



KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET  
GAINESVILLE, FLORIDA 32609  
352/377-5822 • FAX/377-7158

KA 124-97-03

November 21, 1997

Mr. A. A. Linero  
Florida Department of  
Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

RECEIVED  
DEC 01 1997  
BUREAU OF  
AIR REGULATION

Subject: Polk County - AP  
IMC-Agrico Company (New Wales)  
Multifos Plant Production Increase

1050059-024-AC  
PSD-FI-244

Dear Mr. Linero:

Enclosed are eight (8) copies of an application for an increase in the production rate of the Multifos Plant located at the IMC-Agrico New Wales facility, Polk County, Florida.

A disk containing the air dispersion modeling output will be submitted under separate cover.

Also enclosed is a check in the amount of \$7500 (PSD permit application processing fee).

If you have any further questions, please call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK:par  
encl.

c: C. Dave Turley, IMC-Agrico



IMC-AGRICO COMPANY  
 P.O. BOX 2005 MULBERRY, FLORIDA 33860  
 OPERATING ACCOUNT

Chicago, IL 60610  
 Payable through:  
 Northern Trust Bank/DuPage  
 Oak Brook, IL

719

CHECK NO: 174013

DATE		
MONTH	DAY	YEAR
11	07	97

PAY ONLY SEVEN **50000** FIVE ZERO ZERO CTSCTS

SEVEN THOUSAND FIVE HUNDRED DOLLARS AND 00 CENTS \*\*\*\*\*

VOID OVER \$7,500.00

PAY TO THE ORDER OF  
 FLORIDA DEPARTMENT OF  
 ENVIRONMENTAL PROTECTION  
 3804 COCONUT PALM DRIVE  
 TAMPA FL 33619

Authorized Signature

⑈00174013⑈ ⑆071923828⑆000056405⑈

THE ORIGINAL DOCUMENT HAS A REFLECTIVE WATERMARK ON THE BACK WHICH HOLDS AT AN ANGLE TO VIEW WHEN CHECKING THE ENDORSEMENT

NO. 174013 D24335 IMC-AGRICO CO. P.O. BOX 2005 MULBERRY, FL. 33860

INVOICE DATE			INVOICE NUMBER	REFERENCE NUMBER	PURCHASE ORDER NO.	INVOICE AMOUNT	DISCOUNT	NET PAYABLE
MONTH	DAY	YEAR						
11	05	97	CKREQ110597	951-672M		7500.00 7500.00	.00	7500.00 7500.00



# Department of Environmental Protection

**RECEIVED**

DEC 01 1997  
BUREAU OF  
AIR REGULATION

## DIVISION OF AIR RESOURCES MANAGEMENT APPLICATION FOR AIR PERMIT - LONG FORM

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

### I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

#### Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: <b>IMC-Agrico Company</b>	
2. Site Name: <b>IMC-Agrico (New Wales)</b>	
3. Facility Identification Number: <b>1050059</b> [ ] Unknown	
4. Facility Location: Street Address or Other Locator: <b>3095 Highway 640</b> City: <b>Mulberry</b> County: <b>Polk</b> Zip Code: <b>33860</b>	
5. Relocatable Facility? [ ] Yes [X] No	6. Existing Permitted Facility? [X] Yes [ ] No

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	<b>December 1, 1997</b>
2. Permit Number:	<b>1050059-024-AC</b>
3. PSD Number (if applicable):	<b>PSD-FI-244</b>
4. Siting Number (if applicable):	





**Purpose of Application and Category**

Check one (except as otherwise indicated):

**Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.**

This Application for Air Permit is submitted to obtain:

Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

Initial air operation permit under Chapter 62-213, F.A.C., 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: \_\_\_\_\_

Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: \_\_\_\_\_

Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: \_\_\_\_\_

Operation permit to be revised: \_\_\_\_\_

Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: \_\_\_\_\_

Air operation permit revision for a Title V source 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 to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

**Category II: All Air Operation Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.**

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s):

\_\_\_\_\_

- Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

**Category III: All Air Construction Permit Applications for All Facilities and Emissions Units**

This Application for Air Permit is submitted to obtain:

- Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: **See Report**

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

Current operation permit number(s): \_\_\_\_\_

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

**Application Processing Fee**

Check one:

Attached - Amount: **\$7500**

Not Applicable.

**Construction/Modification Information**

1. Description of Proposed Project or Alterations:  <b>IMC-Agrico proposes to increase the Multifos production at New Wales by constructing an additional kiln, cooler and screens/mills/sizing equipment. Additional information is contained in the attached report.</b>
2. Projected or Actual Date of Commencement of Construction: <b>4-10-1998</b>
3. Projected Date of Completion of Construction: <b>4-10-2000</b>

**Professional Engineer Certification**

1. Professional Engineer Name: : <b>John B. Koogler, Ph.D., P.E.</b> Registration Number: <b>12925</b>
2. Professional Engineer Mailing Address:  Organization/Firm: <b>Koogler &amp; Associates</b> Street Address: <b>4014 NW 13th Street</b> City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32609</b>
3. Professional Engineer Telephone Numbers: Telephone: <b>(352) 377 - 5822</b> Fax: <b>(352) 377 - 7158</b>



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

(seal)

Date

11/21/97

\* Attach any exception to certification statement.

**Application Contact**

1. Name and Title of Application Contact:  <b>Pradeep Raval</b>
2. Application Contact Mailing Address:  Organization/Firm: <b>Koogler &amp; Associates</b> Street Address: <b>4014 NW 13th Street</b> City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32609</b>
3. Application Contact Telephone Numbers: Telephone: <b>(352) 377 - 5822</b> Fax: <b>(352) 377 - 7158</b>

**Application Comment**

**This application is submitted in the format discussed with FDEP. Additional information will be submitted, as necessary, during the permitting process.**





**B. FACILITY REGULATIONS**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

A large, empty rectangular box with a thin black border, occupying the central portion of the page. It is intended for the user to provide a Rule Applicability Analysis for Category II and Category III applications involving non Title-V sources.





**D. FACILITY POLLUTANT DETAIL INFORMATION**

**Facility Pollutant Detail Information:** Pollutant \_\_\_\_\_ of \_\_\_\_\_

1. Pollutant Emitted: NA
2. Requested Emissions Cap: _____ (lb/hour) _____ (tons/year)
3. Basis for Emissions Cap Code:
4. Facility Pollutant Comment (limit to 400 characters):

**Facility Pollutant Detail Information:** Pollutant \_\_\_\_\_ of \_\_\_\_\_

1. Pollutant Emitted:
2. Requested Emissions Cap: _____ (lb/hour) _____ (tons/year)
3. Basis for Emissions Cap Code:
4. Facility Pollutant Comment (limit to 400 characters):



**E. FACILITY SUPPLEMENTAL INFORMATION**

**Supplemental Requirements for All Applications**

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Facility Plot Plan: <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
6. Supplemental Information for Construction Permit Application: <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

7. List of Proposed Exempt Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. 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
9. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

<p>11. Identification of Additional Applicable Requirements:  <input type="checkbox"/> Attached, Document ID:_____ <input checked="" type="checkbox"/> Not Applicable</p>
<p>12. Compliance Assurance Monitoring Plan:  <input type="checkbox"/> Attached, Document ID:_____ <input checked="" type="checkbox"/> Not Applicable</p>
<p>13. Risk Management Plan Verification:</p> <p><input type="checkbox"/> Plan Submitted to Implementing Agency - Verification Attached,  Document ID:_____</p> <p><input type="checkbox"/> Plan to be Submitted to Implementing Agency by Required Date</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>14. Compliance Report and Plan:  <input type="checkbox"/> Attached, Document ID:_____ <input checked="" type="checkbox"/> Not Applicable</p>
<p>15. Compliance Certification (Hard-copy Required):  <input type="checkbox"/> Attached, Document ID:_____ <input checked="" type="checkbox"/> Not Applicable</p>

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

#### A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

##### Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

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

2. Single Process, Group of Processes, or Fugitive Only? Check one:

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

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters):  <b>Multifos Production Plant</b>		
2. Emissions Unit Identification Number: <b>036</b> [ <input type="checkbox"/> ] No Corresponding ID [ <input type="checkbox"/> ] Unknown		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? [ <input type="checkbox"/> ] Yes [ <input checked="" type="checkbox"/> ] No	5. Emissions Unit Major Group SIC Code: <b>28</b>
6. Emissions Unit Comment (limit to 500 characters):  <b>The information contained herein addresses the construction of an additional "C" kiln. The additional cooler and screens/mills/sizing system are addressed in the subsequent emissions unit sections in order to maintain the permitting format currently in place for the Multifos Plant.</b>		

**Emissions Unit Control Equipment**

A.

1. Description (limit to 200 characters): <b>Wet Scrubber</b>
2. Control Device or Method Code: <b>013</b>

Emissions Unit Information Section  1  of  3

**B.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units Only)**

**Emissions Unit Details**

1. Initial Startup Date: NA		
2. Long-term Reserve Shutdown Date: NA		
3. Package Unit: NA		
Manufacturer:	Model Number:	
4. Generator Nameplate Rating: NA                      MW		
5. Incinerator Information: NA		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

**Emissions Unit Operating Capacity**

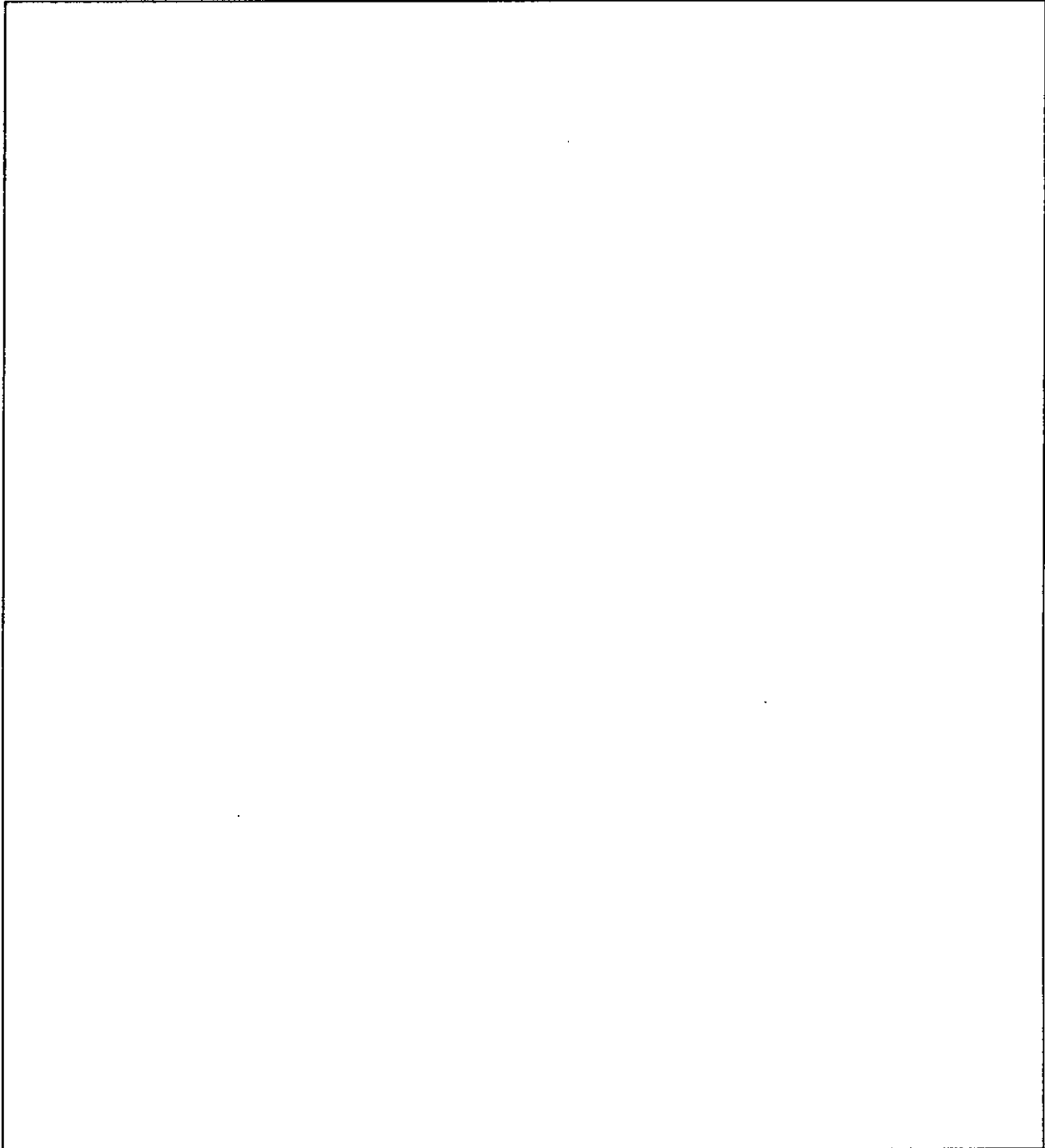
1. Maximum Heat Input Rate: <b>56 mmBtu/hr to kiln, 12.5 mmBtu/hr to dryer (shared by three kilns)</b>		
2. Maximum Incineration Rate: NA	lb/hr	tons/day
3. Maximum Process or Throughput Rate: <b>9.5 tph P<sub>2</sub>O<sub>5</sub> input (new kiln alone)</b>		
4. Maximum Production Rate: NA		
5. Operating Capacity Comment (limit to 200 characters):		
<b>Process rate is 9.5 tph P<sub>2</sub>O<sub>5</sub> input maximum. This corresponds to a maximum process rate of 25 tph raw material input.</b>		

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8760 hours/year

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)







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

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: <b>Main plant stack</b>	
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions 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: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	172 feet
7. Exit Diameter:	4.5 feet
8. Exit Temperature:	105 °F

Emissions Unit Information Section  1  of  3

9. Actual Volumetric Flow Rate:	67,000 acfm
10. Percent Water Vapor :	NA %
11. Maximum Dry Standard Flow Rate:	NA dscfm
12. Nonstack Emission Point Height:	NA feet
13. Emission Point UTM Coordinates: Zone:                      East (km):                      North (km):	
14. Emission Point Comment (limit to 200 characters):	

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:** Segment  1  of  4

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): <b>Natural Gas Burning</b>	
2. Source Classification Code (SCC): <b>3-90-006-99</b>	
3. SCC Units: <b>Million Cubic Feet Burned</b>	
4. Maximum Hourly Rate: <b>0.055</b>	5. Maximum Annual Rate: <b>479</b>
6. Estimated Annual Activity Factor: <b>NA</b>	
7. Maximum Percent Sulfur: <b>NA</b>	8. Maximum Percent Ash: <b>NA</b>
9. Million Btu per SCC Unit: <b>1025</b>	
10. Segment Comment (limit to 200 characters):  <b>Natural gas fired in "C" kiln alone.</b>	

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:** Segment  2  of  4

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): <b>Residual Oil Burning</b>	
2. Source Classification Code (SCC): <b>3-90-004-99</b>	
3. SCC Units: <b>1000 Gallons Burned</b>	
4. Maximum Hourly Rate: <b>0.3730</b>	5. Maximum Annual Rate: <b>149.3</b>
6. Estimated Annual Activity Factor: <b>400 hours max.</b>	
7. Maximum Percent Sulfur: <b>2.5</b>	8. Maximum Percent Ash:
9. Million Btu per SCC Unit: <b>150</b>	

10. Segment Comment (limit to 200 characters): <b>#6 , or better grade (No. 5, 4, 3) fuel oil fired in "C" kiln alone.</b>
---

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:** Segment  3  of  4

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): <b>On -Spec Used Oil Burning &amp; No. 2 Fuel Oil Burning</b>	
2. Source Classification Code (SCC): <b>3-90-004-99</b>	
3. SCC Units: <b>1000 Gallons Burned</b>	
4. Maximum Hourly Rate: <b>0.4</b>	5. Maximum Annual Rate: <b>3504</b>
6. Estimated Annual Activity Factor: <b>NA</b>	
7. Maximum Percent Sulfur: <b>NA</b>	8. Maximum Percent Ash: <b>NA</b>
9. Million Btu per SCC Unit: <b>140</b>	
10. Segment Comment (limit to 200 characters):  <b>On-spec used oil , and/or No. 2 fuel oil burning in "C" kiln alone.</b>	

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:** Segment  4  of  4

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  <b>Calcining - General</b>	
2. Source Classification Code (SCC): <b>3-05-150-02</b>	
3. SCC Units: <b>Tons P2O5 Processed</b>	
4. Maximum Hourly Rate: <b>9.5</b>	5. Maximum Annual Rate: <b>83,220</b>
6. Estimated Annual Activity Factor: <b>NA</b>	
7. Maximum Percent Sulfur: <b>NA</b>	8. Maximum Percent Ash: <b>NA</b>
9. Million Btu per SCC Unit: <b>NA</b>	
10. Segment Comment (limit to 200 characters):  <b>The plant rate is based on 9.5 tph P2O5 input maximum for "C" kiln alone.</b>  <b>Raw materials include phosphate rock, phosphoric acid and soda ash.</b>	



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>PM/PM10</b>		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	<b>20 lb/hour</b>	<b>87.6 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/year		
6. Emission Factor: <b>20 lb/hour</b> Reference: <b>"A" and "B" Kiln performance.</b>		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):  <b>PM/PM10 = 20 LB/HR X 8760 HRS/YR X TON/2000 LBS =87.6 TPY</b>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>All three kilns have individual scrubbers. However, they are exhausted from the same stack.</b>		



Emissions Unit Information Section  1  of  3

**Allowable Emissions** (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: <b>RULE</b>
2. Future Effective Date of Allowable Emissions: <b>NA</b>
3. Requested Allowable Emissions and Units: <b>20 lb/hour</b>
4. Equivalent Allowable Emissions: <b>20 lb/hour</b> <b>87.6 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>EPA METHOD 5</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>BACT</b>

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: <b>lb/hr</b> <b>tons/year</b>
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>SO2</b>		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	<b>40 lb/hour</b>	<b>175.2 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/year		
6. Emission Factor: <b>40 lb/hour</b> Reference: <b>expected scrubber performance.</b>		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):  <b>SO2 = 40 LB/HR X 8760 HRS/YR X TON/2000 LBS =175.2 TPY</b>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):  <b>All three kilns have individual scrubbers. However, they are exhausted from the same stack.</b>		

Emissions Unit Information Section  1  of  3

Allowable Emissions (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: <b>RULE</b>
2. Future Effective Date of Allowable Emissions: <b>NA</b>
3. Requested Allowable Emissions and Units: <b>40 lb/hour</b>
4. Equivalent Allowable Emissions: <b>40 lb/hour</b> <b>175.2 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>EPA METHOD 6C</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>BACT</b>

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: <b>lb/hr</b> <b>tons/year</b>
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>FL</b>		
2. Total Percent Efficiency of Control:		%
3. Potential Emissions:	<b>3.5 lb/hour</b>	<b>15.3 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/year		
6. Emission Factor: <b>3.5 lb/hr</b> Reference: <b>Rule</b>		
7. Emissions Method Code: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):  <b>TPY = 3.5 lb/hr x 8760 hr/yr x ton/ 2000 lbs = 15.3 TPY</b>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

Emissions Unit Information Section  1  of  3

**Allowable Emissions** (Pollutant identified on front of page)

A.

1. Basis for Allowable Emissions Code: <b>RULE</b>
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: <b>3.5 LB/HR</b>
4. Equivalent Allowable Emissions: <b>3.5 lb/hour</b> <b>15.3 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>EPA METHOD 13A OR 13B</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>BACT</b>

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: <b>lb/hr</b> <b>tons/year</b>
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

**I. VISIBLE EMISSIONS INFORMATION**  
**(Regulated Emissions Units Only)**

**Visible Emissions Limitation:** Visible Emissions Limitation  1  of  1

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

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity:		<input type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hour
4. Method of Compliance:			
5. Visible Emissions Comment (limit to 200 characters):			



**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- [X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.



Emissions Unit Information Section  1  of  3

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour		tons/year
SO2	lb/hour		tons/year
NO2			tons/year
5. PSD Comment (limit to 200 characters):			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

**Supplemental Requirements for All Applications**

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> [   ] Not Applicable    [   ] Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ [   ] Not Applicable <input checked="" type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> [   ] Not Applicable    [   ] Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ [   ] Not Applicable <input checked="" type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____  <input type="checkbox"/> Previously submitted, Date: _____  <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: _____ [   ] Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

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. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain 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 checked="" type="checkbox"/> Not Applicable

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

#### A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

##### Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

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

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

2. Single Process, Group of Processes, or Fugitive Only? Check one:

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

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

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

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <b>Multifos "C" Kiln Cooler</b>		
2. Emissions Unit Identification Number: <input checked="" type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: <b>28</b>
6. Emissions Unit Comment (limit to 500 characters):		

**Emissions Unit Control Equipment**

**A.**

1. Description (limit to 200 characters): <b>Bag Collector</b>
2. Control Device or Method Code: <b>016</b>

**B.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units Only)**

**Emissions Unit Details**

1. Initial Startup Date: NA		
2. Long-term Reserve Shutdown Date: NA		
3. Package Unit: NA		
Manufacturer:	Model Number:	
4. Generator Nameplate Rating: NA	MW	
5. Incinerator Information: NA		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

**Emissions Unit Operating Capacity**

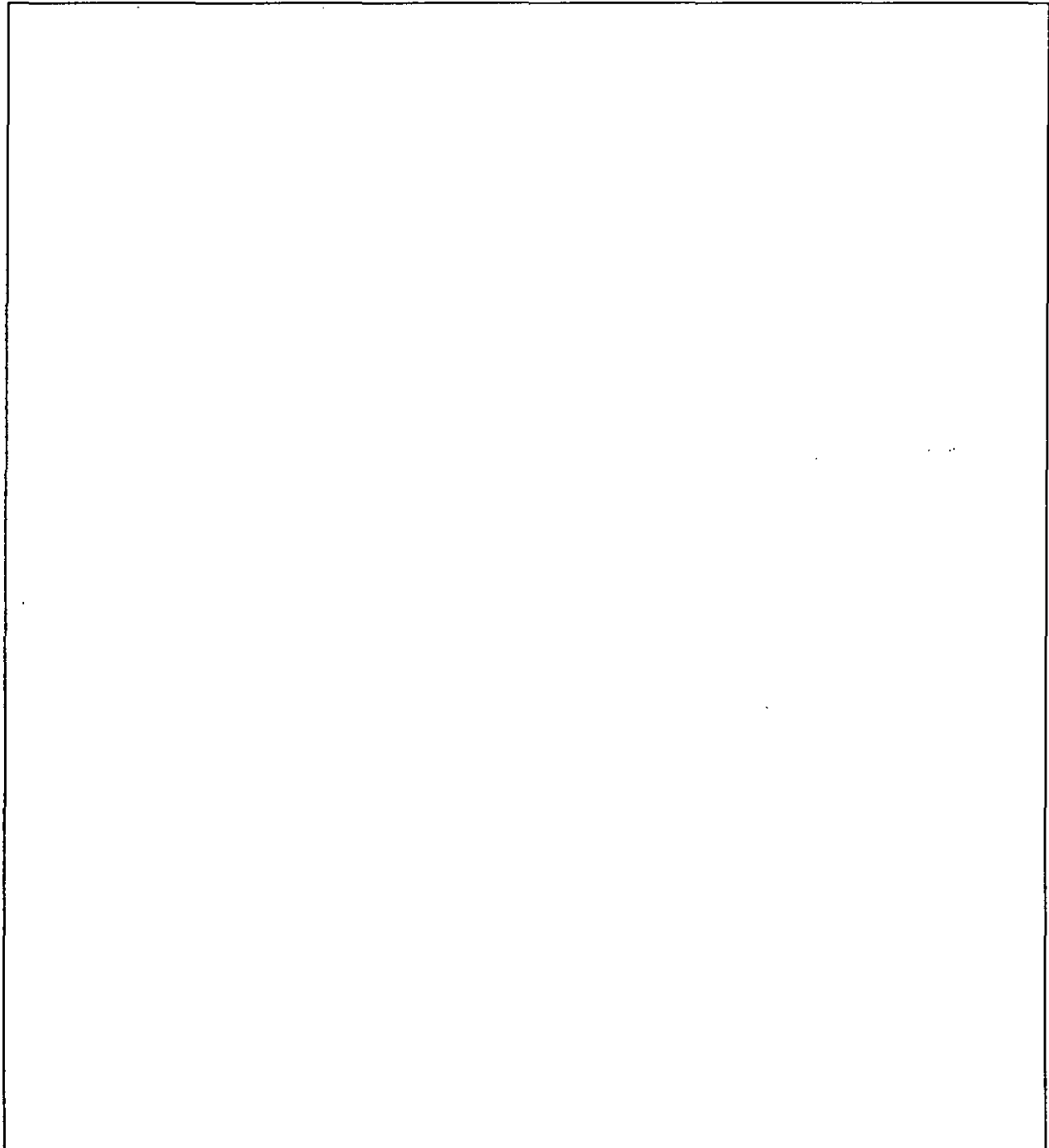
1. Maximum Heat Input Rate: NA	mmBtu/hr
2. Maximum Incineration Rate: NA	lb/hr tons/day
3. Maximum Process or Throughput Rate: 9.5 tph P2O5 (total input to "C" kiln)	
4. Maximum Production Rate: NA	
5. Operating Capacity Comment (limit to 200 characters): Multifos "C" Kiln Cooler process rate is dependent upon the P2O5 feed rate to the kiln. Maximum rate of 9.5 tph P2O5 input.	

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8760 hours/year

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)







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

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: <b>"C" Kiln cooler bag collector stack.</b>	
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions 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: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	<b>86 feet</b>
7. Exit Diameter:	<b>3.0 feet</b>
8. Exit Temperature:	<b>250 °F</b>



**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:** Segment  1  of  1

<p>1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):</p> <p><b>Calcining - Finished Product Handling</b></p>	
<p>2. Source Classification Code (SCC): <b>3-05-150-04</b></p>	
<p>3. SCC Units: <b>Tons P2O5 Processed</b></p>	
<p>4. Maximum Hourly Rate: <b>9.5 (Kiln feed)</b></p>	<p>5. Maximum Annual Rate: <b>83,220</b></p>
<p>6. Estimated Annual Activity Factor: <b>NA</b></p>	
<p>7. Maximum Percent Sulfur: <b>NA</b></p>	<p>8. Maximum Percent Ash: <b>NA</b></p>
<p>9. Million Btu per SCC Unit: <b>NA</b></p>	
<p>10. Segment Comment (limit to 200 characters):</p> <p><b>Multifos "C" Kiln Cooler process rate is dependent upon the P2O5 feed rate to the kiln. Maximum rate of 9.5 tph P2O5 input.</b></p>	



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>PM/PM10</b>		
2. Total Percent Efficiency of Control:	<b>99 %</b>	
3. Potential Emissions:	<b>6.3 lb/hour</b>	<b>27.6 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/year		
6. Emission Factor: <b>6.3 lb/hour</b> Reference: <b>BACT</b>		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):  <b>PM/PM10 = 6.3 LB/HR X 8760 HRS/YR X TON/2000 LBS =27.6 TPY</b>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):		

**Allowable Emissions** (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code: <b>RULE</b>		
2. Future Effective Date of Allowable Emissions: <b>NA</b>		
3. Requested Allowable Emissions and Units: <b>6.3 lb/hour</b>		
4. Equivalent Allowable Emissions:	<b>6.3 lb/hour</b>	<b>27.6 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>EPA METHOD 5</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>BACT</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**I. VISIBLE EMISSIONS INFORMATION**  
**(Regulated Emissions Units Only)**

**Visible Emissions Limitation:** Visible Emissions Limitation  1  of  1

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

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity:		<input type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hour
4. Method of Compliance:			
5. Visible Emissions Comment (limit to 200 characters):			



**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)**

**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):	

**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):	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- [X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.

