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BUREAU OF AIR REGULATION

**APPLICATION FOR
RMRR DETERMINATION
TO REPLACE THE X-DAP/MAP PRE-NEUTRALIZER
CF INDUSTRIES, INC.
PLANT CITY, FLORIDA**

**Prepared For:
CF Industries, Inc.
10608 Paul Buchman Highway
Plant City, Florida 33565-9007**

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

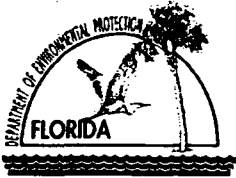
March 2009

0838-7707

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2 Copies – CF Industries, Inc.
2 Copy – Golder Associates Inc.**

APPLICATION FOR AIR PERMIT

LONG FORM



Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: CF Industries, Inc.	
2. Site Name: Plant City Phosphate Complex	
3. Facility Identification Number: 0570005	
4. Facility Location... Street Address or Other Locator: 10608 Paul Buchman Highway City: Plant City County: Hillsborough Zip Code: 33565	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Application Contact Name: Ron Brunk, Environmental Superintendent	
2. Application Contact Mailing Address... Organization/Firm: CF Industries, Inc. Street Address: P.O. Drawer L City: Plant City State: FL Zip Code: 33564-9007	
3. Application Contact Telephone Numbers... Telephone: (813) 364-5608 ext. Fax: (813) 788-9126	
4. Application Contact E-mail Address: rbrunk@cfifl.com	

Application Processing Information (DEP Use)

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

APPLICATION INFORMATION

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

This permit application is to replace the pre-neutralizer in the "X" Diammonium Phosphate/Monoammonium Phosphate Plant. CF Industries is requesting that the replacement of the pre-neutralizer be categorized as routine maintenance, repair, or replacement (RMRR). However, in the case that the replacement is not categorized as RMRR, this application is being submitted in order to speed up the permitting process.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
012	X-DAP/MAP Plant		N/A

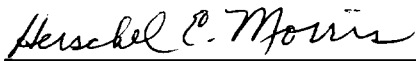

Application Processing Fee

Check one: Attached - Amount: \$_____ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name : Herschel E. Morris, Vice President Phosphate Operations/General Manager
2. Owner/Authorized Representative Mailing Address... Organization/Firm: CF Industries, Inc. Street Address: P.O. Drawer L City: Plant City State: FL Zip Code: 33564-9007
3. Owner/Authorized Representative Telephone Numbers... Telephone: (813) 364-5601 ext. Fax: (813) 788-9126
4. Owner/Authorized Representative E-mail Address: hmorris@cfifl.com
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.</i>  Signature  Date

APPLICATION INFORMATION

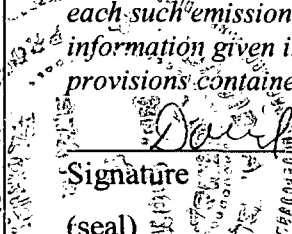
Application Responsible Official Certification

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:			
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):			
<input type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.			
<input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively.			
<input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.			
<input type="checkbox"/> The designated representative at an Acid Rain source, CAIR source, or Hg Budget source.			
3. Application Responsible Official Mailing Address...			
Organization/Firm:			
Street Address:			
City:	State:	Zip Code:	
4. Application Responsible Official Telephone Numbers...			
Telephone: ()	ext.	Fax:	()
5. Application Responsible Official E-mail Address:			
6. Application Responsible Official Certification:			
<p>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</p>			
_____ Signature		_____ Date	

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: David A. Buff Registration Number: 19011
2. Professional Engineer Mailing Address... Organization/Firm: Golder Associates Inc.** Street Address: 6241 NW 23rd Street, Suite 500 City: Gainesville State: FL Zip Code: 32653
3. Professional Engineer Telephone Numbers... Telephone: (352) 336-5600 ext. Fax: (352) 336-6603
4. Professional Engineer E-mail Address: dbuff@golder.com
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(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</i> <i>(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.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/> , 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 plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input checked="" type="checkbox"/> , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/> , 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.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/> , 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.</i>  Signature: <u>David A. Buff</u> Date: <u>3/3/09</u> (seal)

* Attach any exception to certification statement.

