	-2800	5000	315	96.0	10.6	3.23	271.49	406	113.5	34.6	2,718	342.5	B	Yes	No
	4 UNIT#4-BOILER	TECOGN4	-2800	5000	315	96.0	10.0	3.05	289.13	416	97.1	29.6	3,189	401.8	B	Yes	No
	5 UNIT #5 BOILER	TECOGN5	-2800	5000	315	96.0	14.6	4.45	292.73	418	166.5	50.7	3,883	489.3	B	Yes	No
	6 UNIT #6 BOILER WITH ESP	TECOGN6	-2800	5000	315	96.0	17.6	5.36	260.33	400	109.2	33.3	6,457	813.6	B	Yes	No
	7 14 MW GAS TURBINE	TECOGN7	-2800	5000	35	10.7	11.0	3.35	1010	816	92.6	28.2	10.96	1.4	B	Yes	No
0571242	NATIONAL GYPSUM - APOLLO BEACH																
	1 Imp Mill #1	NATGYP1	400	-6900	98	29.9	3.8	1.14	350	450	28.2	8.6	5.28	0.67	C	Yes	Yes
	Imp Mill #2	NATGYP2	400	-6900	98	29.9	3.8	1.14	350	450	28.2	8.6	5.28	0.67	C	Yes	Yes
	Imp Mill #3	NATGYP3	400	-6900	98	29.9	3.8	1.14	350	450	28.2	8.6	5.28	0.67	C	Yes	Yes
	Imp Mill #4	NATGYP4	400	-6900	98	29.9	3.8	1.14	350	450	28.2	8.6	5.28	0.67	C	Yes	Yes
	Kiln	NATGYP5	400	-6900	54	16.5	13.4	4.08	384	469	58.2	17.7	33.22	4.19	C	Yes	Yes
0571209	APAC-FLORIDA, INC.																
	1 Hot mix asphalt plant	APAC1	-3040	5590	31	9.4	3.8	1.16	300	422	88.2	26.9	19.20	2.42	B	Yes	No
	BIG BEND TRANSFER CO. L.L.C.																
	Melter/ Molten Scrubber stack	BBTCCMBO	-1800	-6300	95	29.0	2.2	0.66	97	309	57.0	17.4	0.014	0.002	C	Yes	Yes
	Package Boiler	BBTCPKBL	-1800	-6300	106	32.3	4.0	1.22	350	450	29.7	9.1	3.56	0.45	C	Yes	Yes
0570039	TECO - BIG BEND																
	1,2 1 & 2 Gen.3-Hour Emissions	TECOBB12	-1000	-7500	490	149.4	24.0	7.32	300	422	116.0	35.4	42,000	5,292	B	Yes	No
	3 3 Gen. 3-Hour Emissions	TECOBB3	-1000	-7500	490	149.4	24.0	7.32	292	418	51.2	15.6	21,000	2,646	B	Yes	No
	1,2 1 & 2 Gen. 24-Hour Emissions	TECOBB12	-1000	-7500	490	149.4	24.0	7.32	300	422	116.0	35.4	32,937	4,150	B	Yes	No
	3 3 Gen. 24-Hour Emissions	TECOBB3	-1000	-7500	490	149.4	24.0	7.32	292	418	51.2	15.6	17,063	2,150	B	Yes	No
	4 UNIT #4 BOILER W/ESP	TECOBB4	-1000	-7500	490	149.4	24.0	7.32	127	326	78.3	23.9	3,576	451	C	Yes	Yes
	5 Gas Turbine No. 2:	TECOBB5	-1000	-7500	75	22.9	14.0	4.27	928	771	61.0	18.6	314	40	B	Yes	No
	6 Gas Turbine No. 3:	TECOBB6	-1000	-7500	75	22.9	14.0	4.27	928	771	61.0	18.6	314	40	B	Yes	No
	7 GAS TURBINE #1	TECOBB7	-1000	-7500	35	10.7	11.0	3.36	1010	816	91.9	28.0	90	11	B	Yes	No
	1,2 Steam Generators 1 & 2 Baseline	TCBB12B	-1000	-7500	490	149.4	24.0	7.32	300	422	94.0	28.7	-19,333	-2,436	E	No	Yes
	3 Steam Generator 3 Baseline	TCBB3B	-1000	-7500	490	149.4	24.0	7.32	293	418	47.0	14.3	-9,667	-1,218	E	No	Yes
0570286	TAMPA BAY SHIPBUILDING & REPAIR CO.																
	5 DIESEL COMPRESSORS	TBSHIP5	-4900	6500	10	3.0	0.5	0.15	350	450	148.5	45.3	2.74	0.35	B	Yes	No

Appendix F-1. Summary of SO₂ Sources Included in the Air Modeling Analysis (Revised 5/24/01)

Facility ID	Facility Name EU ID Emission Unit Description	ISCST3 ID Name	Relative Location		Stack and Operating Parameters								Emission Rate		PSD Consuming (C), Expanding (E), or Baseline (B)	Modeled in		
			East (m)	North (m)	Height (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)	AAQS	Class II				
0570038	TECO - HOOKERS POINT																	
	1 Boiler #1	TECOHK1	-4900	8500	280	85.3	11.3	3.44	356	453	82.0	25.0	327.80	41.3	B	Yes	No	
	2 Boiler #2	TECOHK2	-4900	8500	280	85.3	11.3	3.44	356	453	82.0	25.0	327.80	41.3	B	Yes	No	
	3 Boiler #3	TECOHK3	-4900	8500	280	85.3	12.0	3.66	341	445	62.7	19.1	452.10	57.0	B	Yes	No	
	4 Boiler #4	TECOHK4	-4900	8500	280	85.3	12.0	3.66	341	445	62.7	19.1	452.10	57.0	B	Yes	No	
	5 Boiler #5	TECOHK5	-4900	8500	280	85.3	11.3	3.44	356	453	82.0	25.0	671.00	84.5	B	Yes	No	
	6 Boiler #6	TECOHK6	-4900	8500	280	85.3	9.4	2.87	329	438	75.2	22.9	855.80	107.8	B	Yes	No	
0570127	CITY OF TAMPA, MCKAY BAY																	
	103 MWC & Aux Burner No. 1	MCKY103	-2700	9710	201	61.3	4.2	1.28	289	416	73.3	22.3	40.87	5.15	C	Yes	Yes	
	104 MWC & Aux Burner No. 2	MCKY104	-2700	9710	201	61.3	4.2	1.28	289	416	73.3	22.3	40.87	5.15	C	Yes	Yes	
	105 MWC & Aux Burner No. 3	MCKY105	-2700	9710	201	61.3	4.2	1.28	289	416	73.3	22.3	40.87	5.15	C	Yes	Yes	
	106 MWC & Aux Burner No. 4	MCKY106	-2700	9710	201	61.3	4.2	1.28	289	416	73.3	22.3	40.87	5.15	C	Yes	Yes	
0570041	FLORIDA HEALTH SCIENCES CTR, INC																	
	2 TWO BOILERS	FLHLTH2	-6500	8500	90	27.4	6.0	1.83	80	300	0.1	0.03 ^a	13.39	1.69	B	Yes	No	
0570057	GULF COAST RECYCLING, INC.																	
	1 BLAST FURNACE	GULFRCY1	1100	11000	150	45.7	2.0	0.61	160	344	54.8	16.7	374.00	47.12	B	Yes	No	
0570261	HILLSBOROUGH CTY. RESOURCE RECOVERY FAC.																	
	1 MWC & Aux Burner #1	HILLSRC1	5300	10200	220	67.1	5.1	1.55	290	416	72.5	22.1	58.67	7.39	C	Yes	Yes	
	2 MWC & Aux Burner #2	HILLSRC2	5300	10200	220	67.1	5.1	1.55	290	416	72.5	22.1	58.67	7.39	C	Yes	Yes	
	3 MWC & Aux Burner #3	HILLSRC3	5300	10200	220	67.1	5.1	1.55	290	416	72.5	22.1	58.67	7.39	C	Yes	Yes	
0570028	NATIONAL GYPSUM COMPANY	(formerly Gold Bond Building Products)																
	21 NO. 1 CALCIDYNE UNIT	NATGYP21	-14070	190	42	12.8	1.1	0.34	350	450	59.0	18.0	0.01	0.001	B	Yes	No	
	22 NO. 2 CALCIDYNE UNIT	NATGYP22	-14070	190	42	12.8	1.1	0.34	350	450	62.0	18.9	0.01	0.001	B	Yes	No	
	23 NO. 3 CALCIDYNE UNIT	NATGYP23	-14070	190	42	12.8	1.1	0.34	350	450	50.0	15.2	0.01	0.001	B	Yes	No	
	24 NO. 4 CALCIDYNE UNIT	NATGYP24	-14070	190	42	12.8	1.1	0.34	350	450	61.0	18.6	0.01	0.001	B	Yes	No	
	28 NO. 5 CALCIDYNE UNIT	NATGYP28	-14070	190	42	12.8	1.1	0.34	350	450	71.0	21.6	5.07	0.64	B	Yes	No	
	29 NO. 6 CALCIDYNE UNIT	NATGYP29	-14070	190	42	12.8	1.1	0.34	350	450	71.0	21.6	5.07	0.64	B	Yes	No	
	30 NO. 7 CALCIDYNE UNIT	NATGYP30	-14070	190	42	12.8	1.1	0.34	350	450	71.0	21.6	2.11	0.27	B	Yes	No	
	31 NO. 8 CALCIDYNE UNIT	NATGYP31	-14070	190	42	12.8	1.1	0.34	350	450	71.0	21.6	5.07	0.64	B	Yes	No	
	34 WALLBOARD KILN NO. 2	NATGYP34	-14070	190	47	14.3	2.5	0.76	309	427	67.0	20.4	27.30	3.44	B	Yes	No	
	36 ROCK DRYER & CRUSHER	NATGYP36	-14070	190	64	19.5	3.5	1.07	185	358	40.0	12.2	9.12	1.15	B	Yes	No	
	47 KILN DRYER, PLANT NO. 1	NATGYP47	-14070	190	35	10.7	2.8	0.85	300	422	64.0	19.5	27.00	3.40	B	Yes	No	
	102 Impact Mill #1	NATGP102	-14070	190	90	27.4	3.9	1.19	200	366	44.7	13.6	0.72	0.09	B	Yes	No	
	103 Impact Mill #2	NATGP103	-14070	190	90	27.4	3.0	0.91	200	366	75.5	23.0	0.72	0.09	B	Yes	No	
	104 Impact Mill #3	NATGP104	-14070	190	90	27.4	3.0	0.91	200	366	75.5	23.0	0.72	0.09	B	Yes	No	

Appendix F-1. Summary of SO₂ Sources Included in the Air Modeling Analysis (Revised 5/24/01)

Facility ID	Facility Name EU ID Emission Unit Description	ISCST3 ID Name	Relative Location		Stack and Operating Parameters								Emission Rate		PSD Consuming (C), Expanding (E), or Baseline (B)	Modeled in	
			East (m)	North (m)	Height (ft)	Diameter (m)	Temperature (F) (K)		Velocity (ft/s) (m/s)		(lb/hr)	(g/s)	AAQS	Class II			
0570003	CF INDUSTRIES, INC. 1 CLEAVER BROOKS 500 HP BOILER	CFIBL1	-100	15900	25	7.6	2.5	0.76	500	533	28.0	8.5	4.35	0.55	B	Yes	No
0570089	ST. JOSEPH'S HOSPITAL 2 WASTE INCINERATOR 3 COGENERATION PLANT #1	STJO2 STJO3	-9600	13400	40 30	12.2 9.1	1.7 1.0	0.51 0.30	135 375	330 464	45.7 42.0	13.9 12.8	1.80 1.00	0.23 0.13	B B	Yes Yes	No No
0570180	FECPC/CAST CRETE DIVISION 3 200HP BOILER	FEPD3	9000	16700	20	6.1	1.0	0.30	240	389	31.0	9.4	3.43	0.43	B	Yes	No
1030011	FPC - BARTOW 1 No.1 Unit 2 No.2 Unit 3 No.3 Unit 4 Boiler 5 GT Peaking Unit #P-1 6 GT Peaking Unit #P-2 7 GT Peaking Unit #P-3 8 GT Peaking Unit #P-4	FPCBART1 FPCBART2 FPCBART3 FPCBART4 FPCBART5 FPCBART6 FPCBART7 FPCBART8	-20500 -20500 -20500 -20500 -20500 -20500 -20500 -20500	100 100 100 100 100 100 100 100	300 300 300 30 45 45 45 45	91.4 91.4 91.4 9.1 13.7 13.7 13.7 13.7	9.0 9.0 11.0 3.0 17.9 17.9 17.9 17.9	2.74 2.74 3.35 0.91 5.46 5.46 5.46 5.46	312 305 275 515 930 930 930 930	429 425 408 541 772 772 772 772	119.0 102.0 113.0 17.0 69.1 69.1 69.1 69.1	36.3 31.1 34.4 5.2 21.1 21.1 21.1 21.1	3,355.00 3,622.00 6,080.00 7.80 360.57 360.57 360.57 360.57	422.73 456.37 766.1 0.98 45.4 45.4 45.4 45.4	B B B B B B B B	Yes Yes Yes Yes Yes Yes Yes Yes	No No No No No No No No
0570006	YUENGLING BREWING CO. 1 2 Natural gas boilers	YNGBREW1	-900	20700	90	27.4	6.5	1.98	275	408	7.0	2.1	9.00	1.13	C	Yes	Yes
1030013	FPC - BAYBORO 1 CT Peaking Unit # 1 2 CT Peaking Unit # 2 3 CT Peaking Unit # 3 4 CT Peaking Unit # 4	FPCBAY1 FPCBAY2 FPCBAY3 FPCBAY4	-24100 -24100 -24100 -24100	-11200 -11200 -11200 -11200	40 40 40 40	12.2 12.2 12.2 12.2	22.9 22.9 22.9 22.9	6.98 6.98 6.98 6.98	900 900 900 900	755 755 755 755	21.0 21.0 21.0 21.0	6.4 6.4 6.4 6.4	390.90 390.90 390.90 390.90	49.3 49.3 49.3 49.3	B B B B	Yes Yes Yes Yes	No No No No
1030117	PINELLAS CO. RESOURCE RECOVERY FACILITY 1 Waste Combustor & Aux burners-Unit #1 3 Waste Combustor & Aux burners-Unit #2	PINRCY1 PINRCY3	-27700 -27700	1600 1600	161 165	49.1 50.3	7.8 9.0	2.38 2.74	449 450	505 505	88.0 90.0	26.8 27.4	170.00 525.00	21.4 66.2	C C	Yes Yes	Yes Yes
0810002	PINEY POINT PHOSPHATES, INC. 1 SAP 1 11 BOILER	PINPT1 PINPT11	-13250 -13250	-25160 -25160	200 30	61.0 9.1	7.8 4.0	2.38 1.22	147 550	337 561	33.5 25.2	10.2 7.7	291.70 9.60	36.8 1.21	B B	Yes Yes	No No
0810010	FLORIDA POWER & LIGHT MANATEE PLANT 1 GENERATOR 1 2 GENERATOR 2	FPLMAN1 FPLMAN2	4350 4350	-28350 -28350	475 475	152 152	26.2 26.2	7.99 7.99	325 325	436 436	82.5 82.5	25.1 25.1	9,515.0 9,515.0	1,198.9 1,198.9	B B	Yes Yes	No No

Appendix F-1. Summary of SO₂ Sources Included in the Air Modeling Analysis (Revised 5/24/01)

Facility ID	Facility Name EU ID Emission Unit Description	ISCST3 ID Name	Relative Location		Stack and Operating Parameters								Emission Rate		PSD Consuming (C), Expanding (E), or Baseline (B)	Modeled in		
			East (m)	North (m)	Height (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)	AAQS	Class II				
1030012	FPC - HIGGINS																	
	1 FFFSG-SG 1	FPCHIG1	-26400	15900	174	53.0	12.5	3.81	312	429	27.0	8.2	1,507.0	189.9	B	Yes	No	
	2 FFFSG-SG 2	FPCHIG2	-26400	15900	174	53.0	12.5	3.81	310	428	27.0	8.2	1,438.3	181.2	B	Yes	No	
	3 FFFSG-SG 3	FPCHIG3	-26400	15900	174	53.0	12.5	3.81	301	423	24.0	7.3	1,507.0	189.9	B	Yes	No	
	4 CTP 1	FPCHIG4	-26400	15900	55	16.8	15.1	4.60	850	728	93.1	28.4	286.30	36.07	B	Yes	No	
	5 CTP 2	FPCHIG5	-26400	15900	56	17.1	15.1	4.60	850	728	93.1	28.4	286.30	36.07	B	Yes	No	
	6 CTP 3	FPCHIG6	-26400	15900	55	16.8	15.1	4.60	850	728	93.1	28.4	319.10	40.21	B	Yes	No	
	7 CTP 4	FPCHIG7	-26400	15900	55	16.8	15.1	4.60	850	728	93.1	28.4	319.10	40.21	B	Yes	No	
0570075	CORONET INDUSTRIES, INC.	(formerly Consolidated Minerals, Plant City)																
	3 DEFLUORINATING KILN #2	CORN3	30900	13800	152	46.3	5.8	1.77	110	316	64.0	19.5	188.42	23.74	B	Yes	No	
	19 BOILER DEFLUOR. PLANT	CORN19	30900	13800	25	7.6	1.3	0.40	450	505	50.0	15.2	4.26	0.54	B	Yes	No	
	20 BOILER DEFLUOR. PLANT	CORN20	30900	13800	20	6.1	1.2	0.37	630	605	66.0	20.1	2.13	0.27	B	Yes	No	
	22 FLUID BED REACTOR #1	CORN22	30900	13800	152	46.3	5.8	1.77	110	316	64.0	19.5	68.48	8.63	B	Yes	No	
	24 FLUID BED REACTOR #2	CORN24	30900	13800	152	46.3	5.8	1.77	110	316	64.0	19.5	68.48	8.63	B	Yes	No	
1050059	IMC PHOSPHATES COMPANY - NEW WALES																	
	2 SAP No. 1	IMCWAL2	33800	-3100	200	61.0	8.5	2.59	170	350	50.0	15.2	483.30	60.90	B	Yes	No	
	3 SAP No. 2	IMCWAL3	33800	-3100	200	61.0	8.5	2.59	170	350	50.0	15.2	483.30	60.90	B	Yes	No	
	4 SAP No. 3	IMCWAL4	33800	-3100	200	61.0	8.5	2.59	170	350	50.0	15.2	483.30	60.90	B	Yes	No	
	9 DAP Plant No. 1	IMCWAL9	33800	-3100	133	40.5	7.0	2.13	105	314	49.0	14.9	74.60	9.40	B	Yes	No	
	13 Auxiliary Boiler	IMCWAL13	33800	-3100	85	25.9	3.0	0.91	555	564	193.3	58.9	569.00	71.69	B	Yes	No	
	27 AFI Plant	IMCWAL27	33800	-3100	172	52.4	8.0	2.44	130	328	66.3	20.2	18.30	2.31	B	Yes	No	
	36 Kilns, Dryer, Blending Op.	IMCWAL36	33800	-3100	172	52.4	4.5	1.37	105	314	52.0	15.8	192.00	24.19	B	Yes	No	
	42 SAP No. 4	IMCWAL42	33800	-3100	199	60.7	8.5	2.59	170	350	50.0	15.2	483.30	60.90	B	Yes	No	
	44 SAP No. 5	IMCWAL44	33800	-3100	199	60.7	8.5	2.59	170	350	50.0	15.2	483.30	60.90	B	Yes	No	
	45 DAP Plant No 2 - East Train	IMCWAL45	33800	-3100	171	52.1	6.0	1.83	110	316	58.0	17.7	22.00	2.77	B	Yes	No	
	46 DAP Plant No 2 - West Train	IMCWAL46	33800	-3100	171	52.1	6.0	1.83	110	316	58.0	17.7	22.00	2.77	B	Yes	No	
	60 Molten Storage Tank	IMCWAL60	33800	-3100	40	12.2	2.0	0.61	240	389	0.4	0.1	0.50	0.06	B	Yes	No	
	62 Molten Storage Tank	IMCWAL62	33800	-3100	40	12.2	2.0	0.61	240	389	0.4	0.1	0.50	0.06	B	Yes	No	
	63 Unloading Sulfur Pit	IMCWAL63	33800	-3100	40	12.2	2.0	0.61	240	389	0.4	0.1	0.30	0.04	B	Yes	No	
	64 Unloading Sulfur Pit	IMCWAL64	33800	-3100	40	12.2	2.0	0.61	240	389	0.4	0.1	0.10	0.01	B	Yes	No	
	65 Unloading Sulfur Pit	IMCWAL65	33800	-3100	40	12.2	2.0	0.61	240	389	0.4	0.1	0.30	0.04	B	Yes	No	
	66 Sulfur Transfer Pit	IMCWAL66	33800	-3100	40	12.2	2.0	0.61	240	389	0.4	0.1	0.10	0.01	B	Yes	No	
	68 Unloading Sulfur Pit	IMCWAL68	33800	-3100	25	7.6	0.1	0.03	90	305	0.1	0.03 ^a	0.30	0.04	B	Yes	No	
	69 Unloading Sulfur Pit	IMCWAL69	33800	-3100	25	7.6	0.1	0.03	90	305	0.1	0.03 ^a	0.10	0.01	B	Yes	No	
	74 Multifos C Kiln	IMCWAL74	33800	-3100	172	52.4	4.5	1.37	105	314	70.2	21.4	8.70	1.10	B	Yes	No	
	78 GRANULAR MAP PLANT	IMCWAL78	33800	-3100	133	40.5	6.0	1.83	145	336	109.6	33.4	13.72	1.73	B	Yes	No	
	Expanding Source	IMCWAL0	33800	-3100	69	21.0	7.0	2.13	165	347	61.0	18.6	-272.0	-34.27	E	No	Yes	
	Expanding Source	IMCWAL1	33800	-3100	200	61.0	8.5	2.59	170	350	42.9	13.1	-1158.7	-146.00	E	No	Yes	

Appendix F-1. Summary of SO₂ Sources Included in the Air Modeling Analysis (Revised 5/24/01)

Facility ID	Facility Name EU ID Emission Unit Description	ISCST3 ID Name	Relative Location		Stack and Operating Parameters						Emission Rate		PSD Consuming (C), Expanding (E), or Baseline (B)	Modeled in			
			East (m)	North (m)	Height (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)		AAQS	Class II		
1050057	IMC PHOSPHATES COMPANY - NICHOLS	(formerly IMC Agrico/Conserve)															
	5 SAP NO. 1 PSD	AGRNK5	35500	1700	150	45.7	7.5	2.29	170	350	33.0	10.1	416.80	52.52	C	Yes	Yes
	12 Phosphate Rock Dryer	AGRNK12	35500	1700	81	24.7	7.5	2.29	130	328	12.0	3.7	26.49	3.34	B	Yes	No
	15 North Auxiliary Boiler	AGRNK15	35500	1700	27	8.2	2.0	0.61	500	533	45.0	13.7	25.74	3.24	B	Yes	No
	16 South Auxiliary Boiler	AGRNK16	35500	1700	39	11.9	3.2	0.98	500	533	29.0	8.8	2.59	0.33	B	Yes	No
	Expanding Source	AGRNK1	35500	1700	100	30.5	5.9	1.80	95	308	62.0	18.9	-121.0	-15.2	E	No	Yes
	Expanding Source	AGRNK2	35500	1700	80	24.4	5.0	1.52	151	339	42.3	12.9	-30.2	-3.81	E	No	Yes
1050047	AGRIPOS, L.L.C. - NICHOLS	(formerly Mobil Mining & Minerals Nichols)															
	1 ROCK DRYER NO. 1	AGRINK1	35800	2800	80	24.4	7.5	2.29	160	344	41.0	12.5	255.52	32.20	B	Yes	No
	2 ROCK DRYER NO. 2	AGRINK2	35800	2800	80	24.4	7.5	2.29	160	344	41.0	12.5	251.00	31.63	B	Yes	No
	Expanding Source	AGRINK3	35800	2800	93	28.4	3.6	1.10	152	340	63.1	19.2	-110.32	-13.90	E	No	Yes
	Expanding Source	AGRINK4	35800	2800	13	4.0	2.6	0.79	480	522	5.9	1.8	-6.90	-0.87	E	No	Yes
1050056	IMC-AGRICO CO. - PRAIRIE	(formerly IMC Fertilizer)															
	4 LIMEROCK DRYER	IMCPR14	40000	4500	70	21.3	4.4	1.34	184	358	51.0	15.5	95.68	12.06	B	Yes	No
0570005	CF INDUSTRIES, INC., PLANT CITY																
	1 BOILER	CFIPL1	25100	33500	25	7.6	3.5	1.07	550	561	58.0	17.7	158.50	19.97	C	Yes	Yes
	2 A H2SO4 DEMISTER	CFIPL2	25100	33500	110	33.5	5.0	1.52	110	316	64.0	19.5	350.00	44.10	C	Yes	Yes
	3 B H2SO4 DEMISTER	CFIPL3	25100	33500	110	33.5	5.0	1.52	110	316	64.0	19.5	350.00	44.10	C	Yes	Yes
	7 "C" SAP	CFIPL7	25100	33500	199	60.7	8.0	2.44	175	353	53.0	16.2	433.00	50.40	C	Yes	Yes
	8 "D" SAP	CFIPL8	25100	33500	199	60.7	8.0	2.44	148	338	31.0	9.4	433.00	39.94	C	Yes	Yes
	10 "A" DAP PLANT	CFIPL10	25100	33500	94	28.7	10.0	3.05	128	326	26.0	7.9	23.50	2.96	C	Yes	Yes
	11 "Z" DAP/MAP GRAN	CFIPL11	25100	33500	180	54.9	9.2	2.80	137	331	43.0	13.1	104.60	13.18	C	Yes	Yes
	12 "X" DAP/MAP/GTSP GRAN	CFIPL12	25100	33500	180	54.9	9.2	2.80	105	314	26.0	7.9	104.60	13.18	C	Yes	Yes
	22 MOLTEN SULFUR STORE	CFIPL22	25100	33500	8	2.4	0.9	0.27	212	373	5.0	1.5	0.90	0.11	C	Yes	Yes
	23 MOLTEN SULFUR STORE A	CFIPL23	25100	33500	12	3.7	0.3	0.09	212	373	5.0	1.5	0.10	0.01	C	Yes	Yes
	24 MOLTEN SULFUR STORE B	CFIPL24	25100	33500	12	3.7	0.3	0.09	212	373	5.0	1.5	1.24	0.16	C	Yes	Yes
1050233	TECO - POLK POWER STATION																
	1 Combined cycle CT	TECOPK1	39550	-15150	150	45.7	19.0	5.79	340	444	75.8	23.1	518.00	65.27	C	Yes	Yes
	3 120 MMBtu/HR AuxBlr	TECOPK3	39550	-15150	75	22.9	3.7	1.13	375	464	50.0	15.2	96.00	12.10	C	Yes	Yes
	4 Sulfuric Acid Plant	TECOPK4	39550	-15150	199	60.7	2.5	0.76	180	355	60.0	18.3	35.60	4.49	C	Yes	Yes
	9 Simple Cycle CT	TECOPK9	39550	-15150	114	34.7	29.0	8.84	1117	876	60.2	18.3	9.20	1.16	C	Yes	Yes
	10 Simple Cycle CT	TECOPK10	39550	-15150	114	34.7	29.0	8.84	1117	876	60.2	18.3	9.20	1.16	C	Yes	Yes

Appendix F-1. Summary of SO₂ Sources Included in the Air Modeling Analysis (Revised 5/24/01)

Facility ID	Facility Name EU ID Emission Unit Description	ISCST3 ID Name	Relative Location		Stack and Operating Parameters								Emission Rate		PSD Consuming (C), Expanding (E), or Baseline (B)	Modeled In		
			East (m)	North (m)	Height (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)	AAQS	Class II				
1050048	MULBERRY PHOSPHATES, INC.																	
	2 SAP 2	MULPHS2	43900	2600	200	61.0	7.0	2.13	200	366	32.0	9.8	283.33	35.70	C	Yes	Yes	
	5 MAP/DAP PLANT	MULPHS5	43900	2600	102	31.1	8.8	2.68	110	316	26.0	7.9	73.79	9.30	B	Yes	No	
	9 BOILER	MULPHS9	43900	2600	45	13.7	3.7	1.13	80	300	8.0	2.4	102.44	12.91	B	Yes	No	
	1 Expanding Source	MULPHSX	43900	2600	168	51.2	7.0	2.13	181	356	37.5	11.4	-2,044.40	-257.59	E	No	Yes	
1050052	CF INDUSTRIES, INC. - BARTOW	(Bonnie Mine Road)																
	6 SAP NO.6	CFIBAR6	45400	0.00	206	62.8	7.0	2.13	140	333	21.0	6.4	400.00	50.40	C	Yes	Yes	
	21 BOILER NO. 1	CFIBAR21	45400	0.00	36	11.0	2.5	0.76	600	589	44.0	13.4	16.80	2.12	B	Yes	No	
	1 Expanding Source	CFIBARX1	45400	0.00	100	30.5	4.5	1.37	170	350	40.0	12.2	-483	-61	E	No	Yes	
	2 Expanding Source	CFIBARX2	45400	0.00	100	30.5	5.5	1.68	170	350	34.0	10.4	-875	-110	E	No	Yes	
	3 Expanding Source	CFIBARX3	45400	0.00	100	30.5	9.0	2.74	196	364	14.0	4.3	-850	-107	E	No	Yes	
	4 Expanding Source	CFIBARX4	45400	0.00	100	30.5	7.0	2.13	185	358	26.0	7.9	-1,388	-175	E	No	Yes	
	5 Expanding Source	CFIBARX5	45400	0.00	206	62.8	7.0	2.13	185	358	35.0	10.7	-1,800	-227	E	No	Yes	
	6 Expanding Source	CFIBARX6	45400	0.00	206	62.8	7.0	2.13	187	359	34.0	10.4	-1,350	-170	E	No	Yes	
1050055	IMC-AGRICO CO.- SOUTH PIERCE																	
	1 Auxiliary Boiler	IMCSPR1	44600	-11100	35	10.7	4.8	1.46	430	494	51.0	15.5	63.5	8.00	B	Yes	No	
	4 SAP No. 10	IMCSPR4	44600	-11100	144	43.9	9.0	2.74	170	350	41.1	12.5	450.0	56.70	C	Yes	Yes	
	5 SAP No. 11	IMCSPR5	44600	-11100	144	43.9	9.0	2.74	170	350	41.1	12.5	450.0	56.70	C	Yes	Yes	
	Combined Expanding Sources	IMCPIER6	44600	-11100	144	43.9	5.2	1.58	170	350	86.6	26.4	-600.0	-75.6	E	No	Yes	
1050053	FARMLAND HYDRO, L.P. - GREEN BAY																	
	3 SAP #3	FARM3	46600	-2400	100	30.5	7.5	2.29	170	350	28.0	8.5	350.00	44.10	C	Yes	Yes	
	4 SAP #4	FARM4	46600	-2400	100	30.5	7.5	2.29	180	355	39.6	12.1	350.00	44.10	C	Yes	Yes	
	5 SAP #5	FARM5	46600	-2400	150	45.7	8.0	2.44	180	355	44.1	13.4	466.70	58.80	C	Yes	Yes	
	29 MAP/DAP PLANT	FARM29	46600	-2400	129	39.3	7.5	2.29	108	315	43.0	13.1	0.03	0.004	C	Yes	Yes	
	34 MOLTEN SULFUR PIT	FARM34	46600	-2400	10	3.0	0.8	0.24	200	366	54.0	16.5	0.70	0.09	C	Yes	Yes	
	38 No. 6 SAP	FARM38	46600	-2400	150	45.7	9.0	2.74	180	355	34.8	10.6	401.00	50.53	C	Yes	Yes	
	12 Expanding Source	FARMX	46600	-2400	100	30.5	4.5	1.37	100	311	66.2	20.2	-667	-83.98	E	No	Yes	
1050046	CARGILL FERTILIZER - BARTOW																	
	1 NO.3 FERTILIZER PLANT	CARBAR1	46900	4100	141	43.0	7.5	2.29	160	344	79.0	24.1	76.90	9.69	C	Yes	Yes	
	12 No. 4 SAP	CARBAR12	46900	4100	200	61.0	6.8	2.07	180	355	61.0	18.6	433.30	54.60	C	Yes	Yes	
	21 NO.4 FERTILIZER PLANT	CARBAR21	46900	4100	140	42.7	11.0	3.35	132	329	42.1	12.8	102.53	12.92	B	Yes	No	
	32 No. 6 SAP	CARBAR32	46900	4100	200	61.0	6.8	2.07	180	355	61.0	18.6	433.30	54.60	C	Yes	Yes	
	33 No. 5 SAP	CARBAR33	46900	4100	200	61.0	6.8	2.07	180	355	61.0	18.6	433.30	54.60	C	Yes	Yes	
	51 Boiler	CARBAR51	46900	4100	31	9.4	3.5	1.07	410	483	20.0	6.1	165.17	20.81	C	Yes	Yes	

Appendix F-1. Summary of SO₂ Sources Included in the Air Modeling Analysis (Revised 5/24/01)

Facility ID	Facility Name EU ID Emission Unit Description	ISCST3 ID Name	Relative Location		Stack and Operating Parameters								Emission Rate		PSD Consuming (C), Expanding (E), or Baseline (B)	Modeled in		
			East (m)	North (m)	Height (ft)	Diameter (m)	Temperature (F) (K)		Velocity (ft/s) (m/s)		(lb/hr)	(g/s)	AAQS	Class II				
0490015	HARDEE POWER PARTNERS, LTD																	
	1 CT 1A WHRSG	HARDE1	41900	-25100	90	27.4	14.5	4.42	236	386	77.5	23.6	734.40	92.53	C	Yes	Yes	
	2 CT 2A WHRSG	HARDE2	41900	-25100	90	27.4	14.5	4.42	245	391	75.8	23.1	734.40	92.53	C	Yes	Yes	
	3 Simple cycle CT 2A	HARDE3	41900	-25100	75	22.9	17.9	5.46	986	803	94.3	28.7	734.40	92.53	C	Yes	Yes	
	5 Unit 2B - 75 MW gas turbine	HARDE5	41900	-25100	85	25.9	14.8	4.51	999	810	142.0	43.3	5.30	0.67	C	Yes	Yes	
1050003	LAKELAND ELECTRIC - LARSEN POWER PLANT																	
	3 Steam Generator # 6	LARS3	46000	20000	165	50.3	10.0	3.05	340	444	21.0	6.4	841.20	105.99	B	Yes	No	
	4 Steam Generator # 7	LARS4	46000	20000	165	50.3	10.0	3.05	340	444	22.0	6.7	1,643.00	207.02	B	Yes	No	
	5 Peaking Gas Turbine # 3	LARS5	46000	20000	31	9.4	11.8	3.60	800	700	101.0	30.8	106.20	13.38	B	Yes	No	
	6 Peaking Gas Turbine # 2	LARS6	46000	20000	31	9.4	11.8	3.60	800	700	101.0	30.8	106.20	13.38	B	Yes	No	
	7 Peaking Gas Turbine # 1	LARPWR7	46000	20000	31	9	11.8	3.60	800	700	101	30.8	106.2	13.38	B	Yes	No	
	8 Combined Cycle CT	LARS8	46000	20000	155	47.2	16.0	4.88	481	523	85.7	26.1	211.40	26.64	C	Yes	Yes	
1050004	LAKELAND ELECTRIC - MCINTOSH POWER PLANT																	
	1 McIntosh Unit 1	MCINT1	46100	23700	150	45.7	9.0	2.74	277	409	81.2	24.7	2,612.50	329.18	B	Yes	No	
	2 McIntosh Unit 2	MCINT2	46100	23700	20	6.1	2.6	0.79	715	653	77.0	23.5	14.30	1.80	B	Yes	No	
	3 McIntosh Unit 3	MCINT3	46100	23700	20	6.1	2.6	0.79	715	653	77.0	23.5	14.30	1.80	B	Yes	No	
	4 Gas Turbine Peaking Unit 1	MCINT4	46100	23700	35	10.7	13.5	4.11	900	755	79.5	24.2	164.70	20.75	B	Yes	No	
	5 McIntosh Unit 2	MCINT5	46100	23700	157	47.9	10.5	3.20	277	409	73.2	22.3	892.00	112.39	B	Yes	No	
	6 McIntosh Unit 3	MCINT6	46100	23700	250	76.2	18.0	5.49	167	348	82.6	25.2	4,368.00	550.37	C	Yes	Yes	
	28 CT UNIT 5	MCINT28	46100	23700	85	25.9	28.0	8.53	1095	864	82.7	25.2	126.70	15.96	C	Yes	Yes	
1010017	FPC - ANCLOTE POWER PLANT																	
	1 TURBINE GEN. UNIT NO. 1	FPCANC1	-38500	36200	499	152.1	24.0	7.32	320	433	62.0	18.9	13,652.1	1,720.2	B	Yes	No	
	2 TURBINE GEN. UNIT NO. 2	FPCANC2	-38500	36200	499	152.1	24.0	7.32	320	433	62.0	18.9	13,338	774.3	B	Yes	No	
1050051	U.S. AGRI-CHEMICALS - FT. MEADE																	
	6 AUXILIARY BOILER	USAGFM6	53100	-13500	70	21.3	3.7	1.13	400	478	49	14.9	51.00	6.43	B	Yes	No	
	16 SAP #1	USAGFM16	53100	-13500	175	53.3	8.5	2.59	180	355	32	9.8	500.00	63.00	C	Yes	Yes	
	17 SAP #2	USAGFM17	53100	-13500	175	53.3	8.5	2.59	180	355	32	9.8	500.00	63.00	C	Yes	Yes	
	28 MOLTEN SULFUR TANK	USAGFM28	53100	-13500	6	1.8	0.3	0.09	270	405	344	104.9	0.49	0.06	C	Yes	Yes	
	29 MOLTEN SULFUR TANK	USAGFM29	53100	-13500	6	1.8	0.3	0.09	260	400	157	47.9	0.23	0.03	C	Yes	Yes	
	Expanding Source	USAGFM0	53100	-13500	95	29	9.9	3.02	106	314	23	6.9	-625.4	-78.80	E	No	Yes	
	Expanding Source	USAGFM1	53100	-13500	93	28	5.0	1.52	134	330	58	17.6	-145.0	-18.27	E	No	Yes	
1050023	CUTRALE CITRUS JUICES USA, INC																	
	1 CITRUS FEED MILL DRYER	CUTR1	58700	21200	93	28.3	3.5	1.07	140	333	55.0	16.8	186.00	23.44	B	Yes	No	
	3 PEEL DRYER	CUTR3	58700	21200	100	30.5	3.2	0.98	161	345	49.0	14.9	186.00	23.44	C	Yes	Yes	
	8 COGEN #1	CUTR8	58700	21200	40	12.2	4.0	1.22	323	435	60.0	18.3	170.80	21.52	C	Yes	Yes	
	9 COGEN #2	CUTR9	58700	21200	40	12.2	4.0	1.22	330	439	66.0	20.1	26.00	3.28	C	Yes	Yes	

Appendix F-1. Summary of SO₂ Sources Included in the Air Modeling Analysis (Revised 5/24/01)