None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour		tons/year
SO2	lb/hour		tons/year
NO2			tons/year
5. PSD Comment (limit to 200 characters):			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

**Supplemental Requirements for All Applications**

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> [   ] Not Applicable    [   ] Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable    [   ] Waiver Requested
3. Detailed Description of Control Equipment <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> [   ] Not Applicable    [   ] Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ [   ] Not Applicable <input checked="" type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____  <input type="checkbox"/> Previously submitted, Date: _____  <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> [   ] Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

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. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain 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 checked="" type="checkbox"/> Not Applicable

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L 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. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

#### A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

##### Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

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

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

2. Single Process, Group of Processes, or Fugitive Only? Check one:

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

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

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

**B. GENERAL EMISSIONS UNIT INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): <b>Multifos Milling &amp; Sizing "C" System</b>		
2. Emissions Unit Identification Number: <input checked="" type="checkbox"/> No Corresponding ID <input type="checkbox"/> Unknown		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Emissions Unit Major Group SIC Code: <b>28</b>
6. Emissions Unit Comment (limit to 500 characters):		

**Emissions Unit Control Equipment**

**A.**

1. Description (limit to 200 characters): <b>Bag Collector</b>
2. Control Device or Method Code: <b>018</b>

**B.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:

**C.**

1. Description (limit to 200 characters):
2. Control Device or Method Code:



**C. EMISSIONS UNIT DETAIL INFORMATION  
(Regulated Emissions Units Only)**

**Emissions Unit Details**

1. Initial Startup Date: NA		
2. Long-term Reserve Shutdown Date: NA		
3. Package Unit: NA		
Manufacturer:	Model Number:	
4. Generator Nameplate Rating: NA                      MW		
5. Incinerator Information: NA		
	Dwell Temperature:	°F
	Dwell Time:	seconds
	Incinerator Afterburner Temperature:	°F

**Emissions Unit Operating Capacity**

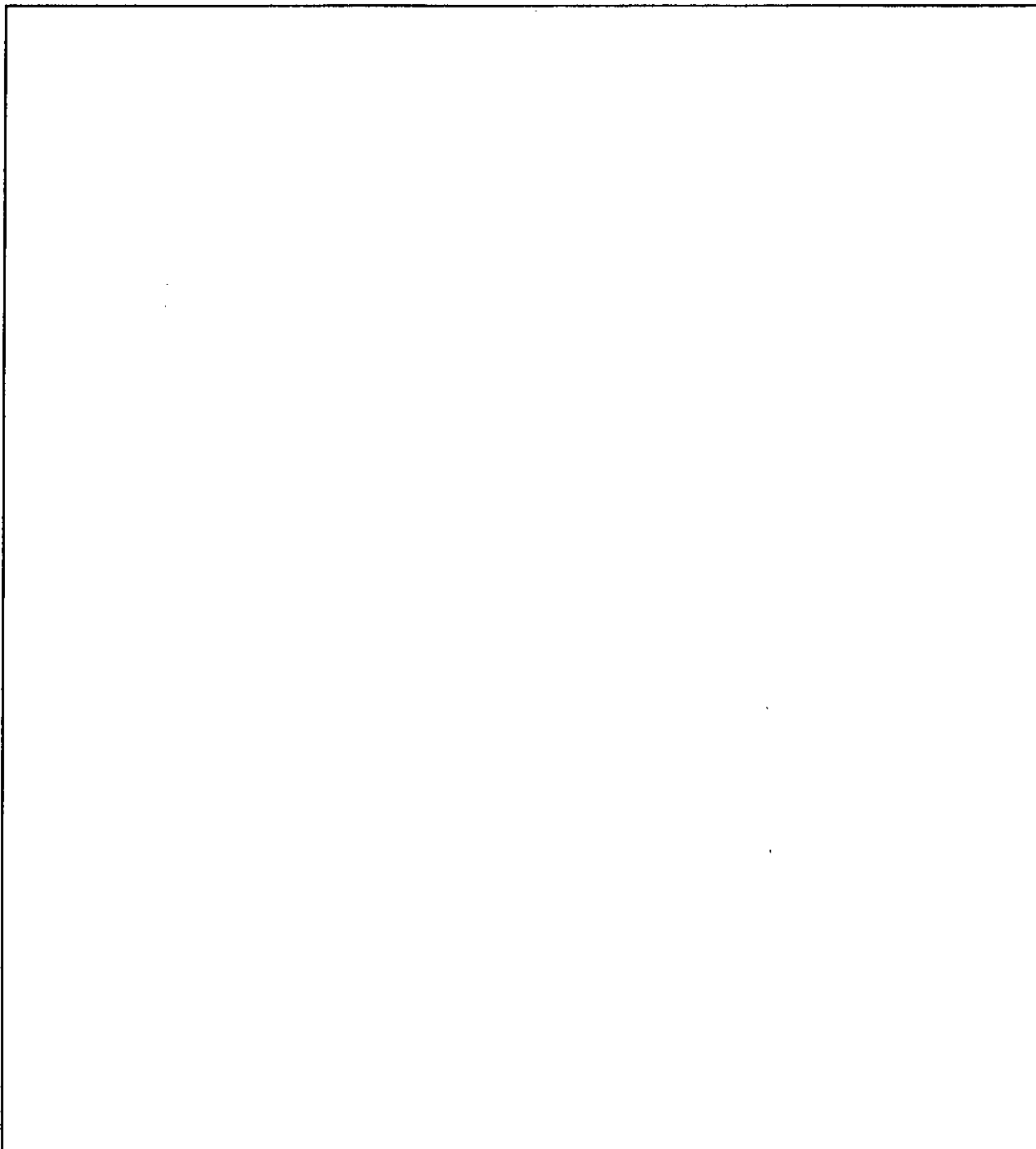
1. Maximum Heat Input Rate: NA		mmBtu/hr
2. Maximum Incineration Rate: NA	lb/hr	tons/day
3. Maximum Process or Throughput Rate: <b>9.5 tph P2O5 (total input to "C" kiln)</b>		
4. Maximum Production Rate: NA		
5. Operating Capacity Comment (limit to 200 characters):		
<b>Multifos Milling &amp; Sizing "C" process rate is dependent upon the P2O5 feed rate to the kiln. Maximum rate of 9.5 tph P2O5 input.</b>		

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:		
	24 hours/day	7 days/week
	52 weeks/year	8760 hours/year

**D. EMISSIONS UNIT REGULATIONS  
(Regulated Emissions Units Only)**

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)





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

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram: <b>Screens/mills bag collector stack.</b>	
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions 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: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height:	<b>90 feet</b>
7. Exit Diameter:	<b>1.5 feet</b>
8. Exit Temperature:	<b>130 °F</b>

Emissions Unit Information Section  3  of  3

9. Actual Volumetric Flow Rate:	12000 acfm
10. Percent Water Vapor :	NA %
11. Maximum Dry Standard Flow Rate:	11000 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):	

**F. SEGMENT (PROCESS/FUEL) INFORMATION  
(Regulated and Unregulated Emissions Units)**

**Segment Description and Rate:** Segment  1  of  1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):  <b>Calcining - Finished Product Handling</b>	
2. Source Classification Code (SCC): <b>3-05-150-04</b>	
3. SCC Units: <b>Tons P2O5 Processed</b>	
4. Maximum Hourly Rate: <b>9.5 (Kiln feed)</b>	5. Maximum Annual Rate: <b>83,220</b>
6. Estimated Annual Activity Factor: <b>NA</b>	
7. Maximum Percent Sulfur: <b>NA</b>	8. Maximum Percent Ash: <b>NA</b>
9. Million Btu per SCC Unit: <b>NA</b>	
10. Segment Comment (limit to 200 characters):  <b>Multifos Milling &amp; Sizing "C" System Bag Collector process rate is dependent upon the P2O5 feed rate to the kiln. Maximum rate of 9.5 tph P2O5 input.</b>	



**H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION  
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)**

**Pollutant Detail Information:**

1. Pollutant Emitted: <b>PM/PM10</b>		
2. Total Percent Efficiency of Control:	<b>99 %</b>	
3. Potential Emissions:	<b>1.9 lb/hour</b>	<b>8.3 tons/year</b>
4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
5. Range of Estimated Fugitive/Other Emissions: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/year		
6. Emission Factor: <b>1.9 lb/hour</b> Reference: <b>BACT</b>		
7. Emissions Method Code: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5		
8. Calculation of Emissions (limit to 600 characters):  <b>PM/PM10 = 1.9 LB/HR X 8760 HRS/YR X TON/2000 LBS =8.3 TPY</b>		
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):    		



**Allowable Emissions** (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code: <b>RULE</b>		
2. Future Effective Date of Allowable Emissions: <b>NA</b>		
3. Requested Allowable Emissions and Units: <b>1.9 lb/hour</b>		
4. Equivalent Allowable Emissions:	<b>1.9 lb/hour</b>	<b>8.3 tons/year</b>
5. Method of Compliance (limit to 60 characters): <b>EPA METHOD 5</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): <b>BACT</b>		

**B.**

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	<b>lb/hr</b>	<b>tons/year</b>
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

**I. VISIBLE EMISSIONS INFORMATION**  
**(Regulated Emissions Units Only)**

**Visible Emissions Limitation:** Visible Emissions Limitation  1  of  1

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

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity:		<input type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hour
4. Method of Compliance:			
5. Visible Emissions Comment (limit to 200 characters):			

**J. CONTINUOUS MONITOR INFORMATION  
(Regulated Emissions Units Only)**

**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):          	

**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):          	

**K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT  
TRACKING INFORMATION  
(Regulated and Unregulated Emissions Units)**

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
  - The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
  - The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
  - For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour		tons/year
SO2	lb/hour		tons/year
NO2			tons/year
5. PSD Comment (limit to 200 characters):			

**L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION  
(Regulated Emissions Units Only)**

**Supplemental Requirements for All Applications**

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____  <input type="checkbox"/> Previously submitted, Date: _____  <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

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. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Acid Rain 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 checked="" type="checkbox"/> Not Applicable

REPORT IN SUPPORT OF A  
PSD PERMIT APPLICATION

PREPARED FOR:

IMC-AGRICO COMPANY (NEW WALES)  
POLK COUNTY, FLORIDA

NOVEMBER 1997

PREPARED BY:

KOGLER & ASSOCIATES  
4014 N.W. 13TH STREET  
GAINESVILLE, FLORIDA 32609  
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## 1.0 SYNOPSIS OF APPLICATION

### 1.1 APPLICANT

IMC-Agrico Company (New Wales)  
State Road 640  
P.O. Box 2000  
Mulberry, Florida 33860

### 1.2 FACILITY LOCATION

IMC-Agrico Company (New Wales) consists of a phosphate chemical fertilizer manufacturing facility approximately seven miles southwest of Mulberry, Florida, on State Road 640 in Polk County. The UTM coordinates of the IMC-Agrico facility are Zone 17, 396.7 km east and 3079.4 km north.

### 1.3 PROJECT DESCRIPTION

IMC-Agrico's Multifos Plant currently has two rotary kilns which calcine phosphate rock, soda ash and phosphoric acid at high temperatures to produce an animal feed supplement. The current permitted plant capacity is 11.35 tons per hour (tph) P205 feed rate to the two kilns combined. This corresponds to a raw material feed rate of 30 tph for the two kilns combined. The proposed project involves installation of a third rotary kiln with a maximum feed rate of 9.5 tph P205 (25 tph raw material feed rate); a cooler; additional screens/mills in the sizing area; and, air pollution control equipment for the kiln, cooler, and the sizing operation.

IMC-Agrico is submitting this report in support of the application to FDEP for increasing the production rate of Multifos Plant. The report includes a description of the plant, a review of Best Available Control Technology, an ambient air quality analysis and an evaluation of the impact of the proposed modification on soils, vegetation and visibility.

## 2.0 FACILITY DESCRIPTION

IMC-Agrico's New Wales site is an existing phosphate chemical fertilizer manufacturing facility located on State Road 640 in Polk County, Florida (See Figures 2-1 and 2-2).

The existing fertilizer complex processes wet phosphate rock into several different fertilizer products. This is accomplished by reacting the phosphate rock with sulfuric acid to produce phosphoric acid and then converting the phosphoric acid to fertilizer products and animal feed supplements. The chemical complex includes sulfuric acid plants, phosphoric acid plants, super phosphoric acid plant, plants to produce MAP, DAP, granular triple super phosphate (GTSP), animal feed supplements plants, uranium recovery plant, and storage, handling, grinding and shipping facilities for phosphate rock, ammonia, sulfur, fertilizer products and animal feed supplements. Figure 2-3, Plot Plan, shows the location of the existing plants.

FIGURE 2-1

AREA LOCATION MAP

IMC-AGRICO COMPANY - NEW WALES PLANT  
POLK COUNTY, FLORIDA

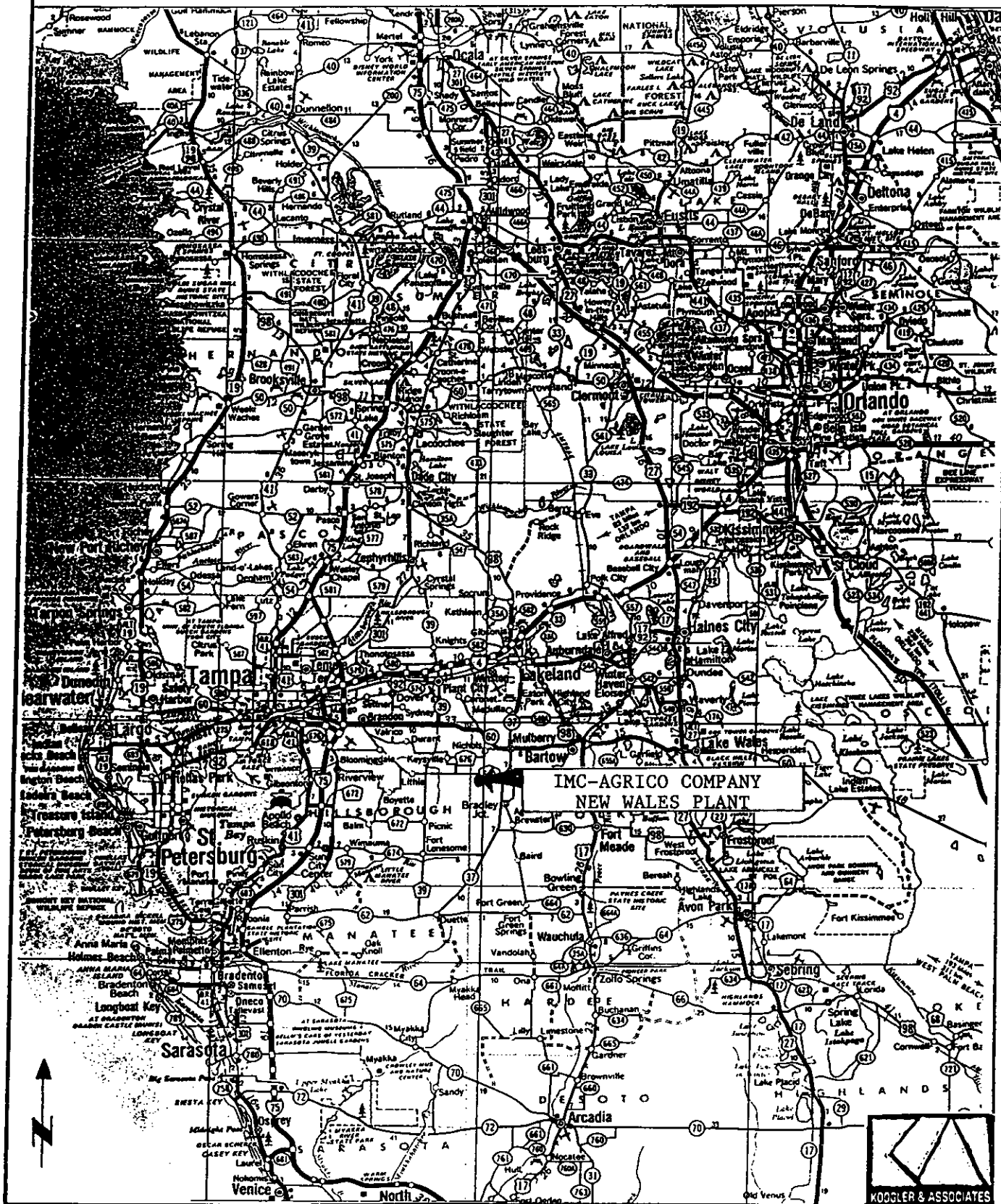


FIGURE 2-2

SITE LOCATION MAP

IMC-AGRICO COMPANY - NEW WALES PLANT  
POLK COUNTY, FLORIDA

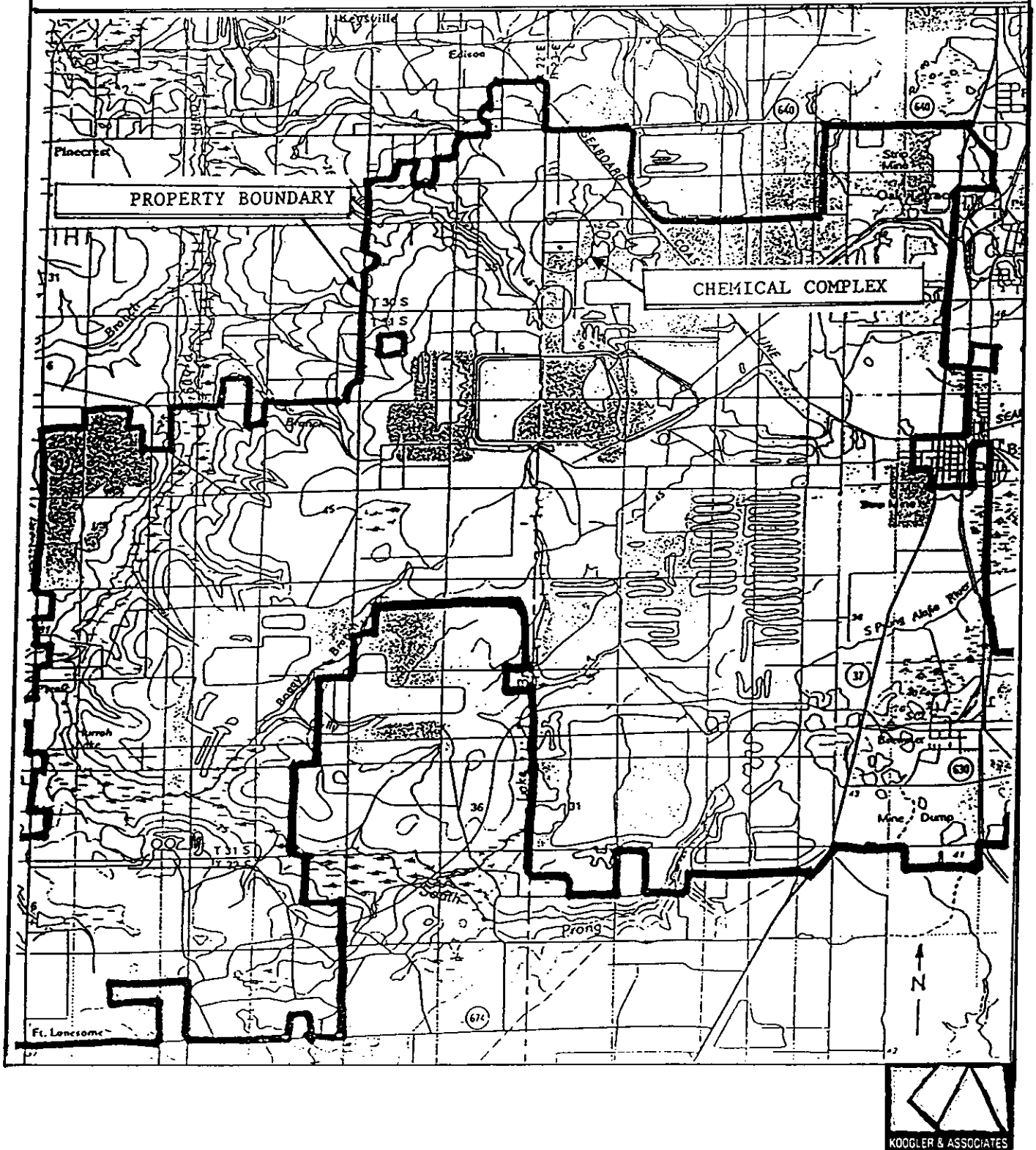
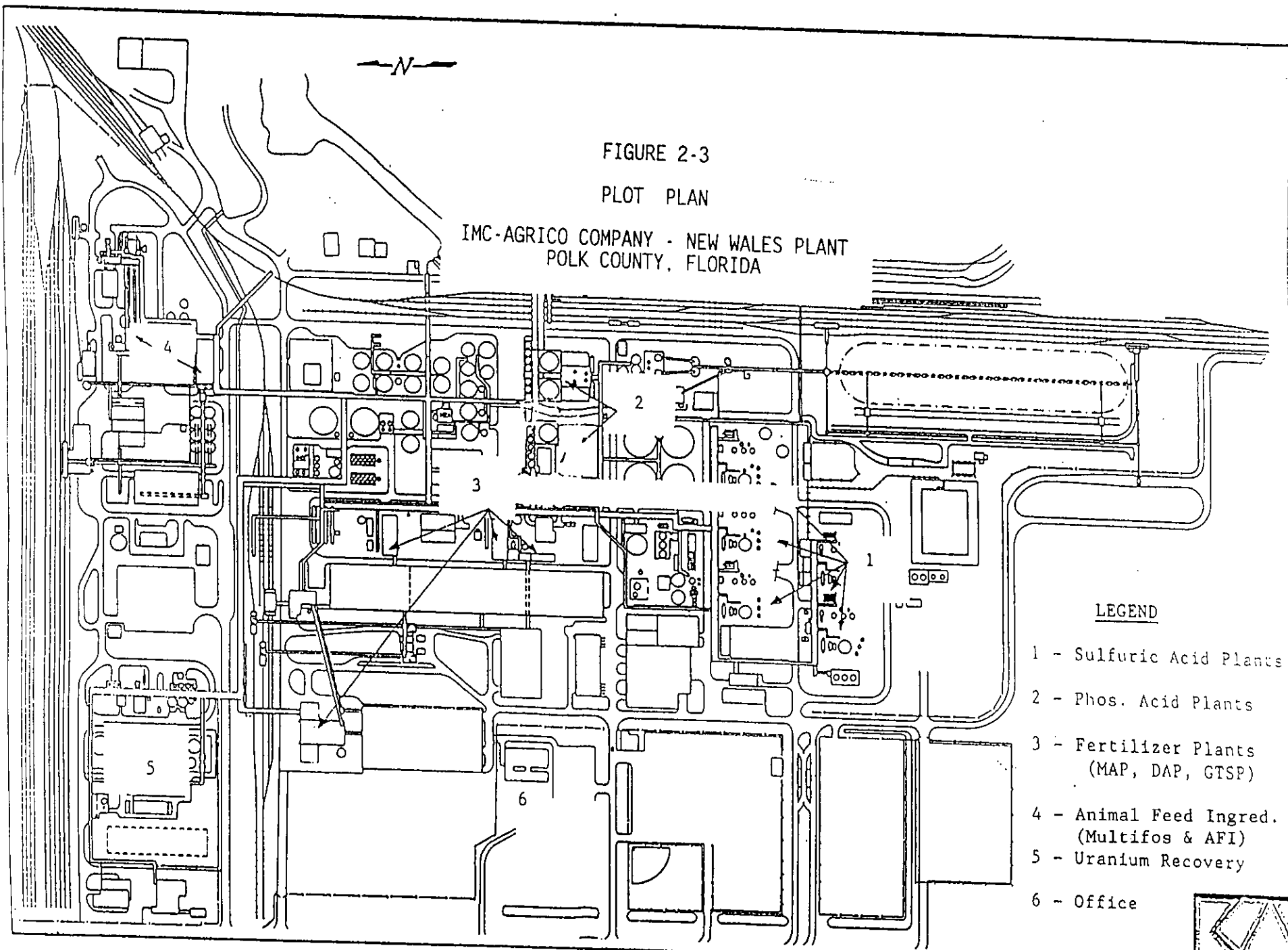


FIGURE 2-3

PLOT PLAN

IMC-AGRICO COMPANY - NEW WALES PLANT  
POLK COUNTY, FLORIDA



LEGEND

- 1 - Sulfuric Acid Plants
- 2 - Phos. Acid Plants
- 3 - Fertilizer Plants  
(MAP, DAP, GTSP)
- 4 - Animal Feed Ingrid.  
(Multifos & AFI)
- 5 - Uranium Recovery
- 6 - Office



### 3.0 PROPOSED PROJECT

The proposed Multifos Plant modification project consists of the installation of a third rotary kiln, a cooler and additional screens and mills in the product sizing area. The existing material handling equipment will be able to accommodate the raw material feed to, and the product from, the new kiln.

The kiln will be capable of a maximum feed rate of 9.5 tph P205, which corresponds to 25 tph raw material. The kiln will be capable of firing natural gas as well as fuel oils. The existing raw material dryer, fired with natural gas or fuel oils, will be operated closer to the currently permitted levels to supply the necessary feed to the new kiln.

The proposed increase in Multifos production rate will result in an increase in the raw material receiving rates and the product storage and shipping rates. The current allowable material handling rates for the entire Multifos Plant will be modified to reflect the proposed combined maximum feed rate to the three kilns of 20.85 tph P205 (55 tph raw material feed rate).

The extent of the proposed changes in the Multifos Plant are shown in the drawings presented in Figures 3-1, 3-2, 3-3, 3-4 and 3-5.

### 3.1 AIR EMISSIONS

The fluorides (F), particulate matter (PM) and sulfur dioxide (SO<sub>2</sub>) emissions from the new kiln will be controlled by a packed bed scrubber. Products of fuel combustion will be controlled by proper combustion practices. The scrubber exit stream will be ducted to the existing plant stack.

PM emissions from the new cooler will be controlled by a bag collector. PM emissions from the new screens and mills equipment in the product sizing area will be controlled by a separate bag collector.

The existing rock dryer will be operated closer to its currently permitted capacity, to provide the additional rock to the new kiln. The change in PM emissions from the other existing material handling operations are not expected to be appreciable.

The changes in air emissions associated with the proposed project are summarized in Table 3-1. The projected net emissions increases, presented in Table 3-2, are significant (as defined in Rule 62-212, FAC) for F, SO<sub>2</sub> and PM; and, less than significant for nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) and volatile organic compounds (VOCs). Emissions calculations are presented in Appendix A.

### 3.2 RULE REVIEW

This section addresses the state and federal air regulatory requirements that apply to new or modified sources subject to a Prevention of Significant Deterioration (PSD) review.



Pursuant to the PSD review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) are subject to preconstruction review. Florida's State Implementation Plan (SIP), approved by the EPA, authorizes the Florida Department of Environmental Protection (FDEP) to manage the air pollution program in Florida.