**Board of Professional Engineers Certificate of Authorization #00001670.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 388.00 North (km) 3116.00		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 28 / 09 / 57 Longitude (DD/MM/SS) 82 / 08 / 27	
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 28	6. Facility SIC(s): 2874
7. Facility Comment : <p style="margin-left: 40px;">This is a phosphate fertilizer manufacturing facility producing sulfuric acid, phosphoric acid, DAP, and MAP.</p>			

Facility Contact

1. Facility Contact Name: Ron Brunk, Environmental Superintendent
2. Facility Contact Mailing Address... Organization/Firm: CF Industries, Inc. Street Address: P.O. Drawer L <div style="display: flex; justify-content: space-between; margin-top: 5px;"> City: Plant City State: FL Zip Code: 33564-9007 </div>
3. Facility Contact Telephone Numbers: Telephone: (813) 364-5608 ext. Fax: (813) 788-9126
4. Facility Contact E-mail Address: rbrunk@cfifl.com

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: <div style="display: flex; justify-content: space-between; margin-top: 5px;"> City: State: Zip Code: </div>
3. Facility Primary Responsible Official Telephone Numbers... Telephone: () ext. Fax: ()
4. Facility Primary Responsible Official E-mail Address:

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a “major source” and a “synthetic minor source.”

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Particulate Matter Total – PM	A	N
Particulate Matter – PM10	A	N
Particulate Matter – PM2.5	A	N
Fluorides – FL	B	N
Sulfur Dioxide – SO2	A	N
Sulfuric Acid Mist – SAM	A	N
Nitrogen Oxides – NOx	A	N
Hazardous Air Pollutants – HAPS	A	N
Hydrogen Fluoride – H107	A	N

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility-Wide Cap [Y or N]? (all units)	3. Emissions Unit ID's Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>Oct 2005</u>
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>Oct 2005</u>
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <u>Oct 2005</u>

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL): <input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u>
3. Rule Applicability Analysis: <input type="checkbox"/> Attached, Document ID: _____
4. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units:
 Attached, Document ID: _____ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities: (Required for initial/renewal applications only)
 Attached, Document ID: _____ Not Applicable (revision application)

2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)
 Attached, Document ID: _____
 Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)
 Attached, Document ID: _____
Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)
 Attached, Document ID: _____
 Equipment/Activities Onsite but Not Required to be Individually Listed
 Not Applicable

5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)
 Attached, Document ID: _____ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
 Attached, Document ID: _____ Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program

1. Acid Rain Program Forms:

Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not an Acid Rain source)

Phase II NO_x Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable

New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not a CAIR source)

3. Hg Budget Part (DEP Form No. 62-210.900(1)(c)):

Attached, Document ID: _____ Previously Submitted, Date: _____

Not Applicable (not a Hg Budget unit)

Additional Requirements Comment

Empty box for additional requirements comment.

EMISSIONS UNIT INFORMATION

Section [1]
"X" DAP/MAP Plant

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [1]
"X" DAP/MAP Plant

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

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.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (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.

2. Description of Emissions Unit Addressed in this Section:
"X" DAP/MAP Plant with Scrubbers

3. Emissions Unit Identification Number: **012**

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date: 08/01/1975	7. Emissions Unit Major Group SIC Code: 28
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8. Federal Program Applicability: (Check all that apply)

Acid Rain Unit

CAIR Unit

Hg Budget Unit

9. Package Unit:
Manufacturer: _____ Model Number: _____

10. Generator Nameplate Rating: **MW**

11. Emissions Unit Comment:
The "X" DAP/MAP is an ammonium phosphate granulation unit permitted to process 48.7 TPH in DAP production mode and 55.0 TPH in MAP production mode, measured as 100 percent P₂O₅ input.

EMISSIONS UNIT INFORMATION

Section [1]
"X" DAP/MAP Plant

Emissions Unit Control Equipment/Method: Control 1 of 12

- | |
|--|
| 1. Control Equipment/Method Description:

Abatement Scrubber: Ducon Envir. Tech. abatement scrubber (reactor / granulator / aging belt / dryer / mills / screens / cooler) using fresh water as the scrubbing liquid. |
| 2. Control Device or Method Code: 001 |

Emissions Unit Control Equipment/Method: Control 2 of 12

- | |
|---|
| 1. Control Equipment/Method Description:

Three Stage Fume Scrubber: Venturi Scrubber (reactor / granulator / aging belt) using partially-neutralized phosphoric acid as the scrubbing liquid. |
| 2. Control Device or Method Code: 053 |