Facility ID	Facility Name EU ID Emission Unit Description	ISCST3 ID Name	Relative Location		Stack and Operating Parameters								Emission Rate		PSD Consuming (C), Expanding (E), or Baseline (B)	Modeled in		
			East (m)	North (m)	Height (ft)	Diameter (ft)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)	AAQS	Class II				
SOURCES ADDED TO MODELING AREA THAT HAVE (1) ANNUAL EMISSIONS BETWEEN 1-10 TPY AND (2) DUE TO INCREASE IN SIGNIFICANT IMPACT DISTANCE FROM 25 TO 31 KM.																		
0570408	PRODICA LLC 2 REACTOR COLUMN, SATCO SITE "ENQUICK	PRODIC2	-4500	5900	17	5.2	3.7	1.13	150	339	27.0	8.2	1.83	0.23	B	Yes	No	
0570141	US AIR FORCE (MACDILL AFB) 2 BOILER #1 - 8.4 MMBTU/HR KEWANEE STEA	USAFMC2	-9400	-1000	35	10.7	2.0	0.61	450	505	15.0	4.6	0.43	0.05	B	Yes	No	
	4 BOILER #2 - 8.4 MMBTU/HR KEWANEE STEA	USAFMC4	-9400	-1000	35	10.7	2.0	0.61	450	505	15.0	4.6	0.43	0.05	B	Yes	No	
	5 BOILER #3 - 8.4 MMBTU/HR KEWANEE STEA	USAFMC5	-9400	-1000	35	10.7	2.0	0.61	450	505	15.0	4.6	0.43	0.05	B	Yes	No	
	11 TWO DIESEL-FIRED COSMODYNE 174 HP GE	USAFMC11	-9400	-1000	10	3.0	0.8	0.23	450	505	0.03	0.01	0.73	0.09	B	Yes	No	
0570321	MANTUA MANUFACTURING CO. 2 PYROLYSIS FURNACE W/INTEGRATED AFTE	MANTUA2	1800	10000	20	6.1	0.8	0.23	1400	1033	13.2	4.0	3.89	0.49	B	Yes	No	
0570077	VERLITE COMPANY 1 VERMICULITE EXPANDING FURNACE	VERLIT1	-2700	10500	50	15.2	2.0	0.61	230	383	28.0	8.5	1.13	0.14	B	Yes	No	
0570054	SCRAP-ALL, INC. 2 ALUMINUM SCRAP FURNACE WITH AFTERB	SCRAP2	-3500	10600	38	11.6	0.7	0.21	435	497	51.0	15.5	0.02	0.003	B	Yes	No	
0570163	GRIFFIN INDUSTRIES 1 62.76 MMBTU/HR BOILER	GRFIND1	1200	13900	50	15.2	2.8	0.85	450	505	22.0	6.7	0.020	0.003	B	Yes	No	
	2 31.38 MMBTU/HR BOILER - FIRED W/ NAT G	GRFIND2	1200	13900	48	14.6	0.3	0.09	450	505	414.0	126.2	0.020	0.003	B	Yes	No	
0570171	SPEEDLING, INC. 1 CLEAVER BROOKS 250 HP BOILER USING F	SPEED1	-8800	-20300	25	7.6	1.8	0.55	325	436	63.0	19.2	3.200	0.403	B	Yes	No	
	2 300HP CLEAVER BROOKS BOILER	SPEED2	-8800	-20300	25	7.6	1.7	0.52	350	450	85.0	25.9	3.810	0.480	B	Yes	No	
0570076	DELTA ASPHALT 1 ASPHALT BATCH PLT WITH AEROPULSE BA	DELTA1	9200	22900	28	8.5	3.8	1.16	300	422	80.0	24.4	29.900	3.767	B	Yes	No	
0570249	ALCOA EXTRUSIONS 7 9.0 MMBTU/HR LOG HOMOGENIZATION FU	ALCOA1	22700	14500	16	4.9	1.3	0.40	400	478	22.0	6.7	0.04	0.01	B	Yes	No	
	10 HORIZONTAL PAINT LINE - PRE-TREATMEN	ALCOA10	22700	14500	16	4.9	1.5	0.46	350	450	5.0	1.5	6.85	0.863	B	Yes	No	
	17 NO. 2 ALUMINUM EXTRUSION PROCESS: LO	ALCOA17	22700	14500	30	9.1	1.9	0.58	660	622	32.0	9.8	0.0022	0.0003	B	Yes	No	
	18 NO. 2 ALUMINUM EXTRUSION PROCESS: AG	ALCOA18	22700	14500	30	9.1	1.4	0.43	350	450	80.0	24.4	0.0020	0.0003	B	Yes	No	
	19 NO. 2 ALUMINUM EXTRUSION PROCESS: AG	ALCOA19	22700	14500	30	9.1	1.4	0.43	350	450	80.0	24.4	0.0020	0.0003	B	Yes	No	
1030443	LORAD CHEMICAL CORPORATION 2 Sulfide Room/Furnace Room Reactions	LORAD2	-26400	-8300	25	7.6	0.7	0.20	100	311	108.7	33.1	0.38	0.048	B	Yes	No	

Appendix F-1. Summary of SO₂ Sources Included in the Air Modeling Analysis (Revised 5/24/01)

Facility ID	Facility Name EU ID Emission Unit Description	ISCST3 ID Name	Relative Location		Stack and Operating Parameters								Emission Rate		PSD Consuming (C), Expanding (E), or Baseline (B)	Modeled in		
			East (m)	North (m)	Height (ft)	Diameter (m)	Temperature (F) (K)		Velocity (ft/s) (m/s)		(lb/hr)	(g/s)	AAQS	Class II				
0810067	ATLAS-TRANSOIL, INC. 1 SOIL THERMAL TREATMENT FACILITY (MO	ATLAS1	-13240	-24510	35	10.7	5.0	1.52	1500	1089	42.1	12.8	66.60	8.392	B	Yes	No	
1030147	SONNY GLASBRENNER, INC. 3 DIESEL GENERATOR	GLASB3	-28600	3100	15	4.6	0.7	0.20	0.274	255	248.9	75.9	1.80	0.23	B	Yes	No	
0810001	COASTAL FUELS MARKETING, INC. 1 CITRUS FEED MILL DRYER	COAST1	-14930	-24770	25	7.6	1.8	0.53	375	464	28.0	8.5	9.23	1.163	B	Yes	No	
	2 BOILER #2 300 HP	COAST2	-14930	-24770	25	7.6	1.8	0.53	375	464	28.0	8.5	9.23	1.163	B	Yes	No	
	3 CLEAVER-BROOKS CPT 500-50 ASPHALT HE	COAST3	-14930	-24770	22	6.7	1.0	0.30	510	539	56.0	17.1	1.21	0.152	B	Yes	No	
	4 CLEAVER-BROOKS CPT 500-50 ASPHALT HE	COAST4	-14930	-24770	22	6.7	1.0	0.30	510	539	56.0	17.1	1.21	0.152	B	Yes	No	
	5 CLEAVER-BROOKS CPT 500-50 ASPHALT HE	COAST5	-14930	-24770	22	6.7	1.0	0.30	510	539	56.7	17.3	1.21	0.152	B	Yes	No	
7770262	ANGELO'S RECYCLED MATERIALS 2 DIESEL GENERATOR	ANGELO2	-29000	2300	9	2.7	0.2	0.05	0.274	255	249.0	75.9	1.80	0.227	B	Yes	No	
0810024	FLORIDA POWER & LIGHT (FMS) 1 FUEL OIL HEATER "A1254" 15 MMBTU/HR	FPLPMS1	-15400	-25900	20	6.1	3.3	1.01	650	616	8.9	2.7	15.49	1.952	B	Yes	No	
	2 FUEL OIL HEATER "B1254". 15 MM BTU/HR	FPLPMS2	-15400	-25900	20	6.1	3.3	1.01	650	616	8.9	2.7	15.49	1.952	B	Yes	No	
0570296	INTERNATIONAL PETROLEUM CORP 1 CLEAVER BROOKS MODEL CB-500 STEAM B	INTPET1	26100	15500	21	6.4	2.0	0.61	600	589	48.0	14.6	7.91	0.997	B	Yes	No	
	2 BORN ENGINEERING HOT OIL HEATER	INTPET2	26100	15500	35	10.7	1.0	0.30	750	672	314.0	95.7	17.48	2.202	B	Yes	No	
	3 HYWAY HOT OIL HEATER FIRED ON NATUR	INTPET3	26100	15500	20	6.1	1.3	0.40	900	755	42.0	12.8	0.01	0.001	B	Yes	No	
0570370	PARADISE, INC. 4 BOILER NO. 4, 8.37 MMBTU/HR, CLEAVER B	PARAD4	25600	16500	37	11.3	1.3	0.40	450	505	40.2	12.3	0.005	0.001	B	Yes	No	
	5 CANDIED FRUIT MANUFACTURING FACILIT	PARAD5	25600	16500	43	13.1	3.7	1.13	80	300	48.5	14.8	4.247	0.535	B	Yes	No	
1050217	POLK POWER PARTNERS, L.P. 1 Combustion Turbine with HRSG(Phase II, Acid R	PPPLP1	50700	-1900	125	38.1	15.0	4.57	220	378	64.1	19.5	95.10	11.98	C	Yes	Yes	
	2 Secondary Boiler (Phase II, Acid Rain Unit)	PPPLP2	50700	-1900	125	38.1	3.0	0.91	220	378	66.5	20.3	4.67	0.59	C	Yes	Yes	
SOURCES ADDED WITHIN SCREENING AREA FROM 75-81 KM.																		
1050002	CITRUS WORLD, INC. 1 CITRUS PEEL DRYER WITH WASTE-HEAT E	CITWOR1	78100	4800	75	22.9	4.7	1.43	195	364	49.0	14.9	188.40	23.738	B	Yes	No	
	3 ERIE CITY KEYSTONE BOILER #3 USING NA	CITWOR3	78100	4800	40	12.2	3.7	1.12	450	505	59.9	18.3	178.04	22.433	B	Yes	No	
	4 ERIE CITY KEYSTONE BOILER #2 USING NA	CITWOR4	78100	4800	40	12.2	3.7	1.12	450	505	60.5	18.4	180.24	22.710	B	Yes	No	
	7 CITRUS PEEL DRYER WITH WASTE-HEAT E	CITWOR7	78100	4800	75	22.9	3.2	0.97	150	339	49.7	15.1	94.20	11.869	B	Yes	No	
	13 CITRUS PEEL DRYER WITH WASTE-HEAT E	CITWOR13	78100	4800	75	22.9	4.6	1.40	150	339	33.1	10.1	188.40	23.738	B	Yes	No	
	17 ERIE CITY KEYSTONE BOILER #1 USING NA	CITWOR17	78100	4800	40	12.2	3.7	1.12	450	505	25.3	7.7	75.05	9.456	B	Yes	No	

Appendix F-1. Summary of SO₂ Sources Included in the Air Modeling Analysis (Revised 5/24/01)

Facility ID	Facility Name EU ID Emission Unit Description	ISCST3 ID Name	Relative Location		Stack and Operating Parameters								Emission Rate		PSD Consuming (C), Expanding (E), or Baseline (B)	Modeled in		
			East (m)	North (m)	Height (ft)	Diameter (ft)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)	AAQS	Class II				
0530021	FLORIDA CRUSHED STONE CO., INC.																	
	18 POWER PLANT	FLCRSH18	-2900	80000	320	97.5	16.0	4.88	300	422	69.6	21.2	770.00	97.020	C	Yes	Yes	
	20 BCP: Kiln, Clinker Cooler, Raw Mill, & Dryer wit	FLCRSH20	-2900	80000	300	91.4	16.0	4.88	220	378	47.0	14.3	50.00	6.300	C	Yes	Yes	
	26 KILN #2 SYSTEM: preheater/precalciner, cooler,d	FLCRSH26	-2900	80000	320	97.5	14.0	4.27	258	399	33.8	10.3	24.00	3.024	C	Yes	Yes	
0530032	CENTRAL POWER & LIME, INC.																	
	9 CEMENT KILN, CLINKER COOLER, RAW MIL	CPL09	-2900	80000	300	91.4	16.0	4.88	226	381	47.0	14.3	1,040.10	131.053	B	Yes	No	
	14 POWER PLANT	CPL14	-2900	80000	320	97.5	16.0	4.88	250	394	69.6	21.2	781.00	98.406	B	Yes	No	
1050221	AUBURNDALE POWER PARTNERS, LP																	
	1 Proposed Peaker Project CT (Phase I)	CALPROP	57900	20800	50	15	22	7	1040.0	833.2	68.10	20.757	53.6	6.8	C	Yes	Yes	
	6 Existing CT (100% load/92° F Temp.)	CALEXT1	57900	20800	160	49	18	5	280.0	410.9	58.00	17.678	70.0	8.8	C	Yes	Yes	
	Proposed Calpine Osprey Energy Center CT																	
	CT 1 (60% Load/95° Temp.)	CALOSP1	57900	20800	135	41	19.0	5.79	200	366	60	18.3	6.5	0.82	C	Yes	Yes	
	CT 2 (60% Load/95° Temp.)	CALOSP2	57900	20800	135	41	19.0	5.79	200	366	60	18.3	6.5	0.82	C	Yes	Yes	

^a Velocity of 0.1 ft/s assumed

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters						Emission Rate			
				East (m)	North (m)	Height (ft)	(m)	Diameter (ft)	(m)	Temperature (F)	(K)	Velocity (ft/s)	(m/s)	(lb/hr)	(g/s)
SOURCES IN THE ORIGINAL INVENTORY															
0570024	IMC-AGRICO CO.(PORT SUTTON TERMINAL)														
	Phosphate Rock Dryer With Wet Cyclonic Scrubber	1	IMCSUT1	-1,420	4,990	65	19.81	8.0	2.4	150	339	41	12.497	43.80	5.519
	Railcar Unloading Facility W/6 Cyclone & Wet Scrubber	2	IMCSUT2	-1,420	4,990	65	19.81	6.0	1.8	79	299	58	17.678	25.70	3.238
	Shiploader - Oba Choked Feeder Loader Sprout W/Baghouse	3	IMCSUT3	-1,420	4,990	45	13.72	1.5	0.5	90	305	113	34.442	3.09	0.389
	C17 Conveyor Transfer Point E	4	IMCSUT4	-1,420	4,990	7	2.13	1.1	0.3	120	322	105	32.004	1.54	0.194
	C12 Conveyor Transfer Point A	5	IMCSUT5	-1,420	4,990	32	9.75	1.7	0.5	120	322	51	15.545	1.80	0.227
	C30 Conveyor Transfer Point C	6	IMCSUT6	-1,420	4,990	18	5.49	1.1	0.3	120	322	105	32.004	1.54	0.194
	C18 Conveyor Transfer Point D	7	IMCSUT7	-1,420	4,990	39	11.89	1.1	0.3	120	322	105	32.004	1.54	0.194
	Afi Handling	8	IMCSUT8	-1,420	4,990	97	29.57	1.1	0.3	130	328	59.5	18.136	0.90	0.113
	C19 Conveyor Transfer Point G	9	IMCSUT9	-1,420	4,990	101	30.78	1.3	0.4	120	322	43	13.106	1.05	0.132
	Dry Rock Storage Silos With Scrubber	12	IMCSUT12	-1,420	4,990	10	3.05	2.0	0.6	100	311	132	40.234	5.94	0.748
0571102	FLORIDA CRUSHED STONE COMPANY														
	Kiln Exhaust	1	FLTON1	-3,400	4,450	168	51.21	4	1.2	320	433	92.8	28.285	10.60	1.336
	Sn-1, Wh-1, Sh-1, Bc-4 And Bc-5	2	FLTON2	-3,400	4,450	60	18.29	4	1.2	68	293	6.6	2.012	1.29	0.163
	Bn-3, Vf-9, And Vf-10	3	FLTON3	-3,400	4,450	140	42.67	4	1.2	68	293	4	1.219	0.77	0.097
	Ss-5	8	FLTON8	-3,400	4,450	180	54.86	4	1.2	68	293	4	1.219	0.77	0.097
	Truck Loading 1: As-1, As-2, And Ls-1	9	FLTON9	-3,400	4,450	20	6.10	4	1.2	68	293	4	1.219	0.77	0.097
	Truck Loading 2: As-3 And Ls-2	10	FLTON10	-3,400	4,450	20	6.10	4	1.2	68	293	4	1.219	0.77	0.097
	Mill Separator: Wb-1, Fk-1, And Rm-1	11	FLTON11	-3,400	4,450	50	15.24	4	1.2	100	311	6.6	2.012	1.21	0.152
0570040	TECO - GANNON STATION														
	Unit #1 Steam Generator	1	TECOGN1	-2800	5000	315	96.01	10.0	3.0	277	409	124	37.930	126.0	15.876
	125mw Babcock&Wilcox Corp Wet Bottom Cyclonic Firing Type Bl	2	TECOGN2	-2800	5000	315	96.01	10.0	3.0	299	421	126	38.500	126.0	15.876
	Unit #3 - B&W Wet Bottom Coal Fired Boiler	3	TECOGN3	-2800	5000	315	96.01	10.6	3.2	271	406	114	34.600	160.0	20.160
	Unit#4- B&W Wet Bot Cyclonic Fir'G Coal Fir Bolr, East Stack	4	TECOGN4	-2800	5000	315	96.01	10.0	3.0	289	416	97	29.600	188.0	23.688
	Unit #5 Coal Fired Boiler	5	TECOGN5	-2800	5000	315	96.01	14.6	4.5	293	418	166	50.740	228.0	28.728
	Unit #6 - Coal Fired Boiler With Esp	6	TECOGN6	-2800	5000	315	96.01	17.6	5.4	260	400	109	33.280	380.0	47.880
	14 Mw Gas Fired Turbine	7	TECOGN7	-2800	5000	35	10.67	11.0	3.4	1,010	816	93	28.224	122.0	15.372
	Economizer Ash Silo	9	TECOGN8	-2800	5000	72	21.95	0.7	0.2	350	450	35	10.668	0.14	0.018
	Flyash Silo No. 1 For Units 5 & 6	10	TECOGN9	-2800	5000	107	32.61	1.0	0.3	350	450	99	30.175	1.20	0.151
	Fly Ash Silo No. 2 Units 1-4	11	TECOGN11	-2800	5000	104	31.70	2.0	0.6	350	450	59	17.983	2.90	0.365
	Unit 1 Coal Bunker W/Roto-Clone	13	TECOGN13	-2800	5000	175	53.34	1.7	0.5	78	299	70	21.336	0.19	0.024
	Unit 2 Coal Bunker W/Roto-Clone	14	TECOGN14	-2800	5000	175	53.34	1.7	0.5	78	299	70	21.336	0.19	0.024
	Unit 3 Coal Bunker W/Roto-Clone	15	TECOGN15	-2800	5000	177	53.95	2.0	0.6	78	299	50	15.240	0.19	0.024
	Unit 4 Coal Bunker W/Roto-Clone	16	TECOGN16	-2800	5000	175	53.34	1.7	0.5	78	299	70	21.336	0.19	0.024
	Unit 5 Coal Bunker W/Roto-Clone	17	TECOGN17	-2800	5000	174	53.04	1.2	0.4	78	299	79	24.079	0.19	0.024
	Unit 6 Coal Bunker W/Roto-Clone	18	TECOGN18	-2800	5000	175	53.34	1.7	0.5	78	299	70	21.336	0.19	0.024
0570252	SOUTHDOWN, INC.														
	Vessel Unloading With Fuller Model 96-S-5000 Baghouse	1	SDOWN1	-3,600	4,600	122	37.19	0.5	0.2	77	298	353	107.594	6.47	0.815
	Truck Loading 'A' With Fuller Model 36-J-8 Baghouse	2	SDOWN2	-3,600	4,600	50	15.24	0.5	0.2	100	311	220.7	67.269	0.62	0.078
	Vessel Unloading With Fuller Model 96-S-5000 Baghouse	3	SDOWN3	-3,600	4,600	122	37.19	0.5	0.2	77	298	353	107.594	4.57	0.576
	Truck Loading 'B' With Fuller Model 36-J-5 Baghouse	4	SDOWN4	-3,600	4,600	50	15.24	0.5	0.2	100	311	152.8	46.573	0.43	0.054

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters						Emission Rate			
				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)
0570031	HOLNAM INC.														
	Norblo Baghouse "A" For Ship Unloading Of Portland Cement	1	HOLN1	-3,400	4,800	145	44.20	1.2	0.4	77	298	70	21.336	1.21	0.152
	Norblo Baghouse "B" For Ship Unloading Of Portland Cement	2	HOLN2	-3,400	4,800	145	44.20	1.2	0.4	77	298	70	21.336	1.21	0.152
	Baghouse "C" For Ship Unloading Of Portland&Truck Unload. S&	3	HOLN3	-3,400	4,800	145	44.20	1.2	0.4	77	298	70	21.336	1.21	0.152
	Norblo Baghouse "D" For Ship Unloading Of Portland Cement	4	HOLN4	-3,400	4,800	145	44.20	2.3	0.7	77	298	60	18.288	1.51	0.190
	North Side Cement Truck Loading G-6	6	HOLN6	-3,400	4,800	149	45.42	1.2	0.4	86	303	35	10.668	0.62	0.078
	South Side Bulk Truck Loading 5-F	7	HOLN7	-3,400	4,800	149	45.42	1.2	0.4	86	303	35	10.668	0.62	0.078
	N-Masonry Cement Sacking With Baghouse,13-M	9	HOLN9	-3,400	4,800	46	14.02	1.4	0.4	77	298	69	21.031	1.60	0.202
	Packing Of S&M Mortar Sacks, 10-K	10	HOLN10	-3,400	4,800	66	20.12	1.5	0.5	77	298	69	21.031	1.90	0.239
	Type I Cement Silos # 1, 2, 4, 5, & 6	14	HOLN14	-3,400	4,800	145	44.20	2.3	0.7	77	298	50.1	15.270	1.31	0.165
	Masonry Cement Silos # 3 & 10	15	HOLN15	-3,400	4,800	145	44.20	2.3	0.7	77	298	50.1	15.270	1.31	0.165
	Flyash Cement Silo # 7	16	HOLN16	-3,400	4,800	145	44.20	2.3	0.7	77	298	50.1	15.270	1.31	0.165
	Slag Cement Silo # 8	17	HOLN17	-3,400	4,800	145	44.20	2.3	0.7	77	298	50.1	15.270	1.31	0.165
	Type I Cement Silo # 9 & 10	18	HOLN18	-3,400	4,800	145	44.20	2.3	0.7	77	298	50.1	15.270	1.31	0.165
0570094	IMC-AGRICO CO. - BIG BEND TERMINAL														
	Shipping Terminal Incoming/Transfer Point #1 W/Dust Collector	1	IMCBB1	-800	-6,400	36	10.97	1.5	0.5	77	298	42	12.802	3.15	0.397
	Shipping Terminal Outgoing Transfer Pt. #2 W/Dust Collector	2	IMCBB2	-800	-6,400	25	7.62	1.3	0.4	77	298	34	10.363	1.52	0.192
	Shipping Terminal Outgoing Transfer Point #3 W/ Dust Collect	3	IMCBB3	-800	-6,400	25	7.62	1.3	0.4	77	298	34	10.363	1.52	0.192
	Shipping Terminal Gantry And Shiploading W/Dust Collector	4	IMCBB4	-800	-6,400	30	9.14	2.2	0.7	77	298	87	26.518	3.33	0.420
0570033	CSX TRANSPORTATION, INC.														
	Rotary Rail Car Dumper W/ Bghs #1	1	CSX1	-510	6,490	45	13.72	7.8	2.4	77	298	43	13.106	30.80	3.881
	Transfer Pt Belt 5 & 7 To Belt 8 Controlled By Baghouse #4	2	CSX2	-510	6,490	3	0.91	0.5	0.2	77	298	636	193.853	3.60	0.454
	Rotary Railcar Dumper #2 Controlled By Mikro Pulsaire Bghs #	3	CSX3	-510	6,490	40	12.19	6.7	2.0	77	298	47	14.326	35.87	4.520
	Transfer Pt #3 To 4a & #6 Conveyor Belts W/ Bghs 2a	4	CSX4	-510	6,490	40	12.19	2.2	0.7	77	298	63	19.202	3.73	0.470
	Transfer Pt. #4a To #5 Conveyor Belt Controlled By Bghs 3a	5	CSX5	-510	6,490	40	12.19	1.8	0.5	77	298	59	17.983	2.34	0.295
	Transfer Pt. #3 To #5 Conveyor Belt W/Baghouse #2b	6	CSX6	-510	6,490	4	1.22	0.5	0.2	77	298	360	109.728	1.10	0.139
	Transfer Pt. # 4 To # 6 Conveyor Belt W/ Bghs #3	7	CSX7	-510	6,490	3	0.91	0.5	0.2	77	298	275	83.820	0.80	0.101
	Transfer Pt #6 To #7 Conveyor Belt W/ Baghouse #5	8	CSX8	-510	6,490	3	0.91	0.5	0.2	77	298	275	83.820	0.80	0.101
	Transfer Pt. #8 To #9 Conveyor Belt W/Baghouse #6	9	CSX9	-510	6,490	36	10.97	3.3	1.0	77	298	37	11.278	3.93	0.495
	7elt To Gantry Transfer Point. Controlled By Baghouse #7	10	CSX10	-510	6,490	54	16.46	6.0	1.8	77	298	12	3.658	0.27	0.034
	Loading Of Shiphold At CSX	11	CSX11	-510	6,490	60	18.29	9.0	2.7	78	299	12.82	3.907	12.58	1.585
0570029	NITRAM, INC.														
	B & W Package Boiler, Gas Fired	3	NITRM3	-400	6,500	90	27.43	4.5	1.4	260	400	35	10.668	7.50	0.945
	Fw Package Boiler, Gas Fired	4	NITRM4	-400	6,500	30	9.14	4.5	1.4	450	505	35	10.668	5.00	0.630
	Ammonium Nitrate Prill Tower No. 2	6	NITRM6	-400	6,500	173	52.73	15.0	4.6	100	311	19	5.791	26.00	3.276
	Kaolin Clay Handling And Storage W/ Flex-Kleen Baghouse	8	NITRM8	-400	6,500	36	10.97	1.9	0.6	77	298	47	14.326	0.60	0.076
	Coated Nh4no3 Stg And Loadout W/ Research Cotrell Baghouse	9	NITRM9	-400	6,500	39	11.89	1.9	0.6	77	298	14	4.267	2.10	0.265
	Mgo Silo W/Griffin Environmental Baghouse (Silo #1)	10	NITRM10	-400	6,500	63	19.20	0.3	0.1	77	298	106	32.309	0.12	0.015
	Mgo Day Tank W/Griffin Environmental Baghouse (Silo #2)	11	NITRM11	-400	6,500	35	10.67	0.3	0.1	77	298	129	39.319	0.14	0.018
	Prill Rotary Drums W/ Wet Cyclones And Peabody Scrubber	12	NITRM12	-400	6,500	35	10.67	5.0	1.5	101	311	35	10.668	9.24	1.164
	Gas Fired Hurst Package Boiler	13	NITRM13	-400	6,500	9	2.74	1.7	0.5	260	400	24	7.315	0.03	0.004

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters						Emission Rate			
				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)
0571242	NATIONAL GYPSUM														
	Imp Mills Nos. 1 - 4	1 - 4	NATGYP14	400	-6,900	98	29.87	3.8	1.1	350	450	58	17.678	15.40	1.940
	Kiln	5	NATGYP5	400	-6,900	54	16.46	13.4	4.1	384	469	58	17.750	2.34	0.295
	Stucco Handling	6	NATGYP6	400	-6,900	50	15.24	1.7	0.5	200	366	50	15.240	0.001	0.000
	Stucco Silo	7	NATGYP7	400	-6,900	59	17.98	2.0	0.6	250	394	26	7.925	0.001	0.000
	Riser Maker	8	NATGYP8	400	-6,900	59	17.98	2.0	0.6	80	300	9.4	2.865	0.0003	0.000
	Bet Nos. 1 & 2	9	NATGYP9	400	-6,900	59	17.98	2.0	0.6	80	300	28	8.534	0.002	0.000
	Starch Silo	10	NATGYP10	400	-6,900	73	22.25	1.0	0.3	80	300	17	5.182	0.0001	0.000
0570014	EASTERN ASSOCIATION TERMINAL ROCK PORT														
	Phos Rock Ship Loader Baghouse System	1	ETERM1	-2,700	6,400	55	16.76	4.2	1.3	77	298	62	18.898	12.03	1.516
	Storage Building Elevator Baghouse-South End	2	ETERM2	-2,700	6,400	70	21.34	0.5	0.2	77	298	25	7.620	0.07	0.009
	Railcar Unloading System With Baghouse A	3	ETERM3	-2,700	6,400	14	4.27	2.0	0.6	78	299	636	193.853	19.89	2.506
	1f2 Mikro Pulsaire B Conveyor Transfer Point @ #7 To #9 Or #	4	ETERM4	-2,700	6,400	11	3.35	1.6	0.5	78	299	93	28.346	2.46	0.310
	645 820 Mikro Pulsaire Baghouse D On Outgoing Trans. Pt.	6	ETERM6	-2,700	6,400	11	3.35	1.1	0.3	77	298	78	23.774	1.04	0.131
	64s820 Mikro Pulsaire Baghouse G On Out Going Trms. Pt.	9	ETERM9	-2,700	6,400	11	3.35	1.1	0.3	78	299	78	23.774	1.04	0.131
	Storage Building Baghouse #1, Se	11	ETERM11	-2,700	6,400	15	4.57	2.5	0.8	77	298	268	81.686	18.28	2.303
	Storage Building Baghouse #2,Sw	12	ETERM12	-2,700	6,400	15	4.57	2.5	0.8	77	298	268	81.686	18.28	2.303
	Storage Building Baghouse #3,Nw	13	ETERM13	-2,700	6,400	15	4.57	2.5	0.8	77	298	268	81.686	18.28	2.303
	Storage Building Baghouse #4,Ne	14	ETERM14	-2,700	6,400	15	4.57	2.5	0.8	77	298	268	81.686	18.28	2.303
	Belt 9 Transfer Point To Belt 4	16	ETERM16	-2,700	6,400	11	3.35	1.1	0.3	77	298	78	23.774	1.04	0.131
	Belt 5 Transfer Point To Belt 6	17	ETERM17	-2,700	6,400	11	3.35	1.1	0.3	78	299	78	23.774	1.04	0.131
0571100	CHEMICAL LIME COMPANY OF ALABAMA INC														
	Conveyors To Storage Bins	1	CHEMLIM1	-4,700	5,800	90	27.43	1.1	0.3	77	298	26.3	8.016	0.26	0.033
	Truck Loading	2	CHEMLIM2	-4,700	5,800	30	9.14	1.1	0.3	77	298	26.3	8.016	0.26	0.033
	Crushing/Screening	3	CHEMLIM3	-4,700	5,800	17	5.18	4.2	1.3	77	298	36.1	11.003	5.14	0.648
	Dome Storage Building	4	CHEMLIM4	-4,700	5,800	75	22.86	1.5	0.5	77	298	23.6	7.193	0.43	0.054
	Barge Unloading Hopper	5	CHEMLIM5	-4,700	5,800	17	5.18	4.7	1.4	77	298	48	14.630	8.57	1.080
	Barge Unloading Conveyor	6	CHEMLIM6	-4,700	5,800	75	22.86	1.5	0.5	77	298	23.6	7.193	0.43	0.054
	Railcar Unloading Hopper/Conveyor System	8	CHEMLIM8	-4,700	5,800	25	7.62	1.1	0.3	77	298	26.3	8.016	0.26	0.033
	BIG BEND TRANSFER, CO. L.L.C.														
	Ship Unloader Scrubber	1	BBTC1	-1,800	-6,300	83	25.30	2.43	0.7	100	311	58.2	17.739	0.02	0.003
	Conveyor Transfer Point Stack	2	BBTC2	-1,800	-6,300	20	6.10	0.83	0.3	80	300	42.6	12.984	0.08	0.009
	Storage Building Scrubber Stack	3	BBTC3	-1,800	-6,300	106	32.31	3.67	1.1	88	304	55.3	16.855	0.01	0.001
	Melter/Molten Scrubber Stack	4	BBTC4	-1,800	-6,300	95	28.96	2.17	0.7	97	309	57.0	17.374	2.94	0.370
	Package Boiler Stack	5	BBTC5	-1,800	-6,300	106	32.31	4.0	1.2	350	450	29.7	9.053	0.50	0.063
	Lime Silo Baghouse Stack	6	BBTC6	-1,800	-6,300	80	24.38	1.0	0.3	110	316	0.03	0.010	0.11	0.014
	Diatomaceous Earth Silo Stack	7	BBTC7	-1,800	-6,300	80	24.38	1.0	0.3	110	316	0.03	0.010	0.11	0.014

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters						Emission Rate			
				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)
0570039	TECO - BIG BEND STATION														
	Unit #1 Coal Fired Boiler W/Research-Cotrell Esp	1	TECOBB1	-1,000	-7,500	490	149.35	24.0	7.3	300	422	116	35.357	404	50.904
	Unit #2 Riley-Stoker Coal Fired Boiler W/ Esp	2	TECOBB2	-1,000	-7,500	490	149.35	24.0	7.3	300	422	116	35.357	400	50.400
	Unit #3 Riley-Stoker Coal-Fired Boiler W/ Esp	3	TECOBB3	-1,000	-7,500	499	152.10	24.0	7.3	292	418	51.2	15.606	412	51.912
	Unit #4 Coal-Fired Boiler W/ Belco Esp Psd-FI-040	4	TECOBB4	-1,000	-7,500	499	152.10	24.0	7.3	156	342	59	17.983	130	16.380
	Big Bend Station Combust. Turbine #2 - Fired By No. 2 Fuel O	5	TECOBB5	-1,000	-7,500	75	22.86	14.0	4.3	928	771	61	18.593	33.0	4.158
	Gas Turbine #3 - Westinghouse Turbine Fired By No. 2 Fuel O	6	TECOBB6	-1,000	-7,500	75	22.86	14.0	4.3	928	771	61	18.593	33.0	4.158
	Gas Turbine #1 Fired By #2 Fuel Oil	7	TECOBB7	-1,000	-7,500	35	10.67	11.0	3.4	1010	816	91.9	28.011	33.0	4.158
	Big Bend Station Unit No. 1 & No. 2 Fly Ash Silo With Baghou	8	TECOBB8	-1,000	-7,500	102	31.09	2.5	0.8	250	394	52	15.850	5.16	0.650
	Fly-Ash Silo For Unit #3	9	TECOBB9	-1,000	-7,500	113	34.44	0.9	0.3	250	394	406	123.749	3.00	0.378
	Limestone Silo A W/ 2 Baghouses. 1 Is 100% Back-Up P	12	TECOBB12	-1,000	-7,500	101	30.78	0.5	0.2	150	339	46	14.021	0.05	0.006
	Limestone Silo B W/ 2 Baghouses. 1 Is 100% Back-Up P	13	TECOBB13	-1,000	-7,500	101	30.78	0.5	0.2	150	339	46	14.021	0.05	0.006
	Flyash Silo For Unit #4 P	14	TECOBB14	-1,000	-7,500	139	42.37	1.6	0.5	140	333	59	17.983	0.20	0.025
	Unit 1 Coal Bunker W/Roto-Clone	15	TECOBB15	-1,000	-7,500	179	54.56	1.7	0.5	78	299	69	21.031	0.48	0.060
	Unit 2 Coal Bunker W/Roto-Clone	16	TECOBB16	-1,000	-7,500	179	54.56	1.7	0.5	78	299	69	21.031	0.48	0.060
	Unit 3 Coal Bunker W/Roto-Clone	17	TECOBB17	-1,000	-7,500	179	54.56	1.7	0.5	78	299	69	21.031	0.48	0.060
0570018	LAFARGE CORP.														
	Gray Cement Silos #1,2,3,4,5,6,	1	LAFRG1	-5,200	8,100	98	29.87	1.6	0.5	77	298	39	11.887	1.23	0.155
	Grey Cement Storage Silos #1,2,3,4,5,6	2	LAFRG2	-5,200	8,100	98	29.87	1.6	0.5	77	298	39	11.887	1.23	0.155
	Masonry Cement Silos #7,8,9,10,13,14,15 & 16 & Two Rail/Trk S	3	LAFRG3	-5,200	8,100	102	31.09	1.9	0.6	77	298	64	19.507	2.80	0.353
	White Storage Silos #11,12,17,18,I&J	5	LAFRG5	-5,200	8,100	100	30.48	2.5	0.8	77	298	40	12.192	3.10	0.391
	Bulk Cement Storage Silos # 21 & 26	6	LAFRG6	-5,200	8,100	147	44.81	1.7	0.5	77	298	44	13.411	1.54	0.194
	Bulk Cement Storage Silo# 20,23 & 24	7	LAFRG7	-5,200	8,100	147	44.81	1.7	0.5	77	298	44	13.411	1.54	0.194
	Bulk Storage Silos # 19,22,25 & West Trk Stn	8	LAFRG8	-5,200	8,100	147	44.81	1.7	0.5	77	298	44	13.411	1.54	0.194
	East Truck Loading Stn	9	LAFRG9	-5,200	8,100	171	52.12	1.1	0.3	77	298	84	25.603	1.23	0.155
	Cement From Silos To Railcars And Trucks	11	LAFRG11	-5,200	8,100	47	14.33	1.3	0.4	77	298	62	18.898	1.30	0.164
	8 Clinker/Cement Storage Silos # 7a,7b,7c,8a,8b,9a,9b,10b	12	LAFRG12	-5,200	8,100	83	25.30	2.3	0.7	77	298	80	24.384	5.14	0.648
	Finish Mill #8- Two Separators	13	LAFRG13	-5,200	8,100	83	25.30	3.4	1.0	77	298	62	18.898	8.74	1.101
	Finish Mill #9- Raw Material Screening	16	LAFRG16	-5,200	8,100	83	25.30	3.4	1.0	77	298	62	18.898	8.74	1.101
	Finish Mill #9- Elevator And Drag Line	17	LAFRG17	-5,200	8,100	90	27.43	1.1	0.3	77	298	87	26.518	3.34	0.421
	Finish Mill#9- Raw Material Grinding	18	LAFRG18	-5,200	8,100	16	4.88	2.4	0.7	77	298	55	16.764	3.86	0.486
	Finish Mill #10- Screening Of Ground Raw Material	19	LAFRG19	-5,200	8,100	83	25.30	3.4	1.0	77	298	62	18.898	8.74	1.101
	Finish Mill #10b- Elevator And Drag Line	20	LAFRG20	-5,200	8,100	57	17.37	2.2	0.7	77	298	56	17.069	3.34	0.421
	Finish Mill #10- Raw Material Grinding	21	LAFRG21	-5,200	8,100	30	9.14	2.4	0.7	77	298	55	16.764	3.86	0.486
	Grey Cement Packer System	23	LAFRG23	-5,200	8,100	49	14.94	2.2	0.7	77	298	35	10.668	2.06	0.260
	Grey Cement Packaging System	24	LAFRG24	-5,200	8,100	49	14.94	2.2	0.7	77	298	35	10.668	2.06	0.260
	White Cement Packaging System	25	LAFRG25	-5,200	8,100	72	21.95	0.8	0.2	77	298	265	80.772	2.06	0.260
	Dust Collector #27 - Clinker Unloading From Ship	27	LAFRG27	-5,200	8,100	20	6.10	2.2	0.7	100	311	78	23.774	4.63	0.583
	Clinker Unloading Transfer Point 28	28	LAFRG28	-5,200	8,100	115	35.05	1.9	0.6	100	311	70	21.336	3.09	0.389
	Three Masonry Cement Packer -Screening & Storage	31	LAFRG31	-5,200	8,100	49	14.94	2.0	0.6	77	298	63	19.202	3.09	0.389
	Masonry Cement Packaging- Storage, Conveying & Packers	32	LAFRG32	-5,200	8,100	73	22.25	1.9	0.6	77	298	76	23.165	3.09	0.389
	Vacuum Unloading System W/Dust Collection Systems	42	LAFRG42	-5,200	8,100	174	53.04	1.5	0.5	77	298	75	22.860	2.05	0.258
	Vacuum Unloading System W/Dust Collection Systems	43	LAFRG43	-5,200	8,100	174	53.04	1.5	0.5	77	298	94	28.651	2.33	0.294
	Vacuum Unloading System W/Dust Collection Systems	44	LAFRG44	-5,200	8,100	60	18.29	1.0	0.3	77	298	112	34.138	1.36	0.171
	Vacuum Unloading System W/Dust Collection Systems	45	LAFRG45	-5,200	8,100	60	18.29	1.0	0.3	77	298	112	34.138	1.36	0.171
	Vacuum Unloading System W/Dust Collection Systems	50	LAFRG50	-5,200	8,100	123	37.49	1.0	0.3	77	298	84	25.603	1.03	0.130