The PSD review determines whether or not significant air quality deterioration will result from a new or modified facility. Federal PSD regulations are contained in 40CFR52.21, Prevention of Significant Deterioration of Air Quality. The State of Florida has adopted PSD regulations which are essentially identical to the federal regulations and are contained in Chapter 62-212 of the Florida Administration Code (FAC).

All new major facilities and major modifications to existing facilities are subject to control technology review, source impact analysis, air quality analysis and additional impact analyses for each pollutant subject to a PSD review. A facility must also comply with the Good Engineering Practice (GEP) stack height rule.

A major facility is defined in the PSD rules as any one of the 28 specific source categories (see Table 3-3) which has the potential to emit 100 tons per year (tpy) or more, or any other stationary facility which has the potential to emit 250 tpy or more, of any pollutant regulated under the Clean Air Act. A major modification is defined in the PSD rules as a change at an existing major facility which increases the actual emissions by greater than significant amounts (see Table 3-4).

### 3.2.1 Ambient Air Quality Standards

The EPA and the state of Florida have developed/adopted ambient air quality standards, AAQS (see Table 3-5). Primary AAQS protect the public health while the secondary AAQS protect the public welfare from adverse effects of air pollution. Areas of the country have been designated as attainment or nonattainment for specific pollutants. Areas not meeting the AAQS for a given pollutant are designated as nonattainment areas for that pollutant. Any new source or expansion of existing sources in or near these nonattainment areas are usually subject to more stringent air permitting requirements. Projects proposed in attainment areas are subject to air permit requirements which would ensure continued attainment status.

### 3.2.2 PSD Increments

In promulgating the CAA Amendments, Congress quantified concentration increases above an air quality baseline concentration levels for sulfur dioxide (SO<sub>2</sub>) and particulate matter less than 10 microns (PM<sub>10</sub>) which would constitute significant deterioration. The size of the allowable increment depends on the classification of the area in which the source would be located or have an impact. Class I areas include specific national parks, wilderness areas and memorial parks. Class II areas are all areas not designated as Class I areas and Class III areas are industrial areas in which greater deterioration than Class II areas would be allowed. There are no designated Class III areas in Florida.

In 1988, EPA promulgated PSD regulations for nitrogen oxides (NOx) and PSD increments for nitrogen dioxide (NO2) concentrations. FDEP adopted the NO2 increments in July 1990 (see Table 3-6 for PSD increments).

In the PSD regulations, baseline concentration is defined as the ambient concentration level for a given pollutant which exists in the baseline area at the time of the applicable baseline date and includes the actual emissions representative of facilities in existence on the applicable baseline date, and the allowable emissions of major stationary facilities which commenced construction before January 6, 1975, but were not in operation by the applicable baseline date.

The emissions not included in the baseline concentration and, therefore, affecting PSD increment consumption are the actual emissions from any major stationary facility on which construction commenced after January 6, 1975, for SO2 and PM10, and February 8, 1988, for NO2, and the actual emission increases and decreases at any stationary facility occurring after the baseline date.

### 3.2.3 Control Technology Evaluation

The PSD control technology review requires that all applicable federal and state emission limiting standards be met and that Best Available Control Technology (BACT) be applied to the source. The BACT requirements are applicable to all regulated pollutants subject to a PSD review.

BACT is defined in Chapter 62, FAC as an emission limitation, including a visible emission standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant. If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead, to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation. Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.

The reason for evaluating the BACT is to minimize as much as possible the consumption of PSD increments and to allow future growth without significantly degrading air quality. The BACT review also analyzes if the most current control systems are incorporated in the design of a proposed facility. The BACT, as a minimum, has to comply with the applicable New Source Performance Standard for the source. The BACT analysis requires the evaluation of the available air pollution control methods including a cost-benefit analysis of the alternatives. The cost-benefit analysis includes consideration of materials, energy, and economic penalties

associated with the control systems, as well as environmental benefits derived from the alternatives.

EPA recently determined that the bottom-up approach (starting at NSPS and working up to BACT) was not providing the level of BACT originally intended. As a result, in December 1987, EPA strongly suggested changes in the implementation of the PSD program including the "top-down" approach to BACT. The top-down approach requires an application to start with the most stringent control alternative, often Lowest Achievable Emission Rate (LAER), and justify its rejection or acceptance as BACT. Rejection of control alternatives may be based on technical or economical infeasibility, physical differences, locational differences, and environmental or energy impact differences when comparing a proposed project with a project previously subject to that BACT.

#### 3.2.4 Air Quality Monitoring

An application for a PSD permit requires an analysis of ambient air quality in the area affected by the proposed facility or major modification. For a new major facility, the affected pollutants are those that the facility would potentially emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate.

Ambient air monitoring for a period of up to one year, but no less than four months, is required. Existing ambient air data for a location in the vicinity of the proposed project is acceptable if the data meet FDEP quality assurance requirements. If not, additional data would need to be gathered. There are guidelines available for designing a PSD air monitoring network in EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration."

FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause air quality impacts less than the de minimis levels (see Table 3-4).

#### 3.2.5 Ambient Impact Analysis

A source impact analysis is required for a proposed major source subject to PSD for each pollutant for which the increase in emissions exceeds the significant emission rate. Specific atmospheric dispersion models are required in performing the impact analysis. The analysis should demonstrate the project's compliance with AAQS and allowable PSD increments. The impact analysis for criteria pollutants may be limited to only the new or modified source if the net increase in impacts due to the new or modified source is below significant impact levels.

Typically, a five-year period is used for the evaluation of the highest, second-highest short-term concentrations for comparison to AAQS or PSD increments. The term "highest, second-highest" refers to the highest of the second-highest concentrations at all receptors. The second-highest

concentration is considered because short-term AAQS specify that the standard should not be exceeded at any location more than once a year. If less than five years of meteorological data are used in the modeling analysis, the highest concentration at each receptor is normally used.

### 3.2.6 Additional Impact Analysis

The PSD rules also require analyses of the impairment to visibility and the impact on soils and vegetation that would occur as a result of the project. A visibility impairment analysis must be conducted for PSD Class I areas along with an air quality related values (AQRV) analysis. Impacts due to commercial, residential, industrial, and other growth associated with the source must be addressed.

### 3.2.7 Good Engineering Practice Stack Height

In accordance with Rule 62-210, FAC, the degree of emission limitation required for control of any pollutant should not be affected by a stack height that exceeds GEP, or any other dispersion technique. GEP stack height is defined as the highest of:

1. 65 meters (m), or
2. A height established by applying the formula:

$$H_g = H + 1.5 L$$

where:

H<sub>g</sub> - GEP stack height,  
H - Height of the structure or nearby structure, and  
L - Lesser dimension, height or projected width of nearby structure(s)

3. A height demonstrated by a model or field study.

The GEP stack height regulations require that the stack height used in modeling for determining compliance with AAQS and PSD increments not exceed the GEP stack height. The actual stack height may be higher or lower.

## 3.3 RULE APPLICABILITY

The proposed Multifos Plant production increase is classified as a major modification to a major facility subject to both state and federal regulations as set forth in Chapter 62-212, FAC. The facility is located in an area classified as attainment for each of the regulated air pollutants. The proposed modification to the existing Multifos Plant will result in significant increases, as defined in Rule 62.212, FAC, in the emissions of F, SO<sub>2</sub> and PM, and will therefore be subject to PSD preconstruction review requirements. This will include a determination of Best Available Control Technology, an air quality review, Good Engineering Practice stack height analysis and an evaluation of impacts on soils, vegetation and visibility.

PREPARED:	CDT	TITLE:	PROPOSED MULTIFOS KILN C	LOCATION:	IMC-AGRIGO CO.
DATE:	11/13/97		LOCATION DIAGRAM	LOCATION:	NEW WALES
REVISION:				SCALE:	NONE
				FILE:	KILN02
				DRAWING NO.:	L2

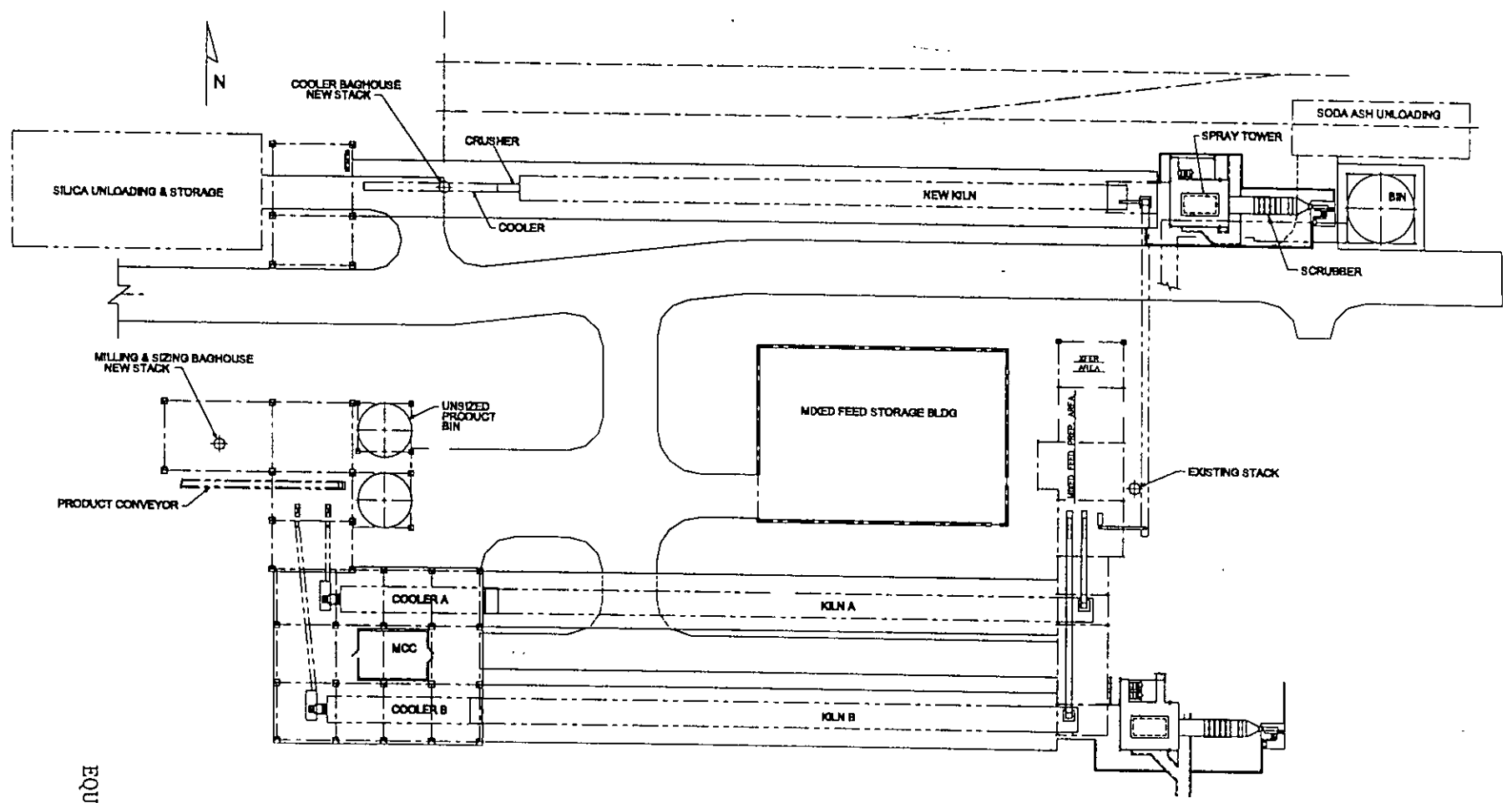


FIGURE 3-1  
EQUIPMENT LAYOUT

PREPARED: CDT	TITLE: PROPOSED MULTIFOS KILN C	LOCATION: NEW WALES	FILE: KILN02
DATE: 11/13/97	MIXED FEED FLOW DIAGRAM	SCALE: NONE	DRAWING NO.: L3
REVISION:			

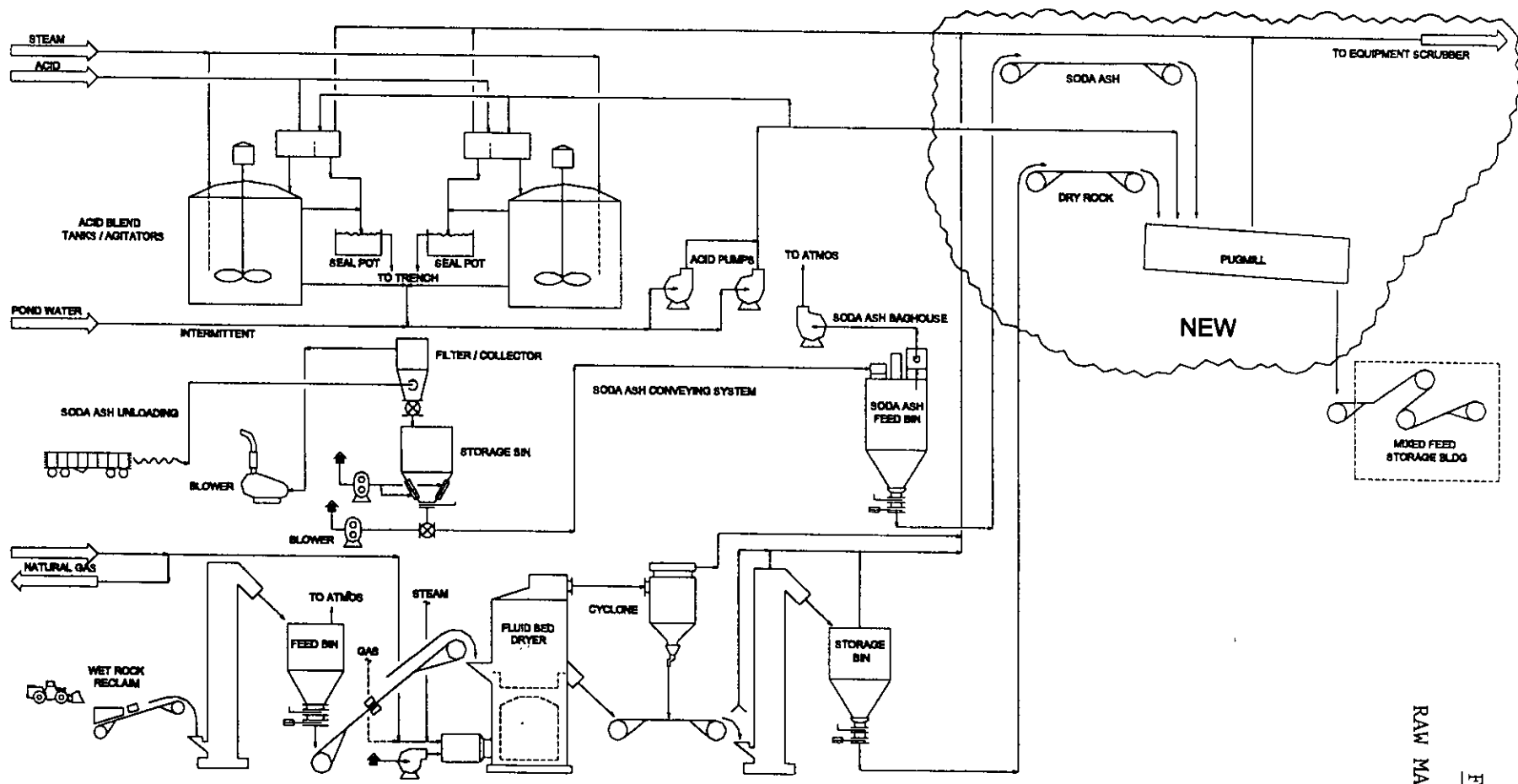
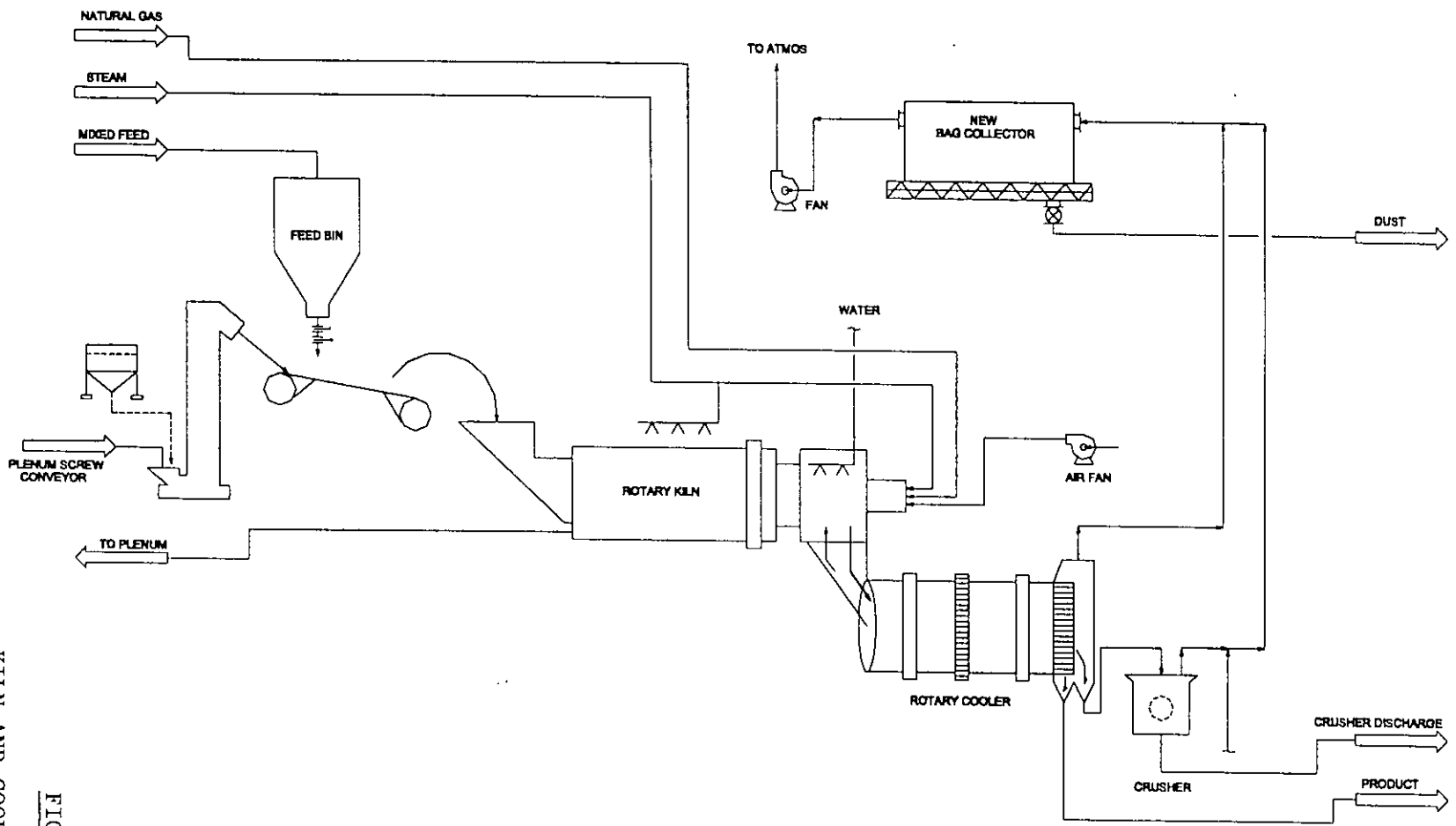


FIGURE 3-2  
RAW MATERIAL SYSTEM

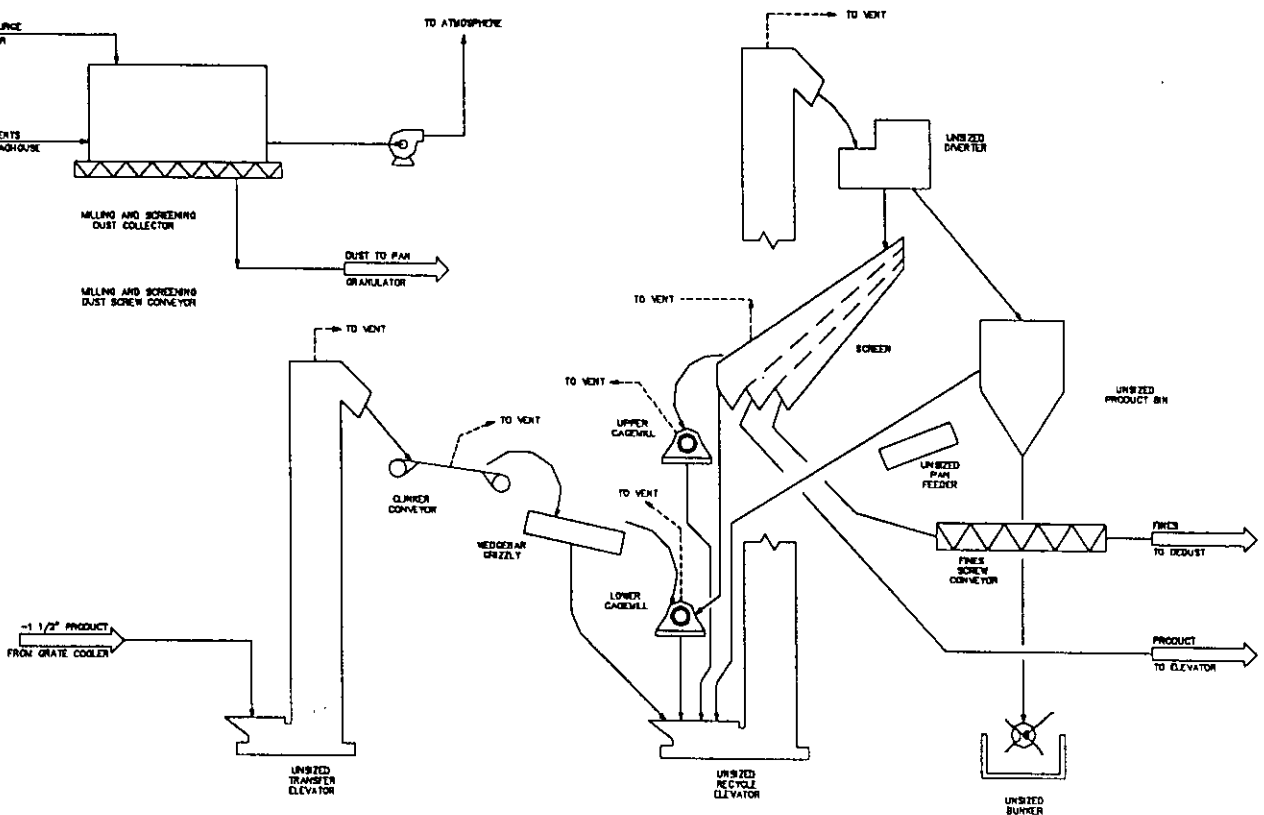
PREPARED:	CDT	TITLE:	PROPOSED MULTIFOS KILN C	LOCATION:	NEW WALES	FILE:	KILN02
DATE:	11/13/97		KILN FLOW DIAGRAM	SCALE:	NONE	DRAWING NO.:	L4
REVISION:							



KILN AND COOLER ARRANGEMENT

FIGURE 3-3

IMC-AGRIGO CO.



SIZING EQUIPMENT ARRANGEMENT

FIGURE 3-4

PREPARED: CDT	TITLE: PROPOSED MULTIFOS KILN C	LOCATION: NEW WALES	FILE: KILN02
DATE: 11/13/97	MILLING AND SIZING FLOW DIAGRAM	SCALE: NONE	DRAWING NO.: L6
REVISED:			



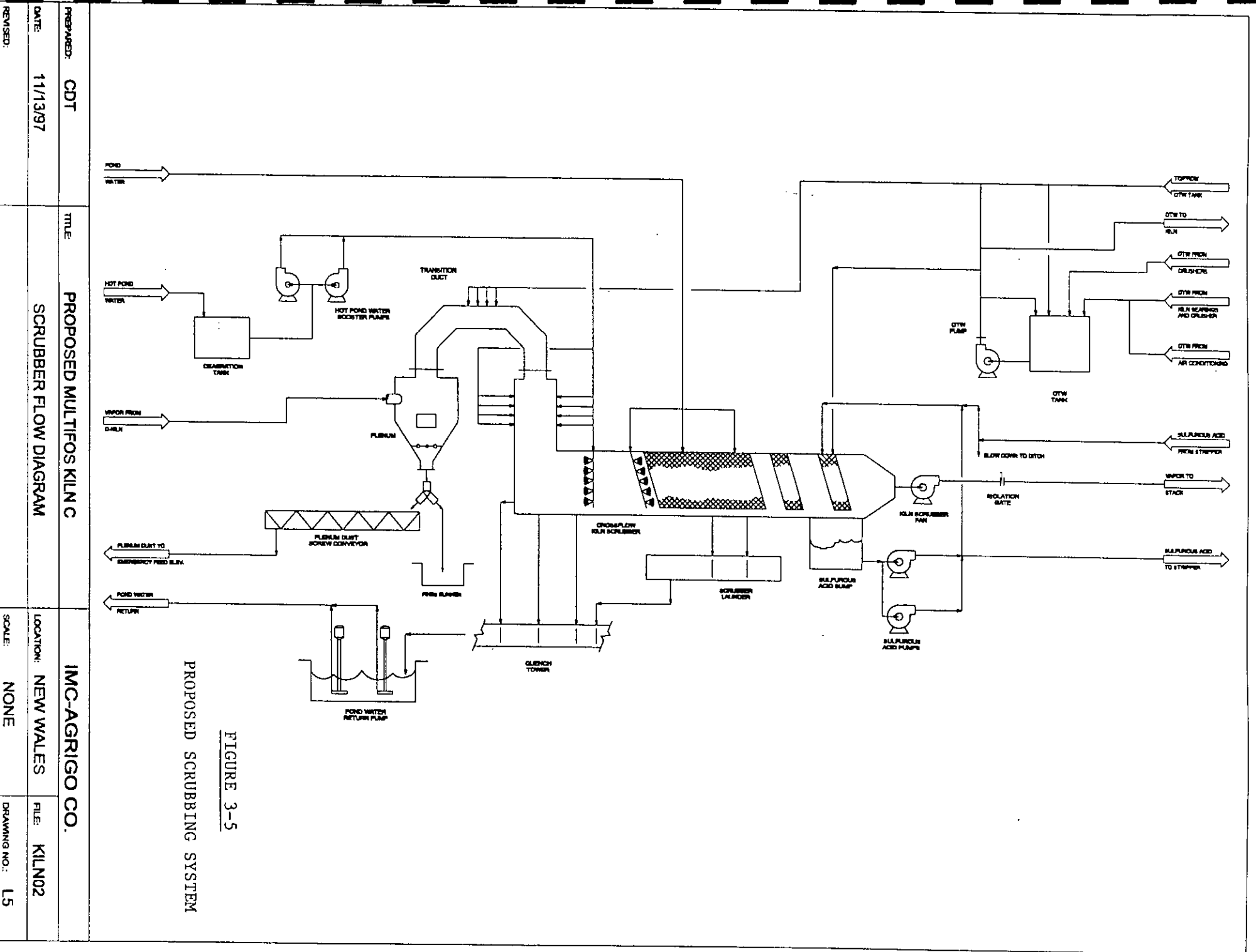


FIGURE 3-5  
PROPOSED SCRUBBING SYSTEM

PREPARED: CDT	TITLE: PROPOSED MULTIFOS KILN C	LOCATION: NEW WALES	FILE: KILN02
DATE: 11/13/97	SCRUBBER FLOW DIAGRAM	SCALE: NONE	DRAWING NO.: L5
REVISIONS:			

TABLE 3-1  
 EMISSION RATES OF MULTIFOS PLANT EXPANSION  
 IMC-AGRICO COMPANY (NEW WALES)  
 POLK COUNTY, FLORIDA

	PROPOSED EMISSION RATES (1)		
	<u>KILN</u> Tb/hr	<u>COOLER</u> Tb/hr	<u>SCREENS/MILLS</u> Tb/hr
Fluorides (F)	3.5	NA	NA
Particulates (PM/PM10)	20.0	6.3	1.9
Sulfur Dioxide (SO2)	40.0	NA	NA
Nitrogen Oxides (NOx)	20.5	NA	NA
Carbon Monoxide (CO)	2.0	NA	NA
Organics (VOCs)	0.5	NA	NA

**NOTES:**

(1) Calculations of emission rates presented in Appendix A.