Emissions Unit Control Equipment/Method: Control 3 of 12

- | |
|--|
| 1. Control Equipment/Method Description:

Three Stage Fume Scrubber: Primary Cyclonic Acid Scrubber (reactor / granulator / aging belt) – Ducon Envir. Tech. Series 550 scrubber using partially-neutralized phosphoric acid as the scrubbing liquid. |
| 2. Control Device or Method Code: 085 |

Emissions Unit Control Equipment/Method: Control 4 of 12

- | |
|--|
| 1. Control Equipment/Method Description:

Three Stage Fume Scrubber: Secondary Cyclonic Acid Scrubber (reactor / granulator / aging belt) – Ducon Envir. Tech. Series 550 scrubber using partially-neutralized phosphoric acid as the scrubbing liquid. |
| 2. Control Device or Method Code: 085 |

Emissions Unit Control Equipment/Method: Control 5 of 12

- | |
|---|
| 1. Control Equipment/Method Description:

Ducon Envir. Tech. 810/175 Type VM – (4) Dust Cyclones (dryer) |
| 2. Control Device or Method Code: 076 |

Emissions Unit Control Equipment/Method: Control 6 of 12

- | |
|--|
| 1. Control Equipment/Method Description:

Three Stage Dryer Scrubber: Venturi Scrubber (dryer) using partially-neutralized phosphoric acid as the scrubbing liquid. |
| 2. Control Device or Method Code: 053 |

EMISSIONS UNIT INFORMATION

**Section [1]
"X" DAP/MAP Plant**

Emissions Unit Control Equipment/Method: Control 7 of 12

- | |
|--|
| 1. Control Equipment/Method Description:
Three Stage Dryer Scrubber: Primary Cyclonic Acid Scrubber (dryer) – Ducon Envir. Tech. Series 555 scrubber using partially-neutralized phosphoric acid as the scrubbing liquid. |
| 2. Control Device or Method Code: 085 |

Emissions Unit Control Equipment/Method: Control 8 of 12

- | |
|--|
| 1. Control Equipment/Method Description:
Three Stage Dryer Scrubber: Secondary Cyclonic Acid Scrubber (dryer) – Ducon Envir. Tech. Series 555 scrubber using partially-neutralized phosphoric acid as the scrubbing liquid. |
| 2. Control Device or Method Code: 085 |

Emissions Unit Control Equipment/Method: Control 9 of 12

- | |
|--|
| 1. Control Equipment/Method Description:
Ducon Envir. Tech. 810/175 Type VM – (2) Dust Cyclones (mills / screens) |
| 2. Control Device or Method Code: 076 |

Emissions Unit Control Equipment/Method: Control 10 of 12

- | |
|--|
| 1. Control Equipment/Method Description:
Two Stage Dust Scrubber: Venturi Scrubber (mills / screens) using partially-neutralized phosphoric acid as the scrubbing liquid. |
| 2. Control Device or Method Code: 053 |

Emissions Unit Control Equipment/Method: Control 11 of 12

- | |
|---|
| 1. Control Equipment/Method Description:
Two Stage Dust Scrubber: Primary Cyclonic Acid Scrubber (mills / screens) – Ducon Envir. Tech. Series 535 scrubber using partially-neutralized phosphoric acid as the scrubbing liquid. |
| 2. Control Device or Method Code: 053 |

Emissions Unit Control Equipment/Method: Control 12 of 12

- | |
|---|
| 1. Control Equipment/Method Description:
Ducon Envir. Tech. 810/175 Type VM – (2) Dust Cyclones (cooler) |
| 2. Control Device or Method Code: 076 |

EMISSIONS UNIT INFORMATION

**Section [1]
"X" DAP/MAP Plant**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 55 TPH P ₂ O ₅ input
2. Maximum Production Rate:
3. Maximum Heat Input Rate: 49.7 million Btu/hr
4. Maximum Incineration Rate: pounds/hr tons/day
5. Requested Maximum Operating Schedule: 24 hours/day 7 days/week 52 weeks/year 7,884 hours/year
6. Operating Capacity/Schedule Comment: The "X" DAP/MAP ammonium phosphate granulation dryer is fired by natural gas with No. 5 fuel oil as a backup. Maximum process or throughput rate of 55 TPH P ₂ O ₅ input is in MAP mode. The maximum process or throughput rate is 48.7 TPH P ₂ O ₅ input in DAP mode. Maximum operating hours of 7,884 hours per year are for DAP production mode. Maximum operating hours during MAP production mode are 6,091 hours per year.