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters						Emission Rate			
				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)
0570038	TECO - HOOKERS POINT STATION														
	Boiler #1 298 Mmbtu/Hr (Phase Ii Acid Rain Unit)	1	TECOHOK1	-4,900	8,500	280	85.34	11.3	3.4	356	453	82	24.994	37.30	4.700
	Boiler #2 298 Mmbtu/Hr (Phase Ii Acid Rain Unit)	2	TECOHOK2	-4,900	8,500	280	85.34	11.3	3.4	356	453	82	24.994	37.30	4.700
	Boiler #3 411 Mmbtu/Hr (Phase Ii Acid Rain Unit)	3	TECOHOK3	-4,900	8,500	280	85.34	12.0	3.7	341	445	62.7	19.111	51.40	6.476
	Boiler #4 411 Mmbtu/Hr (Phase Ii Acid Rain Unit)	4	TECOHOK4	-4,900	8,500	280	85.34	12.0	3.7	341	445	62.7	19.111	51.40	6.476
	Boiler #5 610 Mmbtu/Hr (Phase Ii Acid Rain Unit)	5	TECOHOK5	-4,900	8,500	280	85.34	11.3	3.4	356	453	82	24.994	76.30	9.614
	Boiler #6 778 Mmbtu/Hr (Phase Ii Acid Rain Unit)	6	TECOHOK6	-4,900	8,500	280	85.34	9.4	2.9	329	438	75.2	22.921	97.30	12.260
0570127	CITY OF TAMPA -MCKAY BAY RRF														
	Flyash Silo In Refuse To Energy Facility	5	MCK5	-2,700	9,710	57	17.37	2.0	0.6	200	366	11	3.353	0.36	0.045
	Municipal Waste Combustor & Auxiliary Burners - Unit No. 1	103	MCK103	-2,700	9,710	201	61.26	4.2	1.3	289	416	73.3	22.342	2.76	0.348
	Municipal Waste Combustor & Auxiliary Burners - Unit No. 2	104	MCK104	-2,700	9,710	201	61.26	4.2	1.3	289	416	73.3	22.342	2.76	0.348
	Municipal Waste Combustor & Auxiliary Burners - Unit No. 3	105	MCK105	-2,700	9,710	201	61.26	4.2	1.3	289	416	73.3	22.342	2.76	0.348
	Municipal Waste Combustor & Auxiliary Burners - Unit No. 4	106	MCK106	-2,700	9,710	201	61.26	4.2	1.3	289	416	73.3	22.342	2.76	0.348
0570025	TRADEMARK NITROGEN CORP														
	125 Tpd Nitric Acid Plant W/ 2 Absorption Towers In Series	1	TRADE1	4,400	10,100	50	15.24	1.7	0.5	350	450	17.9	5.454	334.00	42.084
0570028	NATIONAL GYPSUM COMPANY														
	Board Plant #1 Stucco Storage Silo	8	NGCAR8	-14,070	190	54	16.46	0.8	0.2	170	350	59	17.983	0.12	0.015
	Stucco Screw Conveyor System Controlled By Baghouses S-26 We	9	NGCAR9	-14,070	190	54	16.46	1.0	0.3	170	350	22	6.706	0.14	0.018
	Dry Rock Transport And Storage Silo	13	NGCAR13	-14,070	190	63	19.20	1.1	0.3	110	316	66	20.117	0.90	0.113
	Raymond Mill #1 And Associated Conveyor S-1 And Feed Bin	14	NGCAR14	-14,070	190	75	22.86	1.1	0.3	110	316	76	23.165	1.11	0.140
	#1 Calcidyne (8 Tph)-W/Flex-Kleen Model 84ra96 Baghouse	21	NGCAR21	-14,070	190	42	12.80	1.1	0.3	350	450	59	17.983	0.57	0.072
	#2 Calcidyne (8 Tph), Using A Flex-Kleen Model 84ra96 Baghou	22	NGCAR22	-14,070	190	42	12.80	1.1	0.3	350	450	62	18.898	0.59	0.074
	#3 Calcidyne Unit	23	NGCAR23	-14,070	190	42	12.80	1.1	0.3	350	450	50	15.240	0.68	0.086
	#4 Calcidyne Unit With Flex-Kleen Model 84ra96 Baghouse	24	NGCAR24	-14,070	190	42	12.80	1.1	0.3	350	450	61	18.593	0.66	0.083
	Raymond Mill #2, Feed Bin, Land Plaster Bin Elevator	25	NGCAR25	-14,070	190	67	20.42	1.4	0.4	110	316	35	10.668	0.85	0.107
	B.P. Land Plaster System(Screw Conveyors/Elevators)	26	NGCAR26	-14,070	190	76	23.16	1.2	0.4	77	298	68	20.726	0.65	0.082
	#2 Board Line/Pin Mixer Scrubber	27	NGCAR27	-14,070	190	24	7.32	1.2	0.4	127	326	11	3.353	0.45	0.057
	No. 5 Calcidyne Unit	28	NGCAR28	-14,070	190	42	12.80	1.1	0.3	350	450	71	21.641	0.46	0.058
	No. 6 Calcidyne Unit	29	NGCAR29	-14,070	190	42	12.80	1.1	0.3	350	450	71	21.641	0.46	0.058
	No. 7 Calcidyne Unit	30	NGCAR30	-14,070	190	42	12.80	1.1	0.3	350	450	71	21.641	0.46	0.058
	No. 8 Calcidyne Unit	31	NGCAR31	-14,070	190	42	12.80	1.1	0.3	350	450	71	21.641	0.46	0.058
	Hot Stucco #1 Controlled By Baghouse	32	NGCAR32	-14,070	190	60	18.29	0.9	0.3	350	450	58	17.678	0.30	0.038
	Hot Stucco #4 Controlled By Baghouse	33	NGCAR33	-14,070	190	24	7.32	0.9	0.3	170	350	72	21.946	0.56	0.071
	Wallboard Kiln No. 2 Gas Fired-#2 F.Oil W/.35%S As Backup	34	NGCAR34	-14,070	190	47	14.33	2.5	0.8	309	427	67	20.422	1.10	0.139
	#1 Board End Trim Controlled By Baghouse	35	NGCAR35	-14,070	190	60	18.29	1.0	0.3	77	298	70	21.336	0.57	0.072
	Rock Dryer & Crusher Winsulated Ray Jet Baghouse	36	NGCAR36	-14,070	190	64	19.51	3.5	1.1	185	358	40	12.192	2.83	0.357
	Raymond Mill No. 3 Controlled By Baghouse	37	NGCAR37	-14,070	190	57	17.37	1.2	0.4	130	328	48	14.630	0.51	0.064
	Pin Mixing/Scouring & Chamfering #1 Pb Controlled By Cyclone	38	NGCAR38	-14,070	190	46	14.02	1.2	0.4	77	298	33	10.058	0.57	0.072
	Hot Stucco #2 Controlled By Baghouse	39	NGCAR39	-14,070	190	40	12.19	0.9	0.3	170	350	33	10.058	0.18	0.023
	Hot Stucco #3 Transport(Air Slide Conveyors & Bucket Elevator	40	NGCAR40	-14,070	190	24	7.32	1.3	0.4	77	298	28	8.534	0.05	0.006
	#2 Board Plant Stucco Silo Controlled By Baghouse	41	NGCAR41	-14,070	190	52	15.85	0.3	0.1	77	298	94	28.651	0.07	0.009
	#2 Board End Of Trim Controlled By Baghouse	42	NGCAR42	-14,070	190	60	18.29	1.0	0.3	77	298	70	21.336	0.57	0.072
	Stucco Screw Conveyor System Controlled By Baghouses S-26 Ea	45	NGCAR45	-14,070	190	54	16.46	1.0	0.3	170	350	22	6.706	0.14	0.018
	Dry Waste Chopper W/ 4800 Acfm Flexkleen Baghouse 84-Wrb-80-	46	NGCAR46	-14,070	190	10	3.05	1.3	0.4	70	294	60	18.288	0.09	0.011
	Ten Deck Kiln Dryer In Board Plant No. 1	47	NGCAR47	-14,070	190	35	10.67	2.8	0.9	300	422	64	19.507	1.07	0.135
	Stucco Cooling Elevator #1	49	NGCAR49	-14,070	190	68	20.73	1.0	0.3	170	350	67	20.422	0.62	0.078
	Polystyrene Transport System And Feed Hopper	55	NGCAR55	-14,070	190	40	12.19	0.4	0.1	77	298	47	14.326	0.09	0.011

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters						Emission Rate			
				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)
	Dry Mixer With Baghouse	56	NGCAR56	-14,070	190	45	13.72	0.6	0.2	77	298	41	12.497	0.18	0.023
	Dry Material Bagging System And Limestone Holding Bin	58	NGCAR58	-14,070	190	45	13.72	1.5	0.5	77	298	48	14.630	1.30	0.164
	Limestone Holding Bin Pneumatic Unloading System	59	NGCAR59	-14,070	190	45	13.72	0.8	0.2	77	298	50	15.240	0.40	0.050
	Stucco Transport With Baghouse Operation	61	NGCAR61	-14,070	190	72	21.95	1.2	0.4	100	311	56	17.069	0.93	0.117
	Conveyor Belt System, Belts B6 And B7, And Screen	65	NGCAR65	-14,070	190	45	13.72	1.3	0.4	130	328	59	17.983	0.58	0.073
	Impact Mill #1	102	NGCAR102	-14,070	190	90	27.43	3.9	1.2	200	366	44.7	13.625	3.74	0.471
	Impact Mill #2	103	NGCAR103	-14,070	190	90	27.43	3.0	0.9	200	366	75.5	23.012	3.74	0.471
	Impact Mill #3	104	NGCAR104	-14,070	190	90	27.43	3.0	0.9	200	366	75.5	23.012	3.74	0.471
1030011	FPC - BARTOW PLANT														
	Bartow Plant Unit #1, 300 Ft. Stack	1	FPCBAR1	-20,500	100	300	91.44	9.0	2.7	312	429	119	36.271	122.00	15.372
	Bartow Plt Boiler #2 Test Annually 300 Ft Stack	2	FPCBAR2	-20,500	100	300	91.44	9.0	2.7	305	425	102	31.090	131.70	16.594
	Bartow Plant Boiler #3 Test Annually 300 Ft Stack	3	FPCBAR3	-20,500	100	300	91.44	11.0	3.4	275	408	113	34.442	221.10	27.859
	Industrial Boiler-Bartow/Anclote Oil Pipeline Heater-15.5 MMBtu	4	FPCBAR4	-20,500	100	30	9.14	3.0	0.9	515	541	17	5.182	0.22	0.028
	Gas Turbine Peaking Unit # P-1	5	FPCBAR5	-20,500	100	45	13.72	17.3	5.3	930	772	73	22.250	25.40	3.200
	Gas Turbine Peaking Unit # P-2	6	FPCBAR6	-20,500	100	45	13.72	17.3	5.3	930	772	73	22.250	25.40	3.200
	Gas Turbine Peaking Unit # P-3	7	FPCBAR7	-20,500	100	45	13.72	17.3	5.3	930	772	73	22.250	25.40	3.200
	Gas Turbine Peaking Unit #P-4	8	FPCBAR8	-20,500	100	45	13.72	17.3	5.3	930	772	73	22.250	25.40	3.200
	Flyash System	9	FPCBAR9	-20,500	100	25	7.62	0.9	0.3	77	298	1.3	0.394	0.10	0.013
810010	FLORIDA POWER & LIGHT - MANATEE Combined Facility		FPLMAN1	4,300	-28,400	475	144.78	26.2	8.0	307	426	77.5	23.622	1730	217.980
1030012	FPC - HIGGINS PLANT														
	Fffsg-Sg 1 (Phase II, Acid Rain Unit)	1	FPCHIG1	-26,400	15,900	174	53.04	12.5	3.8	312	429	27	8.230	54.80	6.905
	Fffsg-Sg 2 (Phase II, Acid Rain Unit)	2	FPCHIG2	-26,400	15,900	174	53.04	12.5	3.8	310	428	27	8.230	52.30	6.590
	Fffsg-Sg 3 (Phase II, Acid Rain Unit)	3	FPCHIG3	-26,400	15,900	174	53.04	12.5	3.8	301	423	24	7.315	54.80	6.905
	Combustion Turbine Peaking Unit-Ctp 1	4	FPCHIG4	-26,400	15,900	55	16.76	15.1	4.6	850	728	93.1	28.377	20.16	2.540
	Combustion Turbine Peaking Unit-Ctp 2	5	FPCHIG5	-26,400	15,900	56	17.07	15.1	4.6	850	728	93.1	28.377	20.16	2.540
	Combustion Turbine Peaking Unit-Ctp 3	6	FPCHIG6	-26,400	15,900	55	16.76	15.1	4.6	850	728	93.1	28.377	22.47	2.831
	Combustion Turbine Peaking Unit-Ctp 4	7	FPCHIG7	-26,400	15,900	55	16.76	15.1	4.6	850	728	93.1	28.377	22.47	2.831
1050059	IMC-AGRICO CO.(NEW WALES)														
	Sulfuric Acid Plant #1 W/Mist Eliminator	2	IMCWAL2	33,800	-3,100	200	60.96	8.5	2.6	170	350	50	15.240	12.50	1.575
	Sulfuric Acid Plant #2 W/Brinks Hv Mist Eliminator	3	IMCWAL3	33,800	-3,100	200	60.96	8.5	2.6	170	350	50	15.240	4.80	0.605
	Sulfuric Acid Plant #3 W/Brinks Mist Eliminator	4	IMCWAL4	33,800	-3,100	200	60.96	8.5	2.6	170	350	50	15.240	4.80	0.605
	Phosphate Rock Railcar Unloading (80 Tph Maximum Rate)	5	IMCWAL5	33,800	-3,100	40	12.19	3.0	0.9	108	315	58	17.678	6.40	0.806
	Ground Rock Silo W/Pneumatic 80 Tph Load Rate	6	IMCWAL6	33,800	-3,100	110	33.53	1.4	0.4	110	316	45	13.716	1.30	0.164
	Dap Plant No. 1 W/3 Teller Venturi Scrubbers,	9	IMCWAL9	33,800	-3,100	133	40.54	7.0	2.1	105	314	49	14.935	28.60	3.604
	Gtsp Plant (65 Tph) W/Teller Packed Bed Scrubber	10	IMCWAL10	33,800	-3,100	133	40.54	6.0	1.8	125	325	83.1	25.329	33.75	4.253
	Map Prill Tower W/Venturi Scrubber And Cyclonic Demister	11	IMCWAL11	33,800	-3,100	120	36.58	4.0	1.2	155	341	57	17.374	15.00	1.890
	Gtsp Storage (65 Tph) W/ Fume Scrubber	12	IMCWAL12	33,800	-3,100	133	40.54	6.0	1.8	108	315	61	18.593	28.70	3.616
	Animal Feed Shipping/Truck Loadout (200 Tph), With Baghouse	15	IMCWAL15	33,800	-3,100	65	19.81	1.0	0.3	105	314	169	51.511	1.08	0.136
	Ground Phosphate Rock Bin At Gtsp Plant	21	IMCWAL21	33,800	-3,100	82	24.99	1.0	0.3	105	314	53	16.154	4.80	0.605
	Animal Feed Storage Silos (3) -"A"Side	23	IMCWAL23	33,800	-3,100	114	34.75	1.0	0.3	105	314	33	10.058	4.75	0.599
	Animal Feed Storage/Shipping/Railcar Loadout	24	IMCWAL24	33,800	-3,100	103	31.39	1.0	0.3	105	314	140	42.672	3.60	0.454
	Animal Feed - (2) Limestone Silos	25	IMCWAL25	33,800	-3,100	119	36.27	1.0	0.3	105	314	127	38.710	3.60	0.454
	Animal Feed - Silica Storage Bin	26	IMCWAL26	33,800	-3,100	18	5.49	1.0	0.3	105	314	31	9.449	1.60	0.202
	Animal Feed Ingredient Granulation Plant	27	IMCWAL27	33,800	-3,100	172	52.43	8.0	2.4	130	328	66.3	20.208	36.80	4.637

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters						Emission Rate			
				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)
	Animal Feed Storage Silos (3) - "B Side"	28	IMCWAL28	33,800	-3,100	114	34.75	1.0	0.3	105	314	33	10.058	4.75	0.599
	#1 Fertilizer Rail/Truck Shipping	29	IMCWAL29	33,800	-3,100	133	40.54	3.0	0.9	90	305	42.4	12.924	4.70	0.592
	Multifos Soda Ash Conveying System W/Baghouse	31	IMCWAL31	33,800	-3,100	108	32.92	0.8	0.2	80	300	31	9.449	3.60	0.454
	Multifos "A" Kiln Cooler W/Baghouse	32	IMCWAL32	33,800	-3,100	86	26.21	1.5	0.5	220	378	258	78.638	7.70	0.970
	Multifos "B" Kiln Cooler W/Baghouse	33	IMCWAL33	33,800	-3,100	86	26.21	1.5	0.5	274	408	225	68.580	7.70	0.970
	Multifos Plant Milling & Sizing System West Baghouse	34	IMCWAL34	33,800	-3,100	71	21.64	1.7	0.5	125	325	87	26.518	0.93	0.118
	Multifos Milling & Sizing System East Baghouse	35	IMCWAL35	33,800	-3,100	71	21.64	1.0	0.3	100	311	253	77.114	0.93	0.118
	Multifos Production 1 Dryer 2 Kilns (A/B) For Multifos Plant	36	IMCWAL36	33,800	-3,100	172	52.43	4.5	1.4	105	314	52	15.850	29.83	3.759
	Map/Dap #2 Truck Loadout	37	IMCWAL37	33,800	-3,100	107	32.61	1.8	0.5	100	311	68	20.726	3.60	0.454
	Multifos Milling & Sizing Syst Surge Bin Baghouse	38	IMCWAL38	33,800	-3,100	65	19.81	1.1	0.3	100	311	79	24.079	7.50	0.945
	Gtsp Truck Loadout Facility W/Baghouse	41	IMCWAL41	33,800	-3,100	104	31.70	1.5	0.5	100	311	179	54.559	5.00	0.630
	Map/Dap No. 2 Rail Loadout	43	IMCWAL43	33,800	-3,100	104	31.70	1.6	0.5	105	314	70	21.336	3.60	0.454
	Dap Plant li - East Train	45	IMCWAL45	33,800	-3,100	171	52.12	6.0	1.8	110	316	58	17.678	6.40	0.806
	Dap Plant li - West Train	46	IMCWAL46	33,800	-3,100	171	52.12	6.0	1.8	110	316	58	17.678	6.40	0.806
	Dap li West Product Cooler	47	IMCWAL47	33,800	-3,100	147	44.81	4.3	1.3	175	353	68.9	21.001	4.22	0.532
	Uranium Recovery Acid Cleanup Scrubber	48	IMCWAL48	33,800	-3,100	60	18.29	3.5	1.1	80	300	31.2	9.510	1.00	0.126
	Uranium Refinery W/Baghouse	50	IMCWAL51	33,800	-3,100	100	30.48	1.8	0.5	102	312	37	11.278	1.50	0.189
	Uranium Recovery - Clay Storage Bin	51	IMCWAL52	33,800	-3,100	86	26.21	0.7	0.2	80	300	54	16.459	1.50	0.189
	Animal Feed - Limestone Feed Bin	52	IMCWAL53	33,800	-3,100	114	34.75	1.0	0.3	105	314	33	10.058	4.75	0.599
	Dap Plant #1 Product Cooler	54	IMCWAL54	33,800	-3,100	107	32.61	3.5	1.1	150	339	77	23.470	7.70	0.970
	Map Plant Cooler	55	IMCWAL55	33,800	-3,100	25	7.62	4.3	1.3	140	333	34	10.363	5.14	0.648
	Dap li East Product Cooler	56	IMCWAL56	33,800	-3,100	170	51.82	5.0	1.5	110	316	64.5	19.660	6.06	0.764
	Gtsp Railcar Loadout Facility W/ Baghouse	59	IMCWAL59	33,800	-3,100	104	31.70	1.5	0.5	100	311	68.9	21.001	5.00	0.630
	5000 Ton Molten Sulfur Storage Tank (Tank #3).	62	IMCWAL62	33,800	-3,100	40	12.19	2.0	0.6	240	389	4.2	1.276	0.60	0.076
	1500 Ton Truck Unloading Pit, Sulfur Pit Cannon.	63	IMCWAL63	33,800	-3,100	40	12.19	2.0	0.6	240	389	4.2	1.276	0.20	0.025
	350 Ton Truck Unloading Pit, Sulfur Pit Cannon.	64	IMCWAL64	33,800	-3,100	40	12.19	2.0	0.6	240	389	4.2	1.276	0.10	0.013
	Molten Sulfur Storage - Railcar Unloading Pit	65	IMCWAL65	33,800	-3,100	40	12.19	2.0	0.6	240	389	4.2	1.276	0.20	0.025
	200 Ton Molten Sulfur Transfer Pit.	66	IMCWAL66	33,800	-3,100	40	12.19	2.0	0.6	240	389	4.2	1.276	0.10	0.013
	1500 Ton Truck Unloading Pit, Sulfur Pit Front Vent.	67	IMCWAL67	33,800	-3,100	25	7.62	0.1	0.0	90	305	0.003	0.001	0.20	0.025
	1500 Ton Truck Unloading Pit, Sulfur Pit Rear Vent.	68	IMCWAL68	33,800	-3,100	25	7.62	0.1	0.0	90	305	0.003	0.001	0.20	0.025
	350 Ton Truck Unloading Pit, Sulfur Pit Vent.	69	IMCWAL69	33,800	-3,100	25	7.62	0.1	0.0	90	305	0.003	0.001	0.10	0.013
	Limestone Storage Silo With Baghouse.	70	IMCWAL70	33,800	-3,100	110	33.53	0.8	0.2	110	316	113.2	34.503	0.70	0.088
	Kiln C Scrubber Stack - Multifos Plant	74	IMCWAL74	33,800	-3,100	172	52.43	4.5	1.4	105	314	70.2	21.397	14.30	1.802
	Multifos Kiln C Cooler Baghouse	75	IMCWAL75	33,800	-3,100	86	26.21	3.0	0.9	250	394	106.1	32.339	1.90	0.239
	Multifos Kiln C Milling & Sizing Baghouse	76	IMCWAL76	33,800	-3,100	90	27.43	1.5	0.5	130	328	113.2	34.503	1.90	0.239

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters						Emission Rate			
				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)
1050057	IMC-AGRICO CO.(NICHOLS)														
	Phosphoric Acid Plant	1	IMCNIC1	35,500	1,700	42	12.80	4.0	1.2	100	311	34	10.363	39.00	4.914
	Dap Cooler Using Venturi Scrubber With Cyclonic Mist Separat	2	IMCNIC2	35,500	1,700	52	15.85	2.5	0.8	120	322	66	20.117	11.00	1.386
	Dap Plant Dryer	3	IMCNIC3	35,500	1,700	80	24.38	3.5	1.1	130	328	78	23.774	11.00	1.386
	Dap Plt Scrubber 4a Serves Reactor/Granulator	4	IMCNIC4	35,500	1,700	72	21.95	3.2	1.0	190	361	101	30.785	11.00	1.386
	Sulfuric Acid Plant No. 1 Double Absorption (2,000 TPD) (PSD)	5	IMCNIC5	35,500	1,700	150	45.72	7.5	2.3	170	350	33	10.058	229.30	28.892
	North Ball Mill	9	IMCNIC9	35,500	1,700	207	63.09	1.4	0.4	135	330	69	21.031	5.00	0.630
	South Ball Mill	10	IMCNIC10	35,500	1,700	207	63.09	1.4	0.4	135	330	69	21.031	5.00	0.630
	Phosphate Rock Dryer W/ Wet Scrubber	12	IMCNIC12	35,500	1,700	81	24.69	7.5	2.3	130	328	12	3.658	35.24	4.440
	Leffel Scotch Marine Package Boiler (North Standby Boiler)	15	IMCNIC15	35,500	1,700	27	8.23	2.0	0.6	500	533	45	13.716	0.36	0.045
	Babcock-Wilcox Package Boiler Total Emissions On Pt 14	16	IMCNIC16	35,500	1,700	39	11.89	3.2	1.0	500	533	29	8.839	0.72	0.091
	Dry Phosphate Rock Storage Bin – North	19	IMCNIC19	35,500	1,700	207	63.09	0.9	0.3	140	333	168	51.206	11.00	1.386
	Molten Sulfur Storage & Handling - South Storage Tank	21	IMCNIC21	35,500	1,700	6	1.83	0.8	0.2	77	298	11.2	3.403	0.40	0.050
1050034	IMC-AGRICO CO. (CFMO)														
	Raymond Mills 1 And 2 Grinders W/Scrubbers @ Kingsford Mine	2	IMCFMO2	35,300	-6,800	60	18.29	2.5	0.8	110	316	64	19.507	33.50	4.221
	Raymond Mill No 3 Grinder W/Scrubber @ Kingsford Mine	3	IMCFMO3	35,300	-6,800	58	17.68	1.9	0.6	100	311	49	14.935	30.00	3.780
	Phos Rk Dryer W/Scrubber @ Kingsford Mine	4	IMCFMO4	35,300	-6,800	70	21.34	7.0	2.1	165	347	47	14.326	44.20	5.569
	Phos Rock Transfer And Storage Silos W/Scrubber @ Kingsford	5	IMCFMO5	35,300	-6,800	106	32.31	2.5	0.8	95	308	67	20.422	20.00	2.520
	Unground Phosphate Rock Rr Car Load Out @ Kingsford Mine	6	IMCFMO6	35,300	-6,800	35	10.67	2.5	0.8	75	297	33	10.058	20.00	2.520
	Boiler @ Four Corners Mine	8	IMCFMO8	35,300	-6,800	26	7.92	1.0	0.3	400	478	23.5	7.163	0.06	0.007
	Magnetite Storage Bin @ Four Corners Mine (009)	9	IMCFMO9	35,300	-6,800	122	37.19	0.6	0.2	77	298	29.5	8.992	0.13	0.016
	Ferrosilicon Storage Bin @ Four Corners Mine	10	IMCFMO10	35,300	-6,800	122	37.19	0.6	0.2	77	298	22.4	6.828	1.37	0.173
1030244	A-AMERICAN RENT ALL														
	Concrete Batching Plant	1	AAMER1	-38,800	-3,300	5.0	1.52	2.0	0.6	90	305	10.5	3.190	500	63.000
0570005	CF INDUSTRIES, INC., PLANT CITY PHOSP														
	Graham Scotch Marine Type Boiler	1	CFIPL1	25,100	33,500	25	7.62	3.5	1.1	550	561	58	17.678	0.24	0.030
	B Phos Acid Plant With Scrubber	9	CFIPL9	25,100	33,500	119	36.27	4.0	1.2	106	314	44	13.411	31.05	3.912
	A Dorr Oliver Dap Plant W/ Venturi & Packed Bed Scrubber	10	CFIPL10	25,100	33,500	94	28.65	10.0	3.0	128	326	26	7.925	32.66	4.115
	Z Dorr-Oliver Dap Plant With Venturi Scrubber And Packed B	11	CFIPL11	25,100	33,500	180	54.86	9.2	2.8	137	331	43	13.106	35.56	4.481
	X Gtsp/Dap/Map Plant With Scrubbers	12	CFIPL12	25,100	33,500	180	54.86	9.2	2.8	105	314	26	7.925	32.60	4.108
	Y Gtsp/Dap/Map Plant With Scrubbers	13	CFIPL13	25,100	33,500	180	54.86	9.2	2.8	77	298	9.9	3.015	15.30	1.928
	Storage Bldg. A Shares Scrubber W/ Bldg. B (Pt 18)&B Shipping	14	CFIPL14	25,100	33,500	115	35.05	9.2	2.8	80	300	36	10.973	37.50	4.725
	A Shipping. Materials Handling Of Dap & Gt Sp	15	CFIPL15	25,100	33,500	90	27.43	1.7	0.5	77	298	62	18.898	5.00	0.630
	Sizing/Screening Operation In Bldg. "B" (Equipped With Baghouse)	18	CFIPL18	25,100	33,500	33	10.06	3.3	1.0	78	299	19	5.791	5.00	0.630
	Truck Loading Station At "B" Shipping.	19	CFIPL19	25,100	33,500	115	35.05	9.2	2.8	80	300	35	10.668	0.50	0.063
	2600 Ton Molten Sulfur Storage Tank	22	CFIPL22	25,100	33,500	8	2.44	0.9	0.3	212	373	5	1.524	0.20	0.025
	Truck Pit A, 679 Tons Molten Sulfur Storage	23	CFIPL23	25,100	33,500	12	3.66	0.3	0.1	212	373	5	1.524	0.10	0.013
	Molten Sulfur Storage & Handling System	24	CFIPL24	25,100	33,500	12	3.66	0.3	0.1	212	373	5	1.524	0.54	0.068
	Uranium Recovery Module, Acid Clean Up Scrubber	32	CFIPL32	25,100	33,500	60	18.29	4.0	1.2	118	321	46.4	14.143	3.00	0.378
	Clay Unloading Operation With Baghouse	34	CFIPL34	25,100	33,500	85	25.91	0.5	0.2	77	298	38	11.582	21.17	2.667
0810007	TROPICANA														
	Unit 3	3	TROP3	-16,100	-41,600	95	28.96	3	0.9	140	333	35.2	10.729	95.2	11.995
	Unit8	8	TROP8	-16,100	-41,600	50	15.24	10.6	3.2	90	305	43.3	13.198	111.2	14.011

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters						Emission Rate			
				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)
1050004	LAKELAND ELECTRIC - MCINTOSH														
	Mcintosh Unit 1- Fffsg (Phase Ii Acid Rain Unit)	1	MCINT1	46,100	23,700	150	45.72	9	2.7	277	409	81.2	24.750	95.0	11.970
	Diesel Engine Peaking Unit 2	2	MCINT2	46,100	23,700	20	6.10	2.6	0.8	715	653	77	23.470	1.74	0.219
	Diesel Engine Peaking Unit 3	3	MCINT3	46,100	23,700	20	6.10	2.6	0.8	715	653	77	23.470	1.74	0.219
	Gas Turbine Peaking Unit 1	4	MCINT4	46,100	23,700	35	10.67	13.5	4.1	900	755	79.5	24.232	12.16	1.532
	Mcintosh Unit 2 Fffsg (Phase Ii Acid Rain Unit)	5	MCINT5	46,100	23,700	157	47.85	10.5	3.2	277	409	73.2	22.311	112	14.049
	Mcintosh Unit 3 Fffsg (Phase Ii Acid Rain Unit)	6	MCINT6	46,100	23,700	250	76.20	18	5.5	167	348	82.6	25.176	273	34.398
	250 Mw Combustion Turbine (Simple Cycle Operation). Unit 5	28	MCINT28	46,100	23,700	85	25.91	28	8.5	1095	864	82.7	25.207	140	17.590
1050034	IMC-AGRICO CO. -NORALYN MINE														
	Phosphate Rock Dryer No. 1 @ Noralyn Mine (011)	11	IMCFMO11	51,800	-2,200	76	23.16	6.5	2.0	250	394	56.8	17.313	42.20	5.317
	Phosphate Rock Dryer No. 2 East @ Noralyn Mine (012)	12	IMCFMO12	51,800	-2,200	55	16.76	9.3	2.8	155	341	29	8.839	45.10	5.683
	Phosphate Rock Storage Silos 1, 2, 3, & 12 @ Noralyn Mine (013)	13	IMCFMO13	51,800	-2,200	150	45.72	3.5	1.1	100	311	52	15.850	35.00	4.410
	Ball Mill Transfers (C108) @ Noralyn Mine (014)	14	IMCFMO14	51,800	-2,200	24	7.32	2	0.6	110	316	26.5	8.077	15.00	1.890
	Ball Mill Transfers (C109) @ Noralyn Mine (015)	15	IMCFMO15	51,800	-2,200	24	7.32	2	0.6	110	316	26.5	8.077	10.00	1.260
	Ball Mill No. 3 @ Noralyn Mine (016)	16	IMCFMO16	51,800	-2,200	25	7.62	1.5	0.5	75	297	37.7	11.491	10.00	1.260
	Ball Mill No. 4 @ Noralyn Mine (017)	17	IMCFMO17	51,800	-2,200	27	8.23	2	0.6	75	297	15.9	4.846	10.00	1.260
	No. 3 Ball Mill Railcar Loadouts @ Noralyn Mine (018)	18	IMCFMO18	51,800	-2,200	25	7.62	1.5	0.5	77	298	37.7	11.491	10.00	1.260
	No. 4 Ball Mill Railcar Loadouts @ Noralyn Mine (019)	19	IMCFMO19	51,800	-2,200	29	8.84	1.8	0.5	77	298	19.7	6.005	10.00	1.260
	A Track Railcar Phosphate Rock Loadout System @ Noralyn Mine	20	IMCFMO20	51,800	-2,200	27	8.23	2	0.6	85	303	53.1	16.185	15.00	1.890
	B Track Railcar Phosphate Rock Loadout System @ Noralyn Mine	21	IMCFMO21	51,800	-2,200	27	8.23	1.9	0.6	81	300	71.8	21.885	15.00	1.890
	T7 & T8 (Transfer Points To Conveyors C31 & C33) @ Noralyn	22	IMCFMO22	51,800	-2,200	40	12.19	1.5	0.5	100	311	47.2	14.387	10.00	1.260
	Material Transfer Sources (C20 Pit Transfer Area) @ Noralyn	23	IMCFMO23	51,800	-2,200	43	13.11	2	0.6	86	303	26.5	8.077	15.00	1.890
	Dry Phosphate Rock Transfer System @ Noralyn Mine (024)	24	IMCFMO24	51,800	-2,200	135	41.15	2.8	0.9	60	289	55	16.764	15.00	1.890
1010017	FLORIDA POWER CORP., ANCLOTE POWER PLANT														
	Steam Turbine Gen. Anclote Unit No.1, 540MW, 4,964.4MMBtu	1	FPCANC1	-38,500	36,200	499	152.10	24	7.3	320	433	62	18.898	621	78.183
	525 Mw #6 Oil Fired Steam Generator, 4850 Mmbtu/Hr	2	FPCANC2	-38,500	36,200	499	152.10	24	7.3	320	433	62	18.898	606	76.388
SOURCES THAT WERE ADDED WITH ANNUAL EMISSIONS BETWEEN 0 AND 50 TPY.															
0570150	DRAVO LIME, INC.														
	Quicklime Railcar Unloading Facility - Silo #1, East	1	DRAVO1	0	2,200	560	170.69	2	0.6	77	298	6	1.829	0.6	0.076
	Quicklime Storage Bin #1 (Westernmost)	2	DRAVO2	0	2,200	18	5.49	0.4	0.1	78	299	37	11.278	0.1	0.009
	Quicklimedilos#2 (Easternmost)	4	DRAVO3	0	2,200	18	5.49	0.5	0.2	77	298	23	7.010	2.0	0.252
	Quicklime Silo #2 Truckloading	5	DRAVO4	0	2,200	18	5.49	0.4	0.1	77	298	37	11.278	2.0	0.252
0570241	RINKER MATERIALS CORPORATION														
	Relocatable Ready Mix Concrete Batch Plant	1	RINK1	2,000	1,900	22	6.71	1.3	0.4	77	298	62	18.898	2.0	0.252
0570224	REED MINERALS DIVISION														
	Coal Slag Rotary Dryer W/Scrubber System A	1	REED1	-700	3,000	30	9.14	3.9	1.2	132	329	32	9.754	3.4	0.428
	Screening,Transport,Material Handling W/Scrubber & Aux Bghs	2	REED2	-700	3,000	30	9.14	5.5	1.7	92	306	32	9.754	11.5	1.449
	Truck, Railcar And Bagging Operation	3	REED3	-700	3,000	30	9.14	2.76	0.8	70	294	52	15.850	0.5	0.062

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				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)
0570279	FLORIDA ROCK INDUSTRIES, INC. Two Cement Silo With Central Mfg. Cw-Ra 140 Baghouse	1	FLROCK1	2,900	2,500	22	6.71	2.3	0.7	77	298	28	8.534	5.0	0.629
0570022	MARATHON ASHLAND PETROLEUM LLC American Heating Co., Model Ahe-400, Secondary Oil Heater	5	MARA5	-700	4,700	10	3.05	1.5	0.5	580	578	21.2	6.462	0.027	0.003
0570056	BUILDING MATERIALS MANUFACTURING CORP														
	Asphalt Saturator Electrostatic Precipitator	1	BMMC1	-700	4,700	35	10.67	3.93	1.2	77	298	27.4	8.361	3.4	0.432
	Asphalt Shingle Back Surfacing Plant-Sand Rich,& Talc	2	BMMC2	-700	4,700	20	6.10	1.6	0.5	77	298	49	14.935	1.4	0.179
	Back Surfacing-West Baghouse (Pactecon)	3	BMMC3	-700	4,700	20	6.10	1.5	0.5	77	298	9	2.743	0.3	0.032
	Asphalt Oxidizing Tank South Still, Bs-1	4	BMMC4	-700	4,700	33	10.06	2.3	0.7	800	700	28	8.534	2.3	0.290
	Baghouse On Limestone Filler Heater System	5	BMMC5	-700	4,700	38	11.58	1.6	0.5	375	464	61	18.593	1.9	0.242
	West Limestone Silo Baghouse, Griffin 36-Js	6	BMMC6	-700	4,700	45	13.72	2	0.6	77	298	4	1.219	0.2	0.019
	Sand Silo Baghouse, Carter-Day 9dfb8	7	BMMC7	-700	4,700	45	13.72	2	0.6	77	298	4	1.219	0.2	0.029
	East Limestone Silo Baghouse, Carter-Day 9dfb8	8	BMMC8	-700	4,700	45	13.72	2	0.6	77	298	4	1.219	0.2	0.029
0570255	LEHIGH PORTLAND CEMENT COMPANY														
	Ship Unloading And Truck Loading Opern For Cement & Fly Ash	1	LEHI1	-2,190	4,290	176	53.64	2	0.6	77	298	29	8.839	1.3	0.160
	Ship Unloading Of Cement To Silo 3. Truck Loading Also.	2	LEHI2	-2,190	4,290	176	53.64	2	0.6	77	298	29	8.839	1.3	0.160
SOURCES THAT WERE ADDED DUE TO THE INCREASE IN SIGNIFICANT IMPACT AREA FROM 2 TO 4 KM															
0571209	APAC-FLORIDA, INC. Hot Mix Asphalt Plant	1	APAC1	-3,040	5,590	31	9.45	3.8	1.2	300	422	88.2	26.883	12.6	1.588
0570075	CORONET INDUSTRIES, INC.														
	Feed Prep Plant Dryer With Wet Scrubber.	1	CORON1	30,900	13,800	100	30.48	4.5	1.4	149	338	39.0	11.887	13.20	1.663
	Paragon Defluorinating Kiln #2-Packed Bed Scrubber	3	CORON3	30,900	13,800	152	46.33	5.8	1.8	110	316	64.0	19.507	13.03	1.642
	Defluorinating Kilns 6 & 7	5	CORON5	30,900	13,800	150	45.72	5.8	1.8	104	313	60.0	18.288	15.00	1.890
	Feed Preparation Product Handling Dust Collector	6	CORON6	30,900	13,800	81	24.69	2.7	0.8	108	315	56.4	17.191	3.09	0.389
	7500 Cfm Feed Baghouse #12 - Feed Preparation, Rock Handlin	7	CORON7	30,900	13,800	107	32.61	1.2	0.4	77	298	110.0	33.528	1.30	0.164
	Feed Prep Scrubber #2	8	CORON8	30,900	13,800	100	30.48	3	0.9	110	316	49.5	15.088	6.80	0.857
	Feed Prep. Plant-Rock Storage Bin Baghouse	9	CORON9	30,900	13,800	97	29.57	1	0.3	77	298	44.0	13.411	0.35	0.044
	Cdp Truck Loading Dust Collector	12	CORON12	30,900	13,800	62	18.90	1.7	0.5	77	298	91.8	27.981	2.15	0.271
	Cdp Fines Bagging W/ Baghouse	13	CORON13	30,900	13,800	67	20.42	1.2	0.4	77	298	103.2	31.455	1.22	0.154
	North Mill Room W/ Baghouse	15	CORON15	30,900	13,800	34	10.36	2.7	0.8	77	298	82.4	25.116	7.12	0.897
	Cdp Fines Storage W/ Baghouse	16	CORON16	30,900	13,800	57	17.37	1.5	0.5	77	298	94.0	28.651	1.71	0.215
	Bulk Railcar Loading Baghouse	17	CORON17	30,900	13,800	54	16.46	1.8	0.5	77	298	65.0	19.812	1.71	0.215
	South Mill Room W/ Baghouse	18	CORON18	30,900	13,800	45	13.72	1.8	0.5	77	298	65.5	19.964	1.71	0.215
	100 Hp Kewanee Boiler For Defluorinating Plant.	20	CORON20	30,900	13,800	20	6.10	1.2	0.4	630	605	66.0	20.117	1.00	0.126
	Craneway-Temporary Product Storage Controlled By Bghs #14	21	CORON21	30,900	13,800	80	24.38	4.5	1.4	104	313	52.4	15.972	34.29	4.321
	Fluid Bed Reactor #1, Defluorinating A.F. Controlled By Scrubb	22	CORON22	30,900	13,800	152	46.33	5.8	1.8	110	316	64.0	19.507	14.02	1.767
	Fluoride Plant Number 1 With Scrubber	23	CORON23	30,900	13,800	32	9.75	1.5	0.5	77	298	47.2	14.387	5.00	0.630
	Defluorinating Fluid Bed Reactor #2 Controlled By Scrubber	24	CORON24	30,900	13,800	152	46.33	5.8	1.8	110	316	64.0	19.507	14.02	1.767
	Potassium Fluoroborate Plant With Dust Collector	27	CORON27	30,900	13,800	10	3.05	0.8	0.2	150	339	59.0	17.983	0.38	0.048
	8 Tph Borax Storage/Handling System	28	CORON28	30,900	13,800	50	15.24	0.5	0.2	77	298	67.0	20.422	0.21	0.026
	500 Ton Feed Tank, 100 Ton Feed Tank, Elevator, Reclaim Hopp	30	CORON30	30,900	13,800	76	23.16	1.1	0.3	77	298	101.7	30.998	1.49	0.188
	Material Storage Bin (Formerly 80 Ton Limestone Bin)	31	CORON31	30,900	13,800	80	24.38	0.6	0.2	77	298	58.0	17.678	0.28	0.035
	Inorganic Chemical Prod. Using Scrubber Fluorides	32	CORON32	30,900	13,800	45	13.72	1.6	0.5	250	394	19.0	5.791	1.90	0.239

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters								Emission Rate		
				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)	(lb/hr)	(g/s)	
FUGITIVE SOURCES																
05700040	TECO GANNON															
	COAL HANDLING-AAQS/PSD		OMH2T3	-2,800	5,000	16.404	5.00	NA	NA	^d 32.8	10	0	0.000	^d 0.004	0.001	
	COAL HANDLING-AAQS		OMH2T3	-2,800	5,000	29.856	9.10	3.3	1	0	255	0.032808	0.010	^c 1.201	0.151	
	COAL HANDLING-PSD		OMH2T3	-2,800	5,000	29.856	9.10	3.3	1	0	255	0.032808	0.010	^c 1.150	0.145	
	COAL HANDLING-AAQS/PSD		FH22TH46	-2,800	5,000	49.213	15.00	NA	NA	^d 229.7	70	0	0.000	^d 0.001	0.000	
	COAL HANDLING-AAQS		FH24T43	-2,800	5,000	155.18	47.30	0.8	0.23	0	255	50.98425	15.540	^c 1.419	0.179	
	COAL HANDLING-PSD		FH24T43	-2,800	5,000	29.856	9.10	3.3	1	0	255	0.032808	0.010	^c 0.001	0.000	
	COAL HANDLING-AAQS		ALT1TOT5	-2,800	5,000	10.171	3.10	3.3	1	0	255	0.032808	0.010	^c 0.110	0.014	
	COAL HANDLING-PSD		ALT1TOT5	-2,800	5,000	0	0.00	0.0	0	0	255	3.28084	1.000	^c 0.110	0.014	
	IMC AGRICO															
	VOLUME SOURCES		IMCAGFUG	800	-6400	0	0	NA	NA	^c 0	0	^c 0.000	^c 0.000	^c 0.000	0.000	
	BIG BEND TRANSFER, CO. L.L.C.															
	VOLUME SOURCE--TRUCK TRAFFIC		RD1TO10	-733	-6370	23.95	7.3	NA	NA	^c 48.36	14.74	10.46588	3.190	^c 0.627	0.079	
	VOLUME SOURCE--TRUCK TRAFFIC		RD11TO20	-1038	-6370	26.247	8	NA	NA	^c 48.36	14.74	10.46588	3.190	^c 0.627	0.079	
	VOLUME SOURCE--TRUCK TRAFFIC		RD21TO30	-1343	-6370	24.934	7.6	NA	NA	^c 48.36	14.74	10.46588	3.190	^c 0.627	0.079	
	VOLUME SOURCE--TRUCK TRAFFIC		RD31TO40	-1648	-6395	102.03	31.1	NA	NA	^c 48.36	14.74	10.46588	3.190	^c 0.627	0.079	
	VOLUME SOURCE--TRUCK TRAFFIC		RD41TO46	-1800	-6364	0	0	NA	NA	^c 48.36	14.74	10.46588	3.190	^c 0.376	0.047	
05700039	TECO - BIG BEND STATION															
	COAL HANDLING-AAQS		FH1T8GH1	-1000	-7500	23.95	7.3	3.28084	1	0	255	0.003281	0.001	^c 7.270	0.916	
	COAL HANDLING-PSD		FH1T8GH1	-1000	-7500	24.409	7.44	3.28084	1	0	255	0.003281	0.001	^c 1.429	0.180	
	COAL HANDLING-AAQS		FH9TGH12	-1000	-7500	26.247	8	NA	NA	^d 147.64	45	147.6378	45.000	^d 0.007	0.001	
	COAL HANDLING-PSD		FH9TGH12	-1000	-7500	20.013	6.1	NA	NA	^d 124.67	38	124.6719	38.000	^d 0.002	0.000	
	COAL HANDLING-AAQS		F18TGH14	-1000	-7500	24.934	7.6	NA	NA	^d 1148.29	350	200.1312	61.000	^d 0.005	0.001	
	COAL HANDLING-PSD		F18TGH14	-1000	-7500	20.013	6.1	NA	NA	^d 800.52	244	400.2625	122.000	^d 0.002	0.000	
	COAL HANDLING-AAQS		FA1T8GH1	-1000	-7500	102.03	31.1	2.49344	0.76	394	474	52.00131	15.850	^c 9.794	1.234	
	COAL HANDLING-PSD		FA1T8GH1	-1000	-7500	112.86	34.4	0.88583	0.27	15.58	244	51.11549	15.580	^c 0.230	0.029	

Appendix F-2a. Summary of PM Sources Included in the Air Modeling Analysis (Replaces Appendix F-2 and F-3) (Revised 5/24/01)

Facility ID	Facility Emission Unit Description	Unit No	ISCST Source ID	Relative Location		Stack and Operating Parameters						Emission Rate	
				East (m)	North (m)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)	Temperature (F)	Temperature (K)	Velocity (ft/s)	Velocity (m/s)

Note:

^b Assumed velocity.