TABLE 3-2  
NET EMISSION CHANGES(1)  
MULTIFOS PLANT STACKS  
IMC-AGRICO COMPANY (NEW WALES)  
POLK COUNTY, FLORIDA

	EMISSION RATES (1)				TOTAL tpy	PSD REVIEW?
	KILN tpy	COOLER tpy	SCREENS tpy	EXIST. DRYER NET tpy (2)		
F	15.3	NA	NA	NA	15.3	>3, YES
PM/PM10	87.6	27.6	8.3	0.26	123.8	>15, YES
SO2	175.2	NA	NA	9.3	184.5	>40, YES
NOx	35.0	NA	NA	2.6	37.6	<40, NO
CO	8.8	NA	NA	0.66	9.5	<100, NO
VOCs	1.4	NA	NA	0.1	1.5	<40, NO

**NOTES:**

- (1) Calculations of emission rates presented in Appendix A.
- (2) Emissions based on incremental annual fuel use in existing dryer.

TABLE 3-3

MAJOR FACILITY CATEGORIES

IMC-AGRICO COMPANY (NEW WALES)  
POLK COUNTY, FLORIDA

Fossil fuel fired steam electric plants of more than 250 MMBTU/hr heat input  
Coal cleaning plants (with thermal dryers)  
Kraft pulp mills  
Portland cement plants  
Primary zinc smelters  
Iron and steel mill plants  
Primary aluminum ore reduction plants  
Primary copper smelters  
Municipal incinerators capable of charging more than 250 tons of refuse per day  
Hydrofluoric acid plants  
Sulfuric acid plants  
Nitric acid plants  
Petroleum refineries  
Lime plants  
Phosphate rock processing plants  
Coke oven batteries  
Sulfur recovery plants  
Carbon black plants (furnace process)  
Primary lead smelters  
Fuel conversion plants  
Sintering plants  
Secondary metal production plants  
Chemical process plants  
Fossil fuel boilers (or combinations thereof) totaling more than 250 million  
BTU/hr heat input  
Petroleum storage and transfer units with total storage capacity exceeding  
300,000 barrels  
Taconite ore processing plants  
Glass fiber processing plants  
Charcoal production plants

TABLE 3-4

## REGULATED AIR POLLUTANTS - SIGNIFICANT EMISSION RATES

IMC-AGRICO COMPANY (NEW WALES)  
POLK COUNTY, FLORIDA

Pollutant	Significant Emission Rate tons/yr	De Minimis Ambient Impacts ug/m3
CO	100	575 (8-hour)
NOx	40	14 (NO2, Annual)
SO2	40	13 (24-hour)
Ozone	40 (VOC)	-
PM (TSP)	25	10 (24-hour)
PM10	15	10 (24-hour)
TRS (including H2S)	10	0.2 (1-hour)
H2SO4 mist	7	-
Fluorides	3	0.25 (24-hour)
Vinyl Chloride	1	15 (24-hour)
	<u>pounds/yr</u>	
Lead	1200	0.1 (Quarterly avg)
Mercury	200	0.25 (24-hour)
Asbestos	14	-
Beryllium	0.8	0.001 (24-hour)

TABLE 3-5  
 AMBIENT AIR QUALITY STANDARDS  
 IMC-AGRICO COMPANY (NEW WALES)  
 POLK COUNTY, FLORIDA

Pollutant	FDER (State)		USEPA (National)			
	ug/m3	PPM	Primary		Secondary	
			ug/m3	PPM	ug/m3	PPM
SO <sub>2</sub> , 3-hour	1,300	0.5	-	-	1300	0.5
24-hour	260	0.1	365	0.14	-	-
Annual	60	0.02	80	0.03	-	-
PM10, 24-hour	150	-	150	-	150	-
Annual	50	-	50	-	50	-
CO, 1-hour	40,000	35	40,000	35	-	-
8-hour	10,000	9	10,000	9	-	-
Ozone, 1-hour	235	0.12	235	0.12	235	0.12
NO <sub>2</sub> , Annual	100	0.05	100	-	100	-
Lead, Quarterly	1.5	-	1.5	-	1.5	-

TABLE 3-6

## PSD INCREMENTS

IMC-AGRICO COMPANY (NEW WALES)  
POLK COUNTY, FLORIDA

Pollutant	Allowable PSD Increments (State/National)		
	Class I ug/m <sup>3</sup>	Class II ug/m <sup>3</sup>	Class III ug/m <sup>3</sup>
TSP, Annual	5	19	37
24-hour	10	37	75
SO <sub>2</sub> , Annual	2	20	40
24-hour	5	91	182
3-hour	25	512	700
NO <sub>2</sub> , Annual	2.5	25	50

#### 4.0 BEST AVAILABLE CONTROL TECHNOLOGY

Best Available Control Technology (BACT) is required to control air pollutants emitted from newly constructed major sources or from modification to the major emitting facilities if the modification results in significant increase in the emission rate of regulated pollutants (see Table 3-4 for significant emission levels). The emission rate increases proposed by IMC-Agrico have been summarized in Table 3-1. A BACT analysis is therefore required for F, SO<sub>2</sub> and PM/PM<sub>10</sub>.

#### 4.1 EMISSION STANDARDS FOR MULTIFOS PLANT

There have been no Federal New Source Performance Standards (NSPS) promulgated for animal feed ingredient plants. Emissions of F are regulated, however, under Rule 62-296.403 of the Florida Administrative Code (FAC). These standards, applicable to defluorination of phosphate rock by thermal processing and auxiliary equipment, require F emissions to be limited to 0.37 pounds per ton P<sub>2</sub>O<sub>5</sub> input.

PM/PM<sub>10</sub> emissions are regulated in Rule 62-296, FAC under the general particulate emissions limiting standards. These standards impose process weight based mass emissions limits and limit visible emissions to less than 20 percent opacity. Reasonably Available Control Technology (RACT) requirements for PM do not apply to this emissions unit as it is permitted as a RACT exempt unit.

There are no SO<sub>2</sub> emissions standards applicable to the Multifos Plant.

#### 4.2 CONTROL TECHNOLOGY

At most phosphate rock calcination based animal feed ingredients operations in Florida, wet scrubbing equipment is conventionally applied for removal of F and PM/PM<sub>10</sub> generated by the process. These scrubbers are designed mainly for particulate collection and fluorine removal. The existing pond water scrubbing system at IMC-Agrico's Multifos Plant represents the typical scrubbing system implemented in this industry.

In gathering information for the proposed project, it was discovered that a significant amount of SO<sub>2</sub> is emitted from this process. It is assumed that the SO<sub>2</sub> emissions result from the burning of sulfur introduced into the process in the fuel and in the phosphate rock. A certain amount of SO<sub>2</sub> is probably captured by the alkaline raw material. Additional SO<sub>2</sub> removal is accomplished by the plant's pond water scrubber. This scrubbing system primarily controls PM/PM<sub>10</sub> and F emissions. No add-on controls are utilized for the other products of fuel combustion, NO<sub>x</sub>, CO and VOCs.

There is very limited information on control equipment currently utilized for these type of plants. Typically the scrubbing medium is pond water from within the facility in a tail gas scrubber. The availability of pond water as a scrubbing medium and the gypsum pond as a settling basin for collected solids are ideal features for wet scrubbers. The historic compliance test results reflect the effectiveness of the existing control



equipment (listed in current permits attached) in controlling F and PM/PM10.

The use of once-through fresh water, in place of pond water, would enhance the fluorides controlled by the tail gas scrubber. However, the use of fresh water raises several environmental and chemical process related issues which need to be addressed. The IMC-Agrico operation is located in a sensitive water management area. A strict water conservation program is in place under the direction of the local Water Management District. The use of once-through fresh water would result in a significant increase in the amount of fresh water consumed by the facility. This would contradict the facility's commitment to the Water Management District.

IMC-Agrico proposes the use of a packed bed tail gas scrubber with the front section utilizing process water and the last section utilizing an alkaline slurry (e.g. lime, limestone, caustic, soda ash), as scrubbing media. The specific reagent to be used will be finalized after initial trial operating experience. Such a scrubbing system would provide an optimum level of control for F, PM and SO<sub>2</sub>, subject to BACT. Details of the proposed scrubbing system are provided in the Appendix D.

The PM/PM10 emissions from the cooler and screens/mills will be controlled by bag collectors. This is in line with BACT determinations for material handling operations. Details of the proposed bag collectors are provided in the Appendix D.

#### 4.3 BACT CONCLUSION

Based upon the discussion presented in previous sections, the proposed packed bed scrubber using process water and an alkaline slurry, represents BACT for the emissions of F, SO<sub>2</sub> and PM/PM10 from the proposed kiln; and, bag collectors represent BACT for the emissions of PM/PM10 from the cooler and screen/mills operation. The mass emissions limitations associated with the proposed BACT are summarized in Table 3-1.

## 5.0 AIR QUALITY REVIEW

The air quality review required of a PSD construction permit application potentially requires both air quality modeling and air quality monitoring. The air quality monitoring is required when the impact of air pollutant emission increases and decreases associated with a proposed project exceed the de minimis impact levels defined by Rule 62-212, FAC or in cases where an applicant wishes to define existing ambient air quality by monitoring rather than by air quality modeling.

The air quality modeling is required to provide assurance that the emissions from the proposed project, together with the emissions of all other air pollutants in the project area, will not cause or contribute to a violation of any ambient air quality standard.

### 5.1 Significant Impact Analysis

An analysis of the air impacts resulting from the proposed increase in PM10 and SO2 emissions at the existing Multifos Plant was conducted using the Industrial Source Complex-Short Term air quality model, Version 96113 (ISC3). The Significant Impact Analysis (SIA) modeling was conducted in accordance with guidelines established by EPA and published in the document, Guideline for Air Quality Modeling, (Revised), July 1986.

The modeling input parameters used in the SIA are presented in Table 5-1. The PM and SO2 emissions associated with the proposed project were included in the modeling. Modeling analysis for fluorides was not required by FDEP as there are no corresponding ambient air standards for comparison; and, the changes in hourly emissions are relatively small.

The modeling utilized a discrete receptor grid representing the property boundary and receptor locations corresponding to a polar grid upto the most distant property boundary. An additional polar receptor grid was used which included 8 receptor rings up to 18 kilometers downwind of the plant, with receptors located at 10 degree intervals from 10 to 360 degrees (see Appendix C). The Class I area receptor locations previously identified by the Department were included in the modeling. Modeling inputs also included building downwash considerations, based on the EPA approved BPIP program. Five years of Tampa meteorological data were used in the modeling for the period 1987 to 1991.

The SIA modeling results, presented in Table 5-2, indicated that the maximum predicted Class I area impacts were less than significant for both PM10 and SO2. The maximum predicted Class II area 24 -hour PM10 and 3-hour and 24-hour SO2 impacts were significant. Consequently, additional refined modeling was required to determine if the PM and SO2 impacts from all significant sources in the area are in compliance with the ambient air quality standards.

### 5.2 Ambient Air Quality Standards Analysis

Ambient air quality standards (AAQS) have been established for several

criteria pollutants to protect the health and welfare of the general public. Class II area PSD increments have been established to prevent significant deterioration of ambient air quality.

Refined modeling was conducted to estimate the maximum 3 and 24-hour impacts from all the significant SO<sub>2</sub> emitting sources; and, the maximum 24-hour impacts from all the significant PM emitting sources in the vicinity of the plant.

Significant sources were identified using the FDEP approved "20xD" analysis. A list of the facilities modeled, is presented in Appendix C. A list of the significant sources contributing to the ambient air impacts and the PSD increment are also presented in Appendix C. The receptor grid was limited to the area of significant impact.

Background levels for PM and SO<sub>2</sub> AAQS analyses were assumed to be 21 and 11 ug/m<sup>3</sup>, respectively, as suggested by FDEP. Using a background level in the analysis, primarily to account for minor sources, results in considerable double-counting of the air impacts associated with the major sources in the vicinity of the plant.

The results of the AAQS and PSD increment consumption modeling, summarized in Table 5-3, indicate that the maximum predicted impacts from all the sources modeled are well within the ambient air standards for SO<sub>2</sub> and PM<sub>10</sub>.

TABLE 5-1  
 AIR QUALITY MODELING PARAMETERS  
 MULTIFOS PLANT EXPANSION

IMC-AGRICO COMPANY (NEW WALES)  
 POLK COUNTY, FLORIDA

Stack	Pollutant	Emissions (g/s)	Ht (m)	Dia (m)	Vel (mps)	Temp (°K)
Kiln	PM	2.52	52.4	1.37	21.40	314
	SO <sub>2</sub>	5.00				
Cooler	PM	0.79	26.2	0.91	32.30	394
Screen & Mills	PM	0.23	27.44	0.46	34.45	327

NOTES:

(1) Proposed parameters.

TABLE 5-2  
SUMMARY OF SIGNIFICANT IMPACT ANALYSES  
FOR PM/PM10 and SO2

MET YEAR	MAX. PREDICTED AMBIENT AIR IMPACTS (ug/m3) (1)				
	PM10		3-hr	SO2	
	24-hr	Annual		24-hr	Annual
<b>CLASS I AREA IMPACTS</b>					
1987	0.09	0.002	0.43	0.11	0.003
1988	0.08	0.003	0.42	0.09	0.004
1989	0.09	0.005	0.49	0.11	0.007
1990	0.08	0.003	0.55	0.10	0.004
1991	0.07	0.002	0.38	0.09	0.003
EPA SIG. (2)	0.3	0.2	1.0	0.2	0.1
SIGNIFICANT?	NO	NO	NO	NO	NO
<b>CLASS II AREA IMPACTS</b>					
1987	7.3	0.65	45.2	11.6	0.93
1988	6.3 (3)	0.43	31.5	8.5	0.60
1989	8.7	0.58	38.5	12.1	0.76
1990	8.9	0.58	42.7	13.7	0.77
1991	8.3	0.62	40.6	11.3	0.88
EPA SIG. (2)	5	1	25	5	1
SIGNIFICANT?	YES	NO	YES	YES	NO

NOTES: (1) The above impacts represent the highest-high impacts from the proposed project.

(2) Significant impact levels proposed by EPA.

(3) Highest-second high impact was 4.98 ug/m3 (not significant).

TABLE 5-3  
SUMMARY OF REFINED MODELING ANALYSES  
FOR PM10 AND S02

MET YEAR	MAX. PREDICTED AMBIENT AIR IMPACTS (ug/m3) (1)		
	PM10 24-hr	S02	
		3-hr	24-hr
FAAQS ANALYSIS			
1987	60.6	603.2	196.8
1988	NA	557.3	182.0
1989	55.3	561.9	184.8
1990	69.9	573.4	188.7
1991	56.5	566.7	213.0
MAXIMUM w/Bkgd.	90.9	614.2	224.0
FAAQS	150	1300	260
STD. EXCEEDED?	NO	NO	NO
CLASS II PSD INCREMENT ANALYSIS			
1987	26.1	11.6	0.93
1988	NA	8.5	0.60
1989	25.7	12.1	0.76
1990	26.9	13.7	0.77
1991	27.6	11.3	0.88
INCREMENT	30	512	91
SIGNIFICANT?	NO	NO	NO

NOTES:

- (1) The above impacts represent the highest-second high impacts.
- (2) A background PM10 and S02 concentration of 21 and 11 ug/m3, respectively, is included in maximum.

## 6.0 GOOD ENGINEERING PRACTICE STACK HEIGHT

The criteria for good engineering practice stack height states that the height of a stack should not exceed the greater of 65 meters (213) feet or the height of nearby structures plus the lesser of 1.5 times the height or cross-wind width of the nearby structure. This stack height policy is designed to prevent achieving ambient air quality goals solely through the use of excessive stack heights and air dispersion.

The Multifos Plant stacks are less than 213 feet in height above-grade. This satisfies the good engineering practice (GEP) stack height criteria.

## 7.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY

### 7.1 IMPACT ON SOILS AND VEGETATION

The U. S. Environmental Protection Agency was directed by Congress to develop primary and secondary ambient air quality standards. The primary standards were to protect human health and the secondary standards were to:

"... protect the public welfare from any known or anticipated adverse effects of a pollutant."

The public welfare was to include soils, vegetation and visibility.

As a basis for promulgating the air quality standards, EPA undertook studies related to the effects of all major air pollutants and published criteria documents summarizing the results of the studies. The studies included in the criteria documents were related to both acute and chronic effects of air pollutants. Based on the results of these studies, the criteria documents recommended air pollutant concentration limits for various periods of time that would protect against both chronic and acute effects of air pollutants with a reasonable margin of safety.

No adverse effects are expected on the soils, vegetation or visibility from the fluorides emissions from the proposed project based on past FDEP assessment of fluoride levels in the vicinity of the fertilizer complex.

The air quality modeling demonstrated that the maximum predicted levels of SO<sub>2</sub> as a result of the proposed project, and including the impacts from all significant SO<sub>2</sub> emitting facilities, will be well below both primary and secondary air quality standards. As a result, it is reasonable to conclude that there will be no adverse effect to the soils, vegetation or visibility of the area. In the following paragraphs, the surrounding areas are discussed and related to the expected concentrations of air pollutants for the area.

The area in the vicinity of the plant consists of primarily mining lands (phosphate), flatwoods, marshes, and sloughs. The soils of the area are primarily sandy and are typically low in both clay and silt content. These characteristics and the semi-tropic climatic factors of high temperature and rainfall are the natural factors which determine the terrestrial communities of the region.

This area supports various plant communities. The vegetation can be divided into upland and wetland categories. In each category, the following major formations have been identified:

<u>Upland</u>	<u>Wetland</u>
Pine flatwoods	Cypress swamp
Oak Scrub	Shrub swamp
Sandhill	Marsh

Much of the natural vegetation on the site and the surrounding areas has been altered due to mining and industrial use; primarily the phosphate fertilizer industry. As a result of mining and industrial activity, there is very little undisturbed land in existence in the vicinity of the plant.



In most areas, the soils encountered are coarse and contain increasing amounts of silt and clays until they contact the phosphate rock deposits. Soils in areas of low relief are influenced by flatwood vegetation, high water tables and organic or mineral pan of varying thickness. Mucks are found in the lower physiographic areas where large amounts of plant debris have accumulated.

The soils and vegetation of the area will be exposed to air pollutant levels downwind of the facility. The areas other than those downwind of the facility will be exposed to existing concentrations of air pollutants from other major emitting facilities in the immediate area. The effects of air pollutants on plants or soils are expected primarily from the short-term higher doses or from acute effects.

S<sub>02</sub> can produce two types of injury to vegetation; acute and chronic. The amount of acute injury caused by S<sub>02</sub> depends on the absorption rate of the gas which is a function of the concentration. Different varieties of plants vary widely in their susceptibility to S<sub>02</sub> injury. The threshold response of alfalfa to acute injury is 3400 micrograms per cubic meter over one hour, whereas privet requires 15 times this concentration for the same injury. Some species of trees and shrubs have shown injury at exposures of 1400 micrograms per cubic meter for seven hours, while injury has been produced in other species at three hour exposures of 1500 micrograms per cubic meter. From the various studies, it appears that acute symptoms of vegetation damage will not occur if the maximum annual concentration does not exceed 800 micrograms per cubic meter.

Chronic symptoms of S<sub>02</sub> exposure, including excessive leaf drop, may occur as a result of long-term exposure to lower concentrations. Such symptoms have been reported in areas where the mean annual concentration of S<sub>02</sub> is in the range of 80 micrograms per cubic meter.

S<sub>02</sub> concentrations in the range of 270-680 micrograms per cubic meter react synergistically with either ozone or N<sub>02</sub> during exposure periods of approximately four hours to produce moderate to severe injury in certain sensitive plants.

The effects reported in the above paragraphs have been summarized from criteria documents for S<sub>02</sub>, prepared by the U.S. Environmental Protection Agency. These documents further state that the sensitivity of plants is affected significantly by the plant species and environmental conditions, such as temperature, relative humidity, soil moisture, light intensity, and nutrient level.

The modeling analysis indicated that the maximum predicted S<sub>02</sub> levels were well below levels at which vegetation damage has been observed and well below standards that the U.S. Environmental Protection Agency has promulgated to protect human health and welfare.

The S<sub>02</sub> in the atmosphere reaches the soil by deposition from the air and is converted to sulfates. The sulfates that are deposited could cause a slight acidification of already acidic soils. The predicted concentrations of S<sub>02</sub> from stack emissions will not be at a level, however, that will result in a measurable increase in sulfates; even over a long period of time. The slight increase that could occur is not

expected to have an effect on natural vegetation.

As the increase in PM concentrations predicted by the ambient air modeling analysis are within the ambient air standards, no adverse impacts are expected on soils or on vegetation, as a result of the proposed project.

## 7.2 GROWTH RELATED IMPACTS

The proposed modification is not expected to increase personnel to operate the plant. Also, the increase in production may cause a slight increase in rail and truck traffic but will have a negligible impact on traffic in the area as compared with traffic levels that presently exist. Therefore, no additional growth impacts are expected as a result of the proposed project.

## 7.3 VISIBILITY IMPACTS

The proposed project will result in an increase in the PM and SO<sub>2</sub> emissions which have the potential for adverse impacts on visibility.

A screening approach suggested by EPA (Workbook for Plume Visual Impact Screening and Analysis, 1988) and computerized in a model referred to as VISCREEN was used for the analysis. In the case of SO<sub>2</sub>, however, EPA has noted in discussions on visibility models that the sulfates formation resulting from SO<sub>2</sub> emissions becomes a factor beyond 200 kilometers and so the SO<sub>2</sub> emissions were not included in the analysis. The VISCREEN - Level 1 modeling results, presented in Table 7-1, indicate that there will be no adverse visibility impacts from the proposed project.

## 7.4 AIR QUALITY RELATED VALUES ANALYSIS FOR CLASS I AREA

In the previous section, the impact of the air emission increases on air quality related values in the vicinity of the proposed project was addressed. The analysis addressed in this section extends the review of the impact of increased emissions on air quality related values to the Chassahowitzka Class I PSD area; an area in excess of 103 kilometers northwest of the proposed project.

### 7.4.1 Impact on Vegetation

The response of vegetation to air pollutants is influenced by the concentration of the pollutant, the duration of the exposure and the frequency of the exposure. The pattern of exposure expected from a single facility is that of a few episodes of relatively high concentrations interdispersed with long periods of no exposure or extremely low concentrations. This is the pattern of exposure that would be expected from SO<sub>2</sub> and PM emissions from the proposed project at Chassahowitzka.

Vegetation responds to a dose of an air pollutant with a dose being defined as the product of the concentration of the pollutant and the duration of the exposure. The impact of the SO<sub>2</sub> emissions on

Chassahowitzka regional vegetation was assessed by comparing pollutant doses that have been projected with air quality modeling to threshold doses reported in the literature.

S02 damage to vegetation can be grouped into two general categories: acute and chronic. Acute damage is caused by short-term exposure to relatively high concentrations of S02. This damage is usually characterized by a yellowing of leaf tips with a sharp, well defined separation between the damaged and healthy areas of a leaf. In pine trees, injury usually first occurs at the base of the youngest needles (the newest tissue on the plant).

Damaged plants typically show decreased growth and yield. These effects vary widely between species but studies have shown a rough correlation between the loss and yield and the exposure dose. These studies showed approximately a 10 percent yield loss for each 10-fold increase in S02 dose beyond 260 micrograms per cubic meter-hour.

Susceptibility to acute damage varies widely with plant species and also with the time of exposure. For example, alfalfa can tolerate 3250 micrograms per cubic meter for one hour (3250 micrograms per cubic meter-hour dose), but only 1850 micrograms per cubic meter for two hours (3700 micrograms per cubic meter-hour dose). Table 7-2 shows the S02 concentration/time thresholds for several plant species common to Florida.

The vegetation in the Chassahowitzka area is characterized by flatwoods, brackish-water, marine and halothyctic terrestrial species. Predominant tree species are slash pine, laurel oak, sweet gum and palm. Other plants in the area include needlegrass rush, seashore saltgrass, marsh hay and red mangrove.

A study of the tolerance of native Florida species to S02 (Woltz and Howe, 1981) demonstrated that cypress, slash pine, live oak and mangrove exposed to 1300 micrograms per cubic meter of S02 for 8-hours were not visibly damaged. This is consistent with the results reported in Table 7-2. Another study (McLaughlin and Lee, 1974) demonstrated that approximately 20 percent of a broad range of plants ranging from sensitive to tolerant were visibly injured when exposed to a S02 concentration of 920 micrograms per cubic meter for a 3-hour period.

Acute injury results from a plants inability to quickly convert absorbed S02 into the sulfate ion; an essential nutrient to plants. Chronic injury, on the other hand, results from a build-up of sulfate in tissue to the point where it becomes toxic. This sulfate build-up occurs over a relatively long period of time. Symptoms include a reduction in chlorophyll production resulting in decreased photosynthesis and yellow or reddish areas on leaves in a mottled pattern. In pines, sulfate injury is typically shown first at tips of older needles (the oldest tissue in the needle).

Chronic injury can result from S02 exposures that are much lower than is required for acute injury. Unfortunately, there is a lack of quantitative experimental data for long term effects of S02 exposure. The lowest average concentration for which chronic injury has been shown is 80 micrograms per cubic meter. The Environmental Protection Agency has

therefore established an ambient air quality standard of 80 micrograms per cubic meter, annual average. The Florida Department of Environmental Protection adopted a more conservative standard of 60 micrograms per cubic meter, annual average. The maximum predicted annual SO<sub>2</sub> impacts from the proposed project at the Class I area, by comparison, is 0.007 ug/m<sup>3</sup>.

Salt deposition concentrations in coastal areas are in the range of 25-300 pounds per acre per year and may be as high as 4000 pounds per acre per year on exposed shorelines. Sulfates can account for 5 - 6 percent of the total salt; resulting in a deposition rate in the range of 1-200 pounds per acre per year.

One study (Mulchi Armbruster, 1975) demonstrated leaf damage in reduced yields in corn and soybeans with a salt deposition of 169 - 339 pounds per acre per year. Another study (Curtis, 1975) reported that broad leaf plants absorbed greater amounts of salt than do pines, probably due to leaf shape. It has been found that deciduous trees begin to exhibit adverse effects to salt exposure concentrations in the range of 100 micrograms per cubic meter (DeVine, 1975). The same study reported no observed injury to plants with long-term exposures to salt spray of 40 micrograms per cubic meter.

The sulfate concentrations resulting from SO<sub>2</sub> emissions from the proposed project are well below concentrations which have been reported to produce vegetation damage.