EMISSIONS UNIT INFORMATION

Section [1]
 "X" DAP/MAP Plant

C. EMISSION POINT (STACK/VENT) INFORMATION
 (Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: 012		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: The stack is located on the north end of the XYZ Granulation production train.			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: V	6. Stack Height: 136 feet	7. Exit Diameter: 9.0 Feet	
8. Exit Temperature: 145°F	9. Actual Volumetric Flow Rate: 156,000 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: 17 East (km): 387.887 North (km): 3116.208		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:			

EMISSIONS UNIT INFORMATION

Section [1]
"X" DAP/MAP Plant

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type): DAP production (emissions related to the production of diammonium phosphate).		
2. Source Classification Code (SCC): 3-01-03-099		3. SCC Units: Tons Processed
4. Maximum Hourly Rate: 48.7	5. Maximum Annual Rate: 383,950.8	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Maximum hourly rate based on maximum permitted P ₂ O ₅ input rate during DAP production mode (Permit No. 0570005-022-AV). Maximum annual rate based on maximum permitted operation of 7,884 hr/yr (Permit No. 0570005-030-AC).		

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type): MAP production (emissions related to the production of monoammonium phosphate).		
2. Source Classification Code (SCC): 3-01-03-099		3. SCC Units: Tons Processed
4. Maximum Hourly Rate: 55.0	5. Maximum Annual Rate: 335,005	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: Maximum hourly rate based on maximum permitted P ₂ O ₅ input rate during MAP production mode (Permit No. 0570005-022-AV). Maximum annual rate based on maximum permitted operation of 6,091 hr/yr (Permit No. 0570005-030-AC).		

EMISSIONS UNIT INFORMATION

Section [1]
"X" DAP/MAP Plant

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	076	001	EL
FL	085	001	EL

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
 "X" DAP/MAP Plant

Page [1] of [2]
 Particulate Matter Total - PM

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: PM		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 13.75 lb/hour 41.88 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 13.75 lb/hr in MAP mode Reference: Permit No. 0570005-030-AC		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): 16.04 tons/year		8.b. Baseline 24-month Period: From: 01/2001 To: 12/2002	
9.a. Projected Actual Emissions (if required): 17.42 tons/year		9.b. Projected Monitoring Period: <input checked="" type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly: 13.75 lb/hr Annual: 13.75 lb/hr x 6,091 hr/yr x 1 ton/2,000 lb = 41.88 TPY			
11. Potential, Fugitive, and Actual Emissions Comment: Operating hours limited to 6,091 hr/yr in MAP mode.			

EMISSIONS UNIT INFORMATION

Section [1]
 "X" DAP/MAP Plant

POLLUTANT DETAIL INFORMATION

Page [1] of [2]
 Particulate Matter Total - PM

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 10.62 lb/hr	4. Equivalent Allowable Emissions: 10.62 lb/hour 41.88 tons/year
5. Method of Compliance: EPA Method 5	
6. Allowable Emissions Comment (Description of Operating Method): Permit No. 0570005-030-AC and Rule 62-212.300, F.A.C. DAP production mode. Operating hours limited to 7,884 hr/yr in DAP mode.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 13.75 lb/hr	4. Equivalent Allowable Emissions: 13.75 lb/hour 41.88 tons/year
5. Method of Compliance: EPA Method 5	
6. Allowable Emissions Comment (Description of Operating Method): Permit No. 0570005-030-AC and Rule 62-212.300, F.A.C. MAP production mode. Operating hours limited to 6,091 hr/yr in MAP mode.	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
 "X" DAP/MAP Plant

Page [2] of [2]
 Fluorides - FL

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
 (Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: FL		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 2.20 lb/hour 6.70 tons/year		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.04 lb/ton P ₂ O ₅ in MAP mode Reference: Permit No. 0570005-030-AC		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): 2.75 tons/year		8.b. Baseline 24-month Period: From: 01/1999 To: 12/2000	
9.a. Projected Actual Emissions (if required): 3.02 tons/year		9.b. Projected Monitoring Period: <input checked="" type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Hourly: 0.04 lb/ton P ₂ O ₅ x 55 TPH P ₂ O ₅ = 2.20 lb/hr Annual: 2.20 x 6,091 hr/yr x 1 ton/2,000 lb = 6.70 TPY			
11. Potential, Fugitive, and Actual Emissions Comment: Operating hours limited to 6,091 hr/yr in MAP mode.			