^d Volume source dimensions based on methods presented in accordance with ISCST3 User's Manual:

			Height (m)	Sigma Y (m)	Sigma Z (m)
IMC AGRICO					
VOLUME SOURCES	IMCAGFUG		0.00	0.00	0.00
BIG BEND TRANSFER, CO. L.L.C.					
VOLUME SOURCE--TRUCK TRAFFIC	RD1TO10		7.3	14.74	3.19
VOLUME SOURCE--TRUCK TRAFFIC	RD11TO20		8	14.74	3.19
VOLUME SOURCE--TRUCK TRAFFIC	RD21TO30		7.6	14.74	3.19
VOLUME SOURCE--TRUCK TRAFFIC	RD31TO40		31.1	14.74	3.19
VOLUME SOURCE--TRUCK TRAFFIC	RD41TO46		0.0	14.74	3.19

^d Area source dimensions based on methods presented in accordance with ISCST3 User's Manual:

			Height (m)	X initial (m)	Y initial (m)
0570040	TECO GANNON				
	COAL HANDLING-AAQS/PSD	OMH2T3	5.00	10	0.0
	COAL HANDLING-AAQS/PSD	FH22TH46	15.00	70	0.0
0570039	TECO - BIG BEND STATION				
	COAL HANDLING-AAQS	FH9TGH12	8	45	45
	COAL HANDLING-PSD	FH9TGH12	6.1	38	38
	COAL HANDLING-AAQS	F18TGH14	7.6	350	61
	COAL HANDLING-PSD	F18TGH14	6.1	244	122

^e Fugitive point sources.

BBTC TRUCK TRAFFIC (RELATIVE TO BBTC)

COUNT	OLD NEW	46 5				AAQS &	PSD							
			SRCID	SRCTYP	XS	YS	ZS	** POINT ** VOLUME ** AREA	SRCID	QS	HS	TS	VS	DS
										QS	HS	SYINT	SZINT	
										QS	RH	XINIT	YINIT	
**	BBTC ROAD TRAFFIC	IC SOURCES				**	BBTC ROAD TRAFFIC	IC VOLUMES						
SO	LOCATIO ROAD1	VOLUME	1336.24	-33.53	0	SO	SRCPAR ROAD1	0.0079	3.43	14.74	3.19			
SO	LOCATIO ROAD2	VOLUME	1306.98	-42.67	0	SO	SRCPAR ROAD2	0.0079	3.43	14.74	3.19			
SO	LOCATIO ROAD3	VOLUME	1277.72	-51.82	0	SO	SRCPAR ROAD3	0.0079	3.43	14.74	3.19			
SO	LOCATIO ROAD4	VOLUME	1248.46	-60.96	0	SO	SRCPAR ROAD4	0.0079	3.43	14.74	3.19			
SO	LOCATIO ROAD5	VOLUME	1219.2	-70.1	0	SO	SRCPAR ROAD5	0.0079	3.43	14.74	3.19			
SO	LOCATIO ROAD6	VOLUME	1188.72	-70.1	0	SO	SRCPAR ROAD6	0.0079	3.43	14.74	3.19			
SO	LOCATIO ROAD7	VOLUME	1158.24	-70.1	0	SO	SRCPAR ROAD7	0.0079	3.43	14.74	3.19			
SO	LOCATIO ROAD8	VOLUME	1127.76	-70.1	0	SO	SRCPAR ROAD8	0.0079	3.43	14.74	3.19			
SO	LOCATIO ROAD9	VOLUME	1097.28	-70.1	0	SO	SRCPAR ROAD9	0.0079	3.43	14.74	3.19			
SO	LOCATIO ROAD10	VOLUME	1066.8	-70.1	0	SO	SRCPAR ROAD10	0.0079	3.43	14.74	3.19			

MODEL	RD1TO10	VOLUME	1066.8	-70.1	0	0.079
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SO	LOCATIO ROAD11	VOLUME	1036.32	-70.1	0	SO	SRCPAR ROAD11	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD12	VOLUME	1005.84	-70.1	0	SO	SRCPAR ROAD12	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD13	VOLUME	975.36	-70.1	0	SO	SRCPAR ROAD13	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD14	VOLUME	944.88	-70.1	0	SO	SRCPAR ROAD14	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD15	VOLUME	914.4	-70.1	0	SO	SRCPAR ROAD15	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD16	VOLUME	883.92	-70.1	0	SO	SRCPAR ROAD16	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD17	VOLUME	853.44	-70.1	0	SO	SRCPAR ROAD17	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD18	VOLUME	822.96	-70.1	0	SO	SRCPAR ROAD18	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD19	VOLUME	792.48	-70.1	0	SO	SRCPAR ROAD19	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD20	VOLUME	762	-70.1	0	SO	SRCPAR ROAD20	0.0079	3.43	14.74	3.19		

MODEL	RD11TO20	VOLUME	762	-70.1	0	0.079
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SO	LOCATIO ROAD21	VOLUME	731.52	-70.1	0	SO	SRCPAR ROAD21	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD22	VOLUME	701.04	-70.1	0	SO	SRCPAR ROAD22	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD23	VOLUME	670.56	-70.1	0	SO	SRCPAR ROAD23	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD24	VOLUME	640.08	-70.1	0	SO	SRCPAR ROAD24	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD25	VOLUME	609.6	-70.1	0	SO	SRCPAR ROAD25	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD26	VOLUME	579.12	-70.1	0	SO	SRCPAR ROAD26	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD27	VOLUME	548.64	-70.1	0	SO	SRCPAR ROAD27	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD28	VOLUME	518.16	-70.1	0	SO	SRCPAR ROAD28	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD29	VOLUME	487.68	-70.1	0	SO	SRCPAR ROAD29	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD30	VOLUME	457.2	-70.1	0	SO	SRCPAR ROAD30	0.0079	3.43	14.74	3.19		

MODEL	RD21TO30	VOLUME	457.2	-70.1	0	0.079
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SO	LOCATIO ROAD31	VOLUME	426.72	-70.1	0	SO	SRCPAR ROAD31	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD32	VOLUME	396.24	-70.1	0	SO	SRCPAR ROAD32	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD33	VOLUME	365.76	-70.1	0	SO	SRCPAR ROAD33	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD34	VOLUME	335.28	-70.1	0	SO	SRCPAR ROAD34	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD35	VOLUME	304.8	-70.1	0	SO	SRCPAR ROAD35	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD36	VOLUME	274.32	-70.1	0	SO	SRCPAR ROAD36	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD37	VOLUME	243.84	-70.1	0	SO	SRCPAR ROAD37	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD38	VOLUME	213.36	-70.1	0	SO	SRCPAR ROAD38	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD39	VOLUME	182.88	-70.1	0	SO	SRCPAR ROAD39	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD40	VOLUME	152.4	-94.49	0	SO	SRCPAR ROAD40	0.0079	3.43	14.74	3.19		

MODEL	RD31TO40	VOLUME	152.4	-94.49	0	0.079
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SO	LOCATIO ROAD41	VOLUME	121.92	-94.49	0	SO	SRCPAR ROAD41	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD42	VOLUME	91.44	-94.49	0	SO	SRCPAR ROAD42	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD43	VOLUME	60.96	-94.49	0	SO	SRCPAR ROAD43	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD44	VOLUME	30.48	-94.49	0	SO	SRCPAR ROAD44	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD45	VOLUME	0	-94.49	0	SO	SRCPAR ROAD45	0.0079	3.43	14.74	3.19		
SO	LOCATIO ROAD46	VOLUME	0	-64.01	0	SO	SRCPAR ROAD46	0.0079	3.43	14.74	3.19		

MODEL	RD41TO46	VOLUME	0	-64.01	0	0.047
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TECO BIG BEND COAL HANDLING SOURCES (RELATIVE TO BBTC)

COUNT	OLD	NEW	48	21	AAQS	PSD
					** POINT SRCID QS HS TS VS DS QS HS TS VS DS	
					** VOLUME SRCID QS HS SVINT SZINT QS HS SVINT SZINT DS	
					** AREA SRCID QS RH XINIT YINIT QS RH XINIT YINIT	
**	BIG BEN	COAL HAN	DLING S	RCE S	**	TECO BIG BEND Co l Handlin g Sources
SO	LOCATI	FH001	POINT	-247 -874	0 SO	SRCPARA FH001 0.009 13.8 0 0.001 1 0
SO	LOCATI	FH002	POINT	-245 -898	0 SO	SRCPARA FH002 0.02 13.8 0 0.001 1 0
SO	LOCATI	FH003	POINT	-245 -898	0 SO	SRCPARA FH003 0.02 13.5 0 0.001 1 0
SO	LOCATI	FH004	POINT	-242 -926	0 SO	SRCPARA FH004 0.02 16.8 0 0.001 1 0
SO	LOCATI	FH005	POINT	-239 -963	0 SO	SRCPARA FH005 0.009 4.6 0 0.001 1 0
SO	LOCATI	FH006	POINT	-235 -986	0 SO	SRCPARA FH006 0.02 7.3 0 0.001 1 0
SO	LOCATI	FH007	POINT	-183 -985	0 SO	SRCPARA FH007 0.02 11.4 0 0.001 1 0
SO	LOCATI	FH008a	POINT	-184 -976	0 SO	SRCPARA FH008a 0.009 7 0 0.001 1 0
SO	LOCATI	FH008b	POINT	-132 -962	0 SO	SRCPARA FH008b 0.009 18.3 0 0.001 1 0
						FH1T8 0.156 11.8 AVE. 0.001 AVE. 0
						FH11T17 FROM BELOW 0.22 7.2 AVE. 0.001 AVE. 0
						FH22T25 0.15 10.1 AVE. 0.001 AVE. 0
						FH28T52 0.20 9.8 AVE. 9.4 AVE. 0.06
						FH55T62 0.11 33.7 AVE. 10.9 AVE. 0
						FH64T69 0.013 4.6 AVE. 0.001 AVE. 0.013
						GH4T10 0.013 7.4 AVE. 0.001 AVE. 0.013
						GH15LS1T8 0.094 18.0 AVE. 14.2 AVE. 0.094
MODEL	FH1THLS18	POINT				0.916 7.3 0 0.001 1 0.18 7.4 0 0.001 1
SO	LOCATI	FH009	AREA	-132 -962	0 SO	SRCPARA FH009 0.000054 8 45 45 0
MODEL *FAC	FH009	AREA				0.000054 8 45 45 0
SO	LOCATI	FH010	AREA	-132 -962	0 SO	SRCPARA FH010 0.000064 8 45 45 0
MODEL *FAC	FH010	AREA				0 8 45 45 0
SO	LOCATI	FH011a	POINT	-155 -985	0 SO	SRCPARA FH011a 0.03 1.8 0 0.001 1 0
SO	LOCATI	FH011b	POINT	-155 -985	0 SO	SRCPARA FH011b 0.02 1.8 0 0.001 1 0
SO	LOCATI	FH012	POINT	-177 -895	0 SO	SRCPARA FH012 0.02 12.2 0 0.001 1 0
SO	LOCATI	FH013	POINT	47 -892	0 SO	SRCPARA FH013 0.02 9.6 0 0.001 1 0
SO	LOCATI	FH014	POINT	55 -892	0 SO	SRCPARA FH014 0.02 9.6 0 0.001 1 0
SO	LOCATI	FH015	POINT	57 -920	0 SO	SRCPARA FH015 0.06 16.4 0 0.001 1 0
SO	LOCATI	FH016	POINT	57 -920	0 SO	SRCPARA FH016 0.03 1.5 0 0.001 1 0
SO	LOCATI	FH017	POINT	63 -892	0 SO	SRCPARA FH017 0.02 4.9 0 0.001 1 0
						SEE ABOVE FH1THLS18 0.22 0
SO	LOCATI	FH018	AREA	-113 -876	0 SO	SRCPARA FH018 0.000003 7.6 396 84 0
MODEL *FAC	FH018	AREA				0.000003 7.6 396 84 0
SO	LOCATI	FH019	AREA	-113 -876	0 SO	SRCPARA FH019 0.000095 7.6 396 84 0
MODEL *FAC	FH019	AREA				0.000095 7.6 396 84 0
SO	LOCATI	FH020	AREA	-78 -969	0 SO	SRCPARA FH020 0.000005 7.6 350 61 0
MODEL *FAC	FH020	AREA				0.000005 7.6 350 61 0
SO	LOCATI	FH021	AREA	-78 -969	0 SO	SRCPARA FH021 0.000116 7.6 350 61 0
MODEL *FAC	FH021	AREA				0.000116 7.6 350 61 0
SO	LOCATI	FH022	POINT	56 -981	0 SO	SRCPARA FH022 0.02 9.6 0 0.001 1 0
SO	LOCATI	FH023	POINT	56 -1006	0 SO	SRCPARA FH023 0.06 16.4 0 0.001 1 0
SO	LOCATI	FH024	POINT	56 -1006	0 SO	SRCPARA FH024 0.03 4.6 0 0.001 1 0
SO	LOCATI	FH025	POINT	64 -981	0 SO	SRCPARA FH025 0.02 9.6 0 0.001 1 0
						SEE ABOVE FH1THLS18 0.13 0
SO	LOCATI	FH026	AREA	-80 -1059	0 SO	SRCPARA FH026 0.000005 7.6 366 61 0
MODEL *FAC	FH026	AREA				0.000005 7.6 366 61 0
SO	LOCATI	FH027	AREA	-80 -1059	0 SO	SRCPARA FH027 0.000116 7.6 366 61 0
MODEL *FAC	FH027	AREA				0.000116 7.6 366 61 0
SO	LOCATI	FH028	POINT	319 -893	0 SO	SRCPARA FH028 0.02 7.4 0 0.001 1 0
SO	LOCATI	FH029	POINT	318 -936	0 SO	SRCPARA FH029 0.02 14.4 0 0.001 1 0
SO	LOCATI	FH030	POINT	17 -984	0 SO	SRCPARA FH030 0.02 7.4 0 0.001 1 0
SO	LOCATI	FH031	POINT	18 -941	0 SO	SRCPARA FH031 0.02 14.4 0 0.001 1 0
SO	LOCATI	FH032	POINT	422 -872	0 SO	SRCPARA FH032 0.005 7.6 0 21.89 0.51 0.005

TECO BIG BEND COAL HANDLING SOURCES (RELATIVE TO BBTC)

COUNT	OLD NEW	48 21					AAQS					PSD							
			SRCID	SRC TYP	XS	YS	ZS	** POINT ** VOLUME ** AREA	SRCID	QS QS	HS HS RH	TS SYINT XINIT	VS SZINT YINIT	DS	QS QS QS	HS HS RH	TS SYINT XINIT	VS SZINT YINIT	DS
SO	LOCATI	FH033	POINT	422	-893	0	SO	SRCPARA	FH033	0.005	7.6	0	21.89	0.51	0.005				
SO	LOCATI	FH034	POINT	422	-914	0	SO	SRCPARA	FH034	0.005	7.6	0	21.89	0.51	0.005				
SO	LOCATI	FH035	POINT	422	-938	0	SO	SRCPARA	FH035	0.005	7.6	0	21.89	0.51	0.005				
SO	LOCATI	FH036	POINT	411	-901	0	SO	SRCPARA	FH036	0.04	1.8	0	0.001	1	0.04				
SO	LOCATI	FH048	POINT	411	-1061	0	SO	SRCPARA	FH048	0.01	21.8	0	21.89	1	0				
SO	LOCATI	FH049	POINT	420	-1061	0	SO	SRCPARA	FH049	0.01	21.8	0	21.89	1	0				
SO	LOCATI	FH050	POINT	411	-1052	0	SO	SRCPARA	FH050	0.02	3	0	0.001	1	0				
SO	LOCATI	FH051	POINT	420	-1052	0	SO	SRCPARA	FH051	0.02	3	0	0.001	1	0				
SO	LOCATI	FH052	POINT	386	-1052	0	SO	SRCPARA	FH052	0	12	0	0.001	1	0				
SEE ABOVE FHITHLS18										0.20				0.06					
SO	LOCATI	FH053	AREA	378	-1059	0	SO	SRCPARA	FH053	0.00034	6.1	18	18		0				
MODEL *FAC	FH053	AREA								0.00034	6.1	18	18		0				
SO	LOCATI	FH054	AREA	378	-1059	0	SO	SRCPARA	FH054	0.000154	6.1	18	18		0				
MODEL *FAC	FH054	AREA								0.000154	6.1	18	18		0				
SO	LOCATI	FH055	POINT	383	-986	0	SO	SRCPARA	FH055	0.02	13	0	0.001	1	0				
SO	LOCATI	FH056	POINT	391	-982	0	SO	SRCPARA	FH056	0.02	13	0	0.001	1	0				
SO	LOCATI	FH057	POINT	371	-986	0	SO	SRCPARA	FH057	0.03	6	0	0.001	1	0				
SO	LOCATI	FH058	POINT	371	-981	0	SO	SRCPARA	FH058	0.02	6	0	0.001	1	0				
SO	LOCATI	FH059	POINT	579	-977	0	SO	SRCPARA	FH059	0.005	57.9	0	21.89	1	0				
SO	LOCATI	FH060	POINT	624	-977	0	SO	SRCPARA	FH060	0.005	57.9	0	21.89	1	0				
SO	LOCATI	FH061	POINT	669	-976	0	SO	SRCPARA	FH061	0.005	57.9	0	21.89	1	0				
SO	LOCATI	FH062	POINT	727	-976	0	SO	SRCPARA	FH062	0.005	57.9	0	21.89	1	0				
SEE ABOVE FHITHLS18										0.11				0					
SO	LOCATI	FH063	AREA	-132	-962	0	SO	SRCPARA	FH063	0.00003	8	45	45		0.00003				
MODEL *FAC	FH063	AREA								0.00003	8	45	45		0.00003	8	45	45	
SO	LOCATI	FH064	POINT	-111	-955	0	SO	SRCPARA	FH064	0.002	1.8	0	0.001	1	0.002				
SO	LOCATI	FH065	POINT	-77	-1154	0	SO	SRCPARA	FH065	0.001	6	0	0.001	1	0.001				
SO	LOCATI	FH066	POINT	20	-1151	0	SO	SRCPARA	FH066	0.003	1.8	0	0.001	1	0.003				
SO	LOCATI	FH067	POINT	358	-1024	0	SO	SRCPARA	FH067	0.002	6	0	0.001	1	0.002				
SO	LOCATI	FH068	POINT	358	-1024	0	SO	SRCPARA	FH068	0.005	6	0	0.001	1	0.003				
SO	LOCATI	FH069	POINT	302	-908	0	SO	SRCPARA	FH069	0.002	6	0	0.001	1	0.002				
SEE ABOVE FHITHLS18										0.013				0.013					
SO	LOCATI	FH070	AREA	-66	-1143	0	SO	SRCPARA	FH070	0.000082	7.6	122	46		0.000082				
MODEL *FAC	FH070	AREA								0.000082	7.6	122	46		0.000082	7.6	122	46	
SO	LOCATI	FH071	AREA	-66	-1143	0	SO	SRCPARA	FH071	0.00002	7.6	122	46		0.00002				
MODEL *FAC	FH071	AREA								0.00002	7.6	122	46		0.00002	7.6	122	46	
SO	LOCATI	FA001	POINT	583	-1124	0	SO	SRCPARA	FA001	0.6	31.1	394	15.85	0.76	0				
SO	LOCATI	FA002	POINT	588	-1124	0	SO	SRCPARA	FA002	0.003	3	0	0.001	1	0				
SO	LOCATI	FA003	POINT	588	-1124	0	SO	SRCPARA	FA003	0.001	3	0	0.001	1	0				
SO	LOCATI	FA004	POINT	670	-1123	0	SO	SRCPARA	FA004	0.6	31.1	394	15.85	0.76	0				
SO	LOCATI	FA005	POINT	674	-1126	0	SO	SRCPARA	FA005	0.001	3	0	0.001	1	0				
SO	LOCATI	FA006	POINT	834	-1031	0	SO	SRCPARA	FA006	0.02	34.4	394	15.58	0.27	0.02				
SO	LOCATI	FA007	POINT	833	-1039	0	SO	SRCPARA	FA007	0.003	3	0	0.001	1	0.003				
SO	LOCATI	FA008	POINT	833	-1039	0	SO	SRCPARA	FA008	0.001	3	0	0.001	1	0.001				
SO	LOCATI	GH001	POINT	983	-1064	0	SO	SRCPARA	GH001	0.005	10.9	0	0.001	1	0.005				
MODEL	FA18GH1	POINT								1.234	31.1	394	15.85	0.76	0.029	34.4	394	15.58	0.27
										FA184E	1.22				0.02				
SO	LOCATI	GH002	AREA	983	-1082	0	SO	SRCPARA	GH002	0.000028	6.1	38	38		0.000028				
MODEL *FAC	GH002	AREA								0.000028	6.1	38	38		0.000028	6.1	38	38	
SO	LOCATI	GH003	AREA	983	-1082	0	SO	SRCPARA	GH003	0.000083	6.1	38	38		0.000083				
MODEL *FAC	GH003	AREA								0.000083	6.1	38	38		0.000083	6.1	38	38	
SO	LOCATI	GH004	POINT	1022	-1083	0	SO	SRCPARA	GH004	0.005	3	0	0.001	1	0.005				
SO	LOCATI	GH007	POINT	950	-1262	0	SO	SRCPARA	GH007	0.001	4.2	0	0.001	1	0.001				
SO	LOCATI	GH008	POINT	950	-2786	0	SO	SRCPARA	GH008	0.001	4.2	0	0.001	1	0.001				
SO	LOCATI	GH009	POINT	1408	-2817	0	SO	SRCPARA	GH009	0.001	11.9	0	0.001	1	0.001				
SO	LOCATI	GH010	POINT	1408	-2817	0	SO	SRCPARA	GH010	0.005	13.9	0	0.001	1	0.005				
SEE ABOVE FHITHLS18										0.013				0.013					

TECO BIG BEND COAL HANDLING SOURCES (RELATIVE TO BBTC)

COUNT	OLD NEW	48 21		AAQS										PSD					
		SRCID	SRCTYP	XS	YS	ZS	** POINT	SRCID	QS	HS	TS	VS	DS	QS	HS	TS	VS	DS	
							** VOLUME	QS	HS	SYINT	SZINT		QS	HS	SYINT	SZINT			
							** AREA	QS	RH	XINIT	YINIT		QS	RH	XINIT	YINIT			
SO	LOCATI	GH011	AREA	1408	-2855	0	SO	SRCPARA	GH011	0.000028	6.1	38	38						0.000028
MODEL *FAC		GH011	AREA						0.000028	6.1	38	38		0.000028	6.1	38	38		
SO	LOCATI	GH012	AREA	1408	-2855	0	SO	SRCPARA	GH012	0.000083	6.1	38	38						0.000083
MODEL *FAC		GH012	AREA						0.000083	6.1	38	38		0.000083	6.1	38	38		
SO	LOCATI	GH013	AREA	1408	-2855	0	SO	SRCPARA	GH013	0.00004	6.1	244	122						0.00004
MODEL *FAC		GH013	AREA						0.00004	6.1	244	122		0.00004	6.1	244	122		
SO	LOCATI	GH014	AREA	1408	-2855	0	SO	SRCPARA	GH014	0.000148	6.1	244	122						0.000148
MODEL *FAC		GH014	AREA						0.000148	6.1	244	122		0.000148	6.1	244	122		
SO	LOCATI	GH015	POINT	1408	-2817	0	SO	SRCPARA	GH015	0.005	3	0	0.001	1					0.005
SO	LOCATI	LS001	POINT	906	-1172	0	SO	SRCPARA	LS001	0.08	3	0	21.73	0.3					0.08
SO	LOCATI	LS002	POINT	1081	-1160	0	SO	SRCPARA	LS002	0.002	13.9	0	20.7	0.15					0.002
SO	LOCATI	LS003	POINT	1068	-1121	0	SO	SRCPARA	LS003	0.002	15.9	0	20.7	0.15					0.002
SO	LOCATI	LS004	POINT	929	-1111	0	SO	SRCPARA	LS004	0.002	30.8	0	14.29	0.15					0.002
SO	LOCATI	LS006	POINT	929	-1120	0	SO	SRCPARA	LS006	0.002	30.8	0	14.29	0.15					0.002
SO	LOCATI	LS008	POINT	929	-1127	0	SO	SRCPARA	LS008	0.001	30.8	0	7.76	0.15					0.001
SEE ABOVE FHITHLS18										0.094			0.094						

TECO GANNON COAL HANDLING (RELATIVE TO BBTC)

COUNT	OLD NEW	70 7	AAQS					PSD							
			** POINT	SRCID	QS	HS	TS	VS	DS	QS	HS	TS	VS	DS	
			** VOLUME		QS	HS	TS	VS	DS	QS	HS	TS	VS	DS	
			** AREA		QS	HS	TS	VS	DS	QS	HS	TS	VS	DS	
					QS	HS	TS	VS	DS	QS	HS	TS	VS	DS	
					QS	HS	TS	VS	DS	QS	HS	TS	VS	DS	
**	TECO G	COAL HA	NDLNG												
SO	LOCATI	OMB1	POINT	-1100	11300	0	SO	SRCPAR	OMB1	0.0038	3	0	0.01	1	0
		SEE BELOW	OMB1C1							0.0038					0
SO	LOCATI	OMB1A	AREA	-1100	11300	0	SO	SRCPAR	OMB1A	0.000035	5	10			0
SO	LOCATI	OMB1B	AREA	-1100	11300	0	SO	SRCPAR	OMB1B	0.000035	5	10			0
SO	LOCATI	OMB1C	AREA	-1100	11300	0	SO	SRCPAR	OMB1C	0.000035	5	10			0
SO	LOCATI	OMB1D	AREA	-1100	11300	0	SO	SRCPAR	OMB1D	0.000035	5	10			0
MODEL	OMB1	AREA								0.00014	5	10			0
SO	LOCATI	OMB1A	AREA	-1100	11300	0	SO	SRCPAR	OMB1A	0.000104	5	10			0
SO	LOCATI	OMB1B	AREA	-1100	11300	0	SO	SRCPAR	OMB1B	0.000104	5	10			0
SO	LOCATI	OMB1C	AREA	-1100	11300	0	SO	SRCPAR	OMB1C	0.000104	5	10			0
SO	LOCATI	OMB1D	AREA	-1100	11300	0	SO	SRCPAR	OMB1D	0.000104	5	10			0
MODEL *FAC	OMB1	AREA								0.000416	5	10			0
SO	LOCATI	OMB4	POINT	-1100	11300	0	SO	SRCPAR	OMB4	0.0013	9.1	0	0.01	1	0
SO	LOCATI	OMB5	POINT	-1100	11300	0	SO	SRCPAR	OMB5	0.0013	1	0	0.01	1	0
SO	LOCATI	FH1	POINT	-1100	11300	0	SO	SRCPAR	FH1	0.00009	2	0	0.01	1	0
SO	LOCATI	FH2	POINT	-1100	11300	0	SO	SRCPAR	FH2	0.0025	2	0	0.01	1	0.0025
SO	LOCATI	FH3	POINT	-1100	11300	0	SO	SRCPAR	FH3	0.0025	2	0	0.01	1	0.0025
SO	LOCATI	FH4	POINT	-1100	11300	0	SO	SRCPAR	FH4	0.00009	2	0	0.01	1	0.00009
SO	LOCATI	FH5	POINT	-1100	11300	0	SO	SRCPAR	FH5	0.0025	2	0	0.01	1	0.0025
SO	LOCATI	FH6	POINT	-1100	11300	0	SO	SRCPAR	FH6	0.0025	15	0	0.01	1	0.0025
SO	LOCATI	FH7	POINT	-1100	11300	0	SO	SRCPAR	FH7	0.0025	2	0	0.01	1	0.0025
SO	LOCATI	FH8	POINT	-1100	11300	0	SO	SRCPAR	FH8	0.00009	1	0	0.01	1	0.00009
SO	LOCATI	FH9	POINT	-1100	11300	0	SO	SRCPAR	FH9	0.0025	1	0	0.01	1	0.0025
SO	LOCATI	FH11	POINT	-1100	11300	0	SO	SRCPAR	FH11	0.0126	9.1	0	0.01	1	0.0126
SO	LOCATI	FH12	POINT	-1100	11300	0	SO	SRCPAR	FH12	0.0126	9.1	0	0.01	1	0.0126
SO	LOCATI	FH13	POINT	-1100	11300	0	SO	SRCPAR	FH13	0.0063	2	0	0.01	1	0.0063
SO	LOCATI	FH14	POINT	-1100	11300	0	SO	SRCPAR	FH14	0.0063	1	0	0.01	1	0.0063
SO	LOCATI	FH15	POINT	-1100	11300	0	SO	SRCPAR	FH15	0.0163	9.1	0	0.01	1	0.0163
SO	LOCATI	FH16	POINT	-1100	11300	0	SO	SRCPAR	FH16	0.0126	12.1	0	0.01	1	0.0126
SO	LOCATI	FH17	POINT	-1100	11300	0	SO	SRCPAR	FH17	0.0126	12.1	0	0.01	1	0.0126
SO	LOCATI	FH18	POINT	-1100	11300	0	SO	SRCPAR	FH18	0.0126	15	0	0.01	1	0.0126
SO	LOCATI	FH19	POINT	-1100	11300	0	SO	SRCPAR	FH19	0.0126	15	0	0.01	1	0.0126
SO	LOCATI	FH20	POINT	-1100	11300	0	SO	SRCPAR	FH20	0.0126	15	0	0.01	1	0.0126
SO	LOCATI	FH21	POINT	-1100	11300	0	SO	SRCPAR	FH21	0.0126	15	0	0.01	1	0.0126
		OMB4&5-FH1021								0.148					0.145
															6.98 AVE
MODEL	OMB1	SEE ABOVE								0.0038					0
MODEL	OMB1C1	POINT								0.151	9.1	0	0.01	1	0.145 9.1 0 0.01 1
SO	LOCATI	FH22A	AREA	-1100	11300	0	SO	SRCPAR	FH22A	0.000016	15	60			0
SO	LOCATI	FH22B	AREA	-1100	11300	0	SO	SRCPAR	FH22B	0.000016	15	60			0
SO	LOCATI	FH22C	AREA	-1100	11300	0	SO	SRCPAR	FH22C	0.000016	15	60			0
SO	LOCATI	FH22D	AREA	-1100	11300	0	SO	SRCPAR	FH22D	0.000016	15	60			0
SO	LOCATI	FH23AA	AREA	-1100	11300	0	SO	SRCPAR	FH23AA	0.000024	15	70			0
SO	LOCATI	FH23AB	AREA	-1100	11300	0	SO	SRCPAR	FH23AB	0.000024	15	70			0
SO	LOCATI	FH23B	AREA	-1100	11300	0	SO	SRCPAR	FH23B	0.000033	15	90			0
MODEL *FAC	FH22	AREA								0.000145	15	70			0
SO	LOCATI	FH24	POINT	-1100	11300	0	SO	SRCPAR	FH24	0.0025	1	0	0.01	1	0
SO	LOCATI	FH25	POINT	-1100	11300	0	SO	SRCPAR	FH25	0.0025	1	0	0.01	1	0
SO	LOCATI	FH26	POINT	-1100	11300	0	SO	SRCPAR	FH26	0.0025	1	0	0.01	1	0
SO	LOCATI	FH27	POINT	-1100	11300	0	SO	SRCPAR	FH27	0.0025	1	0	0.01	1	0
SO	LOCATI	FH28	POINT	-1100	11300	0	SO	SRCPAR	FH28	0.0025	1	0	0.01	1	0
SO	LOCATI	FH29	POINT	-1100	11300	0	SO	SRCPAR	FH29	0.0025	1	0	0.01	1	0
SO	LOCATI	FH30	POINT	-1100	11300	0	SO	SRCPAR	FH30	0.0025	1	0	0.01	1	0
SO	LOCATI	FH31	POINT	-1100	11300	0	SO	SRCPAR	FH31	0.0025	1	0	0.01	1	0
SO	LOCATI	FH32	POINT	-1100	11300	0	SO	SRCPAR	FH32	0.0038	6.1	0	0.01	1	0
SO	LOCATI	FH33	POINT	-1100	11300	0	SO	SRCPAR	FH33	0.0038	6.1	0	0.01	1	0
SO	LOCATI	FH34	POINT	-1100	11300	0	SO	SRCPAR	FH34	0.0038	1	0	0.01	1	0
SO	LOCATI	FH35	POINT	-1100	11300	0	SO	SRCPAR	FH35	0.0038	1	0	0.01	1	0
SO	LOCATI	FH36	POINT	-1100	11300	0	SO	SRCPAR	FH36	0.0239	47.3	0	27.62	0.23	0
SO	LOCATI	FH37	POINT	-1100	11300	0	SO	SRCPAR	FH37	0.0239	47.3	0	27.62	0.23	0
SO	LOCATI	FH38	POINT	-1100	11300	0	SO	SRCPAR	FH38	0.0239	47.3	0	27.62	0.23	0
SO	LOCATI	FH39	POINT	-1100	11300	0	SO	SRCPAR	FH39	0.0239	47.3	0	27.62	0.23	0
SO	LOCATI	FH40	POINT	-1100	11300	0	SO	SRCPAR	FH40	0.0239	47.3	0	15.54	0.23	0
SO	LOCATI	FH41	POINT	-1100	11300	0	SO	SRCPAR	FH41	0.0239	47.3	0	27.62	0.23	0
SO	LOCATI	FH42	POINT	-1100	11300	0	SO	SRCPAR	FH42	0.00009	9.1	0	0.01	1	0.00009
SO	LOCATI	FH43	POINT	-1100	11300	0	SO	SRCPAR	FH43	0.00009	9.1	0	0.01	1	0.00009
MODEL	FH24	POINT								0.179	47.3	0	15.54	0.23	0.0018 9.1 0 0.01 1
										0.143	FH26-FH41				0.00000
SO	LOCATI	FH44A	AREA	-1100	11300	0	SO	SRCPAR	FH44A	0.000003	15	60			0
SO	LOCATI	FH44B	AREA	-1100	11300	0	SO	SRCPAR	FH44B	0.000003	15	60			0
SO	LOCATI	FH44C	AREA	-1100	11300	0	SO	SRCPAR	FH44C	0.000003	15	60			0
SO	LOCATI	FH44D	AREA	-1100	11300	0	SO	SRCPAR	FH44D	0.000003	15	60			0
SO	LOCATI	FH45AA	AREA	-1100	11300	0	SO	SRCPAR	FH45AA	0.000003	15	70			0
SO	LOCATI	FH45AB	AREA	-1100	11300	0	SO	SRCPAR	FH45AB	0.000003	15	70			0
SO	LOCATI	FH46B	AREA	-1100	11300	0	SO	SRCPAR	FH46B	0.000003	15	90			0
MODEL	FH44	AREA								0.000021	15	70			0
SO	LOCATI	ALT1	POINT	-1100	11300	0	SO	SRCPAR	ALT1	0.0038	3.1	0	0.01	1	0.0038
SO	LOCATI	ALT2	POINT	-1100	11300	0	SO	SRCPAR	ALT2	0.0025	3.1	0	0.01	1	0.0025

TECO GANNON COAL HANDLING (RELATIVE TO BBTC)

COUNT	OLD NEW	70 7					AAQS					PSD						
			SRCID	SRCTYP	XS	YS	ZS	** POINT	SRCID	QS	HS	TS	VS	DS	QS	HS	TS	VS
						** VOLUME	QS	HS	SYNT	SZINT		QS	HS	SYNT	SZINT			
						** AREA	QS	RH	XINIT	YINIT		QS	RH	XINIT	YINIT			
SO	LOCATI	ALT3	POINT	-1100	11300	0	SO	SRCPAR	ALT3	0.0025	3.1	0	0.01	1	0.0025			
SO	LOCATI	ALT4	POINT	-1100	11300	0	SO	SRCPAR	ALT4	0.0025	3.1	0	0.01	1	0.0025			
SO	LOCATI	ALT5	POINT	-1100	11300	0	SO	SRCPAR	ALT5	0.0025	3.1	0	0.01	1	0.0025			
MODEL			ALT1TOT5	POINT						0.0138	3.1	0	0.01	1	0.0138	0	0.01	1

APPENDIX G

BPIP INPUT AND OUTPUT FILES

'BPIP Future, Cargill Riverview, WRT NO. 9 SAP W/NEW AFI 5/4/2001'

'ST'
'FEET' .3048
'UTMN' 0.00
19

'PHOSSOTH BLD' 1 0.0
4 100
-1225 990
-1225 1085
-1165 1085
-1165 990

'PHOSNRTH BLD' 1 0.0
4 100
-1260 910
-1260 990
-1170 990
-1170 910

'5/9DRYROCK BLD' 1 0.0
4 35
-1641 443
-1641 518
-1594 518
-1594 443

'AFI Bld' 1 0.0
4 173
-1245 453
-1175 453
-1175 333
-1245 333

'AFPLOAD' 1 0.0
4 100
-742 462
-1016 462
-1016 499
-742 499

'NO.6 BLD' 1 0.0
4 74
-1890 -310
-2680 -310
-2680 -430
-1890 -430

'NO.5 BLD' 1 0.0
4 54.7
-1890 -170
-2680 -170
-2680 -280
-1890 -280

'NO.4 BLD' 1 0.0
4 54.7
-1850 20
-2680 20
-2680 -80
-1850 -80

'NO.2 BLD' 1 0.0
4 62.0
-1850 160
-2680 160
-2680 60
-1850 60

'NO.2TOP BLD' 1 0.0
4 70.1
-1850 160
-2260 160
-2260 280
-1850 280

'GTSP BLD' 1 0.0
4 127
-1700 150
-1850 150
-1850 60
-1700 60

'AUXBLR BLD' 1 0.0
4 18
30 -210
-20 -210
-20 -290
30 -290

'DAP5A BLD' 1 0.0

4 86.5

-1730 -380
-1890 -380
-1890 -430
-1730 -430

'DAP5B BLD' 1 0.0

4 126.5

-1730 -380
-1780 -380
-1780 -430
-1730 -430

'MAP3/4 BLD' 1 0.0

4 90.