As the impacts of F and PM at the Class I area are equally insignificant, no adverse impacts are expected on the vegetation.

#### 7.4.2 Impact on Soils

The major soil classification in the Chassahowitzka area is Weeki Wachee-Durbin muck. This is an euic, hytherthermic typic sulfhemist that is characterized by high levels of sulfur and organic matter. This soil is flooded daily with the advent of high tide and the pH ranges between 6.1 and 7.8. The upper level of this soil may contain as much as four percent sulfur (USDA, 1991).

Based upon the expected F, PM and SO<sub>2</sub> concentrations in the Chassahowitzka area from the proposed project, it is not expected that there will be any adverse impact on the native soils. A recent study (1994), coordinated by the National Park Service, supports this position.

#### 7.4.3 Impact on Wildlife

As the predicted F, PM and SO<sub>2</sub> levels are below those known to affect vegetation, the proposed project is not expected to have any adverse impact on the wildlife in the Chassahowitzka area.

#### 7.4.4. Impact on Visibility

Visibility impairment analysis was performed to determine potential impact

of the proposed project in the Chassahowitzka area. The VISCREEN - Level 1 modeling results, presented in Table 7-1, indicate that no adverse visibility impacts are expected as a result of the proposed project.

A regional haze analysis was conducted in accordance with the NPS guidelines (IWAQM procedure). The results, presented in Table 7-3 indicates that the proposed project will not contribute significantly to regional haze at Chassahowitzka.

TABLE 7-1  
 Visual Effects Screening Analysis for  
 Source: IMC MULTIFOS  
 Class I Area: CHASSAHOWITZKA

Level-1 Screening Input Emissions for

Particulates	3.54	G	/S
NOx (as NO2)	2.58	G	/S
Primary NO2	.00	G	/S
Soot	.00	G	/S
Primary SO4	.00	G	/S

Default Particle Characteristics Assumed.

Transport Scenario Specifications:

Background Ozone:	.04	ppm
Background Visual Range:	65.00	km
Source-Observer Distance:	103.00	km
Min. Source-Class I Distance:	103.00	km
Max. Source-Class I Distance:	123.00	km
Plume-Source-Observer Angle:	11.25	degrees
Stability:	6	
Wind Speed:	1.00	m/s

R E S U L T S

Asterisks (\*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area  
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	84.	103.0	84.	2.00	.148	.05	.002
SKY	140.	84.	103.0	84.	2.00	.029	.05	-.001
TERRAIN	10.	84.	103.0	84.	2.00	.074	.05	.001
TERRAIN	140.	84.	103.0	84.	2.00	.015	.05	.001

Maximum Visual Impacts OUTSIDE Class I Area  
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	30.	78.1	139.	2.00	.184	.05	.002
SKY	140.	30.	78.1	139.	2.00	.032	.05	-.001
TERRAIN	10.	50.	90.0	119.	2.00	.094	.05	.001
TERRAIN	140.	50.	90.0	119.	2.00	.020	.05	.001

TABLE 7-2  
 SENSITIVITY OF VEGETATION TO SULFUR DIOXIDE  
 CONCENTRATION - TIME EXPOSURES TO  
 SULFUR DIOXIDE RESULTING IN DAMAGE TO  
 SEVERAL SPECIES COMMON TO FLORIDA

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Sensitive Plants

Poplar	Radish	Cabbage
Lombardy Poplar	Cucumber	Broccoli
Black Willow	Squash	Spinach
Elm	Bean	Wheat
American Elm	Pea	Begonia
Southern pines	Soybean	Zinnia
Red Oak	Cotton	Rubber plant
Black Oak	Eggplant	Bluegrass
Sumac	Celery	Ryegrass

Intermediate Plants

Basswood	Yellow Poplar	Virginia creeper
Red Oxier Dogwood	Sweetgum	Rose
Maples	Locust	Hibiscus
Red Maple	Eastern Cottonwood	Gladiolus
Elm	Saltgrass	Honeysuckle
Pine	Cucumber	Wisteria
White Oak	Tobacco	Chrysanthemum
Pin Oak	Potato	

Tolerant Plants

Juniper	Pine	Gardenia
Ginkgo	Sumac	Citrus
Dogwood	Cantaloupe	Celery
Oak	Corn	
Live Oak	Lily	

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(Continued)

TABLE 7-2 (CONTINUED)

Exposure Time, Hours	Concentration Needed to Produce Injury ( $\mu\text{g}/\text{m}^3$ )		
	Sensitive	Intermediate	Tolerant
0.5	2,620 - 10,480	9,170 - 31,440	>26,200
1.0	1,310 - 7,860	6,550 - 26,200	>20,960
2.0	655 - 5,240	3,930 - 19,650	>15,720
4.0	262 - 2,620	1,310 - 13,100	>10,480
8.0	131 - 1,310	524 - 6,550	> 5,240



Table 7-3

Regional Haze Analysis For  
Multifos Plant, IMC-Agrico (New Wales)  
CLASS I CHASSAHOWITZKA N.W.R.

(1) SO2 ( $\mu\text{g}/\text{m}^3$ )	(2) Background Visibility (km)	(3) Ambient b(ext)a	(4) Acid Mist Impact H2SO4 ( $\mu\text{g}/\text{m}^3$ )	(5) SO4 ( $\mu\text{g}/\text{m}^3$ )	(6) (NH4)SO2 ( $\mu\text{g}/\text{m}^3$ )	(7) Transport Time (hrs)	(8) Conversion
0.1110	65	0.0602	0.00408	0.1665	0.2345	12.96	34.8%
(9) AT 34.8% (NH4)SO2 CONVERSION ( $\mu\text{g}/\text{m}^3$ )	(10) Relative Humidity FACTOR @ 83%	(11) PM-10 ( $\mu\text{g}/\text{m}^3$ )	(12) Source b(ext)s (NH4)SO2	(13) Source b(ext)s PM10	(14) Total Source b(ext)s	(15) Deciview	Is Deciview Greater than 1 ?
0.0817	4.2	0.0890	0.00103	0.00027	0.00130	0.21309	NO

- (1) Maximum 24-hour SO2 Impact at Class I Receptor (Table 5-2).
- (2) Measured Background Visibility Range as recommended by IWS
- (3) Ambient b(ext)a =  $3.912/\text{Background Visibility}$
- (4) Acid Mist Impact =  $0.15/4 * \text{SO2 Impact} * 96/98$ .
- (5) SO4 =  $\text{SO2 Impact} * 1.5$
- (6) 100 % (NH4)SO2 Impact =  $1.375 * (\text{SO4} + \text{Acid Mist})$
- (7) Transport Time (hours) = Maximum Distance / Average daily wind speed - From 1996 Modeling.
- (8) Conversion = Transport Time \* 0.03 (% / hour) - From 1996 Modeling.
- (9) (NH4)SO2 Conversion = % Conversion \* (NH4)SO2
- (10) Relative Humidity Factor From Meteorology and Figure B-1 IWAQM
- (11) Maximum 24-hour PM10 Impact at Class I Receptor.
- (12) Source b(ext)s (NH4)SO4 =  $0.003 * \text{Relative Humidity Factor} * (\text{NH4})\text{SO4}$
- (13) Source b(ext)s PM10 =  $0.003 * \text{Relative Humidity Factor} * \text{PM10}$
- (14) Total Source b(ext)s = b(ext)s (NH4)SO4 + b(ext)s PM10
- (15) Deciview =  $10 * \text{LN} [ 1 + (\text{Total b(ext)s} / \text{b(ext)a} ) ]$

## 8.0 CONCLUSION

It can be concluded from the information in this report that the proposed Multifos Plant expansion, as described in this report, will not cause or contribute to an exceedance of any air quality standard, PSD increment, or any other provision of Chapter 62, FAC.

## APPENDIX A - CALCULATIONS

According to FDEP guidance, the following calculations address only the proposed project. The proposed new kiln, cooler and screens/mills equipment will be separately controlled from the existing plant controls. Therefore, the only part of the existing plant that will experience any appreciable emissions increase is the rock dryer. Accordingly, the following calculations address only the new kiln, cooler, screen/mills and incremental change in the existing dryer operation.

The current Multifos Plant permit limits only F and PM. The following calculations provide emissions estimates from the new equipment.

### 1.0 PROPOSED ALLOWABLE EMISSION RATES: Based on 8760 hours of operation.

#### 1.1 KILN:

P205 IN	=	9.5 tph, maximum (@ 25 tph material input)
F	=	9.5 tph P205 x 0.37 lb F/ton P205
	=	3.5 lb/hr
	=	x 8760 hrs/yr x ton/2000 lbs
	=	15.3 tpy
PM	=	20 lb/hr (based on existing kilns performance)
	=	x 8760 hrs/yr x ton/2000 lbs
	=	87.6 tpy
SO2	=	40 lbs/hr (from expected scrubber performance)
	=	x 8760 hrs/yr x ton/2000 lbs
	=	175.2 tpy

Estimated emissions from fuel combustion, other than PM and SO2 (above):

FUEL OIL TYPE	Hours	Heat Value	AP-42 factor		
			NOX	CO	VOCs
		(Btu/gal)			
				(lb/1000 gal)	
No. 6 Fuel Oil	400	150,000	55	5	1.28
No. 2 Fuel Oil	8760	140,000	20	5	0.252
On-Spec Used Oil	8760	140,000	19	5	0.1
		(Btu/cf)			
Natural Gas	8760	1025	140	(lb/MMCF) 35	5.8

No.6 Fuel Oil : Back-up fuel, used no more than 400 hrs/yr.

Fuel Use = 56 MMBtu/hr x gal/150,000 Btu  
= 373 gal/hr, or 0.373 E3 gph  
x 400 hrs/yr  
= 149,333 gal/yr, or 149.333 E3 gpy

NOx, /hr = 0.373 E3 gph x 55 lb/E3 gal  
= 20.5 lbs/hr

NOx, /yr = 149.333 E3 gpy x 55 lb/E3 gal x ton/2000 lbs  
= 4.1 tpy

CO, /hr = 0.373 E3 gph x 5 lb/E3 gal  
= 1.9 lbs/hr

CO, /yr = 149.333 E3 gpy x 5 lb/E3 gal x ton/2000 lbs  
= 0.4 tpy

VOC, /hr = 0.373 E3 gph x 1.28 lb/E3 gal  
= 0.5 lbs/hr

VOC, /yr = 149.333 E3 gpy x 1.28 lb/E3 gal x ton/2000 lbs  
= 0.1 tpy

No.2 Fuel Oil : Upto 0.5% sulfur content, may be used 8760 hrs/yr.

Fuel Use = 56 MMBtu/hr x gal/140,000 Btu  
= 400 gal/hr, or 0.4 E3 gph  
x 8760 hrs/yr  
= 3,504,000 gals/yr

NOx = 0.4 E3 gph x 20 lb/E3 gal  
= 8.0 lbs/hr  
x 8760 hrs/yr x ton/2000 lbs  
= 35.0 tpy

CO = 0.4 E3 gph x 5 lb/E3 gal  
= 2.0 lbs/hr  
x 8760 hrs/yr x ton/2000 lbs  
= 8.8 tpy

VOC = 0.4 E3 gph x 0.252 lb/E3 gal  
= 0.1 lbs/hr  
x 8760 hrs/yr x ton/2000 lbs  
= 0.44 tpy

On-Spec Used Oil : Upto 2.0% sulfur content, may be used 8760 hrs/yr.

Fuel Use = 56 MMBtu/hr x gal/140,000 Btu  
= 400 gal/hr, or 0.4 E3 gph  
x 8760 hrs/yr  
= 3,504,000 gals/yr

$$\begin{aligned}
 \text{NOx} &= 0.4 \text{ E3 gph} \times 19 \text{ lb/E3 gal} \\
 &= 7.6 \text{ lbs/hr} \\
 &= 7.6 \text{ lbs/hr} \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\
 &= 33.3 \text{ tpy} \\
 \\
 \text{CO} &= 0.4 \text{ E3 gph} \times 5 \text{ lb/E3 gal} \\
 &= 2.0 \text{ lbs/hr} \\
 &= 2.0 \text{ lbs/hr} \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\
 &= 8.8 \text{ tpy} \\
 \\
 \text{VOC} &= 0.4 \text{ E3 gph} \times 0.1 \text{ lb/E3 gal} \\
 &= 0.04 \text{ lbs/hr} \\
 &= 0.04 \text{ lbs/hr} \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\
 &= 0.2 \text{ tpy}
 \end{aligned}$$

Natural Gas : may be used 8760 hrs/yr.

$$\begin{aligned}
 \text{Fuel Use} &= 56 \text{ MMBtu/hr} \times \text{cf}/1025 \text{ Btu} \\
 &= 0.055 \text{ MMCF/hr} \\
 &= 0.055 \text{ MMCF/hr} \times 8760 \text{ hrs/yr} \\
 &= 479 \text{ MMCF/yr} \\
 \\
 \text{NOx} &= 0.055 \text{ MMCF} \times 140 \text{ lb/MMCF} \\
 &= 7.7 \text{ lbs/hr} \\
 &= 7.7 \text{ lbs/hr} \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\
 &= 33.7 \text{ tpy} \\
 \\
 \text{CO} &= 0.055 \text{ MMCF} \times 35 \text{ lb/MMCF} \\
 &= 1.9 \text{ lbs/hr} \\
 &= 1.9 \text{ lbs/hr} \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\
 &= 8.4 \text{ tpy} \\
 \\
 \text{VOC} &= 0.055 \text{ MMCF} \times 5.8 \text{ lb/MMCF} \\
 &= 0.32 \text{ lbs/hr} \\
 &= 0.32 \text{ lbs/hr} \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\
 &= 1.4 \text{ tpy}
 \end{aligned}$$

### 1.2 Cooler:

PM emissions based on 0.02 gr/dscf exit loading from the bag collector.

$$\begin{aligned}
 \text{PM} &= 0.02 \text{ gr/dscf} \times 36,700 \text{ dscf/min} \times \text{lb}/7000 \text{ gr} \times 60 \text{ min/hr} \\
 &= 6.3 \text{ lb/hr} \\
 &= 6.3 \text{ lb/hr} \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\
 &= 27.6 \text{ tpy}
 \end{aligned}$$

### 1.3 Screens/Mills:

PM emissions based on 0.02 gr/dscf exit loading from the bag collector.

$$\begin{aligned}
 \text{PM} &= 0.02 \text{ gr/dscf} \times 11,000 \text{ dscf/min} \times \text{lb}/7000 \text{ gr} \times 60 \text{ min/hr} \\
 &= 1.9 \text{ lb/hr} \\
 &= 1.9 \text{ lb/hr} \times 8760 \text{ hrs/yr} \times \text{ton}/2000 \text{ lbs} \\
 &= 8.3 \text{ tpy}
 \end{aligned}$$

#### 1.4 Existing Dryer:

Only the emissions from the incremental fuel use are addressed herein. No appreciable hourly emissions changes are expected as the unit runs in batches. Therefore, the only consequence on the dryer is operations closer to currently permitted annual capacity. Incremental changes in dryer emissions on an annual basis, based on an additional third kiln, can be determined as follows:

$$\begin{aligned} \text{Dryer Incremental Fuel} &= 12.5 \text{ MMBtu/hr} / 3 \text{ kilns} \\ &= 4.2 \text{ MMBtu/hr, per kiln feed} \end{aligned}$$

No.6 Fuel Oil : Back-up fuel, used no more than 400 hrs/yr.

$$\begin{aligned} \text{Fuel Use} &= 4.2 \text{ MMBtu/hr} \times \text{gal}/150,000 \text{ Btu} \\ &= 28 \text{ gal/hr, or } 0.028 \text{ E3 gph} \\ &\quad \times 400 \text{ hrs/yr} \\ &= 11,200 \text{ gal/yr, or } 11.2 \text{ E3 gpy} \\ \text{SO}_2 &= 11.2 \text{ E3 gpy} \times 157(2.5) \text{ lb/E3 gal} \times \text{ton}/2000 \text{ lbs} \\ &= 2.2 \text{ tpy} \\ \text{PM} &= 11.2 \text{ E3 gpy} \times 26 \text{ lb/E3 gal} \times \text{ton}/2000 \text{ lbs} \\ &= 0.15 \text{ tpy} \\ \text{NO}_x &= 11.2 \text{ E3 gpy} \times 55 \text{ lb/E3 gal} \times \text{ton}/2000 \text{ lbs} \\ &= 0.3 \text{ tpy} \\ \text{CO} &= 11.2 \text{ E3 gpy} \times 5 \text{ lb/E3 gal} \times \text{ton}/2000 \text{ lbs} \\ &= 0.03 \text{ tpy} \\ \text{VOC} &= 11.2 \text{ E3 gpy} \times 1.28 \text{ lb/E3 gal} \times \text{ton}/2000 \text{ lbs} \\ &= 0.01 \text{ tpy} \end{aligned}$$

No.2 Fuel Oil : Upto 0.5% sulfur content, may be used 8760 hrs/yr.

$$\begin{aligned} \text{Fuel Use} &= 4.2 \text{ MMBtu/hr} \times \text{gal}/140,000 \text{ Btu} \\ &= 30 \text{ gal/hr, or } 0.03 \text{ E3 gph} \\ &\quad \times 8760 \text{ hrs/yr} \\ &= 262,800 \text{ gals/yr, or } 262.8 \text{ E3 gpy} \\ \text{SO}_2 &= 262.8 \text{ E3 gpy} \times 142(0.5) \text{ lb/E3 gal} \times \text{ton}/2000 \text{ lbs} \\ &= 9.3 \text{ tpy} \\ \text{PM} &= 262.8 \text{ E3 gpy} \times 2 \text{ lb/E3 gal} \times \text{ton}/2000 \text{ lbs} \\ &= 0.26 \text{ tpy} \\ \text{NO}_x &= 262.8 \text{ E3 gpy} \times 20 \text{ lb/E3 gal} \times \text{ton}/2000 \text{ lbs} \\ &= 2.6 \text{ tpy} \\ \text{CO} &= 262.8 \text{ E3 gph} \times 5 \text{ lb/E3 gal} \times \text{ton}/2000 \text{ lbs} \\ &= 0.66 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{VOC} &= 262.8 \text{ E3 gal} \times 0.252 \text{ lb/E3 gal} \times \text{ton}/2000 \text{ lbs} \\ &= 0.03 \text{ tpy} \end{aligned}$$

Natural Gas : may be used 8760 hrs/yr.

$$\begin{aligned} \text{Fuel Use} &= 4.2 \text{ MMBtu/hr} \times \text{cf}/1025 \text{ Btu} \\ &= 0.004 \text{ MMCF/hr} \\ &\times 8760 \text{ hrs/yr} \\ &= 35 \text{ MMCF/yr} \end{aligned}$$

$$\begin{aligned} \text{SO}_2 &= 35 \text{ MMCF} \times 0.6 \text{ lb/MMCF} \times \text{ton}/2000 \text{ lbs} \\ &= 0.01 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{PM} &= 35 \text{ MMCF} \times 13.7 \text{ lb/MMCF} \times \text{ton}/2000 \text{ lbs} \\ &= 0.24 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{NO}_x &= 35 \text{ MMCF} \times 140 \text{ lb/MMCF} \times \text{ton}/2000 \text{ lbs} \\ &= 2.5 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{CO} &= 35 \text{ MMCF} \times 35 \text{ lb/MMCF} \times \text{ton}/2000 \text{ lbs} \\ &= 0.61 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{VOC} &= 35 \text{ MMCF} \times 5.8 \text{ lb/MMCF} \times \text{ton}/2000 \text{ lbs} \\ &= 0.10 \text{ tpy} \end{aligned}$$

APPENDIX B - CURRENT AIR PERMITS





# Department of Environmental Protection

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

**PERMITTEE:**

IMC-Agrico Company  
New Wales Operation  
P.O. Box 2000  
Mulberry, Florida 33860

**PERMIT/PROJECT:**

Permit: AO53-206083B  
County: Polk  
Original Issue: 06/30/92  
Amended Date: 07/27/95  
Expiration Date: 06/01/97  
Project: Multifos Production Plant:  
Dryer, Blending and Storage  
Operation, Kiln 'A' & Kiln 'B'

This amended permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 62-200 through 297 and 62-4. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the Department and made a part hereof and specifically described as follows:

This amended operation permit is issued for that portion of the Multifos Production Plant consisting of a phosphate rock dryer, a blending operation, a storage building and two defluorination kilns designated as Kiln 'A' (North), and Kiln 'B' (South). Emissions from the dryer, the blending operation and the kilns are controlled by three separate Teller packed bed scrubbers connected to a common stack.

The dryer has the capability of processing 35 tons per hour of wet phosphate rock and is fired at a maximum heat input rate of 12.5 MMBtu per hour with either natural gas or new, No. 6 or a better grade fuel oil. The dried phosphate rock is normally stored in a hopper prior to the blending operation.

The blending operation is a batch operation which combines the dried phosphate rock with soda ash and a phosphoric acid into a mixed feed which is then sent to the mixed feed storage building for a period of time in order to age.

From storage, the mixed feed is transferred to the common kiln feed conveyor at a maximum rate of 11.35 tons per hour 100% P<sub>2</sub>O<sub>5</sub> (approximately 30 tons per hour input rate). Each kiln is capable of being fired at a maximum heat input rate of 56 MMBtu per hour by either natural gas, on-specification used oil from on-site sources, only, or new, No. 6 or a better grade fuel oil.

(Continued On Next Page)

(Continued)

Emissions from both the dryer and the batch blending operation are controlled by the same scrubber. Emissions from each kiln are controlled by a separate scrubber. Fugitive emissions generated from the product storage building and associated transfer conveyors are controlled by the addition of a dust suppressant material at the product conveyor just prior to the product being loaded onto the storage building transfer conveyor.

For disposal purposes, petroleum contaminated soils from the clean up of minor spills of petroleum products at the New Wales facility are added to the multifos feed to the kilns.

Location: New Wales Operation, Highway 640 and County Line Road,  
South of Mulberry

UTM: 17-396.7 km East 3078.9 km North  
NEDS No: 0059  
Point ID: 36  
Facility ID: 40TPA530059

Replaces Permits: A053-206083A, issued 06/23/95  
A053-206083 Amendment, issued 06/23/94  
A053-206083 Amendment, issued 09/11/92  
A053-206083 Amendment, issued 07/17/92  
A053-206083, issued 06/30/92

Reference Permit: AC53-267287

#### SPECIFIC CONDITIONS:

1. A part of this permit is the attached GENERAL CONDITIONS.
2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapters 62-2 through 62-297, F.A.C. or any other requirements under federal, state or local law.  
[Rule 62-200.300, F.A.C.]

#### EMISSION LIMITATIONS

3. The particulate matter emission rate from the stack common to the Multifos Production Plant dryer, batch blending operation, kiln 'A' and kiln 'B' scrubbers shall not exceed 29.83 pounds per hour. This particulate matter emission rate limitation qualifies the facility for the PM-RACT exemption per Rule 62-296.700(2)(b), F.A.C.  
[Permit AC53-267287, Rules 62-296.310(1) and 62-296.700(2)(b), F.A.C.]

SPECIFIC CONDITIONS: (Continued)

4. The fluoride emission rate from the stack common to the Multifos Production Plant dryer, batch blending operation, kiln 'A' and kiln 'B' scrubbers shall not exceed 4.2 pounds per hour as fluorides (water soluble or gaseous atomic weight 19). At a total, combined input rate to the kilns of less than 11.35 tons per hour 100% P<sub>2</sub>O<sub>5</sub> (approximately 30 tons per hour input rate), the maximum allowable fluoride emission rate is 0.37 pounds per ton 100% P<sub>2</sub>O<sub>5</sub> input.  
 [Permit AC53-267287 and Rule 62-296.403(1)(h), F.A.C.]

5. Visible emissions shall not be equal to or greater than 20% opacity. [Permit AC53-267287 and Rule 62-296.310(2)(a), F.A.C.]

OPERATION LIMITATIONS

6. The fuels burned shall be limited to those shown below:  
 [Permit AC53-267287]

A. Dryer

- i. natural gas; or
- ii. new, No. 6 fuel oil, or better grade fuel oil.<sup>(1)</sup>

B. Kilns

- i. natural gas; or
- ii. on-specification used oil<sup>(2)</sup> (generated on-site, only, see Specific Condition No. 7); or
- iii. new, No. 6 fuel oil, or better grade fuel oil.<sup>(1)</sup>

7. The used oil (generated on-site, only) to be fired in the kilns shall meet the following on-specification used oil requirements:  
 [Permit AC53-267287, Federal Specifications contained in 40 CFR 266.40]

<u>Constituent/Property</u>	<u>Allowable</u>
Cadmium	2 ppm maximum
Arsenic	5 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum *
Polychlorinated Byphenyls(PCB's)	50 ppm maximum
Flash Point	100 °F minimum

\* Used oil containing more than 1000 ppm and up to a maximum of 4000 ppm total halogens can be burned only if the permittee can show that the used oil does not contain any halogenated hazardous wastes.

## SPECIFIC CONDITIONS: (Continued)

8. Each batch of used oil collected for use as fuel shall be sampled and analyzed for all of the constituents/properties listed in Specific Condition No. 7 using EPA/DEP or ASTM approved methods. Split samples of the used oil shall be retained for 3 months after the analysis for further testing if necessary. The results of each analysis shall be retained for at least 3 years and made available to the Department of Environmental Protection upon request. If used oil is being fired during the semi-annual stack tests then results of the most recent batch analysis shall be submitted along with the test report.  
[Permit AC53-267687]
9. The sources covered by this permit are allowed to operate continuously (8760 hours per year). [Permit AC53-267287]
10. The total, combined input rate to the kilns shall not exceed 11.35 tons per hour 100% P<sub>2</sub>O<sub>5</sub> (approximately 30 tons per hour input rate). [Based on 4.2 pounds per hour maximum fluoride emission rate, Permit AC53-267287]
11. For disposal purposes, petroleum contaminated soils from the clean up of minor spills from the unloading of petroleum products at the New Wales facility, only, may be added to the multifos feed to the kilns. The total quantity of contaminated soil that may be disposed of in this manner shall not exceed thirty, 55 gallon capacity drums per week. Each kiln designated to receive petroleum contaminated soil shall be operating normally at a minimum feed rate of 8 tons per hour when the contaminated soil is added.  
[Permit A053-206083 Amendment, 06/23/94]

TESTING AND COMPLIANCE REQUIREMENTS

12. Test the stack common to the Multifos Production Plant dryer, batch blending operation, kiln 'A' and kiln 'B' scrubbers for particulate matter emissions, fluoride emissions and visible emissions, annually, within 60 days prior to the due date of March 26. [Rules 62-297.340(1)(a), and 62-297.570(3), F.A.C. and A053-206083]
13. Compliance with the emission limitations of Specific Condition Nos. 3, 4, and 5 shall be determined using EPA Methods 1, 2, 3, 4, 5, 9, and 13A or 13B as contained in 40 CFR 60, Appendix A and adopted by reference in Chapter 62-297, F.A.C. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Chapter 62-297, F.A.C. and 40 CFR 60, Appendix A.

## SPECIFIC CONDITIONS: (Continued)

- ✓14. The visible emissions test shall be conducted by a certified observer and be a minimum of 60 minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. A visible emissions test shall be conducted during the same testing period as the particulate matter test and the fluoride emission test. [Rules 62-297.330(1)(b), and 62-4.070, F.A.C.]
- ✓15. Testing of emissions should be accomplished while simultaneously operating within 90% - 100% of each of the following:
- (1) the maximum total, combined input rate to the kilns of 11.35 tons per hour 100% P<sub>2</sub>O<sub>5</sub> (approximately 30 tons per hour input rate).
  - (2) the maximum heat input rate to the dryer of 12.5 million Btu per hour.
  - (3) the maximum heat input rate for each of the kilns of 56.0 million Btu per hour.

*Type 4*

If it is not practical to test at the maximum rates in (1), (2) or (3), above, then the source may be tested at less than the maximum rates. In this case, subsequent source operation is then limited to 110 percent of the test rate(s) until a new test is conducted. Once the source is so limited, then operation at a higher rate is only allowed for no more than 15 consecutive days for the purpose of additional compliance testing in order to regain a maximum permitted rate in this permit. Acceptance of a test by the Department of Environmental Protection will automatically amend this permit to the new rate(s), plus 10%, but shall not exceed the maximum rates in (1) through (3), above. Failure to submit the actual rates, the type of fuel burned, or operating under conditions during testing which are not representative of normal operating conditions, may invalidate the test. [Rules 62-297.340 and 62-4.070(3), F.A.C.]

- ✓16. Compliance testing shall be conducted while firing oil, if oil of any type (new, fuel oil, or on-specification used oil), has been used in the rock dryer and/or the kilns for a sum total of more than 400 hours from the previous test. If a test is conducted while firing natural gas, and in the 12 month period following the test, oil of any type is burned for a sum total of more than 400 hours, then an additional visible emission test per Specific Condition No. 5 shall be conducted, while burning oil in that source, within 30 days of having exceeded the 400 hour oil burning limit. A compliance test submitted using a better grade of oil, than No. 6 grade, will automatically amend this operation permit to only allow subsequent operation on only that better grade oil or a higher ranked oil. [Rules 62-297.340(2), and 62-4.070(3), F.A.C.]

## SPECIFIC CONDITIONS: (Continued)

√17. If the Department of Environmental Protection has reason to believe that any applicable emission standard is being violated, then the Department of Environmental Protection may require IMC-Agrico Company to conduct compliance tests which identify the nature and quantity of pollutant emissions and to provide a report on the results of the tests. [Rule 62-297.340(2), F.A.C.]

NOTIFICATION REQUIREMENTS

√18. In case of excess emissions resulting from a malfunction, IMC-Agrico Company shall immediately notify the Air Compliance Section of the Southwest District Office of the Department of Environmental Protection in accordance with Rule 62-4.130, F.A.C. If requested, IMC-Agrico Company shall submit a full written report on the malfunction. [Rule 62-210.700, F.A.C.]

√19. The permittee shall notify the Air Compliance Section of the Southwest District Office of the Department of Environmental Protection at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each test, and the test contact person who will be responsible for coordinating the test. [Rule 62-297.340(1)(i), F.A.C.]

RECORDKEEPING REQUIREMENTS

√20. A record log(s) shall be established and maintained to document, at a minimum, the following:

(1) the quantity of the new, fuel oil and the on-specification used oil utilized in the dryer and the kilns.

(2) the sulfur content (percent, by weight) of the new, fuel oil and the on-specification used oil utilized in the dryer and the kilns.

(3) the date, the quantity (volume) of petroleum contaminated soil added to the kiln feed for disposal, and the operating status of the kilns (feed rate per kiln) when petroleum contaminated soil was added (See Specific Condition No. 11).

The log(s) shall be updated, at a minimum, on a monthly basis and shall be retained at the facility for a minimum of 5 years. The log(s) shall be made available to the Department of Environmental Protection, upon request. [Permit A053-206083 Amendment, 06/23/94, Permit AC53-267287 and Rule 62-4.070(3), F.A.C.]

## SPECIFIC CONDITIONS: (Continued)

OTHER REQUIREMENTS

- √21. Reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Rule 62-296.310(3), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alterations, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.
- √22. All Multifos product being conveyed into the Multifos product storage building shall be coated with a dust suppressant material. As stated in the IMC-Agrico response letter of March 6, 1991, the dust suppressant material used shall be KGA 500D, or equivalent, applied at a rate of 1.5 to 2.5 gallons per ton of product, or an equivalent substitute applied at the appropriate rate to control generation of fugitive emissions. As an indicator of the effectiveness of this control measure, visible emissions from the product storage building shall not exceed 5% opacity. In order to minimize any dust suppressant application system downtime, IMC-Agrico shall maintain an in-line spare pump to be used in the event of failure of the main operating pump. Any equipment malfunction or other event resulting in the transfer of uncoated product into the building for a period in excess of two hours shall be reported immediately to the Compliance Section of the Southwest District Office of the Department of Environmental Protection. In the event that the dust suppressant equipment outage continues for more than two hours and visible emissions from the building exceed 5% opacity, then the transfer of uncoated product shall be discontinued. [Rule 62-296.310(3)(b), F.A.C. and March 15, 1991 amendment to A053-127484]

REPORTING REQUIREMENTS

- √23. Submit to the Southwest District Office, Air Compliance Section of the Department of Environmental Protection, each calendar year, on or before March 1, completed DEP Form 62-210.900(5), *Annual Operating Report for Air Pollutant Emitting Facility*, including the "Emissions Report", for the preceding year. Include in this report the total quantity of all fuels utilized, including a summary of the range of analysis values for each constituent/property for on-specification used oil referenced in Specific Condition Nos. 7 and 8. [Rule 62-210.370(3), F.A.C.]

## SPECIFIC CONDITIONS: (Continued)

√24. All tests reports shall be submitted to the Air Compliance Section of the Southwest District Office of the Department of Environmental Protection within 45 days of testing. Each report shall reference, at a minimum, the "Facility ID" and "Point ID" for this emission unit. The following information, or equivalent, shall be included in each report submitted: [Rules 62-297.570(2) and 62-4.070, F.A.C.]

Project: Multifos Production Plant: Dryer, Blending Operation,  
Kiln 'A' & Kiln 'B'

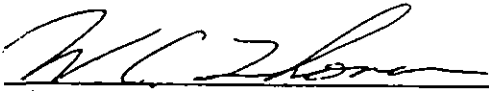
Facility ID: 40TPA530059  
Point ID: 36

√25. All tests reports submitted to the Air Compliance Section of the Southwest District Office of the Department of Environmental Protection shall include the representative used oil batch analysis (See Specific Condition No. 7), if the used oil was fired during the annual stack tests and/or the representative fuel oil analysis, if fuel oil was fired during the annual stack tests.  
[Rule 62-4.070, F.A.C.]

PERMITTING REQUIREMENTS

↓26. IMC-Agrico Company is subject to the permitting requirements of Rule 62-213.400 and shall apply for a Title V operation permit by submitting a completed application, DEP Form 62-210.900(1), to the Air Permitting Section of the Southwest District Office of the Department of Environmental Protection by the appropriate date referenced in Rule 62-213.420(1)(a), F.A.C.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
Richard D. Garrity, Ph.D.  
Director of District Management  
Southwest District

5imc083a.ptm(1)



SPECIFIC CONDITIONS: (Continued)

DEFINITIONS:

(1) Better Grade Fuel Oil

A better grade fuel oil is defined as a fuel oil with a higher ranking in the following list:

Better Grade (Top of list)

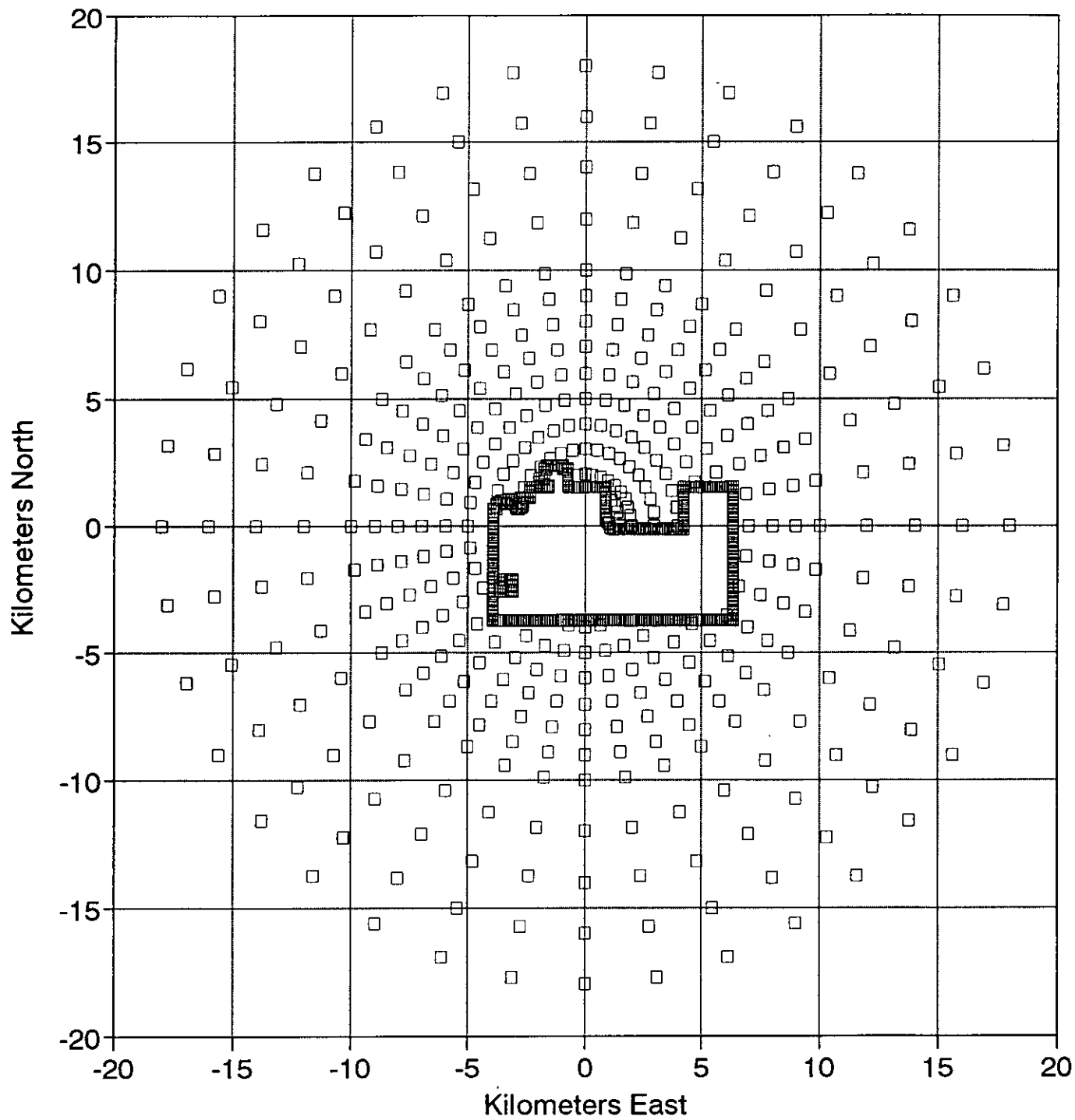
new, No. 2 fuel oil, or No. 2 on-specification fuel oil  
new, No. 3 fuel oil, or No. 3 on-specification fuel oil  
new, No. 4 fuel oil, or No. 4 on-specification fuel oil  
new, No. 5 fuel oil, or No. 5 on-specification fuel oil  
new, No. 6 fuel oil, or No. 6 on-specification fuel oil

(2) "On-Specification" Used Oil

"On-specification" used oil is defined as used oil that meets all of the requirements in Specific Condition Nos. 7 and 8 in this permit. Used oil that does not meet all the requirements of Specific Condition Nos. 7 and 8 in this permit is defined as "off-specification" used oil and shall not be burned.

APPENDIX C - MODELING OUTPUT DISK FILE INDEX

RECEPTOR GRID USED FOR MODELING OF  
SIGNIFICANT IMPACT ANALYSIS FOR SO<sub>2</sub> & PM-10



**CLASS II AREA  
SIGNIFICANT SO<sub>2</sub>  
EMITTING FACILITIES (20 D)**

SOURCE DESCRIPTION	Significant ton/yr	UTM COORDINATES (km)		Dintance (Km)	20-D Emission	
		EAST	NORTH		(TPY)	Significant?
BORDEN	225	394.800	3069.600	10	201	YES
BREWSTER/IMPERIAL	670	404.800	3069.500	13	255	YES
CARGILL/GARDINIER MINE	670	415.300	3063.300	25	491	YES
CARGILL/GARDINIER MFG	11779	363.400	3082.400	34	671	YES
CARGILL/SEMINOLE/W.R. GRACE	14931	409.770	3086.990	15	300	YES
CF BARTOW	29567	408.500	3082.500	12	242	YES
CF PLANT CITY	9452	388.000	3116.000	38	752	YES
CITRUS WORLD	2062	441.000	3087.300	45	898	YES
CLM CHLORIDE METALS	731	361.800	3088.300	36	722	YES
COCA COLA - AUBURNDALE	1393	421.600	3103.700	35	694	YES
CONSOLIDATED MINERALS	943	393.800	3096.300	17	343	YES
DOLIME	355	404.813	3069.548	13	254	YES
ESTECH/SWIFT	4856	411.500	3074.200	16	312	YES
EVANS PACKING	2188	383.300	3135.800	58	1159	YES
FARMLAND 5 H2SO4	7011	410.330	3079.655	14	271	YES
FLORIDA CRUSHED STONE	3423	360.008	3162.398	91	1815	YES
FPC ANCLOTE	116916	324.400	3118.700	82	1647	YES
FPC BARTOW	62685	342.400	3082.600	54	1090	YES
FPC BAYBORO	6881	338.800	3071.300	59	1171	YES
FPC CRYSTAL RIVER	133484	334.200	3204.500	140	2797	YES
FPC DEBARY	16224	467.500	3197.200	137	2747	YES
FPC HIGGINS	12082	336.500	3098.400	63	1264	YES
FPC INT. CITY	8168	446.300	3126.000	68	1359	YES
FPC OSCEOLA	16958	446.300	3126.000	68	1359	YES
FPC POLK	859	414.400	3073.910	18	369	YES
FPL FT MYERS	26872	422.100	2952.900	129	2581	YES
FPL MANATEE	83410	367.200	3054.100	39	779	YES
GEN. PORT. CEMENT	4602	358.000	3090.600	40	808	YES
GULF COAST LEAD	1711	364.000	3093.500	36	714	YES
HARDEE	9657	404.800	3057.400	23	469	YES
HILLS. CO. RESOURCE RECOVER	744	368.200	3092.700	32	631	YES
IMC - AGRICO /NICHOLS/CONSER	3495	398.400	3084.200	5	101	YES
IMC-AGRICO/NEW WALES	11416	396.600	3078.900	1	11	YES
IMC-AGRICO/NORALYN	504	414.700	3080.300	18	358	YES
IMC-AGRICO/PIERCE	1646	404.100	3078.950	7	146	YES
IMC-AGRICO/SO. PIERCE	5114	407.500	3071.300	13	269	YES
LAFARGE CORP.	20293	357.7	3090.6	41	813	YES
LAKELAND LARSEN	4944	409.300	3102.800	26	530	YES
LAKELAND MCINTOSH	30563	409.200	3106.200	29	590	YES
MOBIL BIG-4	591	394.850	3069.770	10	197	YES
MOBIL NICHOLS	971	398.300	3084.300	5	102	YES
MOBILE ELECTROPHOS	3337	405.600	3079.400	9	176	YES
MULBERRY COGENERATION	466	413.600	3080.600	17	337	YES
MULBERRY PROSPHATES/ROYST	5312	406.700	3085.200	11	229	YES
ORLANDO UTIL STANTON	24100	483.500	3150.600	112	2243	YES
PINELLAS RRF	2165	335.300	3084.400	62	1234	YES
PINEY POINT/ROYSTER	1719	348.700	3057.300	53	1059	YES
SEBRING UTIL	3868	464.300	3035.400	81	1612	YES
STAUFFER	2265	325.600	3116.700	80	1607	YES
SUGAR CANE GROWERS	4936	534.900	2953.300	187	3741	YES
TECO BIG BEND	415986	361.900	3075.000	35	704	YES
TECO GANNON TURBINE	127495	360.000	3087.500	38	754	YES
TECO HOOKERS POINT	13535	358.000	3091.000	40	810	YES
TECO POLK POWER	4031	402.488	3066.914	14	275	YES
USS AGRICHEM BARTOW	1580	413.200	3086.300	18	356	YES
USSAC FT MEADE	3377	416.120	3068.620	22	443	YES

## SO<sub>2</sub> FAAQS INVENTORY

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Emission	Height	Temperature	Velocity	Diameter	
	EAST	NORTH	(m) EAST	(m) NORTH						Name
1 BORDENDRYER	394.800	3069.600	-2003	-9835	1BORD	-6.48	30.48	344.0	14.79	1.82
2 BREWSTER/IMPERIALDRYER	404.800	3069.500	7997	-9935	2BREW	-19.26	27.44	339.0	15.25	2.29
3 CARGILL/GARDINIERDRYER	363.400	3082.400	-33403	2965	3CARG	-28.89	20.73	310.0	13.12	1.07
4 CARGILL/GARDINIERSAP#4,5,6	363.400	3082.400	-33403	2965	4CARG	-187.70	22.60	363.0	7.00	1.52
5 CARGILL/GARDINIERSAP#7	363.400	3082.400	-33403	2965	5CARG	-26.25	45.60	340.0	12.64	2.29
6 CARGILL/GARDINIERSAP#8	363.400	3082.400	-33403	2965	6CARG	-41.16	45.60	339.0	13.93	2.44
7 CARGILL/GARDINIERSAP#9	363.400	3082.400	-33403	2965	7CARG	-54.60	45.60	350.0	10.30	2.74
8 CARGILL/GARDINIERSAP#9(INCRIN9OF8/9U06)	363.400	3082.400	-33403	2965	8CARG	67.20	45.60	350.0	12.66	2.74
9 CARGILL/SEMINOLE/W.R.GRACEDRYER	409.770	3086.990	12967	7555	9CARG	-39.66	15.24	327.0	17.32	2.04
10 CARGILL/SEMINOLE/W.R.GRACESAP#1&#2	409.770	3086.990	12967	7555	10CAR	-216.00	45.72	352.0	16.50	1.37
11 CARGILL/SEMINOLE/W.R.GRACESAP#3	409.770	3086.990	12967	7555	11CAR	-52.50	45.72	311.0	16.70	1.52
12 CARGILL/SEMINOLE/W.R.GRACESAP4,5&6	409.770	3086.990	12967	7555	12CAR	143.64	60.96	347.0	34.00	1.52
13 CARGILL/SEMINOLE/W.R.GRACESAP4,5&6	409.770	3086.990	12967	7555	13CAR	-121.07	60.96	347.0	25.10	1.52
14 CFBARTOWDAP1-3	408.500	3082.500	11697	3065	14CFB	3.97	36.40	339.0	16.11	2.13
15 CFBARTOWH2SO41(400TPD)	408.500	3082.500	11697	3065	15CFB	-60.90	30.49	350.0	12.20	1.37
16 CFBARTOWH2SO42(500TPD)	408.500	3082.500	11697	3065	16CFB	-110.25	30.49	350.0	10.37	1.68
17 CFBARTOWH2SO43(600TPD)	408.500	3082.500	11697	3065	17CFB	-107.10	30.49	364.0	4.27	2.74
18 CFBARTOWH2SO44(900TPD)	408.500	3082.500	11697	3065	18CFB	-174.83	30.49	358.0	7.93	2.13
19 CFBARTOWH2SO45(2400TPD)	408.500	3082.500	11697	3065	19CFB	50.40	63.41	361.0	10.88	2.13
20 CFBARTOWH2SO45(900TPD)	408.500	3082.500	11697	3065	20CFB	-228.80	63.41	358.0	10.67	2.13
21 CFBARTOWH2SO46(2400TPD)	408.500	3082.500	11697	3065	21CFB	50.40	63.41	370.0	7.28	2.13
22 CFBARTOWH2SO46(900TPD)	408.500	3082.500	11697	3065	22CFB	-170.10	63.41	359.0	10.37	2.13
23 CFBARTOWH2SO47(2000TPD)	408.500	3082.500	11697	3065	23CFB	42.00	67.10	351.0	9.80	2.40
24 CFPLANTCITYBASELINEA&B	388.000	3116.000	-8803	36565	24CFP	-105.00	23.80	316.0	18.80	1.52
25 CFPLANTCITYBASELINEC&D	388.000	3116.000	-8803	36565	25CFP	-100.80	60.35	353.0	16.40	2.44
26 CFPLANTCITYH2SO4A&B(U02&03)	388.000	3116.000	-8803	36565	26CFP	88.20	33.50	316.0	19.50	1.52
27 CFPLANTCITYPROPOSEDC&D(U07-08)	388.000	3116.000	-8803	36565	27CFP	109.20	60.35	353.0	17.77	2.44
28 CLMCHLORIDEMETALS	361.800	3088.300	-35003	8865	28CLM	13.00	30.00	375.0	20.10	0.61
29 DOLIMEBOILER	404.813	3069.548	8010	-9887	29DOLI	-4.52	27.43	494.1	7.25	0.61
30 DOLIMEDRYER	404.813	3069.548	8010	-9887	30DOLI	-5.68	27.43	333.0	20.67	1.52
31 ESTECH/SWIFTDRYER	411.500	3074.200	14697	-5235	31EST	-22.80	18.75	340.0	5.06	2.95
32 ESTECH/SWIFTDRYER	411.500	3074.200	14697	-5235	32EST	-23.94	18.29	339.0	8.47	2.95
33 ESTECH/SWIFTSAP(610TPD&29LB/TON)	411.500	3074.200	14697	-5235	33EST	-92.87	30.79	358.0	3.90	2.13
34 FARMLAND1,2H2SO4	410.330	3079.655	13527	220	34FAR	-83.98	30.48	311.0	20.18	1.37
35 FARMLAND3&4H2SO4(1620TPD)	410.330	3079.655	13527	220	35FAR	-67.16	30.48	355.0	9.27	2.29

## SO<sub>2</sub> FAAQS INVENTORY (CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)	
	EAST	NORTH	(m) EAST	(m) NORTH						Name
36 FARMLAND3&4H2SO4(2100TPD)	410.330	3079.655	13527	220	36FAR	88.20	30.48	355.0	12.02	2.29
37 FARMLAND5H2SO4(2400TPD)	410.330	3079.655	13527	220	37FAR	-50.40	45.72	355.0	11.55	2.44
38 FARMLAND5H2SO4(2800TPD)	410.330	3079.655	13527	220	38FAR	58.80	45.72	355.0	13.42	2.44
39 FLORIDACRUSHEDSTONEKILN1	360.008	3162.398	-36795	82963	39FLO	98.40	97.60	442.0	23.23	4.88
40 FPCCRYSTALRIVER1	334.200	3204.500	-62603	125085	40FPC	-314.00	152.00	422.0	42.10	4.57
41 FPCCRYSTALRIVER2	334.200	3204.500	-62603	125065	41FPC	-1859.00	153.00	422.0	42.10	4.88
42 FPCCRYSTALRIVER4	334.200	3204.500	-62603	125065	42FPC	1008.80	182.90	398.0	21.00	6.90
43 FPCCRYSTALRIVER5	334.200	3204.500	-62603	125065	43FPC	1008.80	182.90	398.0	21.00	6.90
44 FPCDEBARYPROPTURBINESAT20DEGF	467.500	3197.200	70697	117765	44FPC	466.40	15.24	819.8	56.21	4.21
45 FPCINT.CITYPROPTURBINES/7EAAT20DEGF	446.300	3126.000	49497	46565	45FPCi	124.40	15.24	819.8	56.21	4.21
46 FPCINT.CITYPROPTURBINES/7FAAT20DEGF	446.300	3126.000	49497	46565	46FPCi	110.40	15.24	880.8	32.07	7.04
47 FPCOSCEOLAPEAKING7-10	446.300	3126.000	49497	46565	47FPC	111.88	15.20	834.8	0.05	4.21
48 FPCOSCEOLAPEAKING11-12	446.300	3126.000	49497	46565	48FPC	102.56	15.2	895.9	0.03	7.04
49 FPCPOLK	414.400	3073.910	17597	-5525	49FPC	24.7	34.40	400.0	40.50	4.10
50 GEN.PORT.CEMENTKILN4	358.000	3090.600	-38803	11165	50GEN.	-62.99	35.97	505.2	17.61	2.74
51 GEN.PORT.CEMENTKILN5	358.000	3090.600	-38803	11165	51GEN.	-69.30	45.42	494.1	5.80	3.81
52 HARDEE	404.800	3057.400	7997	-22035	52HAR	277.60	22.90	389.0	23.90	4.88
53 HILLS.CO.RESOURCERECOVERY	368.200	3092.700	-28603	13265	53HILL	21.40	50.00	491.0	18.30	1.80
54 IMC-AGRICO/NICHOLS/CONSERVE(2@1300TPD&4L	398.400	3084.200	1597	4765	54IMC-	-54.60	30.50	308.0	18.90	1.80
55 IMC-AGRICO/NICHOLS/CONSERVE(2000TPD@4LB/T	398.400	3084.200	1597	4765	55IMC-	-42.00	45.70	352.0	10.30	2.30
56 IMC-AGRICO/NICHOLS/CONSERVE(2500TPD@4LB/T	398.400	3084.200	1597	4765	56IMC-	52.50	45.70	352.0	12.00	2.30
57 IMC-AGRICO/NICHOLS/CONSERVEROCKDRYER	398.400	3084.200	1597	4765	57IMC-	-3.88	24.40	339.0	12.90	1.52
58 IMC-AGRICO/NEWWALESAPIPLANT	396.600	3078.900	-203	-535	58IMC-	0.20	52.40	322.0	13.10	2.40
59 IMC-AGRICO/NEWWALES DAP	396.600	3078.900	-203	-535	59IMC-	5.54	36.60	319.1	20.15	1.83
60 IMC-AGRICO/NEWWALESMULTIPHOS	396.600	3078.900	-203	-535	60IMC-	4.80	52.40	314.0	15.80	1.40
61 IMC-AGRICO/NEWWALESROCKDRYER	396.600	3078.900	-203	-535	61IMC-	-34.27	21.00	347.0	18.60	2.13
62 IMC-AGRICO/NEWWALESSAP#1,2,3(3AT2900TPD)	396.600	3078.900	-203	-535	62IMC-	182.85	61.00	350.0	15.31	2.60
63 IMC-AGRICO/NEWWALESSAP#1,2,3BASELINE	396.600	3078.900	-203	-535	63IMC-	-146.00	61.00	350.0	14.28	2.60
64 IMC-AGRICO/NEWWALESSAP#4,5(2AT2900TPD)	396.600	3078.900	-203	-535	64IMC-	121.90	60.70	350.0	15.31	2.60
					0					
65 IMC-AGRICO/PIERCEDRYERS1,2	404.100	3078.950	7297	-485	65IMC-	-24.32	24.38	339.0	12.94	1.52
66 IMC-AGRICO/PIERCEDRYERS3,4	404.100	3078.950	7297	-485	66IMC-	-23.00	24.38	339.0	18.82	2.43