-1800 -180
-1890 -180
-1890 -280
-1800 -280

'EMATA BLD' 1 0.0

4 30.

-1000 -1610
-974 -1625
-989 -1651
-1015 -1636

'EMATB BLD' 1 0.0

4 50.

-1000 -1610
-815 -1290
-789 -1305
-974 -1625

'8/9 BLD' 1 0.0

4 75

-1022 -1300
-1073 -1270
-1061 -1245
-1010 -1275

'NEW AFI' 1 0.0

4 147

-1410 890
-1410 980
-1350 980
-1350 890

32

'AFIGRN2'	0.0	155	-1415	420
'COOLEQ2'	0.0	154	-1365	450
'AFIDFS'	0.0	35	-1230	490
'AFIGRAN'	0.0	136	-1230	460
'AFIPRLB'	0.0	20	-860	528
'BLT78BH'	0.0	45	-1890	-580
'BLT89BH'	0.0	75	-1030	-1290
'COOLEQB'	0.0	85	-1110	446
'DAPNO5'	0.0	133	-1744	-380
'DEHOPPB'	0.0	64	-1840	760
'EPPGRKH'	0.0	87	-1880	50
'EPPMSTK'	0.0	28.6	-1730	20
'EPPPLMT'	0.0	126	-1730	50
'EPPTLST'	0.0	38	-2450	30
'GRKSILO'	0.0	67	-1640	526
'LIMESIB'	0.0	85	-1090	540
'MAPNO34'	0.0	133	-1800	-170
'MHBLDG6'	0.0	30	-1890	-450
'MHSOUTB'	0.0	50	-1030	-1650
'MHTWREB'	0.0	30	-910	-1500
'MHWESTB'	0.0	30	-950	-1480
'MSTKL'	0.0	33	-630	-460
'NO7SAP'	0.0	150	-60	-460
'NO8SAP'	0.0	150	340	-90
'NO9SAP'	0.0	150	0	0
'PAPDORR'	0.0	110	-1070	1110
'PAPF12'	0.0	110	-1200	1120
'PAPF3'	0.0	115	-1350	984
'PAPPRAY'	0.0	110	-1140	940
'RKMLNO5'	0.0	91	-1620	510
'RKMLNO7'	0.0	91	-1638	486
'RKMLNO9'	0.0	91	-1630	460

0

BPIP (Dated: 95086)

DATE : 05/04/01

TIME : 18:31:29

BPIP Future, Cargill Riverview, WRT NO. 9 SAP W/NEW AFI 5/4/2001

 =====
 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 Future, Cargill Riverview, WRT NO. 9 SAP W/NEW AFI 4/25/2001

 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
AFIGNR2	47.24	0.00	116.14	116.14
COOLEQ2	46.94	0.00	116.25	116.25
AFIDFS	10.67	0.00	116.11	116.11
AFIGRAN	41.45	0.00	116.25	116.25
AFIPRLB	6.10	0.00	116.25	116.25
BLT7BBH	13.72	0.00	70.89	70.89
BLT89BH	22.86	0.00	53.69	65.00
COOLEQB	25.91	0.00	116.25	116.25
DAPN05	40.54	0.00	96.77	96.77
DEHOPPB	19.51	0.00	116.25	116.25
EPPGRKH	26.52	0.00	96.77	96.77
EPPMSTK	8.72	0.00	116.25	116.25
EPPPLNT	38.40	0.00	116.25	116.25
EPPTLST	11.58	0.00	56.39	65.00
GRKSILO	20.42	0.00	116.07	116.07
LIMESIB	25.91	0.00	116.25	116.25
MAPN034	40.54	0.00	96.77	96.77
MHBLDG6	9.14	0.00	96.77	96.77
MHSOUTB	15.24	0.00	38.10	65.00
MHTWREB	9.14	0.00	48.24	65.00
MHWESTB	9.14	0.00	49.83	65.00
MSTKL	10.06	N/A	0.00	65.00
NO7SAP	45.72	N/A	0.00	65.00
NOBSAP	45.72	N/A	0.00	65.00
NO9SAP	45.72	N/A	0.00	65.00
PAPDORR	33.53	0.00	94.26	94.26
PAPF12	33.53	0.00	94.26	94.26
PAPF3	35.05	0.00	94.26	94.26
PAPPRAY	33.53	0.00	91.15	91.15
RKMLN05	27.74	0.00	116.00	116.00
RKMLN07	27.74	0.00	115.46	115.46
RKMLN09	27.74	0.00	114.86	114.86

* 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 : 05/04/01
 TIME : 18:31:29

BPIP Future, Cargill Riverview, WRT NO. 9 SAP W/NEW AFI 4/25/2001

BPIP output is in meters

SO BUILDHGT AFIGRN2	0.00	0.00	0.00	38.71	38.71	52.73
SO BUILDHGT AFIGRN2	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIGRN2	52.73	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT AFIGRN2	30.48	30.48	30.48	0.00	0.00	52.73
SO BUILDHGT AFIGRN2	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIGRN2	52.73	0.00	0.00	0.00	0.00	0.00
SO BUILDWID AFIGRN2	0.00	0.00	0.00	52.66	50.40	42.28
SO BUILDWID AFIGRN2	41.67	39.73	36.58	39.73	41.67	42.28
SO BUILDWID AFIGRN2	41.73	0.00	0.00	0.00	0.00	0.00
SO BUILDWID AFIGRN2	75.75	76.04	74.02	0.00	0.00	42.28
SO BUILDWID AFIGRN2	41.67	39.73	36.58	39.73	41.67	42.28
SO BUILDWID AFIGRN2	41.73	0.00	0.00	0.00	0.00	0.00

SO BUILDHGT COOLEQ2	0.00	0.00	0.00	38.71	38.71	52.73
SO BUILDHGT COOLEQ2	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT COOLEQ2	52.73	52.73	52.73	0.00	30.48	0.00
SO BUILDHGT COOLEQ2	30.48	30.48	0.00	0.00	0.00	52.73
SO BUILDHGT COOLEQ2	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT COOLEQ2	52.73	52.73	52.73	0.00	0.00	0.00
SO BUILDWID COOLEQ2	0.00	0.00	0.00	52.66	50.40	42.34
SO BUILDWID COOLEQ2	41.67	39.73	36.58	39.73	41.67	42.34
SO BUILDWID COOLEQ2	41.73	39.85	36.77	0.00	77.33	0.00
SO BUILDWID COOLEQ2	31.25	34.12	0.00	0.00	0.00	42.34
SO BUILDWID COOLEQ2	41.67	39.73	36.58	39.73	41.67	42.34
SO BUILDWID COOLEQ2	41.73	39.85	36.77	0.00	0.00	0.00

SO BUILDHGT AFIDFS	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIDFS	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIDFS	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIDFS	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIDFS	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIDFS	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDWID AFIDFS	27.36	32.56	36.77	39.85	41.73	42.25
SO BUILDWID AFIDFS	41.67	39.73	36.58	39.73	41.67	42.25
SO BUILDWID AFIDFS	41.73	39.85	36.77	32.56	27.36	21.34
SO BUILDWID AFIDFS	27.36	32.56	36.77	39.85	41.73	42.25
SO BUILDWID AFIDFS	41.67	39.73	36.58	39.73	41.67	42.25
SO BUILDWID AFIDFS	41.73	39.85	36.77	32.56	27.36	21.34

SO BUILDHGT AFIGRAN	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIGRAN	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIGRAN	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIGRAN	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIGRAN	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT AFIGRAN	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDWID AFIGRAN	27.36	32.56	36.77	39.85	41.73	42.34
SO BUILDWID AFIGRAN	41.67	39.73	36.58	39.73	41.67	42.34
SO BUILDWID AFIGRAN	41.73	39.85	36.77	32.56	27.36	21.34
SO BUILDWID AFIGRAN	27.36	32.56	36.77	39.85	41.73	42.34
SO BUILDWID AFIGRAN	41.67	39.73	36.58	39.73	41.67	42.34
SO BUILDWID AFIGRAN	41.73	39.85	36.77	32.56	27.36	21.34

SO BUILDHGT AFIPRLB	30.48	30.48	30.48	30.48	52.73	52.73
SO BUILDHGT AFIPRLB	52.73	52.73	0.00	30.48	30.48	30.48
SO BUILDHGT AFIPRLB	30.48	30.48	30.48	30.48	30.48	30.48
SO BUILDHGT AFIPRLB	30.48	30.48	30.48	30.48	30.48	30.48
SO BUILDHGT AFIPRLB	30.48	30.48	0.00	30.48	30.48	30.48
SO BUILDHGT AFIPRLB	30.48	30.48	30.48	30.48	30.48	30.48

SO BUILDWID AFIPRLB	84.20	82.34	77.97	71.23	41.73	42.34
SO BUILDWID AFIPRLB	41.67	39.73	0.00	25.61	39.16	51.52
SO BUILDWID AFIPRLB	36.31	36.69	35.95	82.34	84.20	83.52
SO BUILDWID AFIPRLB	84.20	82.34	77.97	71.23	62.32	51.52
SO BUILDWID AFIPRLB	39.16	25.61	0.00	25.61	39.16	51.52
SO BUILDWID AFIPRLB	62.32	71.23	77.97	82.34	84.20	83.52

SO BUILDHGT BLT78BH	26.37	26.37	26.37	26.37	26.37	0.00
SO BUILDHGT BLT78BH	0.00	0.00	0.00	22.56	22.56	22.56
SO BUILDHGT BLT78BH	22.56	22.56	22.56	22.56	26.37	27.43
SO BUILDHGT BLT78BH	27.43	27.43	38.56	38.56	38.56	0.00
SO BUILDHGT BLT78BH	0.00	0.00	0.00	22.56	22.56	22.56
SO BUILDHGT BLT78BH	22.56	22.56	22.56	22.56	26.37	26.37
SO BUILDWID BLT78BH	50.67	51.04	49.85	47.15	43.02	0.00
SO BUILDWID BLT78BH	0.00	0.00	0.00	77.83	116.73	152.07
SO BUILDWID BLT78BH	182.80	207.97	226.82	238.78	50.67	27.43
SO BUILDWID BLT78BH	32.31	36.20	20.82	21.47	21.47	0.00
SO BUILDWID BLT78BH	0.00	0.00	0.00	77.83	116.73	152.07
SO BUILDWID BLT78BH	182.80	207.97	226.82	238.78	50.67	48.77

SO BUILDHGT BLT89BH	22.86	22.86	22.86	22.86	22.86	22.86
SO BUILDHGT BLT89BH	22.86	22.86	22.86	22.86	22.86	22.86
SO BUILDHGT BLT89BH	22.86	22.86	22.86	22.86	22.86	22.86
SO BUILDHGT BLT89BH	22.86	22.86	22.86	22.86	22.86	22.86
SO BUILDHGT BLT89BH	22.86	22.86	22.86	22.86	22.86	15.24
SO BUILDHGT BLT89BH	22.86	22.86	22.86	22.86	22.86	22.86
SO BUILDWID BLT89BH	19.18	18.57	18.68	19.88	20.48	20.46
SO BUILDWID BLT89BH	19.82	18.57	16.76	14.45	11.69	8.57
SO BUILDWID BLT89BH	11.18	13.73	15.87	17.52	18.65	19.20
SO BUILDWID BLT89BH	19.18	18.57	18.68	19.88	20.48	20.46
SO BUILDWID BLT89BH	19.82	18.57	16.76	14.45	11.69	112.67
SO BUILDWID BLT89BH	11.18	13.73	15.87	17.52	18.65	19.20

SO BUILDHGT COOLEQB	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT COOLEQB	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT COOLEQB	52.73	52.73	52.73	30.48	30.48	0.00
SO BUILDHGT COOLEQB	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT COOLEQB	52.73	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT COOLEQB	52.73	52.73	52.73	0.00	0.00	0.00
SO BUILDWID COOLEQB	27.36	32.56	36.77	39.85	41.73	42.34
SO BUILDWID COOLEQB	41.67	39.73	36.58	39.73	41.67	42.34
SO BUILDWID COOLEQB	41.73	39.85	36.77	34.12	31.25	0.00
SO BUILDWID COOLEQB	27.36	32.56	36.77	39.85	41.73	42.34
SO BUILDWID COOLEQB	41.67	39.73	36.58	39.73	41.67	42.34
SO BUILDWID COOLEQB	41.73	39.85	36.77	0.00	0.00	0.00

SO BUILDHGT DAPN05	26.37	38.56	38.56	38.56	38.56	38.56
SO BUILDHGT DAPN05	38.56	38.56	38.56	38.56	27.43	38.56
SO BUILDHGT DAPN05	38.56	38.56	38.56	38.71	38.71	38.71
SO BUILDHGT DAPN05	38.71	38.56	38.56	38.56	38.56	38.56
SO BUILDHGT DAPN05	38.56	38.56	38.56	38.56	27.43	38.56
SO BUILDHGT DAPN05	38.56	38.56	38.56	27.43	27.43	26.37
SO BUILDWID DAPN05	50.67	19.53	20.82	21.47	21.47	20.82
SO BUILDWID DAPN05	19.53	17.65	15.24	17.65	38.02	20.82
SO BUILDWID DAPN05	21.47	21.47	20.82	52.35	49.79	45.72
SO BUILDWID DAPN05	49.79	19.53	20.82	21.47	21.47	20.82
SO BUILDWID DAPN05	19.53	17.65	15.24	17.65	38.02	20.82
SO BUILDWID DAPN05	21.47	21.47	20.82	36.20	32.31	48.77

SO BUILDHGT DEHOPP	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT DEHOPP	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT DEHOPP	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT DEHOPP	0.00	0.00	0.00	0.00	0.00	44.81
SO BUILDHGT DEHOPP	44.81	44.81	0.00	0.00	52.73	52.73
SO BUILDHGT DEHOPP	52.73	0.00	0.00	0.00	38.71	38.71
SO BUILDWID DEHOPP	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID DEHOPP	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID DEHOPP	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID DEHOPP	0.00	0.00	0.00	0.00	0.00	32.90
SO BUILDWID DEHOPP	32.03	30.19	0.00	0.00	41.67	42.34
SO BUILDWID DEHOPP	41.73	0.00	0.00	0.00	49.79	45.72

SO BUILDHGT EPPGRKH	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPGRKH	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPGRKH	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPGRKH	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPGRKH	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPGRKH	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDWID EPPGRKH	49.79	52.35	53.31	52.66	50.40	46.62
SO BUILDWID EPPGRKH	41.41	34.95	27.43	34.95	41.41	46.62
SO BUILDWID EPPGRKH	50.40	52.66	53.31	52.35	49.79	45.72
SO BUILDWID EPPGRKH	49.79	52.35	53.31	52.66	50.40	46.62
SO BUILDWID EPPGRKH	41.41	34.95	27.43	34.95	41.41	46.62
SO BUILDWID EPPGRKH	50.40	52.66	53.31	52.35	49.79	45.72

SO BUILDHGT EPPMSTK	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPMSTK	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPMSTK	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPMSTK	38.71	38.71	38.71	38.71	52.73	52.73
SO BUILDHGT EPPMSTK	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPMSTK	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDWID EPPMSTK	49.79	52.35	53.31	52.66	50.40	46.62
SO BUILDWID EPPMSTK	41.41	34.95	27.43	34.95	41.41	46.62
SO BUILDWID EPPMSTK	50.40	52.66	53.31	52.35	49.79	45.72
SO BUILDWID EPPMSTK	49.79	52.35	53.31	52.66	41.73	42.34
SO BUILDWID EPPMSTK	41.41	34.95	27.43	34.95	41.41	46.62
SO BUILDWID EPPMSTK	50.40	52.66	53.31	52.35	49.79	45.72

SO BUILDHGT EPPPLNT	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPPLNT	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPPLNT	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPPLNT	38.71	38.71	38.71	38.71	52.73	52.73
SO BUILDHGT EPPPLNT	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDHGT EPPPLNT	38.71	38.71	38.71	38.71	38.71	38.71
SO BUILDWID EPPPLNT	49.79	52.35	53.31	52.66	50.40	46.62
SO BUILDWID EPPPLNT	41.41	34.95	27.43	34.95	41.41	46.62
SO BUILDWID EPPPLNT	50.40	52.66	53.31	52.35	49.79	45.72
SO BUILDWID EPPPLNT	49.79	52.35	53.31	52.66	41.73	42.34
SO BUILDWID EPPPLNT	41.41	34.95	27.43	34.95	41.41	46.62
SO BUILDWID EPPPLNT	50.40	52.66	53.31	52.35	49.79	45.72

SO BUILDHGT EPPTLST	22.56	22.56	22.56	18.90	18.90	18.90
SO BUILDHGT EPPTLST	18.90	18.90	18.90	18.90	22.56	22.56
SO BUILDHGT EPPTLST	22.56	22.56	18.90	18.90	18.90	18.90
SO BUILDHGT EPPTLST	22.56	22.56	22.56	21.37	21.37	21.37
SO BUILDHGT EPPTLST	21.37	21.37	21.37	18.90	22.56	22.56
SO BUILDHGT EPPTLST	22.56	22.56	22.56	22.56	22.56	22.56
SO BUILDWID EPPTLST	243.49	238.78	226.82	213.39	185.96	152.89
SO BUILDWID EPPTLST	115.17	73.95	30.48	73.95	163.34	152.07
SO BUILDWID EPPTLST	182.80	207.97	234.33	248.15	254.43	252.98
SO BUILDWID EPPTLST	262.56	238.78	226.82	119.24	108.35	94.16
SO BUILDWID EPPTLST	77.11	57.72	67.06	73.95	163.34	152.07
SO BUILDWID EPPTLST	182.80	207.97	226.82	238.78	243.49	240.79

SO BUILDHGT GRKSILO	38.71	38.71	38.71	21.37	21.37	21.37
SO BUILDHGT GRKSILO	21.37	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT GRKSILO	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT GRKSILO	10.67	10.67	44.81	44.81	30.48	10.67
SO BUILDHGT GRKSILO	10.67	10.67	10.67	52.73	52.73	52.73
SO BUILDHGT GRKSILO	10.67	10.67	10.67	10.67	10.67	38.71
SO BUILDWID GRKSILO	49.79	52.35	53.31	119.24	108.35	94.16
SO BUILDWID GRKSILO	77.11	25.00	22.86	25.00	26.38	26.96
SO BUILDWID GRKSILO	26.72	25.67	23.84	21.28	18.08	14.33
SO BUILDWID GRKSILO	18.08	21.28	29.55	31.64	63.37	26.96
SO BUILDWID GRKSILO	26.38	25.00	22.86	39.73	41.67	42.23
SO BUILDWID GRKSILO	26.72	25.67	23.84	21.28	18.08	45.72

SO BUILDHGT LIMESIB	0.00	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT LIMESIB	52.73	52.73	0.00	30.48	30.48	30.48
SO BUILDHGT LIMESIB	30.48	44.81	44.81	30.48	30.48	0.00
SO BUILDHGT LIMESIB	0.00	52.73	52.73	52.73	52.73	52.73
SO BUILDHGT LIMESIB	52.73	52.73	0.00	30.48	30.48	30.48
SO BUILDHGT LIMESIB	30.48	30.48	30.48	30.48	0.00	0.00

SO BUILDWID LIMESIB	0.00	32.56	36.77	39.85	41.73	42.34
SO BUILDWID LIMESIB	41.67	39.73	0.00	25.61	39.16	51.52
SO BUILDWID LIMESIB	62.32	31.64	29.55	34.12	31.25	0.00
SO BUILDWID LIMESIB	0.00	32.56	36.77	39.85	41.73	42.34
SO BUILDWID LIMESIB	41.67	39.73	0.00	25.61	39.16	51.52
SO BUILDWID LIMESIB	62.32	71.23	77.97	82.34	0.00	0.00

SO BUILDHGT MAPNO34	38.71	38.71	38.71	27.43	27.43	27.43
SO BUILDHGT MAPNO34	27.43	27.43	27.43	27.43	27.43	27.43
SO BUILDHGT MAPNO34	27.43	27.43	27.43	38.71	38.71	38.71
SO BUILDHGT MAPNO34	38.71	38.71	38.71	27.43	27.43	27.43
SO BUILDHGT MAPNO34	27.43	27.43	27.43	27.43	27.43	27.43
SO BUILDHGT MAPNO34	27.43	27.43	27.43	38.71	38.71	38.71
SO BUILDWID MAPNO34	49.79	52.35	53.31	40.61	40.98	40.11
SO BUILDWID MAPNO34	38.02	34.78	30.48	34.78	38.02	40.11
SO BUILDWID MAPNO34	40.98	40.61	39.00	52.35	49.79	45.72
SO BUILDWID MAPNO34	49.79	52.35	53.31	40.61	40.98	40.11
SO BUILDWID MAPNO34	38.02	34.78	30.48	34.78	38.02	40.11
SO BUILDWID MAPNO34	40.98	40.61	39.00	52.35	49.79	45.72

SO BUILDHGT MHBLDG6	27.43	27.43	27.43	27.43	38.56	38.56
SO BUILDHGT MHBLDG6	38.56	38.56	22.56	26.37	26.37	26.37
SO BUILDHGT MHBLDG6	26.37	26.37	26.37	26.37	27.43	38.71
SO BUILDHGT MHBLDG6	38.71	38.71	27.43	27.43	38.56	38.56
SO BUILDHGT MHBLDG6	38.56	38.56	38.56	26.37	26.37	26.37
SO BUILDHGT MHBLDG6	26.37	26.37	26.37	26.37	27.43	27.43
SO BUILDWID MHBLDG6	32.31	36.20	39.00	40.61	21.47	20.82
SO BUILDWID MHBLDG6	19.53	17.65	36.58	23.48	31.00	37.58
SO BUILDWID MHBLDG6	43.02	47.15	49.85	51.04	32.31	45.72
SO BUILDWID MHBLDG6	49.79	52.35	39.00	40.61	21.47	20.82
SO BUILDWID MHBLDG6	19.53	17.65	15.24	23.48	31.00	37.58
SO BUILDWID MHBLDG6	43.02	47.15	49.85	51.04	32.31	27.43

SO BUILDHGT MHSOUTB	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT MHSOUTB	15.24	15.24	15.24	9.14	9.14	0.00
SO BUILDHGT MHSOUTB	0.00	0.00	0.00	0.00	0.00	9.14
SO BUILDHGT MHSOUTB	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT MHSOUTB	15.24	15.24	15.24	9.14	9.14	0.00
SO BUILDHGT MHSOUTB	0.00	0.00	0.00	0.00	0.00	9.14
SO BUILDWID MHSOUTB	47.19	28.64	9.21	28.51	47.07	64.20
SO BUILDWID MHSOUTB	79.37	92.14	102.11	11.72	10.60	0.00
SO BUILDWID MHSOUTB	0.00	0.00	0.00	0.00	0.00	12.50
SO BUILDWID MHSOUTB	47.19	28.64	9.21	28.51	47.07	64.20
SO BUILDWID MHSOUTB	79.37	92.14	102.11	11.72	10.60	0.00
SO BUILDWID MHSOUTB	0.00	0.00	0.00	0.00	0.00	12.50

SO BUILDHGT MHTWREB	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT MHTWREB	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT MHTWREB	15.24	15.24	22.86	22.86	15.24	15.24
SO BUILDHGT MHTWREB	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT MHTWREB	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT MHTWREB	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDWID MHTWREB	47.19	28.64	9.21	28.51	47.07	64.20
SO BUILDWID MHTWREB	79.37	92.14	102.11	108.97	112.53	112.67
SO BUILDWID MHTWREB	112.55	109.02	15.87	16.92	79.48	64.31
SO BUILDWID MHTWREB	47.19	28.64	9.21	28.51	47.07	64.20
SO BUILDWID MHTWREB	79.37	92.14	102.11	108.97	112.53	112.67
SO BUILDWID MHTWREB	112.55	109.02	102.18	92.23	79.48	64.31

SO BUILDHGT MHWESTB	15.24	15.24	0.00	15.24	15.24	15.24
SO BUILDHGT MHWESTB	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT MHWESTB	15.24	15.24	22.86	22.86	22.86	15.24
SO BUILDHGT MHWESTB	15.24	15.24	0.00	15.24	15.24	15.24
SO BUILDHGT MHWESTB	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT MHWESTB	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDWID MHWESTB	47.19	28.64	0.00	28.51	47.07	64.20
SO BUILDWID MHWESTB	79.37	92.14	102.11	108.97	112.53	112.67
SO BUILDWID MHWESTB	112.55	109.02	15.87	17.52	17.98	64.31
SO BUILDWID MHWESTB	47.19	28.64	0.00	28.51	47.07	64.20
SO BUILDWID MHWESTB	79.37	92.14	102.11	108.97	112.53	112.67
SO BUILDWID MHWESTB	112.55	109.02	102.18	92.23	79.48	64.31

'BPIP Baseline for NOX, Cargill Riverview Origin NO. 9 SAP 5/14/01'

'ST'

'FEET' .3048

'UTMN' 0.00

14

'PHOSSOTH BLD' 1 0.0

4 100

-1225 990

-1225 1085

-1165 1085

-1165 990

'PHOSNRTH BLD' 1 0.0

4 100

-1260 910

-1260 990

-1170 990

-1170 910

'5/9DRYROCK BLD' 1 0.0

4 35

-1641 443

-1641 518

-1594 518

-1594 443

'NO.6 BLD' 1 0.0

4 74

-1890 -310

-2680 -310

-2680 -430

-1890 -430

'NO.5 BLD' 1 0.0

4 54.7

-1890 -170

-2680 -170

-2680 -280

-1890 -280

'NO.4 BLD' 1 0.0

4 54.7

-1850 20

-2680 20

-2680 -80

-1850 -80

'NO.2 BLD' 1 0.0

4 62.0

-1850 160

-2680 160

-2680 60

-1850 60

'NO.2TOP BLD' 1 0.0

4 70.1

-1850 160

-2260 160

-2260 280

-1850 280

'GTSP BLD' 1 0.0

4 127

-1700 150

-1850 150

-1850 60

-1700 60

'AUXBLR BLD' 1 0.0

4 18

30 -210

-20 -210

-20 -290

30 -290

'MAP3/4 BLD' 1 0.0

4 90.

-1800 -180

-1890 -180

-1890 -280

-1800 -280

'WMAT BLD' 1 0.0

4 30.

-1140 -1500

-975 -1214

-902 -1257

-1067 -1543

'EMATA BLD' 1 0.0

4 30.
-1000 -1610
-974 -1625
-989 -1651
-1015 -1636

'EMATB BLD' 1 0.0

4 50.
-1000 -1610
-815 -1290
-789 -1305
-974 -1625

9

'MAP34CB'	0.0	27.4	-549	-52
'NO5DAPB'	0.0	40.5	-532	-116
'AUXSTB'	0.0	6.1	17	-55
'SSFSPB'	0.0	12.2	-412	17
'RKGRNDB'	0.0	18.3	-495	148
'GTSPAPB'	0.0	38.4	-527	15
'NO9SAPB'	0.0	45.7	0	0
'NO8SAPB'	0.0	45.7	104	-27
'NO7SAPB'	0.0	45.7	-18	-140

0

BPIP (Dated: 95086)

DATE : 05/14/01
 TIME : 13:25:33
 BPIP Baseline for NOX, Cargill Riverview Origin NO. 9 SAP 5/14/01

=====
 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 Baseline for NOX, Cargill Riverview Origin NO. 9 SAP 5/14/01

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
MAP34CB	8.35	N/A	0.00	65.00
NO5DAPB	12.34	N/A	0.00	65.00
AUXSTB	1.86	N/A	0.00	65.00
SSFSFPB	3.72	N/A	0.00	65.00
RKGRNDB	5.58	N/A	0.00	65.00
GTSPAPB	11.70	N/A	0.00	65.00
NO9SAPB	13.93	N/A	0.00	65.00
NO8SAPB	13.93	N/A	0.00	65.00
NO7SAPB	13.93	0.00	13.72	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 : 05/14/01
 TIME : 13:25:33

BPIP Baseline for NOX, Cargill Riverview Origin NO. 9 SAP 5/14/01

BPIP output is in meters

SO BUILDHGT MAP34CB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT MAP34CB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT MAP34CB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT MAP34CB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT MAP34CB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT MAP34CB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID MAP34CB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID MAP34CB	0.00	0.00	0.00	0.00	0.00	0.00

SO BUILDHGT NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO9SAPB	0.00	0.00	0.00	0.00	0.00	0.00

SO BUILDHGT NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO8SAPB	0.00	0.00	0.00	0.00	0.00	0.00

SO BUILDHGT NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDHGT NO7SAPB	0.00	5.49	5.49	5.49	5.49	5.49
SO BUILDWID NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO7SAPB	0.00	0.00	0.00	0.00	0.00	0.00
SO BUILDWID NO7SAPB	0.00	27.35	25.39	22.66	19.24	15.24

APPENDIX H

**TRUCK TRAFFIC VOLUME SOURCE DESCRIPTION,
CALCULATIONS, AND PLOT**

Fugitive particulate emissions from the truck traffic on paved roads at Cargill, Riverview were estimated based on Equation 1 of Section 13.2.1 of AP-42 (October 1997), as follows:

$$E = k (sL/2)^{0.65} (W/3)^{1.5}$$

Where:

- E = particulate emission factor [pounds per vehicle mile traveled (VMT)]
- k = base emission factor for particle size range and units of interest
- sL = road surface loading (grams per square meter)
- W = average weight (tons) of vehicles traveling the road

For calculation of future potential emissions,

- k = 0.016 lb/VMT (from Table 13.2-1.1 for PM₁₀ in units of lb/VMT)
- sL = 1.0 g/m²
- W = Calculated as the average weight (average of loaded and unloaded) of each type of truck.

At the request of the state agency for similar projects, a silt loading factor of 1.0 g/m² was selected for Cargill roads.

The assumptions made in estimating the emission factors and calculations of the PM and PM₁₀ emissions for all truck types are presented in Tables H-1a and H-1b. The increase in emissions due to the change from current to future potential emissions are presented in Table H-1a. The future potential emissions are presented in Table H-1b.

As an example, the emission factor, EF, for the limestone unloading trucks is calculated as follows:

$$EF = 0.016 (1.0/2)^{0.65} (25.7/3)^{1.5} = 0.25 \text{ lb/VMT}$$

The annual number of vehicle miles traveled is calculated using the following information:

Length of the haul road (roundtrip) for limestone unloading trucks (see Table H-3 for all truck types) = 1.18 miles

Project increase annual number of limestone unloading trucks = 4,337 Vehicles/yr

VMT = roundtrip length of the haul road x number of vehicles

$$= 1.18 \text{ miles} \times 4,337 \text{ vehicles/yr}$$

$$= 5,117 \text{ miles/yr}$$

Annual potential PM₁₀ emission rate for limestone unloading trucks is calculated as follows:

Uncontrolled PM₁₀ Emissions (TPY) = E x VMT

$$= 0.25 \text{ lb/VMT} \times 5,117 \text{ miles} / 2000 \text{ lb/ton}$$

$$= 0.64 \text{ TPY}$$

The basis for developing the volume source information for the ISCST model are presented in Tables H-2 through H-5. The volume source data used in the ISCST model are presented in Table H-6. A plot of the volume source locations in relation to Cargill's property boundary is presented in Figure H-1.

Table H-1a. Estimation of Increase in PM/PM₁₀ Emissions Due to Truck Traffic on Paved Roads
Cargill Fertilizer, Riverview FL

Parameters	AFITRK	LIMETRK	GTSPTRK	MAPTRK	DAPTRK	FUELTRK	COATSTK	COATNTRK
General Data	AFI Loading Truck	Limestone Unloading Truck	GTSP Loading Truck	MAP Loading Truck	DAP Truck Loading	Fuel Oil Unloading Truck	Coating Oil Unloading Truck (South)	Coating Oil Unloading Truck (North)
Vehicle Data								
Vehicle weight (W), tons- Loaded	39	39	38	39	39	39	39	39
- Unloaded	13	12	15	15	15	15	15	15
- Average	26.0	25.7	26.5	26.8	26.8	26.8	26.8	26.8
Basis for vehicle miles travelled (VMT)								
1. Actual Number of vehicles 1999- Daily	3	15	4	2	2	2	2	2
- 1999 Annual	730	2,277	291	77	9	365	365	365
Actual Number of Vehicles 2000 - Daily	6	17	5	2	2	2	2	2
- 2000 Annual	730	3,650	544	69	8	365	365	365
Maximum Potential No. of Vehicles - Daily	7	34	5	2	2	2	2	2
- Maximum Annual	730	7,300	544	77	9	365	365	365
Project Increase No. of Vehicles - Daily	3	18	1	0	0	0	0	0
- Annual	0	4,337	127	4	1	0	0	0
2. Miles Travelled/Vehicle (Round-trip)	1.17	1.18	1.78	2.12	2.04	1.01	1.33	1.18
3. Vehicle Miles Travelled (VMT)- 1999 Daily	4	18	7	4	4	2	3	2
- 1999 Annual	854	2,687	519	163	18	369	485	431
Vehicle Miles Travelled - 2000 Daily	7	20	9	4	4	2	3	2
- 2000 Annual	854	4,307	968	146	16	369	485	431
Maximum Vehicle Miles Travelled - 2000 Daily	8	40	9	4	4	2	3	2
- Maximum Annual	854	8,614	968	163	18	369	485	431
Project Increase VMT - Daily	3	21	1	0	0	0	0	0
- Annual	0	5,117	225	8	1	0	0	0
General/ Site Characteristics								
Road surface silt loading (sL), g/m ²	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Particle size multiplier, PM30 (or TSP) (k)	0.082	0.082	0.082	0.082	0.082	0.082	0.082	0.082
Particle size multiplier, PM10 (k)	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016
Emission Control Data								
Emission control method	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed
Emission control removal efficiency, %	0	0	0	0	0	0	0	0
Emission Factor (EF) Equation								
Uncontrolled EF (UEF) Equation	UEF (lb/VMT) = k x (sL/2) ^{0.65} x (W/3) ^{1.5}							
Controlled EF (CEF) Equation	CEF (lb/VMT) = UEF (lb/ton) x (100 - Removal efficiency (%))							
Calculated PM Emission Factor (EF)								
Uncontrolled EF, lb/VMT (daily ave.)	1.3364	1.3078	1.3721	1.3953	1.3953	1.3953	1.3953	1.3953
Controlled (Final) EF, lb/VMT	1.3364	1.3078	1.3721	1.3953	1.3953	1.3953	1.3953	1.3953
Calculated PM10 Emission Factor (EF)								
Uncontrolled EF, lb/VMT (daily ave.)	0.2608	0.2552	0.2677	0.2722	0.2722	0.2722	0.2722	0.2722
Controlled (Final) EF, lb/VMT	0.2608	0.2552	0.2677	0.2722	0.2722	0.2722	0.2722	0.2722
Estimated Emission Rate (ER)								
PM ER, lb/hr	0.1629	1.1574	0.0509	0.0000	0.0000	0.0000	0.0000	0.0000
TPY	0.0000	3.3459	0.1543	0.0059	0.0007	0.0000	0.0000	0.0000
PM10 ER, lb/hr	0.0318	0.2258	0.0099	0.0000	0.0000	0.0000	0.0000	0.0000
TPY	0.0000	0.6529	0.0301	0.0012	0.0001	0.0000	0.0000	0.0000

Source: Compilation of Air Pollutant Emission Factors, AP-42, Section 13.2.1, Paved Roads, EPA, October, 1997.

Table H-1a. Estimation of Increase in PM/PM₁₀ Emissions Due to Truck Traffic on Paved Roads
Cargill Fertilizer, Riverview FL

Parameters	SODITRK	FSATRK	SULFTRK	H2SO4TK	MSULFTK			
General Data	Sodium Loading Truck	FSA/PFB Loading Truck	Sulfur Unloading Truck	Sulfuric Acid Loading Truck	Molten Sulfur Truck Loading			
Vehicle Data								
Vehicle weight (W), tons- Loaded	39	39	39	39	39			
- Unloaded	15	15	14	13	14			
- Average	26.8	26.8	26.2	25.8	26.2			
Basis for vehicle miles travelled (VMT)								
1. Actual Number of vehicles 1999- Daily	2	2	56	120	0			
- 1999 Annual	365	365	390	14,590	0			
Actual Number of Vehicles 2000 - Daily	2	2	69	88	0			
- 2000 Annual	365	365	368	9,086	0			
Maximum Potential No. of Vehicles - Daily	2	2	0	120	88			
- Maximum Annual	365	365	390	14,590	32,000			
Project Increase No. of Vehicles - Daily	0	0	-63	16	88			
- Annual	0	0	11	2,752	32,000			
2. Miles Travelled/Vehicle (Round-trip)	1.12	1.32	0.68	0.89	1.16			
3. Vehicle Miles Travelled (VMT)- 1999 Daily	2	3	38	107	0			
- 1999 Annual	409	482	265	12,985	0			
Vehicle Miles Travelled - 2000 Daily	2	3	47	78	0			
- 2000 Annual	409	482	250	8,087	0			
Maximum Vehicle Miles Travelled - Daily	2	3	0	107	102			
- Maximum Annual	409	482	265	12,985	37,120			
Project Increase VMT - Daily	0	0	-43	14	102			
- Annual	0	0	7	2,449	37,120			
General/ Site Characteristics								
Road surface silt loading (sL), g/m ²	1.0	1.0	1.0	1.0	1.0			
Particle size multiplier, PM30 (or TSP) (k)	0.082	0.082	0.082	0.082	0.082			
Particle size multiplier, PM10 (k)	0.016	0.016	0.016	0.016	0.016			
Emission Control Data								
Emission control method	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed			
Emission control removal efficiency, %	0	0	0	0	0			
Emission Factor (EF) Equation								
Uncontrolled EF (UEF) Equation	UEF (lb/VMT) = k x (sL/2) ^{0.65} x (W/3) ^{1.5}							
Controlled EF (CEF) Equation	CEF (lb/ton) = UEF (lb/VMT) x (100 - Removal efficiency (%))							
Calculated PM Emission Factor (EF)								
Uncontrolled EF, lb/VMT (daily ave.)	1.3953	1.3953	1.3479	1.3181	1.3479			
Controlled (Final) EF, lb/VMT	1.3953	1.3953	1.3479	1.3181	1.3479			
Calculated PM10 Emission Factor (EF)								
Uncontrolled EF, lb/VMT (daily ave.)	0.2722	0.2722	0.2630	0.2572	0.2630			
Controlled (Final) EF, lb/VMT	0.2722	0.2722	0.2630	0.2572	0.2630			
Estimated Emission Rate (ER)								
PM ER, lb/hr	0.0000	0.0000	-2.3869	0.7821	5.7330			
TPY	0.0000	0.0000	0.0050	1.6142	25.0168			
PM10 ER, lb/hr	0.0000	0.0000	-0.4657	0.1526	1.1186			
TPY	0.0000	0.0000	0.0010	0.3150	4.8813			

Source: Compilation of Air Pollutant Emission Factors, AP-42, Section 13.2.1, Paved Roads, EPA, October, 1997.