## SO<sub>2</sub> FAAQS INVENTORY (CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)	
	EAST	NORTH	(m) EAST	(m) NORTH						Name
67 IMC-AGRICO/SO.PIERCEDAPPLANT	407.500	3071.330	10697	-8105	67IMC-	4.41	38.10	328.0	14.60	3.10
68 IMC-AGRICO/SO.PIERCEH2SO4(2@2700TPD)	407.500	3071.300	10697	-8135	68IMC-	125.99	44.18	350.0	13.29	2.74
69 IMC-AGRICO/SO.PIERCEH2SO4(2@1800TPD)	407.500	3071.300	10697	-8135	69IMC-	-75.60	45.73	350.0	26.40	1.60
70 LAKELANDLARSENCT	409.300	3102.800	12497	23365	70LAK	29.11	30.48	783.2	28.22	5.79
71 LAKELANDMCINTOSH3	409.200	3106.200	12397	26765	71LAK	500.10	76.20	350.0	19.70	4.88
72 MOBILBIG-4BOILER(UAA)	394.800	3069.770	-2003	-9665	72MOB	0.60	8.20	505.0	7.57	0.41
73 MOBILBIG-4DRYER(U01)	394.850	3069.770	-1953	-9665	73MOB	16.38	30.50	334.0	7.26	1.82
74 MOBILNICHOLS75HPBOILER	398.300	3084.300	1497	4865	74MOB	-0.87	4.00	522.0	1.80	0.80
75 MOBILNICHOLSCALCINER	398.300	3084.300	1497	4865	75MOB	-13.89	28.40	340.0	19.24	1.09
76 MOBILNICHOLSDRYER4	398.300	3084.300	1497	4865	76MOB	2.44	25.90	339.0	16.05	2.29
77 MOBILEELECTROPHOS400HPBOILER	405.600	3079.400	8797	-35	77MOB	-6.53	7.32	464.0	3.23	0.91
78 MOBILEELECTROPHOS600HPBOILER	405.600	3079.400	8797	-35	78MOB	-10.05	6.10	464.0	7.71	0.91
79 MOBILEELECTROPHOSCALCINER	405.600	3079.400	8797	-35	79MOB	-7.11	25.61	306.0	6.97	2.13
80 MOBILEELECTROPHOSCOCKEDRYER	405.600	3079.400	8797	-35	80MOB	-3.17	18.29	322.0	22.87	0.70
81 MOBILEELECTROPHOSFURNACE(31.25TPHROCK@	405.600	3079.400	8797	-35	81MOB	-47.25	29.27	314.0	8.52	2.13
82 MOBILEELECTROPHOSROCKDRYER	405.600	3079.400	8797	-35	82MOB	-21.81	18.29	350.0	6.79	1.83
83 MULBERRYCOGENERATIONCT	413.600	3080.600	16797	1165	83MUL	13.40	38.10	377.0	9.31	1.98
84 MULBERRYPROSPHATES/ROYSTER(1003TPD@29LB	406.700	3085.200	9897	5765	84MUL	-152.71	51.00	356.0	9.90	2.13
85 MULBERRYPROSPHATES/ROYSTER(1700TPD@4LB/	406.700	3085.200	9897	5765	85MUL	35.70	61.00	360.0	12.20	2.13
86 MULBERRYPROSPHATES/ROYSTERDAP	406.700	3085.200	9897	5765	86MUL	9.30	31.10	316.0	7.90	2.70
87 ORLANDOUTILSTANTON1	483.500	3150.600	86697	71165	87ORL	601.00	167.60	325.7	21.60	5.80
88 ORLANDOUTILSTANTON2(24-HR)	483.500	3150.600	86697	71165	88ORL	91.80	167.60	324.2	23.50	5.80
89 PINELLASRRF	335.300	3084.400	-61503	4965	89PINE	62.24	49.10	522.0	27.72	2.74
90 PINEYPOINT/ROYSTERDAP	348.700	3057.300	-48103	-22135	90PINE	7.40	61.00	328.0	15.50	3.00
91 PINEYPOINT/ROYSTERSAP	348.700	3057.300	-48103	-22135	91PINE	42.02	60.98	350.0	8.08	2.36
92 SEBRINGUTIL1&2	464.300	3035.400	67497	-44035	92SEB	111.20	45.70	446.0	24.10	1.80
93 STAUFFERBOILER	325.600	3116.700	-71203	37265	93STA	-4.86	7.32	464.0	3.23	0.91
94 STAUFFERDRYER	325.600	3116.700	-71203	37265	94STA	-1.50	18.29	322.0	22.87	0.70
95 STAUFFERFURNACE	325.600	3116.700	-71203	37265	95STA	-50.93	49.00	335.0	3.60	1.20
96 STAUFFERKILN	325.600	3116.700	-71203	37265	96STA	-7.36	25.61	306.0	6.97	2.13
97 STAUFFERROASTER	325.600	3116.700	-71203	37265	97STA	-0.45	25.61	322.0	6.97	0.91
98 TECOBIGBENDUNIT3(24-HR)	361.900	3075.000	-34903	-4435	98TEC	-1218.00	149.40	418.0	14.33	7.32
99 TECOBIGBENDUNIT4(U04)	361.900	3075.000	-34903	-4435	99TEC	654.70	149.40	342.2	19.81	7.32

## SO<sub>2</sub> FAAQS INVENTORY (CONCLUDED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)	
	EAST	NORTH	(m) EAST	(m) NORTH						Name
100 TECOBIGBENDUNITS1&2(24-HR)	361.900	3075.000	-34903	-4435	100TE	-2436.00	149.40	422.0	28.65	7.32
101 TECOPOLKPOWER	402.450	3067.350	5647	-12085	101TE	49.88	45.72	400.0	16.76	5.79
102 TECOPOLKPOWER	402.328	3067.472	5525	-11963	102TE	8.20	60.70	1033.0	10.70	1.40
103 TECOPOLKPOWER	402.488	3066.954	5685	-12481	103TE	5.42	22.86	812.0	27.43	5.49
104 TECOPOLKPOWER	402.298	3067.297	5495	-12138	104TE	1.27	60.70	1033.0	9.10	1.10
105 TECOPOLKPOWER	402.420	3067.320	5617	-12115	105TE	0.30	6.10	533.0	13.10	0.91
106 TECOPOLKPOWER	402.016	3067.640	5213	-11795	106TE	0.016	22.90	1000.0	20.00	1.20
107 TECOPOLKPOWER4CC	402.450	3067.216	5647	-12219	107TE	17.60	45.72	389.0	16.15	4.42
108 TECOPOLKPOWER5CT	402.488	3066.914	5685	-12521	108TE	33.40	22.86	785.0	31.39	5.49
109 USSAGRI-CHEMBARTOWDRYER	413.200	3086.300	16397	6865	109US	-3.41	15.80	332.0	10.01	1.83
110 USSAGRI-CHEMBARTOWSAP(800TPD&10LB/TON)	413.200	3086.300	16397	6865	110US	-42.00	28.96	305.0	7.50	2.12
111 USSACFTMEADEGTSP	416.000	3069.000	19197	-10435	111US	-18.27	28.35	330.0	17.60	1.52
112 USSACFTMEADEH2SO4(1500TPD@10LB/TON)	416.210	3068.740	19407	-10695	112US	-78.80	29.00	314.0	6.77	3.02
113 USSACFTMEADEH2SO41&2(2200TPD)	416.120	3068.620	19317	-10815	113US	92.48	53.40	355.0	10.00	2.59



**SO<sub>2</sub> CLASS II AREA  
PSD INCREMENT INVENTORY**

	SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)	
		EAST	NORTH	(m) EAST	(m) NORTH						Name
1	BORDENDRYER	394.800	3069.600	-2003	-9835	18ORD	-6.48	30.48	344.0	14.79	1.82
2	BREWSTER/IMPERIALDRYER	404.800	3069.500	7997	-9935	2BREW	-19.26	27.44	339.0	15.25	2.29
3	CARGILL/GARDINIERYER	363.400	3082.400	-33403	2965	3CARG	-28.89	20.73	310.0	13.12	1.07
4	CARGILL/GARDINIERSAP#4,5,6	363.400	3082.400	-33403	2965	4CARG	-187.70	22.60	363.0	7.00	1.52
5	CARGILL/GARDINIERSAP#7	363.400	3082.400	-33403	2965	5CARG	-26.25	45.60	340.0	12.64	2.29
6	CARGILL/GARDINIERSAP#8	363.400	3082.400	-33403	2965	6CARG	-41.16	45.60	339.0	13.93	2.44
7	CARGILL/GARDINIERSAP#9	363.400	3082.400	-33403	2965	7CARG	-54.60	45.60	350.0	10.30	2.74
8	CARGILL/GARDINIERSAP#9(INCRIN9OF8/9U06)	363.400	3082.400	-33403	2965	8CARG	67.20	45.60	350.0	12.66	2.74
9	CARGILL/SEMINOLE/W.R.GRACEDRYER	409.770	3086.990	12967	7555	9CARG	-39.86	15.24	327.0	17.32	2.04
10	CARGILL/SEMINOLE/W.R.GRACESAP#1&#2	409.770	3086.990	12967	7555	10CAR	-216.00	45.72	352.0	16.50	1.37
11	CARGILL/SEMINOLE/W.R.GRACESAP#3	409.770	3086.990	12967	7555	11CAR	-52.50	45.72	311.0	16.70	1.52
12	CARGILL/SEMINOLE/W.R.GRACESAP4,5&6	409.770	3086.990	12967	7555	12CAR	143.64	60.96	347.0	34.00	1.52
13	CARGILL/SEMINOLE/W.R.GRACESAP4,5&6	409.770	3086.990	12967	7555	13CAR	-121.07	60.96	347.0	25.10	1.52
14	CFBARTOWDAP1-3	408.500	3082.500	11697	3065	14CFB	3.97	36.40	339.0	16.11	2.13
15	CFBARTOWH2SO41(400TPD)	408.500	3082.500	11697	3065	15CFB	-60.90	30.49	350.0	12.20	1.37
16	CFBARTOWH2SO42(500TPD)	408.500	3082.500	11697	3065	16CFB	-110.25	30.49	350.0	10.37	1.68
17	CFBARTOWH2SO43(600TPD)	408.500	3082.500	11697	3065	17CFB	-107.10	30.49	364.0	4.27	2.74
18	CFBARTOWH2SO44(900TPD)	408.500	3082.500	11697	3065	18CFB	-174.83	30.49	358.0	7.93	2.13
19	CFBARTOWH2SO45(2400TPD)	408.500	3082.500	11697	3065	19CFB	50.40	63.41	361.0	10.88	2.13
20	CFBARTOWH2SO45(900TPD)	408.500	3082.500	11697	3065	20CFB	-226.80	63.41	358.0	10.67	2.13
21	CFBARTOWH2SO46(2400TPD)	408.500	3082.500	11697	3065	21CFB	50.40	63.41	370.0	7.28	2.13
22	CFBARTOWH2SO46(900TPD)	408.500	3082.500	11697	3065	22CFB	-170.10	63.41	359.0	10.37	2.13
23	CFBARTOWH2SO47(2000TPD)	408.500	3082.500	11697	3065	23CFB	42.00	67.10	351.0	9.80	2.40
24	CFPLANTCITYBASELINEA&B	388.000	3116.000	-8803	36565	24CFP	-105.00	23.80	316.0	18.80	1.52
25	CFPLANTCITYBASELINEC&D	388.000	3116.000	-8803	36565	25CFP	-100.80	60.35	353.0	16.40	2.44
26	CFPLANTCITYH2SO4A&B(U02&03)	388.000	3116.000	-8803	36565	26CFP	88.20	33.50	316.0	19.50	1.52
27	CFPLANTCITYPROPOSEDC&D(U07-08)	388.000	3116.000	-8803	36565	27CFP	109.20	60.35	353.0	17.77	2.44
28	CLMCHLORIDEMETALS	361.800	3086.300	-35003	8865	28CLM	13.00	30.00	375.0	20.10	0.61
29	DOLIMEBOILER	404.813	3069.548	8010	-9887	29DOLI	-4.52	27.43	494.1	7.25	0.61
30	DOLIMEDRYER	404.813	3069.548	8010	-9887	30DOLI	-5.68	27.43	333.0	20.67	1.52
31	ESTECH/SWIFTDRYER	411.500	3074.200	14697	-5235	31EST	-22.80	18.75	340.0	5.06	2.95
32	ESTECH/SWIFTDRYER	411.500	3074.200	14697	-5235	32EST	-23.94	18.29	339.0	8.47	2.95
33	ESTECH/SWIFTSAP(610TPD&29LB/TON)	411.500	3074.200	14697	-5235	33EST	-92.87	30.79	358.0	3.90	2.13
34	FARMLAND1,2H2SO4	410.330	3079.655	13527	220	34FAR	-83.98	30.48	311.0	20.16	1.37
35	FARMLAND3&4H2SO4(1620TPD)	410.330	3079.655	13527	220	35FAR	-67.16	30.48	355.0	9.27	2.29

SO<sub>2</sub> CLASS II AREA  
 PSD INCREMENT INVENTORY  
 (CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)	
	EAST	NORTH	(m) EAST	(m) NORTH						Name
36 FARMLAND3&4H2SO4(2100TPD)	410.330	3079.655	13527	220	36FAR	88.20	30.48	355.0	12.02	2.29
37 FARMLAND5H2SO4(2400TPD)	410.330	3079.655	13527	220	37FAR	-50.40	45.72	355.0	11.55	2.44
38 FARMLAND5H2SO4(2800TPD)	410.330	3079.655	13527	220	38FAR	58.80	45.72	355.0	13.42	2.44
39 FLORIDACRUSHEDSTONEKILN1	360.008	3162.398	-36795	82963	39FLO	98.40	97.60	442.0	23.23	4.88
40 FPCCRYSTALRIVER1	334.200	3204.500	-62603	125065	40FPC	-314.00	152.00	422.0	42.10	4.57
41 FPCCRYSTALRIVER2	334.200	3204.500	-62603	125065	41FPC	-1859.00	153.00	422.0	42.10	4.88
42 FPCCRYSTALRIVER4	334.200	3204.500	-62603	125065	42FPC	1008.80	182.90	398.0	21.00	6.90
43 FPCCRYSTALRIVERS	334.200	3204.500	-62603	125065	43FPC	1008.80	182.90	398.0	21.00	6.90
44 FPCDEBARYPROPTURBINESAT20DEGF	467.500	3197.200	70697	117765	44FPC	466.40	15.24	819.8	56.21	4.21
45 FPCINT.CITYPROPTURBINES/7EAAT20DEGF	446.300	3126.000	49497	46565	45FPCI	124.40	15.24	819.8	56.21	4.21
46 FPCINT.CITYPROPTURBINES/7FAAT20DEGF	446.300	3126.000	49497	46565	46FPCI	110.40	15.24	880.8	32.07	7.04
47 FPCOSCEOLAPEAKING7-10	446.300	3126.000	49497	46565	47FPC	111.88	15.20	834.8	0.05	4.21
48 FPCOSCEOLAPEAKING11-12	446.300	3126.000	49497	46565	48FPC	102.56	15.2	895.9	0.03	7.04
49 FPCPOLK	414.400	3073.910	17597	-5525	49FPC	24.7	34.40	400.0	40.50	4.10
50 GEN.PORT.CEMENTKILN4	358.000	3090.600	-38803	11165	50GEN.	-62.99	35.97	505.2	17.61	2.74
51 GEN.PORT.CEMENTKILN5	358.000	3090.600	-38803	11165	51GEN.	-69.30	45.42	494.1	5.80	3.81
52 HARDEE	404.800	3057.400	7997	-22035	52HAR	277.60	22.90	389.0	23.90	4.88
53 HILLS.CO.RESOURCERECOVERY	368.200	3092.700	-28603	13265	53HILL	21.40	50.00	491.0	18.30	1.80
54 IMC-AGRICO/NICHOLS/CONSERVE(2@1300TPD&4L	398.400	3084.200	1597	4765	54IMC-	-54.60	30.50	308.0	18.90	1.80
55 IMC-AGRICO/NICHOLS/CONSERVE(2000TPD@4LB/T	398.400	3084.200	1597	4765	55IMC-	-42.00	45.70	352.0	10.30	2.30
56 IMC-AGRICO/NICHOLS/CONSERVE(2500TPD@4LB/T	398.400	3084.200	1597	4765	56IMC-	52.50	45.70	352.0	12.00	2.30
57 IMC-AGRICO/NICHOLS/CONSERVEROCKDRYER	398.400	3084.200	1597	4765	57IMC-	-3.88	24.40	339.0	12.90	1.52
58 IMC-AGRICO/NEWWALESAPIPLANT	396.600	3078.900	-203	-535	58IMC-	0.20	52.40	322.0	13.10	2.40
59 IMC-AGRICO/NEWWALES DAP	396.600	3078.900	-203	-535	59IMC-	5.54	36.60	319.1	20.15	1.83
60 IMC-AGRICO/NEWWALESMULTIPHOS	396.600	3078.900	-203	-535	60IMC-	4.80	52.40	314.0	15.80	1.40
61 IMC-AGRICO/NEWWALESROCKDRYER	396.600	3078.900	-203	-535	61IMC-	-34.27	21.00	347.0	18.60	2.13
62 IMC-AGRICO/NEWWALESSAP#1,2,3(3AT2900TPD)	396.600	3078.900	-203	-535	62IMC-	182.85	61.00	350.0	15.31	2.60
63 IMC-AGRICO/NEWWALESSAP#1,2,3BASELINE	396.600	3078.900	-203	-535	63IMC-	-146.00	61.00	350.0	14.28	2.60
64 IMC-AGRICO/NEWWALESSAP#4,5(2AT2900TPD)	396.600	3078.900	-203	-535	64IMC-	121.90	60.70	350.0	15.31	2.60
					0					
65 IMC-AGRICO/PIERCEDRYERS1,2	404.100	3078.950	7297	-485	65IMC-	-24.32	24.38	339.0	12.94	1.52
66 IMC-AGRICO/PIERCEDRYERS3,4	404.100	3078.950	7297	-485	66IMC-	-23.00	24.38	339.0	18.82	2.43

SO<sub>2</sub> CLASS II AREA  
 PSD INCREMENT INVENTORY  
 (CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)	
	EAST	NORTH	(m) EAST	(m) NORTH						Name
67 IMC-AGRICO/SO.PIERCEDAPLANT	407.500	3071.330	10697	-8105	67IMC-	4.41	38.10	328.0	14.60	3.10
68 IMC-AGRICO/SO.PIERCEH2SO4(2@2700TPD)	407.500	3071.300	10697	-8135	68IMC-	125.99	44.18	350.0	13.29	2.74
69 IMC-AGRICO/SO.PIERCEH2SO4(2@1800TPD)	407.500	3071.300	10697	-8135	69IMC-	-75.60	45.73	350.0	26.40	1.60
70 LAKELANDLARSENCT	409.300	3102.800	12497	23365	70LAK.	29.11	30.48	783.2	28.22	5.79
71 LAKELANDMCINTOSH3	409.200	3106.200	12397	26765	71LAK	500.10	76.20	350.0	19.70	4.88
72 MOBILBIG-4BOILER(UAA)	394.800	3069.770	-2003	-9665	72MOB	0.60	8.20	505.0	7.57	0.41
73 MOBILBIG-4DRYER(U01)	394.850	3069.770	-1953	-9665	73MOB	16.38	30.50	334.0	7.26	1.82
74 MOBILNICHOLS75HPBOILER	398.300	3084.300	1497	4865	74MOB	-0.87	4.00	522.0	1.80	0.80
75 MOBILNICHOLSCALCINER	398.300	3084.300	1497	4865	75MOB	-13.89	28.40	340.0	19.24	1.09
76 MOBILNICHOLSDRYER4	398.300	3084.300	1497	4865	76MOB	2.44	25.90	339.0	16.05	2.29
77 MOBILEELECTROPHOS400HPBOILER	405.600	3079.400	8797	-35	77MOB	-6.53	7.32	464.0	3.23	0.91
78 MOBILEELECTROPHOS600HPBOILER	405.600	3079.400	8797	-35	78MOB	-10.05	6.10	464.0	7.71	0.91
79 MOBILEELECTROPHOSCALCINER	405.600	3079.400	8797	-35	79MOB	-7.11	25.61	306.0	6.97	2.13
80 MOBILEELECTROPHOSCOCKEDRYER	405.600	3079.400	8797	-35	80MOB	-3.17	18.29	322.0	22.87	0.70
81 MOBILEELECTROPHOSFURNACE(31.25TPHROCK@	405.600	3079.400	8797	-35	81MOB	-47.25	29.27	314.0	8.52	2.13
82 MOBILEELECTROPHOSROCKDRYER	405.600	3079.400	8797	-35	82MOB	-21.81	18.29	350.0	6.79	1.83
83 MULBERRYCOGENERATIONCT	413.600	3080.600	16797	1165	83MUL	13.40	38.10	377.0	9.31	1.98
84 MULBERRYPROSPHATES/ROYSTER(1003TPD@29LB	406.700	3085.200	9897	5765	84MUL	-152.71	51.00	356.0	9.90	2.13
85 MULBERRYPROSPHATES/ROYSTER(1700TPD@4LB/	406.700	3085.200	9897	5765	85MUL	35.70	61.00	360.0	12.20	2.13
86 MULBERRYPROSPHATES/ROYSTERDAP	406.700	3085.200	9897	5765	86MUL	9.30	31.10	316.0	7.90	2.70
87 ORLANDOUTILSTANTON1	483.500	3150.600	86697	71165	87ORL	601.00	167.60	325.7	21.60	5.80
88 ORLANDOUTILSTANTON2(24-HR)	483.500	3150.600	86697	71165	88ORL	91.80	167.60	324.2	23.50	5.80
89 PINELLASRRF	335.300	3084.400	-61503	4965	89PINE	62.24	49.10	522.0	27.72	2.74
90 PINEYPOINT/ROYSTERDAP	348.700	3057.300	-48103	-22135	90PINE	7.40	61.00	328.0	15.50	3.00
91 PINEYPOINT/ROYSTERSAP	348.700	3057.300	-48103	-22135	91PINE	42.02	60.98	350.0	8.08	2.36
92 SEBRINGUTIL1&2	464.300	3035.400	67497	-44035	92SEB	111.20	45.70	446.0	24.10	1.80
93 STAUFFERBOILER	325.600	3116.700	-71203	37265	93STA	-4.86	7.32	464.0	3.23	0.91
94 STAUFFERDRYER	325.600	3116.700	-71203	37265	94STA	-1.50	18.29	322.0	22.87	0.70
95 STAUFFERFURNACE	325.600	3116.700	-71203	37265	95STA	-50.93	49.00	335.0	3.60	1.20
96 STAUFFERKILN	325.600	3116.700	-71203	37265	96STA	-7.36	25.61	306.0	6.97	2.13
97 STAUFFERROASTER	325.600	3116.700	-71203	37265	97STA	-0.45	25.61	322.0	6.97	0.91
98 TECOBIGBENDUNIT3(24-HR)	361.900	3075.000	-34903	-4435	98TEC	-1218.00	149.40	418.0	14.33	7.32
99 TECOBIGBENDUNIT4(U04)	361.900	3075.000	-34903	-4435	99TEC	654.70	149.40	342.2	19.81	7.32

**SO<sub>2</sub> CLASS II AREA  
PSD INCREMENT INVENTORY  
(CONCLUDED)**

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)	
	EAST	NORTH	(m) EAST	(m) NORTH						Name
100 TECOBIGBENDUNITS1&2(24-HR)	361.900	3075.000	-34903	-4435	100TE	-2436.00	149.40	422.0	28.65	7.32
101 TECOPOLKPOWER	402.450	3067.350	5647	-12085	101TE	49.68	45.72	400.0	16.76	5.79
102 TECOPOLKPOWER	402.328	3067.472	5525	-11963	102TE	8.20	60.70	1033.0	10.70	1.40
103 TECOPOLKPOWER	402.488	3066.954	5685	-12481	103TE	5.42	22.86	812.0	27.43	5.49
104 TECOPOLKPOWER	402.298	3067.297	5495	-12138	104TE	1.27	60.70	1033.0	9.10	1.10
105 TECOPOLKPOWER	402.420	3067.320	5617	-12115	105TE	0.30	6.10	533.0	13.10	0.91
106 TECOPOLKPOWER	402.016	3067.640	5213	-11795	106TE	0.016	22.90	1000.0	20.00	1.20
107 TECOPOLKPOWER4CC	402.450	3067.216	5647	-12219	107TE	17.60	45.72	389.0	16.15	4.42
108 TECOPOLKPOWER5CT	402.488	3066.914	5685	-12521	108TE	33.40	22.86	785.0	31.39	5.49
109 USSAGRI-CHEMBARTOWDRYER	413.200	3086.300	16397	6865	109US	-3.41	15.80	332.0	10.01	1.83
110 USSAGRI-CHEMBARTOWSAP(800TPD&10LB/TON)	413.200	3086.300	16397	6865	110US	-42.00	28.96	305.0	7.50	2.12
111 USSACFTMEADEGTSP	416.000	3069.000	19197	-10435	111US	-18.27	28.35	330.0	17.60	1.52
112 USSACFTMEADEH2SO4(1500TPD@10LB/TON)	416.210	3068.740	19407	-10695	112US	-78.80	29.00	314.0	6.77	3.02
113 USSACFTMEADEH2SO41&2(2200TPD)	416.120	3068.620	19317	-10815	113US	92.48	53.40	355.0	10.00	2.59

**CLASS II AREA  
SIGNIFICANT PM-10  
EMITTING FACILITIES (20 D)**

SOURCE DESCRIPTION Facility	UTM Coordinates		Distance (km)	Emissions Tons/Yr	MODEL ?
	(km) East	(km) North			
Agrico Chemical Co South Pierce	407.5	3071.5	13.3	944	Yes
C F Industries Bonnie Mine Rd	408.4	3082.4	12.0	668	Yes
C F Industries Plant City	388.0	3116.0	37.6	1251	Yes
Cargill Fertilizer (Gardinier)	362.9	3082.2	34.0	883	Yes
Conserv Inc.	398.7	3084.2	5.1	595	Yes
Consolidated Minerals Plant City	393.8	3096.3	17.1	611	Yes
Farmland Industries Green Bay Plant	409.5	3080.1	12.7	1488	Yes
IMC Ft. Lonesome	389.6	3067.9	13.6	679	Yes
IMC Fertilizer Kingsford	398.2	3075.7	4.0	423	Yes
IMC Fertilizer New Wales	396.7	3079.4	0.1	1156	Yes
IMC Fertilizer Noralyn Mine	414.7	3080.3	17.9	1375	Yes
Lakeland City Power McIntosh Power	409.2	3106.1	29.4	1424	Yes
Mobil Mining & Minerals SR 676	398.4	3085.3	6.1	642	Yes
TECO Big Bend	361.7	3075.5	35.3	2148	Yes
TECO Polk KBC	402.5	3067.4	13.3	438	Yes
US Agri-Chemicals Hwy 60	413.2	3086.3	17.8	444	Yes