Total Project Increase Emissions:

PM (lb/hr)	5.499
PM (TPY)	30.143
PM10 (lb/hr)	1.073
PM10 (TPY)	5.882

Table H-1b. Estimation of Future Potential PM/PM₁₀ Emissions Due To Truck Traffic on Paved Roads
Cargill Fertilizer, Riverview FL

Parameters	AFITRK	LIMETRK	GTSPTRK	MAPTRK	DAPTRK	FUELTRK	COATSTK	COATNTK
<i>General Data</i>								
	AFI Loading Truck	Limestone Unloading Truck	GTSP Loading Truck	MAP Loading Truck	DAP Truck Loading	Fuel Oil Unloading Truck	Coating Oil Unloading Truck (South)	Coating Oil Unloading Truck (North)
Vehicle Data								
Vehicle weight (W), tons- Loaded	39	39	38	39	39	39	39	39
- Unloaded	13	12	15	15	15	15	15	15
- Average	26.0	25.7	26.5	26.8	26.8	26.8	26.8	26.8
Basis for vehicle miles travelled (VMT)								
1. Maximum Potential No. of Vehicles - Daily	7	34	5	2	2	2	2	2
-Maximum Annual	730	7,300	544	77	9	365	365	365
2. Miles Travelled/Vehicle (Round-trip)	1.17	1.18	1.78	2.12	2.04	1.01	1.33	1.20
3. Maximum Vehicle Miles Travelled- Daily	8	40	9	4	4	2	3	2
- Maximum Annual	854	8614	968	163	18	369	485	438
General Site Characteristics								
Road surface silt loading (sL), g/m ²	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Particle size multiplier, PM30 (or TSP) (k)	0.082	0.082	0.082	0.082	0.082	0.082	0.082	0.082
Particle size multiplier, PM10 (k)	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016
Emission Control Data								
Emission control method	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed
Emission control removal efficiency, %	50	50	50	50	50	50	50	50
Emission Factor (EF) Equation								
Uncontrolled EF (UEF) Equation	UEF (lb/VMT) = k x (sL/2) ^{0.65} x (W/3) ^{1.5}							
Controlled EF (CEF) Equation	CEF (lb/VMT) = UEF (lb/ton) x (100 - Removal efficiency (%))							
Calculated PM Emission Factor (EF)								
Uncontrolled EF, lb/VMT (daily ave.)	1.3364	1.3078	1.3721	1.3953	1.3953	1.3953	1.3953	1.3953
Controlled (Final) EF, lb/VMT	0.6682	0.6539	0.6861	0.6976	0.6976	0.6976	0.6976	0.6976
Calculated PM10 Emission Factor (EF)								
Uncontrolled EF, lb/VMT (daily ave.)	0.2608	0.2552	0.2677	0.2722	0.2722	0.2722	0.2722	0.2722
Controlled (Final) EF, lb/VMT	0.1304	0.1276	0.1339	0.1361	0.1361	0.1361	0.1361	0.1361
Estimated Emission Rate (ER)								
PM ER, lb/hr	0.2280	1.0931	0.2544	0.1232	0.1186	0.0587	0.0773	0.0698
TPY	0.2854	2.8162	0.3322	0.0569	0.0064	0.1286	0.1693	0.1528
PM10 ER, lb/hr	0.0445	0.2133	0.0496	0.0240	0.0231	0.0115	0.0151	0.0136
TPY	0.0557	0.5495	0.0648	0.0111	0.0012	0.0251	0.0330	0.0298

Source: Compilation of Air Pollutant Emission Factors, AP-42, Section 13.2.1, Paved Roads, EPA, October, 1997.

Table H-1b. Estimation of Future Potential PM/PM₁₀ Emissions Due To Truck Traffic on Paved Roads
Cargill Fertilizer, Riverview FL

Parameters	SODITRK	FSATRK	SULFTRK	H2SO4TK	MSTRK			
General Data	Sodium Loading Truck	FSA/PFB Loading Truck	Sulfur Unloading Truck	Sulfuric Acid Loading Truck	Molten Sulfur Truck Loading			
Vehicle Data								
Vehicle weight (W), tons- Loaded	39	39	39	39	39			
- Unloaded	15	15	14	13	14			
- Average	26.8	26.8	26.2	25.8	26.5			
Basis for vehicle miles travelled (VMT)								
1. Maximum Potential No. of Vehicles - Daily	2	2	0	120	88			
-Maximum Annual	365	365	390	14,590	32,000			
2. Miles Travelled/Vehicle (Round-trip)	1.12	1.32	0.68	0.89	1.16			
3. Maximum Vehicle Miles Travelled- Daily	2	3	0	107	102			
- Maximum Annual	409	482	265	12,985	37,120			
General/ Site Characteristics								
Road surface silt loading (sL), g/m ²	1.0	1.0	1.0	1.0	1.0			
Particle size multiplier, PM30 (or TSP) (k)	0.082	0.082	0.082	0.082	0.082			
Particle size multiplier, PM10 (k)	0.016	0.016	0.016	0.016	0.016			
Emission Control Data								
Emission control method	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed	Sweeping, speed			
Emission control removal efficiency, %	50	50	50	50	50			
Emission Factor (EF) Equation								
Uncontrolled EF (UEF) Equation	UEF (lb/VMT) = k x (sL/2) ^{0.65} x (W/3) ^{1.5}							
Controlled EF (CEF) Equation	CEF (lb/ton) = UEF (lb/VMT) x (100 - Removal efficiency (%))							
Calculated PM Emission Factor (EF)								
Uncontrolled EF, lb/VMT (daily ave.)	1.3953	1.3953	1.3479	1.3181	1.3719			
Controlled (Final) EF, lb/VMT	0.6976	0.6976	0.6739	0.6590	0.6860			
Calculated PM10 Emission Factor (EF)								
Uncontrolled EF, lb/VMT (daily ave.)	0.2722	0.2722	0.2630	0.2572	0.2677			
Controlled (Final) EF, lb/VMT	0.1361	0.1361	0.1315	0.1286	0.1338			
Estimated Emission Rate (ER)								
PM ER, lb/hr	0.0651	0.0767	0.0000	2.9327	2.9176			
TPY	0.1426	0.1681	0.0894	4.2788	12.7315			
PM10 ER, lb/hr	0.0127	0.0150	0.0000	0.5722	0.5693			
TPY	0.0278	0.0328	0.0174	0.8349	2.4842			

Source: Compilation of Air Pollutant Emission Factors, AP-42, Section 13.2.1, Paved Roads, EPA, October, 1997.

Total Future Emissions:

PM (lb/hr)	8.015
PM (TPY)	21.358
PM10 (lb/hr)	1.564
PM10 (TPY)	4.167

Table H-2. Total Truck Round Trip Length

Truck Type No.	Truck Name	Total Round Trip/Route Length (ft)	(miles)
1	AFI Loading	6,190	1.1724
2	Limestone Unloading	6,206	1.1754
3	GTSP Loading	9,408	1.7819
4	MAP Loading	11,212	2.1236
5	DAP Loading	10,752	2.0364
6	Fuel Oil Unloading	5,320	1.0076
7	Coating Oil Unloading (South)	7,040	1.3334
8	Coating Oil Unloading (North)	6,334	1.1997
9	Sodium Loading	5,888	1.1152
10	FSA/PFB Loading	6,958	1.3178
11	Sulfur Unloading	3,612	0.6841
12	Sulfuric Acid Loading	4,673	0.8851
13	Molten Sulfur Loading	6,100	1.1553

Table H-4a. Segment PM₁₀ Project Increase Emission Rate Calculations

Segment No.	Vehicle No.	Vehicle PM ₁₀ Emission Rate		Length of Segment (ft)	Fraction of Length of Total Trip	Total Trip Length (ft)
		(lb/hr)	(TPY)			
	1	0.0318	0.0000	1,083	0.069	6,190
	2	0.2258	0.6529	1,086	0.069	6,206
	3	0.0099	0.0301	1,646	0.105	9,408
	4	0.0000	0.0012	1,962	0.125	11,212
	5	0.0000	0.0001	1,881	0.120	10,752
	6	0.0000	0.0000	931	0.059	5,320
	7	0.0000	0.0000	1,232	0.078	7,040
	8	0.0000	0.0000	1,108	0.071	6,334
	9	0.0000	0.0000	1,030	0.066	5,888
	10	0.0000	0.0000	1,217	0.078	6,958
	11	-0.4657	0.0010	632	0.040	3,612
	12	0.1526	0.3150	818	0.052	4,673
	13	1.1186	4.8813	1,067	0.068	6,100
Totals =		1.0730	5.8815	15,693		89,693
1		0.0979	0.5367	1432		
2-5		0.0217	0.1192	318		
6		0.0083	0.0457	122		
7-12		0.0736	0.4036	1077		
13		0.0252	0.1379	368		
14-17		0.0542	0.2968	792		
18		0.0044	0.0240	64		
19-22		0.0643	0.3523	940		
23-26		0.1476	0.8088	2158		
27		0.0334	0.1829	488		
28-29		0.0491	0.2691	718		
30-34		0.0803	0.4400	1174		
35-36		0.0109	0.0600	160		
37		0.0075	0.0412	110		
38		0.0103	0.0562	150		
39-45		0.1198	0.6566	1752		
46-50		0.0965	0.5292	1412		
51-53		0.0235	0.1289	344		
54		0.0109	0.0600	160		
55		0.0064	0.0352	94		
56		0.0063	0.0345	92		
57		0.0153	0.0840	224		
58		0.0081	0.0442	118		
59		0.0060	0.0330	88		
60-62		0.0696	0.3815	1018		
63		0.0089	0.0487	130		
64		0.0075	0.0412	110		
65		0.0055	0.0300	80		

Table H-4b. Segment PM₁₀ Future Emission Rate Calculations

Segment No.	Vehicle No.	Vehicle PM ₁₀ Emission Rate		Length of Segment (ft)	Fraction of Length of Total Trip		Total Trip Length (ft)
		(lb/hr)	(TPY)				
	1	0.0445	0.0557	1,083	0.069	6190	
	2	0.2133	0.5495	1,086	0.069	6206	
	3	0.0496	0.0648	1,646	0.105	9408	
	4	0.0240	0.0111	1,962	0.125	11212	
	5	0.0231	0.0012	1,881	0.120	10752	
	6	0.0115	0.0251	931	0.059	5320	
	7	0.0151	0.0330	1,232	0.078	7040	
	8	0.0136	0.0298	1,108	0.071	6334	
	9	0.0127	0.0278	1,030	0.066	5888	
	10	0.0150	0.0328	1,217	0.078	6958	
	11	0.0000	0.0174	632	0.040	3612	
	12	0.5722	0.8349	818	0.052	4673	
	13	0.5693	2.4842	1,067	0.068	6100	
Totals =		1.5640	4.1674	15,693		89693	
1		0.1427	0.3803	1432			
2-5		0.0317	0.0844	318			
6		0.0122	0.0324	122			
7-12		0.1073	0.2860	1077			
13		0.0367	0.0977	368			
14-17		0.0789	0.2103	792			
18		0.0064	0.0170	64			
19-22		0.0937	0.2496	940			
23-26		0.2151	0.5731	2158			
27		0.0486	0.1296	488			
28-29		0.0716	0.1907	718			
30-34		0.1170	0.3118	1174			
35-36		0.0159	0.0425	160			
37		0.0110	0.0292	110			
38		0.0149	0.0398	150			
39-45		0.1746	0.4653	1752			
46-50		0.1407	0.3750	1412			
51-53		0.0343	0.0914	344			
54		0.0159	0.0425	160			
55		0.0094	0.0250	94			
56		0.0092	0.0244	92			
57		0.0223	0.0595	224			
58		0.0118	0.0313	118			
59		0.0088	0.0234	88			
60-62		0.1015	0.2703	1018			
63		0.0130	0.0345	130			
64		0.0110	0.0292	110			
65		0.0080	0.0212	80			

Table H-5a. Volume Source Project Increase Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate (lb/hr)	Hourly Emission Rate (g/sec)	Annual Emission Rate (TPY)	Annual Emission Rate (g/sec)	Center Location				ISCST Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)	
						X		Y			X		Y		Hourly Emission Rate		Annual Emission Rate				
						(ft)	(m)	(ft)	(m)		(ft)	(m)	(ft)	(m)	(lb/hr)	(g/sec)	(TPY)	(g/sec)			
1	VS001	0.0024	0.0003	0.0131	0.0004	1340	408	980	299	Total Emissions for Segment No. 1											
1	VS002	0.0024	0.0003	0.0131	0.0004	1303	397	965	294												
1	VS003	0.0024	0.0003	0.0131	0.0004	1266	386	951	290	VS001	1266	386	951	290	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS004	0.0024	0.0003	0.0131	0.0004	1228	374	936	285												
1	VS005	0.0024	0.0003	0.0131	0.0004	1191	363	921	281	VS002	1191	363	921	281	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS006	0.0024	0.0003	0.0131	0.0004	1154	352	907	276												
1	VS007	0.0024	0.0003	0.0131	0.0004	1117	340	892	272	VS003	1117	340	892	272	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS008	0.0024	0.0003	0.0131	0.0004	1079	329	877	267												
1	VS009	0.0024	0.0003	0.0131	0.0004	1042	318	863	263	VS004	1042	318	863	263	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS010	0.0024	0.0003	0.0131	0.0004	1005	306	848	258												
1	VS011	0.0024	0.0003	0.0131	0.0004	968	295	833	254	VS005	968	295	833	254	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS012	0.0024	0.0003	0.0131	0.0004	931	284	819	250												
1	VS013	0.0024	0.0003	0.0131	0.0004	893	272	804	245	VS006	893	272	804	245	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS014	0.0024	0.0003	0.0131	0.0004	856	261	789	241												
1	VS015	0.0024	0.0003	0.0131	0.0004	819	250	775	236	VS007	819	250	775	236	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS016	0.0024	0.0003	0.0131	0.0004	782	238	760	232												
1	VS017	0.0024	0.0003	0.0131	0.0004	745	227	745	227	VS008	745	227	745	227	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS018	0.0024	0.0003	0.0131	0.0004	707	216	731	223												
1	VS019	0.0024	0.0003	0.0131	0.0004	670	204	716	218	VS009	670	204	716	218	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS020	0.0024	0.0003	0.0131	0.0004	633	193	701	214												
1	VS021	0.0024	0.0003	0.0131	0.0004	596	182	687	209	VS010	596	182	687	209	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS022	0.0024	0.0003	0.0131	0.0004	558	170	672	205												
1	VS023	0.0024	0.0003	0.0131	0.0004	521	159	657	200	VS011	521	159	657	200	0.0075	0.0009	0.0413	0.0012	11.341	3.814	
1	VS024	0.0024	0.0003	0.0131	0.0004	484	148	643	196												
1	VS025	0.0024	0.0003	0.0131	0.0004	447	136	628	191												
1	VS026	0.0024	0.0003	0.0131	0.0004	410	125	613	187												
1	VS027	0.0024	0.0003	0.0131	0.0004	372	114	599	182												
1	VS028	0.0024	0.0003	0.0131	0.0004	335	102	584	178												
1	VS029	0.0024	0.0003	0.0131	0.0004	298	91	569	174												
1	VS030	0.0024	0.0003	0.0131	0.0004	261	79	555	169												
1	VS031	0.0024	0.0003	0.0131	0.0004	224	68	540	165	VS012	224	68	540	165	0.0075	0.0009	0.0413	0.0012	28.353	3.814	
1	VS032	0.0024	0.0003	0.0131	0.0004	186	57	525	160												
1	VS033	0.0024	0.0003	0.0131	0.0004	149	45	511	156												
1	VS034	0.0024	0.0003	0.0131	0.0004	112	34	496	151												
1	VS035	0.0024	0.0003	0.0131	0.0004	75	23	481	147												
1	VS036	0.0024	0.0003	0.0131	0.0004	37	11	467	142	VS013	37	11	467	142	0.0075	0.0009	0.0413	0.0012	28.353	3.814	
1	VS037	0.0024	0.0003	0.0131	0.0004	0	0	452	138												
1	VS038	0.0024	0.0003	0.0131	0.0004	-37	-11	437	133												
1	VS039	0.0024	0.0003	0.0131	0.0004	-74	-23	423	129												
1	VS040	0.0024	0.0003	0.0131	0.0004	-111	-34	408	124												
1	VS041	0.0024	0.0003	0.0131	0.0004	-149	-45	393	120	n =	13			Total =	0.0979		0.5367				
2	VS042	0.0031	0.0004	0.0170	0.0005	-132	-40	400	122												
2	VS043	0.0031	0.0004	0.0170	0.0005	-124	-38	361	110												
2	VS044	0.0031	0.0004	0.0170	0.0005	-115	-35	322	98												
2	VS045	0.0031	0.0004	0.0170	0.0005	-107	-33	283	86	Total Emissions for Segment No. 2-5 (Split 2-Ways)											
2	VS046	0.0031	0.0004	0.0170	0.0005	-99	-30	244	74												
2	VS047	0.0031	0.0004	0.0170	0.0005	-90	-28	204	62	VS014	-90	-28	204	62	0.0109	0.0013	0.0596	0.0017	28.353	3.814	
2	VS048	0.0031	0.0004	0.0170	0.0005	-82	-25	165	50												
3	VS049	0.0000	0.0000	0.0000	0.0000	-80	-24	156	48												
3	VS050	0.0000	0.0000	0.0000	0.0000	-41	-13	146	44												
3	VS051	0.0000	0.0000	0.0000	0.0000	-3	-1	135	41												
3	VS052	0.0000	0.0000	0.0000	0.0000	36	11	125	38												
4	VS053	0.0000	0.0000	0.0000	0.0000	40	12	124	38												
4	VS054	0.0000	0.0000	0.0000	0.0000	5	2	104	32	VS015	5	2	104	32	0.0109	0.0013	0.0596	0.0017	39.695	3.814	
4	VS055	0.0000	0.0000	0.0000	0.0000	-29	-9	84	26												
4	VS056	0.0000	0.0000	0.0000	0.0000	-64	-19	64	19												
5	VS057	0.0000	0.0000	0.0000	0.0000	-70	-21	60	18												
5	VS058	0.0000	0.0000	0.0000	0.0000	-74	-23	100	30												

Table H-5a. Volume Source Project Increase Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				ISCST Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)	
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X		Y		Hourly Emission Rate		Annual Emission Rate				
						(ft)	(m)	(ft)	(m)		(ft)	(m)	(ft)	(m)	(lb/hr)	(g/sec)	(TPY)	(g/sec)			
5	VS059	0.0000	0.0000	0.0000	0.0000	-78	-24	140	43	n =	2		Total =		0.0217	0.1192					
6	VS060	0.0028	0.0003	0.0152	0.0004	-132	-40	400	122	Total Emissions for Segment 6											
6	VS061	0.0028	0.0003	0.0152	0.0004	-166	-51	379	116	VS016	-166	-51	379	116	0.0083	0.0010	0.0457	0.0013	39.695	3.814	
6	VS062	0.0028	0.0003	0.0152	0.0004	-200	-61	358	109	n =	1		Total =		0.0083	0.0457					
7	VS063	0.0123	0.0015	0.0673	0.0019	-234	-71	337	103	Total Emissions for Segments 7-12 (Split 3-ways)											
7	VS064	0.0123	0.0015	0.0673	0.0019	-240	-73	334	102												
7	VS065	0.0123	0.0015	0.0673	0.0019	-249	-76	295	90												
7	VS066	0.0123	0.0015	0.0673	0.0019	-259	-79	256	78	VS017	-259	-79	256	78	0.0245	0.0030	0.1345	0.0039	28.353	3.814	
7	VS067	0.0123	0.0015	0.0673	0.0019	-268	-82	217	66												
7	VS068	0.0123	0.0015	0.0673	0.0019	-278	-85	179	54												
8	VS069	0.0000	0.0000	0.0000	0.0000	-280	-85	170	52												
8	VS070	0.0000	0.0000	0.0000	0.0000	-306	-93	139	43												
8	VS071	0.0000	0.0000	0.0000	0.0000	-332	-101	109	33												
8	VS072	0.0000	0.0000	0.0000	0.0000	-358	-109	78	24												
8	VS073	0.0000	0.0000	0.0000	0.0000	-383	-117	48	15												
9	VS074	0.0000	0.0000	0.0000	0.0000	-390	-119	40	12												
9	VS075	0.0000	0.0000	0.0000	0.0000	-390	-119	0	0												
9	VS076	0.0000	0.0000	0.0000	0.0000	-390	-119	-40	-12	VS018	-390	-119	-40	-12	0.0245	0.0030	0.1345	0.0039	56.707	3.814	
9	VS077	0.0000	0.0000	0.0000	0.0000	-390	-119	-80	-24												
9	VS078	0.0000	0.0000	0.0000	0.0000	-390	-119	-120	-37												
9	VS079	0.0000	0.0000	0.0000	0.0000	-390	-119	-160	-49												
10	VS080	0.0000	0.0000	0.0000	0.0000	-390	-119	-140	-43												
10	VS081	0.0000	0.0000	0.0000	0.0000	-351	-107	-147	-45												
10	VS082	0.0000	0.0000	0.0000	0.0000	-311	-95	-155	-47												
10	VS083	0.0000	0.0000	0.0000	0.0000	-272	-83	-162	-49												
10	VS084	0.0000	0.0000	0.0000	0.0000	-233	-71	-169	-52												
10	VS085	0.0000	0.0000	0.0000	0.0000	-193	-59	-177	-54												
10	VS086	0.0000	0.0000	0.0000	0.0000	-154	-47	-184	-56												
11	VS087	0.0000	0.0000	0.0000	0.0000	-164	-50	-182	-55												
11	VS088	0.0000	0.0000	0.0000	0.0000	-188	-57	-214	-65	VS019	-188	-57	-214	-65	0.0245	0.0030	0.1345	0.0039	68.048	3.814	
11	VS089	0.0000	0.0000	0.0000	0.0000	-212	-65	-246	-75												
11	VS090	0.0000	0.0000	0.0000	0.0000	-236	-72	-278	-85												
12	VS091	0.0000	0.0000	0.0000	0.0000	-242	-74	-286	-87												
12	VS092	0.0000	0.0000	0.0000	0.0000	-270	-82	-258	-79												
12	VS093	0.0000	0.0000	0.0000	0.0000	-299	-91	-230	-70												
12	VS094	0.0000	0.0000	0.0000	0.0000	-327	-100	-202	-61												
12	VS095	0.0000	0.0000	0.0000	0.0000	-356	-108	-174	-53												
12	VS096	0.0000	0.0000	0.0000	0.0000	-384	-117	-146	-44	n =	3		Total =		0.0736	0.4036					
13	VS097	0.0025	0.0003	0.0138	0.0004	-240	-73	334	102	Total Emissions for Segment 13											
13	VS098	0.0025	0.0003	0.0138	0.0004	-278	-85	321	98												
13	VS099	0.0025	0.0003	0.0138	0.0004	-315	-96	307	94												
13	VS100	0.0025	0.0003	0.0138	0.0004	-353	-108	294	90	VS020	-353	-108	294	90	0.0252	0.0031	0.1379	0.0040	73.719	3.814	
13	VS101	0.0025	0.0003	0.0138	0.0004	-391	-119	281	86												
13	VS102	0.0025	0.0003	0.0138	0.0004	-429	-131	268	82												
13	VS103	0.0025	0.0003	0.0138	0.0004	-466	-142	254	78												
13	VS104	0.0025	0.0003	0.0138	0.0004	-504	-154	241	73												
13	VS105	0.0025	0.0003	0.0138	0.0004	-542	-165	228	69												
13	VS106	0.0025	0.0003	0.0138	0.0004	-580	-177	215	65	n =	1		Total =		0.0252	0.1379					
14	VS107	0.0036	0.0004	0.0198	0.0006	-564	-172	220	67	Total Emissions for Segments 14-17 (Split 2-Ways)											
14	VS108	0.0036	0.0004	0.0198	0.0006	-582	-177	184	56												
14	VS109	0.0036	0.0004	0.0198	0.0006	-600	-183	148	45												
14	VS110	0.0036	0.0004	0.0198	0.0006	-617	-188	113	34												
14	VS111	0.0036	0.0004	0.0198	0.0006	-635	-194	77	23												
14	VS112	0.0036	0.0004	0.0198	0.0006	-653	-199	41	12												
14	VS113	0.0036	0.0004	0.0198	0.0006	-671	-204	5	2												
14	VS114	0.0036	0.0004	0.0198	0.0006	-688	-210	-31	-9	VS021	-688	-210	-31	-9	0.0271	0.0033	0.1484	0.0043	85.060	3.814	
14	VS115	0.0036	0.0004	0.0198	0.0006	-706	-215	-67	-20												
14	VS116	0.0036	0.0004	0.0198	0.0006	-724	-221	-102	-31												
14	VS117	0.0036	0.0004	0.0198	0.0006	-742	-226	-138	-42												

Table H-5a. Volume Source Project Increase Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				ISCST Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)			
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X		Y		Hourly Emission Rate (lb/hr)	Hourly Emission Rate (g/sec)	Annual Emission Rate (TPY)	Annual Emission Rate (g/sec)					
						(ft)	(m)	(ft)	(m)		(ft)	(m)	(ft)	(m)									
14	VS118	0.0036	0.0004	0.0198	0.0006	-760	-232	-174	-53														
14	VS119	0.0036	0.0004	0.0198	0.0006	-777	-237	-210	-64														
14	VS120	0.0036	0.0004	0.0198	0.0006	-795	-242	-246	-75														
14	VS121	0.0036	0.0004	0.0198	0.0006	-813	-248	-282	-86														
15	VS122	0.0000	0.0000	0.0000	0.0000	-820	-250	-296	-90														
15	VS123	0.0000	0.0000	0.0000	0.0000	-821	-250	-336	-102														
15	VS124	0.0000	0.0000	0.0000	0.0000	-821	-250	-376	-115														
15	VS125	0.0000	0.0000	0.0000	0.0000	-822	-250	-416	-127														
15	VS126	0.0000	0.0000	0.0000	0.0000	-822	-251	-456	-139														
16	VS127	0.0000	0.0000	0.0000	0.0000	-820	-250	-296	-90														
16	VS128	0.0000	0.0000	0.0000	0.0000	-820	-250	-336	-102														
16	VS129	0.0000	0.0000	0.0000	0.0000	-821	-250	-376	-115														
16	VS130	0.0000	0.0000	0.0000	0.0000	-821	-250	-416	-127	VS022	-821	-250	-416	-127	0.0271	0.0033	0.1484	0.0043	6.474	3.814			
16	VS131	0.0000	0.0000	0.0000	0.0000	-821	-250	-456	-139														
16	VS132	0.0000	0.0000	0.0000	0.0000	-822	-250	-496	-151														
16	VS133	0.0000	0.0000	0.0000	0.0000	-822	-251	-536	-163														
17	VS134	0.0000	0.0000	0.0000	0.0000	-872	-266	-450	-137														
17	VS135	0.0000	0.0000	0.0000	0.0000	-832	-254	-450	-137	n =	2			Total =	0.0542		0.2968						
18	VS136	0.0022	0.0003	0.0120	0.0003	-822	-251	-516	-157	VS023	-822	-251	-516	-157	0.0044	0.0005	0.0240	0.0007	73.719	3.814			
18	VS137	0.0022	0.0003	0.0120	0.0003	-822	-251	-476	-145	Total Emissions for Segment 18													
19	VS138	0.0038	0.0005	0.0207	0.0006	-822	-251	-502	-153	Total Emissions for Segments 19-22 (Split 4-Ways)													
19	VS139	0.0038	0.0005	0.0207	0.0006	-822	-251	-542	-165														
19	VS140	0.0038	0.0005	0.0207	0.0006	-822	-251	-582	-177														
19	VS141	0.0038	0.0005	0.0207	0.0006	-822	-251	-622	-190														
19	VS142	0.0038	0.0005	0.0207	0.0006	-822	-251	-662	-202														
19	VS143	0.0038	0.0005	0.0207	0.0006	-823	-251	-702	-214														
19	VS144	0.0038	0.0005	0.0207	0.0006	-823	-251	-742	-226														
19	VS145	0.0038	0.0005	0.0207	0.0006	-823	-251	-782	-238														
19	VS146	0.0038	0.0005	0.0207	0.0006	-823	-251	-822	-251														
19	VS147	0.0038	0.0005	0.0207	0.0006	-823	-251	-862	-263														
19	VS148	0.0038	0.0005	0.0207	0.0006	-823	-251	-902	-275	VS024	-823	-251	-902	-275	0.0161	0.0020	0.0881	0.0025	62.378	3.814			
19	VS149	0.0038	0.0005	0.0207	0.0006	-823	-251	-942	-287														
19	VS150	0.0038	0.0005	0.0207	0.0006	-823	-251	-982	-299														
19	VS151	0.0038	0.0005	0.0207	0.0006	-824	-251	-1022	-312														
19	VS152	0.0038	0.0005	0.0207	0.0006	-824	-251	-1062	-324														
19	VS153	0.0038	0.0005	0.0207	0.0006	-824	-251	-1102	-336														
19	VS154	0.0038	0.0005	0.0207	0.0006	-824	-251	-1142	-348														
20	VS155	0.0000	0.0000	0.0000	0.0000	-824	-251	-1152	-351														
20	VS156	0.0000	0.0000	0.0000	0.0000	-841	-256	-1188	-362														
20	VS157	0.0000	0.0000	0.0000	0.0000	-859	-262	-1224	-373	VS025	-859	-262	-1224	-373	0.0161	0.0020	0.0881	0.0025	11.341	3.814			
20	VS158	0.0000	0.0000	0.0000	0.0000	-876	-267	-1260	-384														
21	VS159	0.0000	0.0000	0.0000	0.0000	-882	-269	-1272	-388	VS026	-882	-269	-1272	-388	0.0161	0.0020	0.0881	0.0025	11.341	3.814			
21	VS160	0.0000	0.0000	0.0000	0.0000	-845	-258	-1288	-393														
22	VS161	0.0000	0.0000	0.0000	0.0000	-910	-277	-1260	-384														
22	VS162	0.0000	0.0000	0.0000	0.0000	-885	-270	-1229	-375														
22	VS163	0.0000	0.0000	0.0000	0.0000	-860	-262	-1197	-365														
22	VS164	0.0000	0.0000	0.0000	0.0000	-835	-255	-1166	-355	VS027	-835	-255	-1166	-355	0.0161	0.0020	0.0881	0.0025	22.683	3.814			
22	VS165	0.0000	0.0000	0.0000	0.0000	-810	-247	-1135	-346	n =	4			Total =	0.0643		0.3523						
23	VS166	0.0184	0.0023	0.1011	0.0029	-822	-251	-502	-153	Total Emissions for Segment No. 23-26 (split 5-ways)													
23	VS167	0.0184	0.0023	0.1011	0.0029	-850	-259	-530	-162														
23	VS168	0.0184	0.0023	0.1011	0.0029	-879	-268	-559	-170														
23	VS169	0.0184	0.0023	0.1011	0.0029	-907	-276	-587	-179														
23	VS170	0.0184	0.0023	0.1011	0.0029	-935	-285	-615	-187	VS028	-935	-285	-615	-187	0.0295	0.0036	0.1618	0.0047	68.048	3.814			
23	VS171	0.0184	0.0023	0.1011	0.0029	-963	-294	-643	-196														
23	VS172	0.0184	0.0023	0.1011	0.0029	-992	-302	-672	-205														
23	VS173	0.0184	0.0023	0.1011	0.0029	-1020	-311	-700	-213														
24	VS174	0.0000	0.0000	0.0000	0.0000	-1030	-314	-710	-216														
24	VS175	0.0000	0.0000	0.0000	0.0000	-1070	-326	-710	-216														
24	VS176	0.0000	0.0000	0.0000	0.0000	-1110	-338	-710	-216														
24	VS177	0.0000	0.0000	0.0000	0.0000	-1150	-351	-710	-216														

Table H-5a. Volume Source Project Increase Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				ISCST Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X	Y	X	Y	Hourly Emission Rate		Annual Emission Rate			
						(ft)	(m)	(ft)	(m)						(lb/hr)	(g/sec)	(TPY)	(g/sec)		
24	VS178	0.0000	0.0000	0.0000	0.0000	-1190	-363	-710	-216											
24	VS179	0.0000	0.0000	0.0000	0.0000	-1230	-375	-710	-216											
24	VS180	0.0000	0.0000	0.0000	0.0000	-1270	-387	-710	-216											
24	VS181	0.0000	0.0000	0.0000	0.0000	-1310	-399	-710	-216											
24	VS182	0.0000	0.0000	0.0000	0.0000	-1350	-411	-710	-216											
24	VS183	0.0000	0.0000	0.0000	0.0000	-1390	-424	-710	-216											
24	VS184	0.0000	0.0000	0.0000	0.0000	-1430	-436	-710	-216											
24	VS185	0.0000	0.0000	0.0000	0.0000	-1470	-448	-710	-216											
24	VS186	0.0000	0.0000	0.0000	0.0000	-1510	-460	-710	-216											
24	VS187	0.0000	0.0000	0.0000	0.0000	-1550	-472	-710	-216	VS029	-1550	-472	-710	-216	0.0295	0.0036	0.1618	0.0047	96.402	3.814
24	VS188	0.0000	0.0000	0.0000	0.0000	-1590	-485	-710	-216											
24	VS189	0.0000	0.0000	0.0000	0.0000	-1630	-497	-710	-216											
24	VS190	0.0000	0.0000	0.0000	0.0000	-1670	-509	-710	-216											
24	VS191	0.0000	0.0000	0.0000	0.0000	-1710	-521	-710	-216											
24	VS192	0.0000	0.0000	0.0000	0.0000	-1750	-533	-710	-216											
24	VS193	0.0000	0.0000	0.0000	0.0000	-1790	-546	-710	-216											
24	VS194	0.0000	0.0000	0.0000	0.0000	-1830	-558	-710	-216											
24	VS195	0.0000	0.0000	0.0000	0.0000	-1870	-570	-710	-216											
24	VS196	0.0000	0.0000	0.0000	0.0000	-1910	-582	-710	-216											
24	VS197	0.0000	0.0000	0.0000	0.0000	-1950	-594	-710	-216											
24	VS198	0.0000	0.0000	0.0000	0.0000	-1990	-607	-710	-216											
24	VS199	0.0000	0.0000	0.0000	0.0000	-2030	-619	-710	-216											
24	VS200	0.0000	0.0000	0.0000	0.0000	-2070	-631	-710	-216											
24	VS201	0.0000	0.0000	0.0000	0.0000	-2110	-643	-710	-216											
24	VS202	0.0000	0.0000	0.0000	0.0000	-2150	-655	-710	-216	VS030	-2150	-655	-710	-216	0.0295	0.0036	0.1618	0.0047	85.060	3.814
24	VS203	0.0000	0.0000	0.0000	0.0000	-2190	-668	-710	-216											
24	VS204	0.0000	0.0000	0.0000	0.0000	-2230	-680	-710	-216											
24	VS205	0.0000	0.0000	0.0000	0.0000	-2270	-692	-710	-216											
24	VS206	0.0000	0.0000	0.0000	0.0000	-2310	-704	-710	-216											
24	VS207	0.0000	0.0000	0.0000	0.0000	-2350	-716	-710	-216											
24	VS208	0.0000	0.0000	0.0000	0.0000	-2390	-728	-710	-216											
24	VS209	0.0000	0.0000	0.0000	0.0000	-2430	-741	-710	-216											
24	VS210	0.0000	0.0000	0.0000	0.0000	-2470	-753	-710	-216											
24	VS211	0.0000	0.0000	0.0000	0.0000	-2510	-765	-710	-216											
24	VS212	0.0000	0.0000	0.0000	0.0000	-2550	-777	-710	-216											
24	VS213	0.0000	0.0000	0.0000	0.0000	-2590	-789	-710	-216											
24	VS214	0.0000	0.0000	0.0000	0.0000	-2630	-802	-710	-216											
25	VS215	0.0000	0.0000	0.0000	0.0000	-2670	-799	-710	-216											
25	VS216	0.0000	0.0000	0.0000	0.0000	-2650	-808	-683	-208	VS031	-2650	-808	-683	-208	0.0295	0.0036	0.1618	0.0047	11.341	3.814
25	VS217	0.0000	0.0000	0.0000	0.0000	-2680	-817	-657	-200											
26	VS218	0.0000	0.0000	0.0000	0.0000	-2690	-820	-648	-198											
26	VS219	0.0000	0.0000	0.0000	0.0000	-2690	-820	-608	-185											
26	VS220	0.0000	0.0000	0.0000	0.0000	-2690	-820	-568	-173	VS032	-2690	-820	-568	-173	0.0295	0.0036	0.1618	0.0047	28.353	3.814
26	VS221	0.0000	0.0000	0.0000	0.0000	-2690	-820	-528	-161											
26	VS222	0.0000	0.0000	0.0000	0.0000	-2690	-820	-488	-149	n =	5			Total =	0.1476	0.0088				
27	VS223	0.0026	0.0003	0.0141	0.0004	-2690	-820	-490	-149											
27	VS224	0.0026	0.0003	0.0141	0.0004	-2650	-808	-489	-149	Total Emissions for Segment No. 27										
27	VS225	0.0026	0.0003	0.0141	0.0004	-2610	-796	-488	-149	VS033	-2610	-796	-488	-149	0.0111	0.0014	0.0610	0.0018	22.683	3.814
27	VS226	0.0026	0.0003	0.0141	0.0004	-2570	-783	-486	-148											
27	VS227	0.0026	0.0003	0.0141	0.0004	-2530	-771	-485	-148											
27	VS228	0.0026	0.0003	0.0141	0.0004	-2490	-759	-484	-148											
27	VS229	0.0026	0.0003	0.0141	0.0004	-2450	-747	-483	-147	VS034	-2450	-747	-483	-147	0.0111	0.0014	0.0610	0.0018	22.683	3.814
27	VS230	0.0026	0.0003	0.0141	0.0004	-2410	-735	-482	-147											
27	VS231	0.0026	0.0003	0.0141	0.0004	-2370	-722	-480	-146											
27	VS232	0.0026	0.0003	0.0141	0.0004	-2330	-710	-479	-146											
27	VS233	0.0026	0.0003	0.0141	0.0004	-2290	-698	-478	-146	VS035	-2290	-698	-478	-146	0.0111	0.0014	0.0610	0.0018	22.683	3.814
27	VS234	0.0026	0.0003	0.0141	0.0004	-2250	-686	-477	-145											
27	VS235	0.0026	0.0003	0.0141	0.0004	-2210	-674	-476	-145	n =	3			Total =	0.0334	0.1829				
28	VS236	0.0055	0.0007	0.0299	0.0009	-2690	-820	-490	-149											
28	VS237	0.0055	0.0007	0.0299	0.0009	-2689	-819	-450	-137	Total Emissions for Segment No. 28-29 (Split 6-Ways)										

Table H-5a. Volume Source Project Increase Emission Rate and Model Dimension Calculations

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5/24/01

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				ISCST Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X		Y		Hourly Emission Rate (lb/hr)	Hourly Emission Rate (g/sec)	Annual Emission Rate (TPY)	Annual Emission Rate (g/sec)		
						(ft)	(m)	(ft)	(m)		(ft)	(m)	(ft)	(m)						
28	VS238	0.0055	0.0007	0.0299	0.0009	-2687	-819	-410	-125	VS036	-2687	-819	-410	-125	0.0082	0.0010	0.0448	0.0013	11.341	3.814
28	VS239	0.0055	0.0007	0.0299	0.0009	-2686	-819	-370	-113											
28	VS240	0.0055	0.0007	0.0299	0.0009	-2684	-818	-330	-101	VS037	-2684	-818	-330	-101	0.0082	0.0010	0.0448	0.0013	11.341	3.814
28	VS241	0.0055	0.0007	0.0299	0.0009	-2683	-818	-290	-88											
28	VS242	0.0055	0.0007	0.0299	0.0009	-2681	-817	-250	-76	VS038	-2681	-817	-250	-76	0.0082	0.0010	0.0448	0.0013	11.341	3.814
28	VS243	0.0055	0.0007	0.0299	0.0009	-2680	-817	-210	-64											
28	VS244	0.0055	0.0007	0.0299	0.0009	-2678	-816	-170	-52											
29	VS245	0.0000	0.0000	0.0000	0.0000	-2678	-816	-158	-48											
29	VS246	0.0000	0.0000	0.0000	0.0000	-2638	-804	-158	-48											
29	VS247	0.0000	0.0000	0.0000	0.0000	-2598	-792	-158	-48	VS039	-2598	-792	-158	-48	0.0082	0.0010	0.0448	0.0013	11.341	3.814
29	VS248	0.0000	0.0000	0.0000	0.0000	-2558	-780	-158	-48											
29	VS249	0.0000	0.0000	0.0000	0.0000	-2518	-767	-158	-48	VS040	-2518	-767	-158	-48	0.0082	0.0010	0.0448	0.0013	11.341	3.814
29	VS250	0.0000	0.0000	0.0000	0.0000	-2478	-755	-158	-48											
29	VS251	0.0000	0.0000	0.0000	0.0000	-2438	-743	-158	-48											
29	VS252	0.0000	0.0000	0.0000	0.0000	-2398	-731	-158	-48											
29	VS253	0.0000	0.0000	0.0000	0.0000	-2358	-719	-158	-48	VS041	-2358	-719	-158	-48	0.0082	0.0010	0.0448	0.0013	22.683	3.814
29	VS254	0.0000	0.0000	0.0000	0.0000	-2318	-707	-158	-48											
29	VS255	0.0000	0.0000	0.0000	0.0000	-2278	-694	-158	-48	n =	6		Total =	0.0491		0.2691				
30	VS256	0.0035	0.0004	0.0191	0.0006	-564	-172	220	67											
30	VS257	0.0035	0.0004	0.0191	0.0006	-604	-184	220	67											
30	VS258	0.0035	0.0004	0.0191	0.0006	-644	-196	220	67											
30	VS259	0.0035	0.0004	0.0191	0.0006	-684	-208	220	67											
30	VS260	0.0035	0.0004	0.0191	0.0006	-724	-221	220	67											
30	VS261	0.0035	0.0004	0.0191	0.0006	-764	-233	220	67											
30	VS262	0.0035	0.0004	0.0191	0.0006	-804	-245	219	67											
30	VS263	0.0035	0.0004	0.0191	0.0006	-844	-257	219	67											
30	VS264	0.0035	0.0004	0.0191	0.0006	-884	-269	219	67	VS042	-884	-269	219	67	0.0268	0.0033	0.1467	0.0042	56.707	3.814
30	VS265	0.0035	0.0004	0.0191	0.0006	-924	-282	219	67											
30	VS266	0.0035	0.0004	0.0191	0.0006	-964	-294	219	67											
30	VS267	0.0035	0.0004	0.0191	0.0006	-1004	-306	219	67											
30	VS268	0.0035	0.0004	0.0191	0.0006	-1044	-318	219	67											
30	VS269	0.0035	0.0004	0.0191	0.0006	-1084	-330	219	67											
30	VS270	0.0035	0.0004	0.0191	0.0006	-1124	-343	219	67											
30	VS271	0.0035	0.0004	0.0191	0.0006	-1164	-355	219	67											
30	VS272	0.0035	0.0004	0.0191	0.0006	-1204	-367	219	67											
30	VS273	0.0035	0.0004	0.0191	0.0006	-1244	-379	218	67											
30	VS274	0.0035	0.0004	0.0191	0.0006	-1284	-391	218	67	VS043	-1284	-391	218	67	0.0268	0.0033	0.1467	0.0042	56.707	3.814
30	VS275	0.0035	0.0004	0.0191	0.0006	-1324	-404	218	67											
30	VS276	0.0035	0.0004	0.0191	0.0006	-1364	-416	218	67											
30	VS277	0.0035	0.0004	0.0191	0.0006	-1404	-428	218	66											
30	VS278	0.0035	0.0004	0.0191	0.0006	-1444	-440	218	66											
31	VS279	0.0000	0.0000	0.0000	0.0000	-1446	-441	218	66											
31	VS280	0.0000	0.0000	0.0000	0.0000	-1486	-453	219	67											
31	VS281	0.0000	0.0000	0.0000	0.0000	-1526	-465	219	67											
31	VS282	0.0000	0.0000	0.0000	0.0000	-1566	-477	220	67											
32	VS283	0.0000	0.0000	0.0000	0.0000	-1558	-475	220	67											
32	VS284	0.0000	0.0000	0.0000	0.0000	-1572	-479	182	56											
33	VS285	0.0000	0.0000	0.0000	0.0000	-1574	-480	176	54											
33	VS286	0.0000	0.0000	0.0000	0.0000	-1534	-468	174	53											
33	VS287	0.0000	0.0000	0.0000	0.0000	-1494	-455	172	53											
34	VS288	0.0000	0.0000	0.0000	0.0000	-1486	-453	172	52											
34	VS289	0.0000	0.0000	0.0000	0.0000	-1460	-445	202	62	VS044	-1460	-445	202	62	0.0268	0.0033	0.1467	0.0042	62.378	3.814
34	VS290	0.0000	0.0000	0.0000	0.0000	-1434	-437	232	71	n =	3		Total =	0.0803		0.4400				
35	VS291	0.0027	0.0003	0.0150	0.0004	-1558	-475	220	67											
35	VS292	0.0027	0.0003	0.0150	0.0004	-1598	-487	219	67											
35	VS293	0.0027	0.0003	0.0150	0.0004	-1638	-499	219	67											
35	VS294	0.0027	0.0003	0.0150	0.0004	-1678	-511	218	66											
36	VS295	0.0000	0.0000	0.0000	0.0000	-1666	-508	218	66	VS045	-1666	-508	218	66	0.0109	0.0014	0.0600	0.0017	39.695	3.814
36	VS296	0.0000	0.0000	0.0000	0.0000	-1701	-518	237	72	n =	1		Total =	0.0109		0.0600				

Table H-5a. Volume Source Project Increase Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				ISCST Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X		Y		Hourly Emission Rate		Annual Emission Rate			
						(ft)	(m)	(ft)	(m)		(ft)	(m)	(ft)	(m)	(lb/hr)	(g/sec)	(TPY)	(g/sec)		
37	VS297	0.0019	0.0002	0.0103	0.0003	-1702	-519	238	73											
37	VS298	0.0019	0.0002	0.0103	0.0003	-1742	-531	239	73											
37	VS299	0.0019	0.0002	0.0103	0.0003	-1782	-543	239	73											
37	VS300	0.0019	0.0002	0.0103	0.0003	-1822	-555	240	73											
38	VS301	0.0021	0.0003	0.0112	0.0003	-1810	-552	240	73											
38	VS302	0.0021	0.0003	0.0112	0.0003	-1770	-540	234	71											
38	VS303	0.0021	0.0003	0.0112	0.0003	-1731	-528	228	69											
38	VS304	0.0021	0.0003	0.0112	0.0003	-1691	-516	222	68											
38	VS305	0.0021	0.0003	0.0112	0.0003	-1652	-503	216	66											
39	VS306	0.0240	0.0030	0.1313	0.0038	-1702	-519	238	73											
39	VS307	0.0240	0.0030	0.1313	0.0038	-1739	-530	254	78											
39	VS308	0.0240	0.0030	0.1313	0.0038	-1775	-541	271	83	VS046	-1775	-541	271	83	0.0153	0.0019	0.0838	0.0024	68.048	3.814
39	VS309	0.0240	0.0030	0.1313	0.0038	-1812	-552	287	87											
39	VS310	0.0240	0.0030	0.1313	0.0038	-1848	-563	303	92											
40	VS311	0.0000	0.0000	0.0000	0.0000	-1836	-560	298	91											
40	VS312	0.0000	0.0000	0.0000	0.0000	-1876	-572	292	89											
40	VS313	0.0000	0.0000	0.0000	0.0000	-1915	-584	285	87											
40	VS314	0.0000	0.0000	0.0000	0.0000	-1955	-596	279	85											
40	VS315	0.0000	0.0000	0.0000	0.0000	-1994	-608	273	83											
40	VS316	0.0000	0.0000	0.0000	0.0000	-2034	-620	267	81											
40	VS317	0.0000	0.0000	0.0000	0.0000	-2073	-632	260	79											
40	VS318	0.0000	0.0000	0.0000	0.0000	-2113	-644	254	77	VS047	-2113	-644	254	77	0.0153	0.0019	0.0838	0.0024	56.707	3.814
40	VS319	0.0000	0.0000	0.0000	0.0000	-2152	-656	248	76											
40	VS320	0.0000	0.0000	0.0000	0.0000	-2192	-668	242	74											
40	VS321	0.0000	0.0000	0.0000	0.0000	-2231	-680	235	72											
40	VS322	0.0000	0.0000	0.0000	0.0000	-2271	-692	229	70											
40	VS323	0.0000	0.0000	0.0000	0.0000	-2310	-704	223	68											
40	VS324	0.0000	0.0000	0.0000	0.0000	-2350	-716	216	66											
40	VS325	0.0000	0.0000	0.0000	0.0000	-2389	-728	210	64											
40	VS326	0.0000	0.0000	0.0000	0.0000	-2429	-740	204	62											
40	VS327	0.0000	0.0000	0.0000	0.0000	-2468	-752	198	60	VS048	-2468	-752	198	60	0.0153	0.0019	0.0838	0.0024	56.707	3.814
40	VS328	0.0000	0.0000	0.0000	0.0000	-2508	-764	191	58											
40	VS329	0.0000	0.0000	0.0000	0.0000	-2547	-776	185	56											
40	VS330	0.0000	0.0000	0.0000	0.0000	-2587	-788	179	54											
40	VS331	0.0000	0.0000	0.0000	0.0000	-2626	-800	172	53											
40	VS332	0.0000	0.0000	0.0000	0.0000	-2666	-812	166	51											
40	VS333	0.0000	0.0000	0.0000	0.0000	-2705	-825	160	49											
41	VS334	0.0000	0.0000	0.0000	0.0000	-2692	-821	162	49	VS049	-2692	-821	162	49	0.0153	0.0019	0.0838	0.0024	11.341	3.814
41	VS335	0.0000	0.0000	0.0000	0.0000	-2693	-821	122	37											
41	VS336	0.0000	0.0000	0.0000	0.0000	-2695	-821	82	25	VS050	-2695	-821	82	25	0.0153	0.0019	0.0838	0.0024	11.341	3.814
41	VS337	0.0000	0.0000	0.0000	0.0000	-2696	-822	42	13											
42	VS338	0.0000	0.0000	0.0000	0.0000	-2696	-822	54	16											
42	VS339	0.0000	0.0000	0.0000	0.0000	-2656	-810	53	16	VS051	-2656	-810	53	16	0.0153	0.0019	0.0838	0.0024	11.341	3.814
42	VS340	0.0000	0.0000	0.0000	0.0000	-2616	-797	51	16											
42	VS341	0.0000	0.0000	0.0000	0.0000	-2576	-785	50	15	VS052	-2576	-785	50	15	0.0153	0.0019	0.0838	0.0024	11.341	3.814
42	VS342	0.0000	0.0000	0.0000	0.0000	-2536	-773	48	15											
43	VS343	0.0000	0.0000	0.0000	0.0000	-2696	-822	54	16											
43	VS344	0.0000	0.0000	0.0000	0.0000	-2656	-810	51	16	VS053	-2656	-810	51	16	0.0153	0.0019	0.0838	0.0024	39.695	3.814
43	VS345	0.0000	0.0000	0.0000	0.0000	-2616	-797	48	15											
43	VS346	0.0000	0.0000	0.0000	0.0000	-2576	-785	45	14											
43	VS347	0.0000	0.0000	0.0000	0.0000	-2536	-773	42	13											
43	VS348	0.0000	0.0000	0.0000	0.0000	-2497	-761	39	12											
43	VS349	0.0000	0.0000	0.0000	0.0000	-2457	-749	36	11											
43	VS350	0.0000	0.0000	0.0000	0.0000	-2417	-737	33	10											
44	VS351	0.0000	0.0000	0.0000	0.0000	-2434	-742	34	10											
44	VS352	0.0000	0.0000	0.0000	0.0000	-2434	-742	74	23											
45	VS353	0.0000	0.0000	0.0000	0.0000	-2434	-742	48	15											
45	VS354	0.0000	0.0000	0.0000	0.0000	-2474	-754	48	15	VS054	-2474	-754	48	15	0.0153	0.0019	0.0838	0.0024	22.683	3.814
45	VS355	0.0000	0.0000	0.0000	0.0000	-2514	-766	48	15											
45	VS356	0.0000	0.0000	0.0000	0.0000	-2554	-778	48	15											
											n =	9	Total =		0.1376	0.7541				

Table H-5a. Volume Source Project Increase Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				ISCST Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)
		(B/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X		Y		Hourly Emission Rate		Annual Emission Rate			
						(ft)	(m)	(ft)	(m)		(ft)	(m)	(ft)	(m)	(B/hr)	(g/sec)	(TPY)	(g/sec)		
46	VS357	0.0097	0.0012	0.0529	0.0015	-132	-40	400	122											
46	VS358	0.0097	0.0012	0.0529	0.0015	-158	-48	430	131											
46	VS359	0.0097	0.0012	0.0529	0.0015	-184	-56	461	140	Total Emissions for Segments 46-50 (split 2-ways)										
46	VS360	0.0097	0.0012	0.0529	0.0015	-210	-64	491	150											
46	VS361	0.0097	0.0012	0.0529	0.0015	-237	-72	521	159	VS055	-237	-72	521	159	0.0483	0.0060	0.2646	0.0076	28.353	3.814
46	VS362	0.0097	0.0012	0.0529	0.0015	-263	-80	551	168											
46	VS363	0.0097	0.0012	0.0529	0.0015	-289	-88	582	177											
46	VS364	0.0097	0.0012	0.0529	0.0015	-315	-96	612	186											
46	VS365	0.0097	0.0012	0.0529	0.0015	-341	-104	642	196											
46	VS366	0.0097	0.0012	0.0529	0.0015	-367	-112	672	205											
47	VS367	0.0000	0.0000	0.0000	0.0000	-374	-114	680	207											
47	VS368	0.0000	0.0000	0.0000	0.0000	-414	-126	677	206											
47	VS369	0.0000	0.0000	0.0000	0.0000	-454	-138	674	205											
47	VS370	0.0000	0.0000	0.0000	0.0000	-494	-150	670	204											
47	VS371	0.0000	0.0000	0.0000	0.0000	-533	-163	667	203											
47	VS372	0.0000	0.0000	0.0000	0.0000	-573	-175	664	202											
47	VS373	0.0000	0.0000	0.0000	0.0000	-613	-187	661	201											
48	VS374	0.0000	0.0000	0.0000	0.0000	-600	-183	662	202											
48	VS375	0.0000	0.0000	0.0000	0.0000	-631	-192	636	194											
48	VS376	0.0000	0.0000	0.0000	0.0000	-661	-202	611	186	VS056	-661	-202	611	186	0.0483	0.0060	0.2646	0.0076	96.402	3.814
48	VS377	0.0000	0.0000	0.0000	0.0000	-692	-211	585	178											
49	VS378	0.0000	0.0000	0.0000	0.0000	-698	-213	580	177											
49	VS379	0.0000	0.0000	0.0000	0.0000	-738	-225	583	178											
49	VS380	0.0000	0.0000	0.0000	0.0000	-778	-237	586	179											
49	VS381	0.0000	0.0000	0.0000	0.0000	-818	-249	589	179											
49	VS382	0.0000	0.0000	0.0000	0.0000	-858	-261	592	180											
50	VS383	0.0000	0.0000	0.0000	0.0000	-862	-263	592	180											
50	VS384	0.0000	0.0000	0.0000	0.0000	-899	-274	606	185											
50	VS385	0.0000	0.0000	0.0000	0.0000	-937	-286	621	189											
50	VS386	0.0000	0.0000	0.0000	0.0000	-974	-297	635	193											
50	VS387	0.0000	0.0000	0.0000	0.0000	-1011	-308	649	198											
50	VS388	0.0000	0.0000	0.0000	0.0000	-1049	-320	663	202											
50	VS389	0.0000	0.0000	0.0000	0.0000	-1086	-331	678	207											
50	VS390	0.0000	0.0000	0.0000	0.0000	-1124	-342	692	211	n =	2		Total =	0.0965		0.5292				
51	VS391	0.0078	0.0010	0.0430	0.0012	-1124	-343	692	211	Total Emissions for Segments 51 - 54										
51	VS392	0.0078	0.0010	0.0430	0.0012	-1164	-355	693	211											
51	VS393	0.0078	0.0010	0.0430	0.0012	-1204	-367	694	211											
52	VS394	0.0000	0.0000	0.0000	0.0000	-1220	-372	694	212											
52	VS395	0.0000	0.0000	0.0000	0.0000	-1180	-360	692	211											
52	VS396	0.0000	0.0000	0.0000	0.0000	-1140	-348	690	210											
53	VS397	0.0000	0.0000	0.0000	0.0000	-1298	-396	698	213											
53	VS398	0.0000	0.0000	0.0000	0.0000	-1295	-395	658	201											
53	VS399	0.0000	0.0000	0.0000	0.0000	-1292	-394	618	188											
53	VS400	0.0000	0.0000	0.0000	0.0000	-1289	-393	578	176											
54	VS401	0.0022	0.0003	0.0120	0.0003	-1288	-393	572	174											
54	VS402	0.0022	0.0003	0.0120	0.0003	-1248	-380	574	175											
54	VS403	0.0022	0.0003	0.0120	0.0003	-1208	-368	576	176	VS057	-1208	-368	576	176	0.0345	0.0043	0.1889	0.0054	96.402	3.814
54	VS404	0.0022	0.0003	0.0120	0.0003	-1168	-356	578	176											
54	VS405	0.0022	0.0003	0.0120	0.0003	-1128	-344	580	177	n =	1		Total =	0.0345		0.1889				
55	VS406	0.0021	0.0003	0.0117	0.0003	-1130	-344	580	177	Total Emissions for Segments 55, 56, and 57										
55	VS407	0.0021	0.0003	0.0117	0.0003	-1090	-332	580	177											
55	VS408	0.0021	0.0003	0.0117	0.0003	-1050	-320	580	177											
56	VS409	0.0021	0.0003	0.0115	0.0003	-1038	-316	580	177											
56	VS410	0.0021	0.0003	0.0115	0.0003	-998	-304	580	177	VS058	-998	-304	580	177	0.0280	0.0035	0.1537	0.0044	79.390	3.814
56	VS411	0.0021	0.0003	0.0115	0.0003	-958	-292	580	177											
57	VS412	0.0026	0.0003	0.0140	0.0004	-946	-288	580	177											
57	VS413	0.0026	0.0003	0.0140	0.0004	-906	-276	580	177											
57	VS414	0.0026	0.0003	0.0140	0.0004	-866	-264	581	177											
57	VS415	0.0026	0.0003	0.0140	0.0004	-826	-252	581	177											
57	VS416	0.0026	0.0003	0.0140	0.0004	-786	-240	581	177											

Table H-5a. Volume Source Project Increase Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				ISCST Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X (ft)	X (m)	Y (ft)	Y (m)	Hourly Emission Rate		Annual Emission Rate			
						(ft)	(m)	(ft)	(m)						(lb/hr)	(g/sec)	(TPY)	(g/sec)		
57	VS417	0.0026	0.0003	0.0140	0.0004	-746	-227	582	177	n =	1			Total =	0.0280	0.1537				
58	VS418	0.0027	0.0003	0.0147	0.0004	-1130	-344	580	177	Total Emissions for Segments 58 - 62										
58	VS419	0.0027	0.0003	0.0147	0.0004	-1090	-332	580	177											
58	VS420	0.0027	0.0003	0.0147	0.0004	-1050	-320	580	177											
59	VS421	0.0020	0.0002	0.0110	0.0003	-946	-288	580	177											
59	VS422	0.0020	0.0002	0.0110	0.0003	-906	-276	586	179											
59	VS423	0.0020	0.0002	0.0110	0.0003	-867	-264	591	180											
60	VS424	0.0070	0.0009	0.0382	0.0011	-1288	-393	572	174											
60	VS425	0.0070	0.0009	0.0382	0.0011	-1328	-405	575	175											
60	VS426	0.0070	0.0009	0.0382	0.0011	-1368	-417	578	176											
60	VS427	0.0070	0.0009	0.0382	0.0011	-1408	-429	582	177											
60	VS428	0.0070	0.0009	0.0382	0.0011	-1447	-441	585	178											
60	VS429	0.0070	0.0009	0.0382	0.0011	-1487	-453	588	179											
60	VS430	0.0070	0.0009	0.0382	0.0011	-1527	-466	591	180											
60	VS431	0.0070	0.0009	0.0382	0.0011	-1567	-478	594	181	VS059	-1567	-478	594	181	0.0837	0.0103	0.4587	0.0132	113.414	3.814
60	VS432	0.0070	0.0009	0.0382	0.0011	-1607	-490	598	182											
60	VS433	0.0070	0.0009	0.0382	0.0011	-1647	-502	601	183											
61	VS434	0.0000	0.0000	0.0000	0.0000	-1638	-499	600	183											
61	VS435	0.0000	0.0000	0.0000	0.0000	-1638	-499	640	195											
61	VS436	0.0000	0.0000	0.0000	0.0000	-1639	-500	680	207											
61	VS437	0.0000	0.0000	0.0000	0.0000	-1639	-500	720	219											
61	VS438	0.0000	0.0000	0.0000	0.0000	-1640	-500	760	232											
62	VS439	0.0000	0.0000	0.0000	0.0000	-1640	-500	770	235											
62	VS440	0.0000	0.0000	0.0000	0.0000	-1601	-488	763	233											
62	VS441	0.0000	0.0000	0.0000	0.0000	-1561	-476	756	230											
62	VS442	0.0000	0.0000	0.0000	0.0000	-1522	-464	749	228											
62	VS443	0.0000	0.0000	0.0000	0.0000	-1483	-452	742	226											
62	VS444	0.0000	0.0000	0.0000	0.0000	-1443	-440	734	224											
62	VS445	0.0000	0.0000	0.0000	0.0000	-1404	-428	727	222											
62	VS446	0.0000	0.0000	0.0000	0.0000	-1364	-416	720	219											
62	VS447	0.0000	0.0000	0.0000	0.0000	-1325	-404	713	217											
62	VS448	0.0000	0.0000	0.0000	0.0000	-1286	-392	706	215											
62	VS449	0.0000	0.0000	0.0000	0.0000	-1246	-380	699	213											
62	VS450	0.0000	0.0000	0.0000	0.0000	-1207	-368	692	211	n =	1		Total =	0.0837	0.4587					
63	VS451	0.0000	0.0000	0.0000	0.0000	-822	-251	-502	-153	Total emissions for Segments 63, 64, and 65										
63	VS452	0.0000	0.0000	0.0000	0.0000	-821	-250	-542	-165											
63	VS453	0.0000	0.0000	0.0000	0.0000	-821	-250	-582	-177											
63	VS454	0.0000	0.0000	0.0000	0.0000	-820	-250	-622	-190											
63	VS455	0.0000	0.0000	0.0000	0.0000	-820	-250	-662	-202											
64	VS456	0.0000	0.0000	0.0000	0.0000	-820	-250	-640	-195											
64	VS457	0.0000	0.0000	0.0000	0.0000	-780	-238	-640	-195											
64	VS458	0.0000	0.0000	0.0000	0.0000	-740	-226	-640	-195											
64	VS459	0.0000	0.0000	0.0000	0.0000	-700	-213	-640	-195	VS060	-700	-213	-640	-195	0.0219	0.0027	0.1199	0.0035	34.024	3.814
65	VS460	0.0000	0.0000	0.0000	0.0000	-720	-219	-640	-195											
65	VS461	0.0000	0.0000	0.0000	0.0000	-720	-219	-600	-183											
65	VS462	0.0000	0.0000	0.0000	0.0000	-720	-219	-560	-171	n =	1		Total =	0.0219	0.1199					

Table H-5b. Volume Source Future Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate (lb/hr)	Hourly Emission Rate (g/sec)	Annual Emission Rate (TPY)	Annual Emission Rate (g/sec)	Center Location				Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)		
						X		Y		Volume Source No.	X		Y		Hourly		Annual				
						(ft)	(m)	(ft)	(m)		(ft)	(m)	(ft)	(m)	(lb/hr)	(g/sec)	(TPY)			(g/sec)	
1	VS001	0.0035	0.0004	0.0093	0.0003	1340	408	980	299												
1	VS002	0.0035	0.0004	0.0093	0.0003	1303	397	965	294	Total emissions for Segment No. 1											
1	VS003	0.0035	0.0004	0.0093	0.0003	1266	386	951	290	VS001	1266	386	951	290	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS004	0.0035	0.0004	0.0093	0.0003	1228	374	936	285												
1	VS005	0.0035	0.0004	0.0093	0.0003	1191	363	921	281	VS002	1191	363	921	281	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS006	0.0035	0.0004	0.0093	0.0003	1154	352	907	276												
1	VS007	0.0035	0.0004	0.0093	0.0003	1117	340	892	272	VS003	1117	340	892	272	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS008	0.0035	0.0004	0.0093	0.0003	1079	329	877	267												
1	VS009	0.0035	0.0004	0.0093	0.0003	1042	318	863	263	VS004	1042	318	863	263	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS010	0.0035	0.0004	0.0093	0.0003	1005	306	848	258												
1	VS011	0.0035	0.0004	0.0093	0.0003	968	295	833	254	VS005	968	295	833	254	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS012	0.0035	0.0004	0.0093	0.0003	931	284	819	250												
1	VS013	0.0035	0.0004	0.0093	0.0003	893	272	804	245	VS006	893	272	804	245	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS014	0.0035	0.0004	0.0093	0.0003	856	261	789	241												
1	VS015	0.0035	0.0004	0.0093	0.0003	819	250	775	236	VS007	819	250	775	236	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS016	0.0035	0.0004	0.0093	0.0003	782	238	760	232												
1	VS017	0.0035	0.0004	0.0093	0.0003	745	227	745	227	VS008	745	227	745	227	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS018	0.0035	0.0004	0.0093	0.0003	707	216	731	223												
1	VS019	0.0035	0.0004	0.0093	0.0003	670	204	716	218	VS009	670	204	716	218	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS020	0.0035	0.0004	0.0093	0.0003	633	193	701	214												
1	VS021	0.0035	0.0004	0.0093	0.0003	596	182	687	209	VS010	596	182	687	209	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS022	0.0035	0.0004	0.0093	0.0003	558	170	672	205												
1	VS023	0.0035	0.0004	0.0093	0.0003	521	159	657	200	VS011	521	159	657	200	0.0110	0.0014	0.0293	0.0008	11.341	3.814	
1	VS024	0.0035	0.0004	0.0093	0.0003	484	148	643	196												
1	VS025	0.0035	0.0004	0.0093	0.0003	447	136	628	191												
1	VS026	0.0035	0.0004	0.0093	0.0003	410	125	613	187												
1	VS027	0.0035	0.0004	0.0093	0.0003	372	114	599	182												
1	VS028	0.0035	0.0004	0.0093	0.0003	335	102	584	178												
1	VS029	0.0035	0.0004	0.0093	0.0003	298	91	569	174												
1	VS030	0.0035	0.0004	0.0093	0.0003	261	79	555	169												
1	VS031	0.0035	0.0004	0.0093	0.0003	224	68	540	165	VS012	224	68	540	165	0.0110	0.0014	0.0293	0.0008	28.353	3.814	
1	VS032	0.0035	0.0004	0.0093	0.0003	186	57	525	160												
1	VS033	0.0035	0.0004	0.0093	0.0003	149	45	511	156												
1	VS034	0.0035	0.0004	0.0093	0.0003	112	34	496	151												
1	VS035	0.0035	0.0004	0.0093	0.0003	75	23	481	147												
1	VS036	0.0035	0.0004	0.0093	0.0003	37	11	467	142	VS013	37	11	467	142	0.0110	0.0014	0.0293	0.0008	28.353	3.814	
1	VS037	0.0035	0.0004	0.0093	0.0003	0	0	452	138												
1	VS038	0.0035	0.0004	0.0093	0.0003	-37	-11	437	133												
1	VS039	0.0035	0.0004	0.0093	0.0003	-74	-23	423	129												
1	VS040	0.0035	0.0004	0.0093	0.0003	-111	-34	408	124												
1	VS041	0.0035	0.0004	0.0093	0.0003	-149	-45	393	120	n =	13			Total =	0.1427		0.3803				
2	VS042	0.0045	0.0006	0.0121	0.0003	-132	-40	400	122												
2	VS043	0.0045	0.0006	0.0121	0.0003	-124	-38	361	110												
2	VS044	0.0045	0.0006	0.0121	0.0003	-115	-35	322	98												
2	VS045	0.0045	0.0006	0.0121	0.0003	-107	-33	283	86	Total Emissions for Segment No. 2-5 (Split 2-Ways)											
2	VS046	0.0045	0.0006	0.0121	0.0003	-99	-30	244	74												
2	VS047	0.0045	0.0006	0.0121	0.0003	-90	-28	204	62	VS014	-90	-28	204	62	0.0158	0.0020	0.0422	0.0012	28.353	3.814	
2	VS048	0.0045	0.0006	0.0121	0.0003	-82	-25	165	50												
3	VS049	0.0000	0.0000	0.0000	0.0000	-80	-24	156	48												
3	VS050	0.0000	0.0000	0.0000	0.0000	-41	-13	146	44												
3	VS051	0.0000	0.0000	0.0000	0.0000	-3	-1	135	41												
3	VS052	0.0000	0.0000	0.0000	0.0000	36	11	125	38												
4	VS053	0.0000	0.0000	0.0000	0.0000	40	12	124	38												
4	VS054	0.0000	0.0000	0.0000	0.0000	5	2	104	32	VS015	5	2	104	32	0.0158	0.0020	0.0422	0.0012	39.695	3.814	
4	VS055	0.0000	0.0000	0.0000	0.0000	-29	-9	84	26												
4	VS056	0.0000	0.0000	0.0000	0.0000	-64	-19	64	19												
5	VS057	0.0000	0.0000	0.0000	0.0000	-70	-21	60	18												
5	VS058	0.0000	0.0000	0.0000	0.0000	-74	-23	100	30												
5	VS059	0.0000	0.0000	0.0000	0.0000	-78	-24	140	43	n =	2			Total =	0.0317		0.0844				
6	VS060	0.0041	0.0005	0.0108	0.0003	-132	-40	400	122	Total Emissions for Segment 6											

Table H-5b. Volume Source Future Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate (lb/hr)	Hourly Emission Rate (g/sec)	Annual Emission Rate (TPY)	Annual Emission Rate (g/sec)	Center Location				Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)
						X		Y			X		Y		Hourly		Annual			
						(ft)	(m)	(ft)	(m)		(ft)	(m)	(ft)	(m)	(lb/hr)	(g/sec)	(TPY)	(g/sec)		
6	VS061	0.0041	0.0005	0.0108	0.0003	-166	-51	379	116	VS016	-166	-51	379	116	0.0122	0.0015	0.0324	0.0009	39.695	3.814
6	VS062	0.0041	0.0005	0.0108	0.0003	-200	-61	358	109	n =	1			Total =	0.0122		0.0324			
7	VS063	0.0179	0.0022	0.0477	0.0014	-234	-71	337	103	Total Emissions for Segments 7-12 (Split 3-ways)										
7	VS064	0.0179	0.0022	0.0477	0.0014	-240	-73	334	102											
7	VS065	0.0179	0.0022	0.0477	0.0014	-249	-76	295	90											
7	VS066	0.0179	0.0022	0.0477	0.0014	-259	-79	256	78	VS017	-259	-79	256	78	0.0358	0.0044	0.0953	0.0027	28.353	3.814
7	VS067	0.0179	0.0022	0.0477	0.0014	-268	-82	217	66											
7	VS068	0.0179	0.0022	0.0477	0.0014	-278	-85	179	54											
8	VS069	0.0000	0.0000	0.0000	0.0000	-280	-85	170	52											
8	VS070	0.0000	0.0000	0.0000	0.0000	-306	-93	139	43											
8	VS071	0.0000	0.0000	0.0000	0.0000	-332	-101	109	33											
8	VS072	0.0000	0.0000	0.0000	0.0000	-358	-109	78	24											
8	VS073	0.0000	0.0000	0.0000	0.0000	-383	-117	48	15											
9	VS074	0.0000	0.0000	0.0000	0.0000	-390	-119	40	12											
9	VS075	0.0000	0.0000	0.0000	0.0000	-390	-119	0	0											
9	VS076	0.0000	0.0000	0.0000	0.0000	-390	-119	-40	-12	VS018	-390	-119	-40	-12	0.0358	0.0044	0.0953	0.0027	56.707	3.814
9	VS077	0.0000	0.0000	0.0000	0.0000	-390	-119	-80	-24											
9	VS078	0.0000	0.0000	0.0000	0.0000	-390	-119	-120	-37											
9	VS079	0.0000	0.0000	0.0000	0.0000	-390	-119	-160	-49											
10	VS080	0.0000	0.0000	0.0000	0.0000	-390	-119	-140	-43											
10	VS081	0.0000	0.0000	0.0000	0.0000	-351	-107	-147	-45											
10	VS082	0.0000	0.0000	0.0000	0.0000	-311	-95	-155	-47											
10	VS083	0.0000	0.0000	0.0000	0.0000	-272	-83	-162	-49											
10	VS084	0.0000	0.0000	0.0000	0.0000	-233	-71	-169	-52											
10	VS085	0.0000	0.0000	0.0000	0.0000	-193	-59	-177	-54											
10	VS086	0.0000	0.0000	0.0000	0.0000	-154	-47	-184	-56											
11	VS087	0.0000	0.0000	0.0000	0.0000	-164	-50	-182	-55											
11	VS088	0.0000	0.0000	0.0000	0.0000	-188	-57	-214	-65	VS019	-188	-57	-214	-65	0.0358	0.0044	0.0953	0.0027	68.048	3.814
11	VS089	0.0000	0.0000	0.0000	0.0000	-212	-65	-246	-75											
11	VS090	0.0000	0.0000	0.0000	0.0000	-236	-72	-278	-85											
12	VS091	0.0000	0.0000	0.0000	0.0000	-242	-74	-286	-87											
12	VS092	0.0000	0.0000	0.0000	0.0000	-270	-82	-258	-79											
12	VS093	0.0000	0.0000	0.0000	0.0000	-299	-91	-230	-70											
12	VS094	0.0000	0.0000	0.0000	0.0000	-327	-100	-202	-61											
12	VS095	0.0000	0.0000	0.0000	0.0000	-356	-108	-174	-53											
12	VS096	0.0000	0.0000	0.0000	0.0000	-384	-117	-146	-44	n =	3			Total =	0.1073		0.2860			
13	VS097	0.0037	0.0005	0.0098	0.0003	-240	-73	334	102	Total Emissions for Segment 13										
13	VS098	0.0037	0.0005	0.0098	0.0003	-278	-85	321	98											
13	VS099	0.0037	0.0005	0.0098	0.0003	-315	-96	307	94											
13	VS100	0.0037	0.0005	0.0098	0.0003	-353	-108	294	90	VS020	-353	-108	294	90	0.0367	0.0045	0.0977	0.0028	73.719	3.814
13	VS101	0.0037	0.0005	0.0098	0.0003	-391	-119	281	86											
13	VS102	0.0037	0.0005	0.0098	0.0003	-429	-131	268	82											
13	VS103	0.0037	0.0005	0.0098	0.0003	-466	-142	254	78											
13	VS104	0.0037	0.0005	0.0098	0.0003	-504	-154	241	73											
13	VS105	0.0037	0.0005	0.0098	0.0003	-542	-165	228	69											
13	VS106	0.0037	0.0005	0.0098	0.0003	-580	-177	215	65	n =	1			Total =	0.0367		0.0977			
14	VS107	0.0053	0.0007	0.0140	0.0004	-564	-172	220	67	Total Emissions for Segments 14-17 (Split 2-Ways)										
14	VS108	0.0053	0.0007	0.0140	0.0004	-582	-177	184	56											
14	VS109	0.0053	0.0007	0.0140	0.0004	-600	-183	148	45											
14	VS110	0.0053	0.0007	0.0140	0.0004	-617	-188	113	34											
14	VS111	0.0053	0.0007	0.0140	0.0004	-635	-194	77	23											
14	VS112	0.0053	0.0007	0.0140	0.0004	-653	-199	41	12											
14	VS113	0.0053	0.0007	0.0140	0.0004	-671	-204	5	2											
14	VS114	0.0053	0.0007	0.0140	0.0004	-688	-210	-31	-9	VS021	-688	-210	-31	-9	0.0395	0.0049	0.1052	0.0030	85.060	3.814
14	VS115	0.0053	0.0007	0.0140	0.0004	-706	-215	-67	-20											
14	VS116	0.0053	0.0007	0.0140	0.0004	-724	-221	-102	-31											
14	VS117	0.0053	0.0007	0.0140	0.0004	-742	-226	-138	-42											
14	VS118	0.0053	0.0007	0.0140	0.0004	-760	-232	-174	-53											
14	VS119	0.0053	0.0007	0.0140	0.0004	-777	-237	-210	-64											

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)									
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	Center Location		X	Y		Center Location		X	Y	Hourly		Annual												
						(ft)	(m)				(ft)	(m)			(lb/hr)	(g/sec)	(TPY)	(g/sec)											
14	VS120	0.0053	0.0007	0.0140	0.0004	-795	-242	-246	-75																				
14	VS121	0.0053	0.0007	0.0140	0.0004	-813	-248	-282	-86																				
15	VS122	0.0000	0.0000	0.0000	0.0000	-820	-250	-296	-90																				
15	VS123	0.0000	0.0000	0.0000	0.0000	-821	-250	-336	-102																				
15	VS124	0.0000	0.0000	0.0000	0.0000	-821	-250	-376	-115																				
15	VS125	0.0000	0.0000	0.0000	0.0000	-822	-250	-416	-127																				
15	VS126	0.0000	0.0000	0.0000	0.0000	-822	-251	-456	-139																				
16	VS127	0.0000	0.0000	0.0000	0.0000	-820	-250	-296	-90																				
16	VS128	0.0000	0.0000	0.0000	0.0000	-820	-250	-336	-102																				
16	VS129	0.0000	0.0000	0.0000	0.0000	-821	-250	-376	-115																				
16	VS130	0.0000	0.0000	0.0000	0.0000	-821	-250	-416	-127	VS022	-821	-250	-416	-127	0.0395	0.0049	0.1052	0.0030	6.474	3.814									
16	VS131	0.0000	0.0000	0.0000	0.0000	-821	-250	-456	-139																				
16	VS132	0.0000	0.0000	0.0000	0.0000	-822	-250	-496	-151																				
16	VS133	0.0000	0.0000	0.0000	0.0000	-822	-251	-536	-163																				
17	VS134	0.0000	0.0000	0.0000	0.0000	-872	-266	-450	-137																				
17	VS135	0.0000	0.0000	0.0000	0.0000	-832	-254	-450	-137	n =	2			Total =	0.0789		0.2103												
18	VS136	0.0032	0.0004	0.0085	0.0002	-822	-251	-516	-157	VS023	-822	-251	-516	-157	0.0064	0.0008	0.0170	0.0005	73.719	3.814									
18	VS137	0.0032	0.0004	0.0085	0.0002	-822	-251	-476	-145																				
Total Emissions for Segment 18																													
19	VS138	0.0055	0.0007	0.0147	0.0004	-822	-251	-502	-153																				
19	VS139	0.0055	0.0007	0.0147	0.0004	-822	-251	-542	-165																				
19	VS140	0.0055	0.0007	0.0147	0.0004	-822	-251	-582	-177																				
19	VS141	0.0055	0.0007	0.0147	0.0004	-822	-251	-622	-190																				
19	VS142	0.0055	0.0007	0.0147	0.0004	-822	-251	-662	-202																				
19	VS143	0.0055	0.0007	0.0147	0.0004	-823	-251	-702	-214																				
19	VS144	0.0055	0.0007	0.0147	0.0004	-823	-251	-742	-226																				
19	VS145	0.0055	0.0007	0.0147	0.0004	-823	-251	-782	-238																				
19	VS146	0.0055	0.0007	0.0147	0.0004	-823	-251	-822	-251																				
19	VS147	0.0055	0.0007	0.0147	0.0004	-823	-251	-862	-263																				
19	VS148	0.0055	0.0007	0.0147	0.0004	-823	-251	-902	-275	VS024	-823	-251	-902	-275	0.0234	0.0029	0.0624	0.0018	62.378	3.814									
19	VS149	0.0055	0.0007	0.0147	0.0004	-823	-251	-942	-287																				
19	VS150	0.0055	0.0007	0.0147	0.0004	-823	-251	-982	-299																				
19	VS151	0.0055	0.0007	0.0147	0.0004	-824	-251	-1022	-312																				
19	VS152	0.0055	0.0007	0.0147	0.0004	-824	-251	-1062	-324																				
19	VS153	0.0055	0.0007	0.0147	0.0004	-824	-251	-1102	-336																				
19	VS154	0.0055	0.0007	0.0147	0.0004	-824	-251	-1142	-348																				
20	VS155	0.0000	0.0000	0.0000	0.0000	-824	-251	-1152	-351																				
20	VS156	0.0000	0.0000	0.0000	0.0000	-841	-256	-1188	-362																				
20	VS157	0.0000	0.0000	0.0000	0.0000	-859	-262	-1224	-373	VS025	-859	-262	-1224	-373	0.0234	0.0029	0.0624	0.0018	11.341	3.814									
20	VS158	0.0000	0.0000	0.0000	0.0000	-876	-267	-1260	-384																				
21	VS159	0.0000	0.0000	0.0000	0.0000	-882	-269	-1272	-388	VS026	-882	-269	-1272	-388	0.0234	0.0029	0.0624	0.0018	11.341	3.814									
21	VS160	0.0000	0.0000	0.0000	0.0000	-845	-258	-1288	-393																				
22	VS161	0.0000	0.0000	0.0000	0.0000	-910	-277	-1260	-384																				
22	VS162	0.0000	0.0000	0.0000	0.0000	-885	-270	-1229	-375																				
22	VS163	0.0000	0.0000	0.0000	0.0000	-860	-262	-1197	-365																				
22	VS164	0.0000	0.0000	0.0000	0.0000	-835	-255	-1166	-355	VS027	-835	-255	-1166	-355	0.0234	0.0029	0.0624	0.0018	22.683	3.814									
22	VS165	0.0000	0.0000	0.0000	0.0000	-810	-247	-1135	-346	n =	4			Total =	0.0937		0.2496												
Total Emissions for Segments 23-26																													
23	VS166	0.0269	0.0033	0.0716	0.0021	-822	-251	-502	-153																				
23	VS167	0.0269	0.0033	0.0716	0.0021	-850	-259	-530	-162																				
23	VS168	0.0269	0.0033	0.0716	0.0021	-879	-268	-559	-170																				
23	VS169	0.0269	0.0033	0.0716	0.0021	-907	-276	-587	-179																				
23	VS170	0.0269	0.0033	0.0716	0.0021	-935	-285	-615	-187	VS028	-935	-285	-615	-187	0.0430	0.0053	0.1146	0.0033	68.048	3.814									
23	VS171	0.0269	0.0033	0.0716	0.0021	-963	-294	-643	-196																				
23	VS172	0.0269	0.0033	0.0716	0.0021	-992	-302	-672	-205																				
23	VS173	0.0269	0.0033	0.0716	0.0021	-1020	-311	-700	-213																				
24	VS174	0.0000	0.0000	0.0000	0.0000	-1030	-314	-710	-216																				
24	VS175	0.0000	0.0000	0.0000	0.0000	-1070	-326	-710	-216																				
24	VS176	0.0000	0.0000	0.0000	0.0000	-1110	-338	-710	-216																				
24	VS177	0.0000	0.0000	0.0000	0.0000	-1150	-351	-710	-216																				
24	VS178	0.0000	0.0000	0.0000	0.0000	-1190	-363	-710	-216																				
24	VS179	0.0000	0.0000	0.0000	0.0000	-1230	-375	-710	-216																				