PM-10 TAAQS INVENTORY

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP2	4.002	3.0	344.1	20.69	0.55
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP3	0.230	19.8	300.2	88.45	0.49
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP4	4.318	18.3	323.0	9.70	0.30
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP5	5.067	24.4	295.2	7.23	3.35
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP6	5.067	24.4	296.9	7.80	3.35
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP7	0.259	19.8	310.2	5.48	0.49
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP8	0.547	26.8	307.4	9.24	0.91
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP9	4.117	30.5	306.3	6.87	1.22
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP10	3.023	38.1	327.4	14.55	3.05
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP11	0.432	38.1	319.1	15.84	1.07
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP12	0.029	16.2	298.0	1.72	0.46
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP13	0.029	20.7	298.0	2.87	0.46
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP14	0.029	29.3	298.0	1.15	0.40
C F Industries Bonnie Mine Rd	408.4	3082.4	11580	2965	CFBM1	5.405	36.6	333.0	17.17	2.29
C F Industries Bonnie Mine Rd	408.4	3082.4	11580	2965	CFBM2	5.090	42.7	298.0	22.77	0.76
C F Industries Bonnie Mine Rd	408.4	3082.4	11580	2965	CFBM3	5.090	41.1	298.0	7.92	1.52
C F Industries Bonnie Mine Rd	408.4	3082.4	11580	2965	CFBM4	1.756	19.8	298.0	15.36	1.22
C F Industries Bonnie Mine Rd	408.4	3082.4	11580	2965	CFBM5	1.207	16.8	298.0	11.82	1.37
C F Industries Bonnie Mine Rd	408.4	3082.4	11580	2965	CFBM6	0.063	33.2	298.0	7.19	0.46
C F Industries Bonnie Mine Rd	408.4	3082.4	11580	2965	CFBM8	0.592	53.0	298.0	8.63	0.46
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT1	0.030	7.6	561.0	17.74	1.07
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT2	2.007	33.5	316.5	19.68	1.52
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT4	1.197	60.7	352.6	16.40	2.44
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT5	1.197	60.7	337.6	9.70	2.44
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT6	3.910	36.3	314.3	13.64	1.22
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT7	4.115	28.6	326.5	7.93	3.05
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT8	4.480	54.9	331.5	13.31	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT9	4.114	54.9	313.8	8.18	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT10	4.725	35.1	299.9	11.01	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT11	0.630	27.4	298.2	19.02	0.52
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT12	4.114	54.9	324.9	9.78	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT13	1.928	54.9	333.2	13.37	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT14	0.630	10.1	298.8	5.94	1.01

PM-10 TAAQS INVENTORY  
(CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT15	0.025	2.4	373.2	1.63	0.27
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT16	0.080	3.7	373.2	1.65	0.09
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT18	0.126	30.5	294.3	7.64	0.76
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	-8820	36565	CFPLT19	2.667	25.9	298.2	11.64	0.15
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL1	1.036	20.7	314.7	11.09	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL2	0.662	19.8	303.0	11.74	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL3	1.267	20.1	333.0	16.17	0.61
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL4	2.246	22.6	305.2	7.84	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL5	1.036	20.7	319.1	1.16	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL6	0.662	19.8	301.9	14.43	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL7	3.858	16.8	323.6	19.93	1.31
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL8	0.979	9.8	308.6	8.04	0.40
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL9	1.209	6.1	488.6	15.89	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL10	2.534	40.5	315.2	15.38	2.13
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL12	0.173	6.1	298.6	16.31	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL13	0.547	9.1	298.6	13.20	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL14	0.173	18.3	588.6	6.94	2.53
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL15	0.605	12.2	298.0	11.21	0.46
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL16	0.403	15.2	303.6	12.42	0.76
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL17	0.029	12.2	321.9	9.94	0.52
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL18	0.633	27.4	333.6	17.32	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL19	0.144	26.5	331.9	8.18	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL20	2.879	16.5	320.2	19.69	1.31
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL21	0.720	27.4	334.1	21.96	1.01
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL22	0.720	27.4	334.1	19.58	1.01
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL23	0.086	13.7	298.6	16.31	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL24	0.086	9.1	298.6	16.31	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL25	0.144	22.9	298.6	12.42	0.58
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL26	2.447	38.4	328.6	11.32	2.44
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL27	0.118	11.6	298.6	17.75	0.82
Conserv Inc.	398.7	3084.2	1880	4765	CNRV1	4.920	12.8	310.8	10.60	1.22
Conserv Inc.	398.7	3084.2	1880	4765	CNRV2	1.180	15.8	321.9	20.18	0.76
Conserv Inc.	398.7	3084.2	1880	4765	CNRV3	1.180	24.4	327.4	23.81	1.07

TM-10 TRAQ5 INVENTORY  
(CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
Conserv Inc.	398.7	3084.2	1880	4765	CNRV4	4.434	24.7	327.4	3.77	2.29
Conserv Inc.	398.7	3084.2	1880	4765	CNRV5	0.288	8.2	533.0	13.74	0.61
Conserv Inc.	398.7	3084.2	1880	4765	CNRV6	0.432	11.9	533.0	8.91	0.98
Conserv Inc.	398.7	3084.2	1880	4765	CNRV7	0.633	54.6	338.6	14.37	0.18
Conserv Inc.	398.7	3084.2	1880	4765	CNRV8	0.202	55.5	310.8	2.97	0.43
Conserv Inc.	398.7	3084.2	1880	4765	CNRV9	1.382	63.1	333.0	51.22	0.27
Conserv Inc.	398.7	3084.2	1880	4765	CNRV10	0.633	63.1	330.2	21.12	0.43
Conserv Inc.	398.7	3084.2	1880	4765	CNRV11	1.180	21.9	360.8	31.08	0.98
Conserv Inc.	398.7	3084.2	1880	4765	CNRV12	0.633	63.1	330.2	21.12	0.43
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM2	0.202	13.7	349.7	14.17	0.55
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM3	0.202	16.5	298.0	19.96	0.55
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM4	4.405	24.4	308.0	79.21	1.37
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM5	0.115	16.5	298.0	19.14	0.43
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM6	1.756	46.3	295.2	11.16	1.77
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM7	0.662	9.8	295.8	10.76	0.46
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM8	1.641	46.3	300.2	9.61	1.77
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM9	1.756	24.4	319.1	6.20	1.68
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM10	1.900	45.7	313.0	18.34	1.77
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM11	0.173	32.6	298.0	33.69	0.37
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM12	0.259	24.7	315.2	9.05	0.82
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM13	1.670	30.5	338.0	11.98	1.37
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM14	0.029	15.2	294.1	20.70	0.15
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM15	0.058	3.0	338.6	18.19	0.24
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM18	0.029	21.3	298.0	12.58	0.18
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM19	0.144	20.4	298.0	11.50	0.46
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM20	0.259	18.9	298.0	24.95	0.55
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM21	0.086	21.3	298.0	31.89	0.37
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM22	0.202	17.4	298.0	28.75	0.46
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM23	0.892	10.4	327.4	19.16	0.82
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM24	0.086	14.0	298.0	17.97	0.18
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM25	0.864	30.5	319.1	0.01	0.91
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM26	0.058	29.6	298.0	13.58	0.30
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM27	0.115	15.8	298.0	19.14	0.43



PM-10 TAAQS INVENTORY  
(CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB1	3.224	39.3	327.4	7.47	2.29
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB2	2.937	56.4	338.0	5.17	1.52
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB3	3.800	39.3	319.1	10.66	2.13
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB4	3.800	39.9	298.0	9.92	2.44
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB6	0.144	12.2	366.3	0.03	0.61
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB7	6.622	35.1	349.7	22.72	0.67
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB8	3.397	39.3	327.4	6.84	2.29
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB9	3.224	39.6	311.9	5.66	1.22
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB10	0.662	30.5	349.7	8.70	2.29
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB11	0.662	30.5	351.9	9.74	2.29
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB12	0.086	12.2	366.3	0.03	0.61
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB13	0.086	12.2	366.3	2.67	0.61
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB14	3.311	50.3	298.0	8.86	0.70
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB15	3.426	26.8	349.7	19.09	0.73
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB16	2.937	39.3	326.9	12.41	2.29
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB17	4.462	27.4	305.2	5.48	0.91
IMC Ft. Lonesome	389.6	3067.9	-7220	-11535	IMCFL1	6.766	22.9	314.7	17.33	0.85
IMC Ft. Lonesome	389.6	3067.9	-7220	-11535	IMCFL2	3.167	38.1	339.1	15.16	2.44
IMC Ft. Lonesome	389.6	3067.9	-7220	-11535	IMCFL3	3.138	38.1	339.1	16.80	2.44
IMC Ft. Lonesome	389.6	3067.9	-7220	-11535	IMCFL4	6.450	45.7	316.3	8.43	0.82
IMC Fertilizer Kingsford	398.2	3075.7	1380	-3735	IMCKG1	3.253	21.3	346.9	14.52	2.13
IMC Fertilizer Kingsford	398.2	3075.7	1380	-3735	IMCKG2	0.144	17.7	310.8	15.23	0.58
IMC Fertilizer Kingsford	398.2	3075.7	1380	-3735	IMCKG3	4.462	32.3	308.0	20.70	0.76
IMC Fertilizer Kingsford	398.2	3075.7	1380	-3735	IMCKG4	3.512	18.3	316.3	19.66	0.76
IMC Fertilizer Kingsford	398.2	3075.7	1380	-3735	IMCKG5	0.777	10.7	296.9	10.35	0.76
IMC Fertilizer New Wales	396.5	3079.0	-320	-435	IMCNW1	1.929	40.5	333.0	21.43	1.22
IMC Fertilizer New Wales	396.5	3079.2	-320	-235	IMCNW4	3.628	40.5	315.2	18.87	1.83
IMC Fertilizer New Wales	396.5	3079.3	-320	-135	IMCNW5	2.534	40.5	313.6	1.01	0.91
IMC Fertilizer New Wales	396.8	3079.4	-20	-35	IMCNW6	4.635	52.4	321.9	13.14	2.44
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW7	0.432	34.1	313.6	10.35	0.30
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW8	2.130	21.6	299.7	10.35	0.30
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW9	0.432	19.8	352.4	14.37	0.46

PM-10 TAAQS INVENTORY  
(CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW10	0.432	32.6	313.6	20.96	0.55
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW11	0.115	30.5	299.7	54.62	0.46
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW12	1.785	52.1	316.3	17.97	1.83
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW13	0.605	12.2	315.2	20.12	0.91
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW14	0.432	31.7	313.6	21.48	0.49
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW15	3.340	52.4	313.6	15.97	1.37
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW16	0.432	26.5	438.6	86.24	0.46
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW17	0.432	13.7	313.6	9.70	0.30
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW18	0.432	18.3	313.6	9.70	0.30
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW19	1.785	52.1	316.3	17.97	1.83
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW20	0.432	17.4	352.4	22.96	0.40
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW21	0.432	5.2	380.2	38.27	0.40
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW22	0.432	26.5	438.6	86.24	0.46
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW23	0.777	51.8	316.3	1.97	1.52
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW24	0.432	34.1	313.6	10.35	0.30
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW25	0.662	7.6	333.0	10.49	1.31
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW26	0.432	32.0	313.6	42.69	0.30
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW27	0.202	5.5	313.6	9.70	0.30
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW28	0.432	35.7	313.6	38.81	0.30
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW29	0.806	12.2	299.7	9.39	0.27
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW30	0.432	18.3	313.6	16.17	0.30
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW31	0.058	30.5	311.9	12.58	0.55
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW32	0.576	28.7	352.4	10.78	1.83
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW33	0.173	33.5	316.3	13.86	0.43
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW34	0.202	26.2	299.7	16.50	0.21
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW35	0.345	32.6	338.6	15.84	1.07
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW36	0.461	19.8	313.6	51.75	0.30
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW37	0.432	36.0	313.6	10.35	0.30
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY1	1.900	8.2	302.4	16.17	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY2	0.345	8.2	296.9	4.85	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY3	3.224	7.6	296.9	11.50	0.46
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY4	7.370	7.3	316.3	8.09	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY5	1.900	13.1	303.0	18.11	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY6	4.347	41.1	288.6	16.75	0.85

PM-10 TAAQS INVENTORY  
(CONCLUDED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY8	1.267	16.5	319.1	19.40	0.30
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY12	12.869	11.6	333.0	7.17	0.58
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY13	1.900	8.2	302.4	16.17	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY14	4.405	45.7	310.8	15.84	1.07
Lakeland City Power McIntosh Power	409.2	3106.1	12380	26665	LLMC5	0.115	6.1	652.4	23.54	0.79
Lakeland City Power McIntosh Power	409.2	3106.1	12380	26665	LLMC6	40.820	76.2	349.7	32.85	4.88
Mobil Mining & Minerals SR 676	398.2	3085.0	1380	5565	MMM1	3.109	25.9	338.6	16.10	2.29
Mobil Mining & Minerals SR 676	398.4	3085.1	1580	5665	MMM2	0.144	4.6	312.4	16.50	0.43
Mobil Mining & Minerals SR 676	398.3	3085.1	1480	5665	MMM3	6.996	25.9	296.9	19.40	1.52
Mobil Mining & Minerals SR 676	398.4	3085.2	1580	5765	MMM6	1.555	24.4	326.9	11.68	0.49
Mobil Mining & Minerals SR 676	398.4	3085.2	1580	5765	MMM7	1.123	30.5	338.6	19.02	1.10
Mobil Mining & Minerals SR 676	398.4	3085.2	1580	5765	MMM8	1.411	24.4	326.9	11.68	0.49
Mobil Mining & Minerals SR 676	398.4	3085.3	1580	5865	MMM9	1.382	12.2	344.1	11.83	1.07
Mobil Mining & Minerals SR 676	398.4	3085.3	1580	5865	MMM10	0.058	24.1	349.7	14.64	0.24
Mobil Mining & Minerals SR 676	398.4	3085.3	1580	5865	MMM11	0.720	4.0	521.9	2.12	0.76
Mobil Mining & Minerals SR 676	398.4	3085.3	1580	5865	MMM12	1.958	25.9	299.7	14.54	1.68
TECO Big Bend	361.9	3075.0	-34920	-4435	TCOBB1	0.029	42.4	333.0	18.19	0.49
TECO Big Bend	361.9	3075.0	-34920	-4435	TCOBB2	2.102	34.4	394.1	123.77	0.27
TECO Big Bend	361.9	3075.0	-34920	-4435	TCOBB3	0.662	31.1	394.1	16.04	0.76
TECO Big Bend	361.9	3075.0	-34920	-4435	TCOBB4	0.173	54.6	298.6	21.04	0.52
TECO Big Bend	361.9	3075.0	-34920	-4435	TCOBB7	54.615	149.4	341.9	18.21	7.32
TECO Big Bend	361.7	3075.5	-35120	-3935	TCOBB13	4.175	22.9	770.8	18.74	4.27
TECO Polk KBA	402.5	3067.4	5680	-12035	TCOPP1	2.020	6.1	533.0	13.10	0.90
TECO Polk KBB	402.5	3067.4	5680	-12035	TCOPP2	7.430	45.7	400.0	16.79	5.80
TECO Polk KBC	402.5	3067.4	5680	-12035	TCOPP3	3.150	60.7	1033.0	9.14	1.07
US Agri-Chemicals Hwy 60	413.2	3086.3	16380	6865	USAC1	2.850	22.6	299.7	48.51	0.61
US Agri-Chemicals Hwy 60	413.2	3086.3	16380	6865	USAC2	5.038	19.2	308.6	9.31	1.52
US Agri-Chemicals Hwy 60	413.2	3086.3	16380	6865	USAC3	4.866	39.9	327.4	11.09	2.13

PM-10 CLASS II AREA  
PSD INCREMENT INVENTORY

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP2	4.002	3.0	344.1	20.69	0.55
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP3	0.230	19.8	300.2	88.45	0.49
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP4	4.318	18.3	323.0	9.70	0.30
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP5	5.067	24.4	295.2	7.23	3.35
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP6	5.067	24.4	296.9	7.80	3.35
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP7	0.259	19.8	310.2	5.48	0.49
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP10	3.023	38.1	327.4	14.55	3.05
Agrico Chemical Co South Pierce	407.5	3071.5	10680	-7935	AGSP11	0.432	38.1	319.1	15.84	1.07
C F Industries Bonnie Mine Rd DAP	408.4	3082.4	11580	2965	CFBM1	5.405	36.6	333.0	17.17	2.29
C F Industries Bonnie Mine Rd - Ship 1	408.4	3082.4	11580	2965	CFBM2	5.090	42.7	298.0	22.77	0.76
C F Industries Bonnie Mine Rd - Ship 2	408.4	3082.4	11580	2965	CFBM3	5.090	41.1	298.0	7.92	1.52
C F Industries Bonnie Mine Rd - WRKUN	408.4	3082.4	11580	2965	CFBM4	1.756	19.8	298.0	15.36	1.22
C F Industries Bonnie Mine Rd - ERKUA	408.4	3082.4	11580	2965	CFBM5	1.207	16.8	298.0	11.82	1.37
C F Industries Bonnie Mine Rd - ERKUB	408.4	3082.4	11580	2965	CFBM6	0.063	33.2	298.0	7.19	0.46
C F Industries Bonnie Mine Rd - RKBN1	408.4	3082.4	11580	2965	CFBM8	0.592	53.0	298.0	8.63	0.46
CF INDUSTRIES, INC., PLANT C ASINGLE CONT	388.0	3116.0	-8820	36565	CFPLT2	2.007	33.5	316.5	19.68	1.52
CF INDUSTRIES, INC., PLANT C A C SULPHURI	388.0	3116.0	-8820	36565	CFPLT4	1.197	60.7	352.6	16.40	2.44
CF INDUSTRIES, INC., PLANT C ASULFURIC ACI	388.0	3116.0	-8820	36565	CFPLT5	1.197	60.7	337.6	9.70	2.44
CF INDUSTRIES, INC., PLANT C A B PHOS ACID	388.0	3116.0	-8820	36565	CFPLT6	3.910	36.3	314.3	13.64	1.22
CF INDUSTRIES, INC., PLANT C A A DORR OLIV	388.0	3116.0	-8820	36565	CFPLT7	4.115	28.6	326.5	7.93	3.05
CF INDUSTRIES, INC., PLANT C I STORAGE BLD	388.0	3116.0	-8820	36565	CFPLT10	4.725	35.1	299.9	11.01	2.80
CF INDUSTRIES, INC., PLANT C A A SHIPPING.	388.0	3116.0	-8820	36565	CFPLT11	0.630	27.4	298.2	19.02	0.52
CF INDUSTRIES, INC., PLANT C ASIZING/SCREE	388.0	3116.0	-8820	36565	CFPLT14	0.630	10.1	298.8	5.94	1.01
CF INDUSTRIES, INC., PLANT C AURANIUM REC	388.0	3116.0	-8820	36565	CFPLT18	0.126	30.5	294.3	7.64	0.76
CF INDUSTRIES, INC., PLANT C ACLAY UNLOAD	388.0	3116.0	-8820	36565	CFPLT19	2.667	25.9	298.2	11.64	0.15
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL1	1.036	20.7	314.7	11.09	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL2	0.662	19.8	303.0	11.74	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL3	1.267	20.1	333.0	16.17	0.61
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL4	2.246	22.6	305.2	7.84	1.22

PM-10 CLASS II AREA  
**PSD INCREMENT INVENTORY**  
 (CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL5	1.036	20.7	319.1	1.16	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL6	0.662	19.8	301.9	14.43	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL7	3.858	16.8	323.6	19.93	1.31
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL8	0.979	9.8	308.6	8.04	0.40
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL9	1.209	6.1	488.6	15.89	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL12	0.173	6.1	298.6	16.31	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL13	0.547	9.1	298.6	13.20	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL14	0.173	18.3	588.6	6.94	2.53
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL15	0.605	12.2	298.0	11.21	0.46
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL16	0.403	15.2	303.6	12.42	0.76
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL17	0.029	12.2	321.9	9.94	0.52
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL18	0.633	27.4	333.6	17.32	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL19	0.144	26.5	331.9	8.18	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL20	2.879	16.5	320.2	19.69	1.31
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL21	0.720	27.4	334.1	21.96	1.01
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL22	0.720	27.4	334.1	19.58	1.01
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL23	0.086	13.7	298.6	16.31	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL24	0.086	9.1	298.6	16.31	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL25	0.144	22.9	298.6	12.42	0.58
Cargill Fertilizer (Gardinier)	362.9	3082.2	-33920	2765	CRGL27	0.118	11.6	298.6	17.75	0.82
Conserv Inc.	398.7	3084.2	1880	4765	CNRV7	0.633	54.6	338.6	14.37	0.18
Conserv Inc.	398.7	3084.2	1880	4765	CNRV8	0.202	55.5	310.8	2.97	0.43
Conserv Inc.	398.7	3084.2	1880	4765	CNRV12	0.633	63.1	330.2	21.12	0.43
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM2	0.202	13.7	349.7	14.17	0.55
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM3	0.202	16.5	298.0	19.96	0.55
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM4	4.405	24.4	308.0	79.21	1.37
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM5	0.115	16.5	298.0	19.14	0.43
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM7	0.662	9.8	295.8	10.76	0.46
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM9	1.756	24.4	319.1	6.20	1.68
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM10	1.900	45.7	313.0	18.34	1.77

PM-10 CLASS II AREA  
 PSD INCREMENT INVENTORY  
 (CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM11	0.173	32.6	298.0	33.69	0.37
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM12	0.259	24.7	315.2	9.05	0.82
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM13	1.670	30.5	338.0	11.98	1.37
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM14	0.029	15.2	294.1	20.70	0.15
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM15	0.058	3.0	338.6	18.19	0.24
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM18	0.029	21.3	298.0	12.58	0.18
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM19	0.144	20.4	298.0	11.50	0.46
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM20	0.259	18.9	298.0	24.95	0.55
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM21	0.086	21.3	298.0	31.89	0.37
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM22	0.202	17.4	298.0	28.75	0.46
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM23	0.892	10.4	327.4	19.16	0.82
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM24	0.086	14.0	298.0	17.97	0.18
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM25	0.864	30.5	319.1	0.01	0.91
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM26	0.058	29.6	298.0	13.58	0.30
Consolidated Minerals Plant City	393.8	3096.3	-3020	16865	CNSDM27	0.115	15.8	298.0	19.14	0.43
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB2	2.937	56.4	338.0	5.17	1.52
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB3	3.800	39.3	319.1	10.66	2.13
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB6	0.144	12.2	366.3	0.03	0.61
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB7	6.622	35.1	349.7	22.72	0.67
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB9	3.224	39.6	311.9	5.66	1.22
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB12	0.086	12.2	366.3	0.03	0.61
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB13	0.086	12.2	366.3	2.67	0.61
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB14	3.311	50.3	298.0	8.86	0.70
Farmland Industries Green Bay Plant	409.5	3080.1	12680	665	FRMGB15	3.426	26.8	349.7	19.09	0.73
IMC Ft. Lonesome	389.6	3067.9	-7220	-11535	IMCFL1	6.766	22.9	314.7	17.33	0.85
IMC Ft. Lonesome	389.6	3067.9	-7220	-11535	IMCFL4	6.450	45.7	316.3	8.43	0.82
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW9	0.432	19.8	352.4	14.37	0.46
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW10	0.432	32.6	313.6	20.96	0.55
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW11	0.115	30.5	299.7	54.62	0.46

PM-10 CLASS II AREA  
 PSD INCREMENT INVENTORY  
 (CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW14	0.432	31.7	313.6	21.48	0.49
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW20	0.432	17.4	352.4	22.96	0.40
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW21	0.432	5.2	380.2	38.27	0.40
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW23	0.777	51.8	316.3	1.97	1.52
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW25	0.662	7.6	333.0	10.49	1.31
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW29	0.806	12.2	299.7	9.39	0.27
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW31	0.058	30.5	311.9	12.58	0.55
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW32	0.576	28.7	352.4	10.78	1.83
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW33	0.173	33.5	316.3	13.86	0.43
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW34	0.202	26.2	299.7	16.50	0.21
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW35	0.345	32.6	338.6	15.84	1.07
IMC Fertilizer New Wales	396.7	3079.4	-120	-35	IMCNW37	0.432	36.0	313.6	10.35	0.30
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY1	1.900	8.2	302.4	16.17	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY2	0.345	8.2	296.9	4.85	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY3	3.224	7.6	296.9	11.50	0.46
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY4	7.370	7.3	316.3	8.09	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY5	1.900	13.1	303.0	18.11	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY6	4.347	41.1	288.6	16.75	0.85
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY8	1.267	16.5	319.1	19.40	0.30
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY12	12.869	11.6	333.0	7.17	0.58
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY13	1.900	8.2	302.4	16.17	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	17880	865	IMCNY14	4.405	45.7	310.8	15.84	1.07
Lakeland City Power McIntosh Power Station	409.2	3106.1	12380	26665	LLMC6	40.820	76.2	349.7	32.85	4.88
Mobil Mining & Minerals SR 676	398.4	3085.1	1580	5665	MMM2	0.144	4.6	312.4	16.50	0.43
Mobil Mining & Minerals SR 676	398.3	3085.1	1480	5665	MMM3	6.996	25.9	296.9	19.40	1.52
Mobil Mining & Minerals SR 676	398.4	3085.2	1580	5765	MMM6	1.555	24.4	326.9	11.68	0.49
Mobil Mining & Minerals SR 676	398.4	3085.2	1580	5765	MMM7	1.123	30.5	338.6	19.02	1.10
Mobil Mining & Minerals SR 676	398.4	3085.2	1580	5765	MMM8	1.411	24.4	326.9	11.68	0.49
Mobil Mining & Minerals SR 676	398.4	3085.3	1580	5865	MMM9	1.382	12.2	344.1	11.83	1.07

PM-10 CLASS II AREA  
**PSD INCREMENT INVENTORY**  
 (CONTINUED)

SOURCE DESCRIPTION	UTM COORDINATES (km)		Kiln Centered Coordinates		Name	Emission (g/s)	Height (m)	Temperature (K)	Velocity (m/s)	Diameter (m)
	EAST	NORTH	(m) EAST	(m) NORTH						
Mobil Mining & Minerals SR 676	398.4	3085.3	1580	5865	MMM10	0.058	24.1	349.7	14.64	0.24
Mobil Mining & Minerals SR 676	398.4	3085.3	1580	5865	MMM11	0.720	4.0	521.9	2.12	0.76
Mobil Mining & Minerals SR 676	398.4	3085.3	1580	5865	MMM12	1.958	25.9	299.7	14.54	1.68
TECO Big Bend	361.9	3075.0	-34920	-4435	TCOBB1	0.029	42.4	333.0	18.19	0.49
TECO Big Bend	361.9	3075.0	-34920	-4435	TCOBB2	2.102	34.4	394.1	123.77	0.27
TECO Big Bend	361.9	3075.0	-34920	-4435	TCOBB3	0.662	31.1	394.1	16.04	0.76
TECO Big Bend	361.9	3075.0	-34920	-4435	TCOBB4	0.173	54.6	298.6	21.04	0.52
TECO Polk KBA	402.5	3067.4	5680	-12035	TCOPP1	2.020	6.1	533.0	13.10	0.90
TECO Polk KBB	402.5	3067.4	5680	-12035	TCOPP2	7.430	45.7	400.0	16.79	5.80
TECO Polk KBC	402.5	3067.4	5680	-12035	TCOPP3	3.150	60.7	1033.0	9.14	1.07
US Agri-Chemicals Hwy 60	413.2	3086.3	16380	6865	USAC1	2.850	22.6	299.7	48.51	0.61
US Agri-Chemicals Hwy 60	413.2	3086.3	16380	6865	USAC2	5.038	19.2	308.6	9.31	1.52
US Agri-Chemicals Hwy 60	413.2	3086.3	16380	6865	USAC3	4.866	39.9	327.4	11.09	2.13



APPENDIX D - AIR POLLUTION CONTROL EQUIPMENT INFORMATION

(Will be submitted as soon as it is available)