Table H-5b. Volume Source Future Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X (ft)	X (m)	Y (ft)	Y (m)	Hourly		Annual			
						(ft)	(m)	(ft)	(m)						Emission Rate (lb/hr)	Emission Rate (g/sec)	Emission Rate (TPY)	Emission Rate (g/sec)		
24	VS180	0.0000	0.0000	0.0000	0.0000	-1270	-387	-710	-216											
24	VS181	0.0000	0.0000	0.0000	0.0000	-1310	-399	-710	-216											
24	VS182	0.0000	0.0000	0.0000	0.0000	-1350	-411	-710	-216											
24	VS183	0.0000	0.0000	0.0000	0.0000	-1390	-424	-710	-216											
24	VS184	0.0000	0.0000	0.0000	0.0000	-1430	-436	-710	-216											
24	VS185	0.0000	0.0000	0.0000	0.0000	-1470	-448	-710	-216											
24	VS186	0.0000	0.0000	0.0000	0.0000	-1510	-460	-710	-216											
24	VS187	0.0000	0.0000	0.0000	0.0000	-1550	-472	-710	-216	VS029	-1550	-472	-710	-216	0.0430	0.0053	0.1146	0.0033	96.402	3.814
24	VS188	0.0000	0.0000	0.0000	0.0000	-1590	-485	-710	-216											
24	VS189	0.0000	0.0000	0.0000	0.0000	-1630	-497	-710	-216											
24	VS190	0.0000	0.0000	0.0000	0.0000	-1670	-509	-710	-216											
24	VS191	0.0000	0.0000	0.0000	0.0000	-1710	-521	-710	-216											
24	VS192	0.0000	0.0000	0.0000	0.0000	-1750	-533	-710	-216											
24	VS193	0.0000	0.0000	0.0000	0.0000	-1790	-546	-710	-216											
24	VS194	0.0000	0.0000	0.0000	0.0000	-1830	-558	-710	-216											
24	VS195	0.0000	0.0000	0.0000	0.0000	-1870	-570	-710	-216											
24	VS196	0.0000	0.0000	0.0000	0.0000	-1910	-582	-710	-216											
24	VS197	0.0000	0.0000	0.0000	0.0000	-1950	-594	-710	-216											
24	VS198	0.0000	0.0000	0.0000	0.0000	-1990	-607	-710	-216											
24	VS199	0.0000	0.0000	0.0000	0.0000	-2030	-619	-710	-216											
24	VS200	0.0000	0.0000	0.0000	0.0000	-2070	-631	-710	-216											
24	VS201	0.0000	0.0000	0.0000	0.0000	-2110	-643	-710	-216											
24	VS202	0.0000	0.0000	0.0000	0.0000	-2150	-655	-710	-216	VS030	-2150	-655	-710	-216	0.0430	0.0053	0.1146	0.0033	85.060	3.814
24	VS203	0.0000	0.0000	0.0000	0.0000	-2190	-668	-710	-216											
24	VS204	0.0000	0.0000	0.0000	0.0000	-2230	-680	-710	-216											
24	VS205	0.0000	0.0000	0.0000	0.0000	-2270	-692	-710	-216											
24	VS206	0.0000	0.0000	0.0000	0.0000	-2310	-704	-710	-216											
24	VS207	0.0000	0.0000	0.0000	0.0000	-2350	-716	-710	-216											
24	VS208	0.0000	0.0000	0.0000	0.0000	-2390	-728	-710	-216											
24	VS209	0.0000	0.0000	0.0000	0.0000	-2430	-741	-710	-216											
24	VS210	0.0000	0.0000	0.0000	0.0000	-2470	-753	-710	-216											
24	VS211	0.0000	0.0000	0.0000	0.0000	-2510	-765	-710	-216											
24	VS212	0.0000	0.0000	0.0000	0.0000	-2550	-777	-710	-216											
24	VS213	0.0000	0.0000	0.0000	0.0000	-2590	-789	-710	-216											
24	VS214	0.0000	0.0000	0.0000	0.0000	-2630	-802	-710	-216											
25	VS215	0.0000	0.0000	0.0000	0.0000	-2620	-799	-710	-216											
25	VS216	0.0000	0.0000	0.0000	0.0000	-2650	-808	-683	-208	VS031	-2650	-808	-683	-208	0.0430	0.0053	0.1146	0.0033	11.341	3.814
25	VS217	0.0000	0.0000	0.0000	0.0000	-2680	-817	-657	-200											
26	VS218	0.0000	0.0000	0.0000	0.0000	-2690	-820	-648	-198											
26	VS219	0.0000	0.0000	0.0000	0.0000	-2690	-820	-608	-185											
26	VS220	0.0000	0.0000	0.0000	0.0000	-2690	-820	-568	-173	VS032	-2690	-820	-568	-173	0.0430	0.0053	0.1146	0.0033	28.353	3.814
26	VS221	0.0000	0.0000	0.0000	0.0000	-2690	-820	-528	-161											
26	VS222	0.0000	0.0000	0.0000	0.0000	-2690	-820	-488	-149	n =	5			Total =	0.2151	0.5731				
27	VS223	0.0037	0.0005	0.0100	0.0003	-2690	-820	-490	-149											
27	VS224	0.0037	0.0005	0.0100	0.0003	-2650	-808	-489	-149	Total Emissions for Segment 27										
27	VS225	0.0037	0.0005	0.0100	0.0003	-2610	-796	-488	-149	VS033	-2610	-796	-488	-149	0.0162	0.0020	0.0432	0.0012	22.683	3.814
27	VS226	0.0037	0.0005	0.0100	0.0003	-2570	-783	-486	-148											
27	VS227	0.0037	0.0005	0.0100	0.0003	-2530	-771	-485	-148											
27	VS228	0.0037	0.0005	0.0100	0.0003	-2490	-759	-484	-148											
27	VS229	0.0037	0.0005	0.0100	0.0003	-2450	-747	-483	-147	VS034	-2450	-747	-483	-147	0.0162	0.0020	0.0432	0.0012	22.683	3.814
27	VS230	0.0037	0.0005	0.0100	0.0003	-2410	-735	-482	-147											
27	VS231	0.0037	0.0005	0.0100	0.0003	-2370	-722	-480	-146											
27	VS232	0.0037	0.0005	0.0100	0.0003	-2330	-710	-479	-146											
27	VS233	0.0037	0.0005	0.0100	0.0003	-2290	-698	-478	-146	VS035	-2290	-698	-478	-146	0.0162	0.0020	0.0432	0.0012	22.683	3.814
27	VS234	0.0037	0.0005	0.0100	0.0003	-2250	-686	-477	-145											
27	VS235	0.0037	0.0005	0.0100	0.0003	-2210	-674	-476	-145	n =	3			Total =	0.0486	0.1296				
28	VS236	0.0080	0.0010	0.0212	0.0006	-2690	-820	-490	-149											
28	VS237	0.0080	0.0010	0.0212	0.0006	-2689	-819	-450	-137	Total Emissions for Segments 28-29										
28	VS238	0.0080	0.0010	0.0212	0.0006	-2687	-819	-410	-125	VS036	-2687	-819	-410	-125	0.0119	0.0015	0.0318	0.0009	11.341	3.814
28	VS239	0.0080	0.0010	0.0212	0.0006	-2686	-819	-370	-113											

Table H-5b. Volume Source Future Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				Volume Source No.	Volume Sources Center Location				Combined		Sigma Y (m)	Sigma Z (m)		
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X	Y	X	Y	Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)				
						(ft)	(m)	(ft)	(m)										(ft)	(m)
28	VS240	0.0080	0.0010	0.0212	0.0006	-2684	-818	-330	-101	VS037	-2684	-818	-330	-101	0.0119	0.0015	0.0318	0.0009	11.341	3.814
28	VS241	0.0080	0.0010	0.0212	0.0006	-2683	-818	-290	-88											
28	VS242	0.0080	0.0010	0.0212	0.0006	-2681	-817	-250	-76	VS038	-2681	-817	-250	-76	0.0119	0.0015	0.0318	0.0009	11.341	3.814
28	VS243	0.0080	0.0010	0.0212	0.0006	-2680	-817	-210	-64											
28	VS244	0.0080	0.0010	0.0212	0.0006	-2678	-816	-170	-52											
29	VS245	0.0000	0.0000	0.0000	0.0000	-2678	-816	-158	-48											
29	VS246	0.0000	0.0000	0.0000	0.0000	-2638	-804	-158	-48											
29	VS247	0.0000	0.0000	0.0000	0.0000	-2598	-792	-158	-48	VS039	-2598	-792	-158	-48	0.0119	0.0015	0.0318	0.0009	11.341	3.814
29	VS248	0.0000	0.0000	0.0000	0.0000	-2558	-780	-158	-48											
29	VS249	0.0000	0.0000	0.0000	0.0000	-2518	-767	-158	-48	VS040	-2518	-767	-158	-48	0.0119	0.0015	0.0318	0.0009	11.341	3.814
29	VS250	0.0000	0.0000	0.0000	0.0000	-2478	-755	-158	-48											
29	VS251	0.0000	0.0000	0.0000	0.0000	-2438	-743	-158	-48											
29	VS252	0.0000	0.0000	0.0000	0.0000	-2398	-731	-158	-48											
29	VS253	0.0000	0.0000	0.0000	0.0000	-2358	-719	-158	-48	VS041	-2358	-719	-158	-48	0.0119	0.0015	0.0318	0.0009	22.683	3.814
29	VS254	0.0000	0.0000	0.0000	0.0000	-2318	-707	-158	-48											
29	VS255	0.0000	0.0000	0.0000	0.0000	-2278	-694	-158	-48											
Total =															0.0716	0.1907				
30	VS256	0.0051	0.0006	0.0136	0.0004	-564	-172	220	67											
30	VS257	0.0051	0.0006	0.0136	0.0004	-604	-184	220	67											
30	VS258	0.0051	0.0006	0.0136	0.0004	-644	-196	220	67	Total Emissions for Segments 30-34										
30	VS259	0.0051	0.0006	0.0136	0.0004	-684	-208	220	67											
30	VS260	0.0051	0.0006	0.0136	0.0004	-724	-221	220	67											
30	VS261	0.0051	0.0006	0.0136	0.0004	-764	-233	220	67											
30	VS262	0.0051	0.0006	0.0136	0.0004	-804	-245	219	67											
30	VS263	0.0051	0.0006	0.0136	0.0004	-844	-257	219	67											
30	VS264	0.0051	0.0006	0.0136	0.0004	-884	-269	219	67	VS042	-884	-269	219	67	0.0390	0.0048	0.1039	0.0030	56.707	3.814
30	VS265	0.0051	0.0006	0.0136	0.0004	-924	-282	219	67											
30	VS266	0.0051	0.0006	0.0136	0.0004	-964	-294	219	67											
30	VS267	0.0051	0.0006	0.0136	0.0004	-1004	-306	219	67											
30	VS268	0.0051	0.0006	0.0136	0.0004	-1044	-318	219	67											
30	VS269	0.0051	0.0006	0.0136	0.0004	-1084	-330	219	67											
30	VS270	0.0051	0.0006	0.0136	0.0004	-1124	-343	219	67											
30	VS271	0.0051	0.0006	0.0136	0.0004	-1164	-355	219	67											
30	VS272	0.0051	0.0006	0.0136	0.0004	-1204	-367	219	67											
30	VS273	0.0051	0.0006	0.0136	0.0004	-1244	-379	218	67											
30	VS274	0.0051	0.0006	0.0136	0.0004	-1284	-391	218	67	VS043	-1284	-391	218	67	0.0390	0.0048	0.1039	0.0030	56.707	3.814
30	VS275	0.0051	0.0006	0.0136	0.0004	-1324	-404	218	67											
30	VS276	0.0051	0.0006	0.0136	0.0004	-1364	-416	218	67											
30	VS277	0.0051	0.0006	0.0136	0.0004	-1404	-428	218	66											
30	VS278	0.0051	0.0006	0.0136	0.0004	-1444	-440	218	66											
31	VS279	0.0000	0.0000	0.0000	0.0000	-1446	-441	218	66											
31	VS280	0.0000	0.0000	0.0000	0.0000	-1486	-453	219	67											
31	VS281	0.0000	0.0000	0.0000	0.0000	-1526	-465	219	67											
31	VS282	0.0000	0.0000	0.0000	0.0000	-1566	-477	220	67											
32	VS283	0.0000	0.0000	0.0000	0.0000	-1558	-475	220	67											
32	VS284	0.0000	0.0000	0.0000	0.0000	-1572	-479	182	56											
33	VS285	0.0000	0.0000	0.0000	0.0000	-1574	-480	176	54											
33	VS286	0.0000	0.0000	0.0000	0.0000	-1534	-468	174	53											
33	VS287	0.0000	0.0000	0.0000	0.0000	-1494	-455	172	53											
34	VS288	0.0000	0.0000	0.0000	0.0000	-1486	-453	172	52											
34	VS289	0.0000	0.0000	0.0000	0.0000	-1460	-445	202	62	VS044	-1460	-445	202	62	0.0390	0.0048	0.1039	0.0030	62.378	3.814
34	VS290	0.0000	0.0000	0.0000	0.0000	-1434	-437	232	71	n =	3									
Total =															0.1170	0.3118				
35	VS291	0.0040	0.0005	0.0106	0.0003	-1558	-475	220	67	Total Emissions for Segments 35 and 36										
35	VS292	0.0040	0.0005	0.0106	0.0003	-1598	-487	219	67											
35	VS293	0.0040	0.0005	0.0106	0.0003	-1638	-499	219	67											
35	VS294	0.0040	0.0005	0.0106	0.0003	-1678	-511	218	66											
36	VS295	0.0000	0.0000	0.0000	0.0000	-1666	-508	218	66	VS045	-1666	-508	218	66	0.0139	0.0020	0.0425	0.0012	39.695	3.814
36	VS296	0.0000	0.0000	0.0000	0.0000	-1701	-518	237	72	n =	1									
Total =															0.0139	0.0425				
37	VS297	0.0027	0.0003	0.0073	0.0002	-1702	-519	238	73											
37	VS298	0.0027	0.0003	0.0073	0.0002	-1742	-531	239	73											

Table H-5b. Volume Source Future Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				Volume Source No.	Volume Sources Center Location				Combined		Sigma Y (m)	Sigma Z (m)		
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X	Y	X	Y	Hourly Emission Rate (lb/hr)	Annual Emission Rate (TPY)				
						(ft)	(m)	(ft)	(m)										(ft)	(m)
37	VS299	0.0027	0.0003	0.0073	0.0002	-1782	-543	239	73											
37	VS300	0.0027	0.0003	0.0073	0.0002	-1822	-555	240	73	Total Emissions for Segments 37-45 (Split 9 Ways)										
38	VS301	0.0030	0.0004	0.0080	0.0002	-1810	-552	240	73											
38	VS302	0.0030	0.0004	0.0080	0.0002	-1770	-540	234	71											
38	VS303	0.0030	0.0004	0.0080	0.0002	-1731	-528	228	69											
38	VS304	0.0030	0.0004	0.0080	0.0002	-1691	-516	222	68											
38	VS305	0.0030	0.0004	0.0080	0.0002	-1652	-503	216	66											
39	VS306	0.0349	0.0043	0.0931	0.0027	-1702	-519	238	73											
39	VS307	0.0349	0.0043	0.0931	0.0027	-1739	-530	254	78											
39	VS308	0.0349	0.0043	0.0931	0.0027	-1775	-541	271	83	VS046	-1775	-541	271	83	0.0223	0.0028	0.0594	0.0017	68.048	3.814
39	VS309	0.0349	0.0043	0.0931	0.0027	-1812	-552	287	87											
39	VS310	0.0349	0.0043	0.0931	0.0027	-1848	-563	303	92											
40	VS311	0.0000	0.0000	0.0000	0.0000	-1836	-560	298	91											
40	VS312	0.0000	0.0000	0.0000	0.0000	-1876	-572	292	89											
40	VS313	0.0000	0.0000	0.0000	0.0000	-1915	-584	285	87											
40	VS314	0.0000	0.0000	0.0000	0.0000	-1955	-596	279	85											
40	VS315	0.0000	0.0000	0.0000	0.0000	-1994	-608	273	83											
40	VS316	0.0000	0.0000	0.0000	0.0000	-2034	-620	267	81											
40	VS317	0.0000	0.0000	0.0000	0.0000	-2073	-632	260	79											
40	VS318	0.0000	0.0000	0.0000	0.0000	-2113	-644	254	77	VS047	-2113	-644	254	77	0.0223	0.0028	0.0594	0.0017	56.707	3.814
40	VS319	0.0000	0.0000	0.0000	0.0000	-2152	-656	248	76											
40	VS320	0.0000	0.0000	0.0000	0.0000	-2192	-668	242	74											
40	VS321	0.0000	0.0000	0.0000	0.0000	-2231	-680	235	72											
40	VS322	0.0000	0.0000	0.0000	0.0000	-2271	-692	229	70											
40	VS323	0.0000	0.0000	0.0000	0.0000	-2310	-704	223	68											
40	VS324	0.0000	0.0000	0.0000	0.0000	-2350	-716	216	66											
40	VS325	0.0000	0.0000	0.0000	0.0000	-2389	-728	210	64											
40	VS326	0.0000	0.0000	0.0000	0.0000	-2429	-740	204	62											
40	VS327	0.0000	0.0000	0.0000	0.0000	-2468	-752	198	60	VS048	-2468	-752	198	60	0.0223	0.0028	0.0594	0.0017	56.707	3.814
40	VS328	0.0000	0.0000	0.0000	0.0000	-2508	-764	191	58											
40	VS329	0.0000	0.0000	0.0000	0.0000	-2547	-776	185	56											
40	VS330	0.0000	0.0000	0.0000	0.0000	-2587	-788	179	54											
40	VS331	0.0000	0.0000	0.0000	0.0000	-2626	-800	172	53											
40	VS332	0.0000	0.0000	0.0000	0.0000	-2666	-812	166	51											
40	VS333	0.0000	0.0000	0.0000	0.0000	-2705	-825	160	49											
41	VS334	0.0000	0.0000	0.0000	0.0000	-2692	-821	162	49	VS049	-2692	-821	162	49	0.0223	0.0028	0.0594	0.0017	11.341	3.814
41	VS335	0.0000	0.0000	0.0000	0.0000	-2693	-821	122	37											
41	VS336	0.0000	0.0000	0.0000	0.0000	-2695	-821	82	25	VS050	-2695	-821	82	25	0.0223	0.0028	0.0594	0.0017	11.341	3.814
41	VS337	0.0000	0.0000	0.0000	0.0000	-2696	-822	42	13											
42	VS338	0.0000	0.0000	0.0000	0.0000	-2696	-822	54	16											
42	VS339	0.0000	0.0000	0.0000	0.0000	-2656	-810	53	16	VS051	-2656	-810	53	16	0.0223	0.0028	0.0594	0.0017	11.341	3.814
42	VS340	0.0000	0.0000	0.0000	0.0000	-2616	-797	51	16											
42	VS341	0.0000	0.0000	0.0000	0.0000	-2576	-785	50	15	VS052	-2576	-785	50	15	0.0223	0.0028	0.0594	0.0017	11.341	3.814
42	VS342	0.0000	0.0000	0.0000	0.0000	-2536	-773	48	15											
43	VS343	0.0000	0.0000	0.0000	0.0000	-2696	-822	54	16											
43	VS344	0.0000	0.0000	0.0000	0.0000	-2656	-810	51	16	VS053	-2656	-810	51	16	0.0223	0.0028	0.0594	0.0017	39.695	3.814
43	VS345	0.0000	0.0000	0.0000	0.0000	-2616	-797	48	15											
43	VS346	0.0000	0.0000	0.0000	0.0000	-2576	-785	45	14											
43	VS347	0.0000	0.0000	0.0000	0.0000	-2536	-773	42	13											
43	VS348	0.0000	0.0000	0.0000	0.0000	-2497	-761	39	12											
43	VS349	0.0000	0.0000	0.0000	0.0000	-2457	-749	36	11											
43	VS350	0.0000	0.0000	0.0000	0.0000	-2417	-737	33	10											
44	VS351	0.0000	0.0000	0.0000	0.0000	-2434	-742	34	10											
44	VS352	0.0000	0.0000	0.0000	0.0000	-2434	-742	74	23											
45	VS353	0.0000	0.0000	0.0000	0.0000	-2434	-742	48	15											
45	VS354	0.0000	0.0000	0.0000	0.0000	-2474	-754	48	15	VS054	-2474	-754	48	15	0.0223	0.0028	0.0594	0.0017	22.683	3.814
45	VS355	0.0000	0.0000	0.0000	0.0000	-2514	-766	48	15											
45	VS356	0.0000	0.0000	0.0000	0.0000	-2554	-778	48	15	n =	9	Total =	0.2005	0.5343						
46	VS357	0.0141	0.0017	0.0375	0.0011	-132	-40	400	122											
46	VS358	0.0141	0.0017	0.0375	0.0011	-158	-48	430	131											

Table H-5b. Volume Source Future Emission Rate and Model Dimension Calculations

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				Volume Source No.	Volume Sources Center Location				Combined		Sigma Y (m)	Sigma Z (m)			
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X (ft)	X (m)	Y (ft)	Y (m)	Hourly Emission Rate (lb/hr)	Hourly Emission Rate (g/sec)			Annual Emission Rate (TPY)	Annual Emission Rate (g/sec)	
						(ft)	(m)	(ft)	(m)												
46	VS359	0.0141	0.0017	0.0375	0.0011	-184	-56	461	140	Total Emissions for Segments 46-50 (split 2-ways)											
46	VS360	0.0141	0.0017	0.0375	0.0011	-210	-64	491	150	VS055	-237	-72	521	159	0.0704	0.0087	0.1875	0.0054	28.353	3.814	
46	VS361	0.0141	0.0017	0.0375	0.0011	-237	-72	521	159												
46	VS362	0.0141	0.0017	0.0375	0.0011	-263	-80	551	168												
46	VS363	0.0141	0.0017	0.0375	0.0011	-289	-88	582	177												
46	VS364	0.0141	0.0017	0.0375	0.0011	-315	-96	612	186												
46	VS365	0.0141	0.0017	0.0375	0.0011	-341	-104	642	196												
46	VS366	0.0141	0.0017	0.0375	0.0011	-367	-112	672	205												
47	VS367	0.0000	0.0000	0.0000	0.0000	-374	-114	680	207												
47	VS368	0.0000	0.0000	0.0000	0.0000	-414	-126	677	206												
47	VS369	0.0000	0.0000	0.0000	0.0000	-454	-138	674	205												
47	VS370	0.0000	0.0000	0.0000	0.0000	-494	-150	670	204												
47	VS371	0.0000	0.0000	0.0000	0.0000	-533	-163	667	203												
47	VS372	0.0000	0.0000	0.0000	0.0000	-573	-175	664	202												
47	VS373	0.0000	0.0000	0.0000	0.0000	-613	-187	661	201												
48	VS374	0.0000	0.0000	0.0000	0.0000	-600	-183	662	202												
48	VS375	0.0000	0.0000	0.0000	0.0000	-631	-192	636	194												
48	VS376	0.0000	0.0000	0.0000	0.0000	-661	-202	611	186	VS056	-661	-202	611	186	0.0704	0.0087	0.1875	0.0054	96.402	3.814	
48	VS377	0.0000	0.0000	0.0000	0.0000	-692	-211	585	178												
49	VS378	0.0000	0.0000	0.0000	0.0000	-698	-213	580	177												
49	VS379	0.0000	0.0000	0.0000	0.0000	-738	-225	583	178												
49	VS380	0.0000	0.0000	0.0000	0.0000	-778	-237	546	179												
49	VS381	0.0000	0.0000	0.0000	0.0000	-818	-249	589	179												
49	VS382	0.0000	0.0000	0.0000	0.0000	-858	-261	592	180												
50	VS383	0.0000	0.0000	0.0000	0.0000	-862	-263	592	180												
50	VS384	0.0000	0.0000	0.0000	0.0000	-899	-274	606	185												
50	VS385	0.0000	0.0000	0.0000	0.0000	-937	-286	621	189												
50	VS386	0.0000	0.0000	0.0000	0.0000	-974	-297	635	193												
50	VS387	0.0000	0.0000	0.0000	0.0000	-1011	-308	649	198												
50	VS388	0.0000	0.0000	0.0000	0.0000	-1049	-320	663	202												
50	VS389	0.0000	0.0000	0.0000	0.0000	-1086	-331	678	207												
50	VS390	0.0000	0.0000	0.0000	0.0000	-1124	-342	692	211	n =	2	Total =	0.1407	0.3750							
51	VS391	0.0114	0.0014	0.0305	0.0009	-1124	-343	692	211	Total Emissions for Segments 51 - 54											
51	VS392	0.0114	0.0014	0.0305	0.0009	-1164	-355	693	211												
51	VS393	0.0114	0.0014	0.0305	0.0009	-1204	-367	694	211												
52	VS394	0.0000	0.0000	0.0000	0.0000	-1220	-372	694	212												
52	VS395	0.0000	0.0000	0.0000	0.0000	-1180	-360	692	211												
52	VS396	0.0000	0.0000	0.0000	0.0000	-1140	-348	690	210												
53	VS397	0.0000	0.0000	0.0000	0.0000	-1298	-396	698	213												
53	VS398	0.0000	0.0000	0.0000	0.0000	-1295	-395	658	201												
53	VS399	0.0000	0.0000	0.0000	0.0000	-1292	-394	618	188												
53	VS400	0.0000	0.0000	0.0000	0.0000	-1289	-393	578	176												
54	VS401	0.0032	0.0004	0.0085	0.0002	-1288	-393	572	174												
54	VS402	0.0032	0.0004	0.0085	0.0002	-1248	-380	574	175	VS057	-1208	-368	576	176	0.0502	0.0062	0.1338	0.0039	96.402	3.814	
54	VS403	0.0032	0.0004	0.0085	0.0002	-1208	-368	576	176												
54	VS404	0.0032	0.0004	0.0085	0.0002	-1168	-356	578	176												
54	VS405	0.0032	0.0004	0.0085	0.0002	-1128	-344	580	177												n =
55	VS406	0.0031	0.0004	0.0083	0.0002	-1130	-344	580	177	Total Emissions for Segments 55, 56, and 57											
55	VS407	0.0031	0.0004	0.0083	0.0002	-1090	-332	580	177												
55	VS408	0.0031	0.0004	0.0083	0.0002	-1050	-320	580	177												
56	VS409	0.0031	0.0004	0.0081	0.0002	-1038	-316	580	177	VS058	-998	-304	580	177	0.0409	0.0051	0.1089	0.0031	79.390	3.814	
56	VS410	0.0031	0.0004	0.0081	0.0002	-998	-304	580	177												
56	VS411	0.0031	0.0004	0.0081	0.0002	-958	-292	580	177												
57	VS412	0.0037	0.0005	0.0099	0.0003	-946	-288	580	177												
57	VS413	0.0037	0.0005	0.0099	0.0003	-906	-276	580	177												
57	VS414	0.0037	0.0005	0.0099	0.0003	-866	-264	581	177												
57	VS415	0.0037	0.0005	0.0099	0.0003	-826	-252	581	177												
57	VS416	0.0037	0.0005	0.0099	0.0003	-786	-240	581	177												
57	VS417	0.0037	0.0005	0.0099	0.0003	-746	-227	582	177	n =	1	Total =	0.0409	0.1089							

Segment Number	Detailed Volume Source No.	Hourly Emission Rate		Annual Emission Rate		Center Location				Volume Source No.	Volume Sources Center Location				Combined				Sigma Y (m)	Sigma Z (m)
		(lb/hr)	(g/sec)	(TPY)	(g/sec)	X		Y			X (ft)	X (m)	Y (ft)	Y (m)	Hourly		Annual			
						(ft)	(m)	(lb/hr)	(g/sec)						(TPY)	(g/sec)				
58	VS418	0.0039	0.0005	0.0104	0.0003	-1130	-344	580	177											
58	VS419	0.0039	0.0005	0.0104	0.0003	-1090	-332	580	177											
58	VS420	0.0039	0.0005	0.0104	0.0003	-1050	-320	580	177											
59	VS421	0.0029	0.0004	0.0078	0.0002	-946	-288	580	177											
59	VS422	0.0029	0.0004	0.0078	0.0002	-906	-276	586	179											
59	VS423	0.0029	0.0004	0.0078	0.0002	-867	-264	591	180											
60	VS424	0.0101	0.0013	0.0270	0.0008	-1288	-393	572	174											
60	VS425	0.0101	0.0013	0.0270	0.0008	-1328	-405	575	175											
60	VS426	0.0101	0.0013	0.0270	0.0008	-1368	-417	578	176											
60	VS427	0.0101	0.0013	0.0270	0.0008	-1408	-429	582	177											
60	VS428	0.0101	0.0013	0.0270	0.0008	-1447	-441	585	178											
60	VS429	0.0101	0.0013	0.0270	0.0008	-1487	-453	588	179											
60	VS430	0.0101	0.0013	0.0270	0.0008	-1527	-466	591	180											
60	VS431	0.0101	0.0013	0.0270	0.0008	-1567	-478	594	181	VS059	-1567	-478	594	181	0.1220	0.0151	0.3250	0.0094	113.414	3.814
60	VS432	0.0101	0.0013	0.0270	0.0008	-1607	-490	598	182											
60	VS433	0.0101	0.0013	0.0270	0.0008	-1647	-502	601	183											
61	VS434	0.0000	0.0000	0.0000	0.0000	-1638	-499	600	183											
61	VS435	0.0000	0.0000	0.0000	0.0000	-1638	-499	640	195											
61	VS436	0.0000	0.0000	0.0000	0.0000	-1639	-500	680	207											
61	VS437	0.0000	0.0000	0.0000	0.0000	-1639	-500	720	219											
61	VS438	0.0000	0.0000	0.0000	0.0000	-1640	-500	760	232											
62	VS439	0.0000	0.0000	0.0000	0.0000	-1640	-500	770	235											
62	VS440	0.0000	0.0000	0.0000	0.0000	-1601	-488	763	233											
62	VS441	0.0000	0.0000	0.0000	0.0000	-1561	-476	756	230											
62	VS442	0.0000	0.0000	0.0000	0.0000	-1522	-464	749	228											
62	VS443	0.0000	0.0000	0.0000	0.0000	-1483	-452	742	226											
62	VS444	0.0000	0.0000	0.0000	0.0000	-1443	-440	734	224											
62	VS445	0.0000	0.0000	0.0000	0.0000	-1404	-428	727	222											
62	VS446	0.0000	0.0000	0.0000	0.0000	-1364	-416	720	219											
62	VS447	0.0000	0.0000	0.0000	0.0000	-1325	-404	713	217											
62	VS448	0.0000	0.0000	0.0000	0.0000	-1286	-392	706	215											
62	VS449	0.0000	0.0000	0.0000	0.0000	-1246	-380	699	213											
62	VS450	0.0000	0.0000	0.0000	0.0000	-1207	-368	692	211	n =	.1			Total =	0.1220		0.3250			
63	VS451	0.0000	0.0000	0.0000	0.0000	-822	-251	-502	-153											
63	VS452	0.0000	0.0000	0.0000	0.0000	-821	-250	-542	-165											
63	VS453	0.0000	0.0000	0.0000	0.0000	-821	-250	-582	-177											
63	VS454	0.0000	0.0000	0.0000	0.0000	-820	-250	-622	-190											
63	VS455	0.0000	0.0000	0.0000	0.0000	-820	-250	-662	-202											
64	VS456	0.0000	0.0000	0.0000	0.0000	-820	-250	-640	-195											
64	VS457	0.0000	0.0000	0.0000	0.0000	-780	-238	-640	-195											
64	VS458	0.0000	0.0000	0.0000	0.0000	-740	-226	-640	-195											
64	VS459	0.0000	0.0000	0.0000	0.0000	-700	-213	-640	-195	VS060	-700	-213	-640	-195	0.0319	0.0039	0.0850	0.0024	34.024	3.814
65	VS460	0.0000	0.0000	0.0000	0.0000	-720	-219	-640	-195											
65	VS461	0.0000	0.0000	0.0000	0.0000	-720	-219	-600	-183											
65	VS462	0.0000	0.0000	0.0000	0.0000	-720	-219	-560	-171	n =	1			Total =	0.0319		0.0850			

Table H-6. Truck Traffic/Volume Source Emission Rates, Model Dimensions, and Relative Locations

Volume Source ID	PM ₁₀ Emission Rates (g/s)				Relative Location ^b (m)		Sigma Y ^c (m)	Sigma Z ^d (m)
	Hourly Project Increase ^a	Annual Project Increase ^a	Hourly Future	Annual Future	X	Y		
VS001	0.0009	0.0012	0.0014	0.0008	385.75	289.77	11.34	3.81
VS002	0.0009	0.0012	0.0014	0.0008	363.06	280.83	11.34	3.81
VS003	0.0009	0.0012	0.0014	0.0008	340.37	271.89	11.34	3.81
VS004	0.0009	0.0012	0.0014	0.0008	317.69	262.95	11.34	3.81
VS005	0.0009	0.0012	0.0014	0.0008	295.00	254.01	11.34	3.81
VS006	0.0009	0.0012	0.0014	0.0008	272.31	245.07	11.34	3.81
VS007	0.0009	0.0012	0.0014	0.0008	249.63	236.13	11.34	3.81
VS008	0.0009	0.0012	0.0014	0.0008	226.94	227.19	11.34	3.81
VS009	0.0009	0.0012	0.0014	0.0008	204.25	218.25	11.34	3.81
VS010	0.0009	0.0012	0.0014	0.0008	181.57	209.31	11.34	3.81
VS011	0.0009	0.0012	0.0014	0.0008	158.88	200.38	11.34	3.81
VS012	0.0009	0.0012	0.0014	0.0008	68.14	164.62	28.35	3.81
VS013	0.0009	0.0012	0.0014	0.0008	11.42	142.27	28.35	3.81
VS014	0.0013	0.0017	0.0020	0.0012	-27.53	62.30	28.35	3.81
VS015	0.0013	0.0017	0.0020	0.0012	1.65	31.66	39.69	3.81
VS016	0.0010	0.0013	0.0015	0.0009	-50.64	115.56	39.69	3.81
VS017	0.0030	0.0039	0.0044	0.0027	-78.93	78.11	28.35	3.81
VS018	0.0030	0.0039	0.0044	0.0027	-118.87	-12.19	56.71	3.81
VS019	0.0030	0.0039	0.0044	0.0027	-57.30	-65.23	68.05	3.81
VS020	0.0031	0.0040	0.0045	0.0028	-107.65	89.66	73.72	3.81
VS021	0.0033	0.0043	0.0049	0.0030	-209.84	-9.40	85.06	3.81
VS022	0.0033	0.0043	0.0049	0.0030	-250.27	-126.80	6.47	3.81
VS023	0.0005	0.0007	0.0008	0.0005	-250.55	-157.28	73.72	3.81
VS024	0.0020	0.0025	0.0029	0.0018	-250.92	-274.93	62.38	3.81
VS025	0.0020	0.0025	0.0029	0.0018	-261.77	-373.08	11.34	3.81
VS026	0.0020	0.0025	0.0029	0.0018	-268.83	-387.71	11.34	3.81
VS027	0.0020	0.0025	0.0029	0.0018	-254.58	-355.44	22.68	3.81
VS028	0.0036	0.0047	0.0053	0.0033	-285.03	-187.49	68.05	3.81
VS029	0.0036	0.0047	0.0053	0.0033	-472.44	-216.41	96.40	3.81
VS030	0.0036	0.0047	0.0053	0.0033	-655.32	-216.41	85.06	3.81
VS031	0.0036	0.0047	0.0053	0.0033	-807.70	-208.32	11.34	3.81
VS032	0.0036	0.0047	0.0053	0.0033	-819.91	-173.13	28.35	3.81
VS033	0.0014	0.0018	0.0020	0.0012	-795.54	-148.63	22.68	3.81
VS034	0.0014	0.0018	0.0020	0.0012	-746.79	-147.17	22.68	3.81
VS035	0.0014	0.0018	0.0020	0.0012	-698.05	-145.72	22.68	3.81
VS036	0.0010	0.0013	0.0015	0.0009	-819.03	-124.98	11.34	3.81
VS037	0.0010	0.0013	0.0015	0.0009	-818.15	-100.62	11.34	3.81
VS038	0.0010	0.0013	0.0015	0.0009	-817.27	-76.25	11.34	3.81
VS039	0.0010	0.0013	0.0015	0.0009	-791.87	-48.16	11.34	3.81
VS040	0.0010	0.0013	0.0015	0.0009	-767.49	-48.16	11.34	3.81
VS041	0.0010	0.0013	0.0015	0.0009	-718.72	-48.16	22.68	3.81
VS042	0.0033	0.0042	0.0048	0.0030	-269.44	66.83	56.71	3.81
VS043	0.0033	0.0042	0.0048	0.0030	-391.36	66.56	56.71	3.81
VS044	0.0033	0.0042	0.0048	0.0030	-444.93	61.63	62.38	3.81
VS045	0.0014	0.0017	0.0020	0.0012	-507.80	66.45	39.69	3.81
VS046	0.0019	0.0024	0.0028	0.0017	-541.02	82.51	68.05	3.81
VS047	0.0019	0.0024	0.0028	0.0017	-643.90	77.44	56.71	3.81
VS048	0.0019	0.0024	0.0028	0.0017	-752.27	60.22	56.71	3.81
VS049	0.0019	0.0024	0.0028	0.0017	-820.52	49.38	11.34	3.81
VS050	0.0019	0.0024	0.0028	0.0017	-821.42	25.01	11.34	3.81
VS051	0.0019	0.0024	0.0028	0.0017	-809.56	16.01	11.34	3.81
VS052	0.0019	0.0024	0.0028	0.0017	-785.19	15.12	11.34	3.81
VS053	0.0019	0.0024	0.0028	0.0017	-809.58	15.53	39.69	3.81
VS054	0.0019	0.0024	0.0028	0.0017	-754.08	14.63	22.68	3.81
VS055	0.0060	0.0076	0.0087	0.0054	-72.12	158.82	28.35	3.81
VS056	0.0060	0.0076	0.0087	0.0054	-201.58	186.13	96.40	3.81
VS057	0.0043	0.0054	0.0062	0.0039	-368.23	175.58	96.40	3.81
VS058	0.0035	0.0044	0.0051	0.0031	-304.19	176.78	79.39	3.81
VS059	0.0103	0.0132	0.0151	0.0094	-477.65	181.15	113.41	3.81
VS060	0.0027	0.0035	0.0039	0.0024	-213.36	-195.07	34.02	3.81

^a Project increase emissions = Future emissions - Actual emissions

^b All locations relative to the No. 9 SAP stack.

^c Sigma Y is calculated as the spacing between volume sources divided by 2.15, in accordance with the ISCST3 User's Manual.

^d Sigma Z is calculated as twice the average height the trucks divided by 2.15, in accordance with the ISCST3 User's Manual.

**Figure H-1. Cargill Riverview
Property Boundary and Volume Source Center Locations**