EMISSIONS UNIT INFORMATION

POLLUTANT DETAIL INFORMATION

Section [1]
 "X" DAP/MAP Plant

Page [2] of [2]
 Fluorides - FL

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.035 lb/ton	4. Equivalent Allowable Emissions: 1.70 lb/hour 6.70 tons/year
5. Method of Compliance: EPA Method 13A or 13B	
6. Allowable Emissions Comment (Description of Operating Method): Permit No. 0570005-030-AC. DAP production mode. Operating hours limited to 7,884 hr/yr in DAP mode.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.04 lb/ton	4. Equivalent Allowable Emissions: 2.20 lb/hour 6.70 tons/year
5. Method of Compliance: EPA Method 13A or 13B	
6. Allowable Emissions Comment (Description of Operating Method): Permit No. 0570005-030-AC. MAP production mode. Operating hours limited to 6,091 hr/yr in MAP mode.	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [1]
"X" DAP/MAP Plant

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Allowable Opacity: Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: EPA Method 9	
5. Visible Emissions Comment: Annual visible emissions testing as required by Rule 62-296.320(4)(b)1. and 4., F.A.C. and Permit No. 0570005-022-AV.	

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. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

EMISSIONS UNIT INFORMATION

Section [1]
"X" DAP/MAP Plant

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 4

1. Parameter Code: PRS	2. Pollutant(s):
3. CMS Requirement:	<input checked="" 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: The pressure drop across the dust, fume, and dryer scrubbers is continuously monitored and recorded per the facility Title V air permit (Permit No. 0570005-022-AV), 40 CFR 64.6(c)(1), and 40 CFR 63, Subpart BB.	

Continuous Monitoring System: Continuous Monitor 2 of 4

1. Parameter Code: pH	2. Pollutant(s):
3. CMS Requirement:	<input checked="" 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: The pH of the abatement sump is continuously monitored and recorded per the facility Title V Air Permit, Permit No. 0570005-022-AV, and 40 CFR 63, Subpart BB.	

EMISSIONS UNIT INFORMATION

Section [1]
"X" DAP/MAP Plant

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 3 of 4

1. Parameter Code: FLOW	2. Pollutant(s):
3. CMS Requirement:	<input checked="" 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: The liquid flow to the abatement scrubber sprays is continuously monitored and recorded per the facility Title V air permit alternative monitoring plan (Permit No. 0570005-022-AV and 40 CFR 63, Subpart BB).	

Continuous Monitoring System: Continuous Monitor 4 of 4

1. Parameter Code: Liquid Nozzle Pressure	2. Pollutant(s):
3. CMS Requirement:	<input checked="" 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: The liquid nozzle pressure delivered to the dust, fume, and dryer scrubbers is continuously monitored and recorded per the facility Title V air permit (Permit No. 0570005-022-AV) and 40 CFR 64.6(c)(1).	

EMISSIONS UNIT INFORMATION

Section [1]
"X" DAP/MAP Plant

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

<p>1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>CFI-EU1-I1</u> <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>CFI-EU1-I2</u> <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>CFI-EU1-I3</u> <input type="checkbox"/> Previously Submitted, Date _____</p>
<p>4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____</p> <p><input checked="" type="checkbox"/> Not Applicable (construction application)</p>
<p>5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)</p> <p><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>6. Compliance Demonstration Reports/Records:</p> <p><input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: _____</p> <p><input type="checkbox"/> Previously Submitted, Date: _____ Test Date(s)/Pollutant(s) Tested: _____</p> <p><input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: _____</p> <p><input checked="" type="checkbox"/> Not Applicable</p> <p>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.</p>
<p>7. Other Information Required by Rule or Statute:</p> <p><input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment A</u> <input type="checkbox"/> Not Applicable</p>

EMISSIONS UNIT INFORMATION

Section [1]
"X" DAP/MAP Plant

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____
2. Compliance Assurance Monitoring: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
3. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Additional Requirements Comment

--

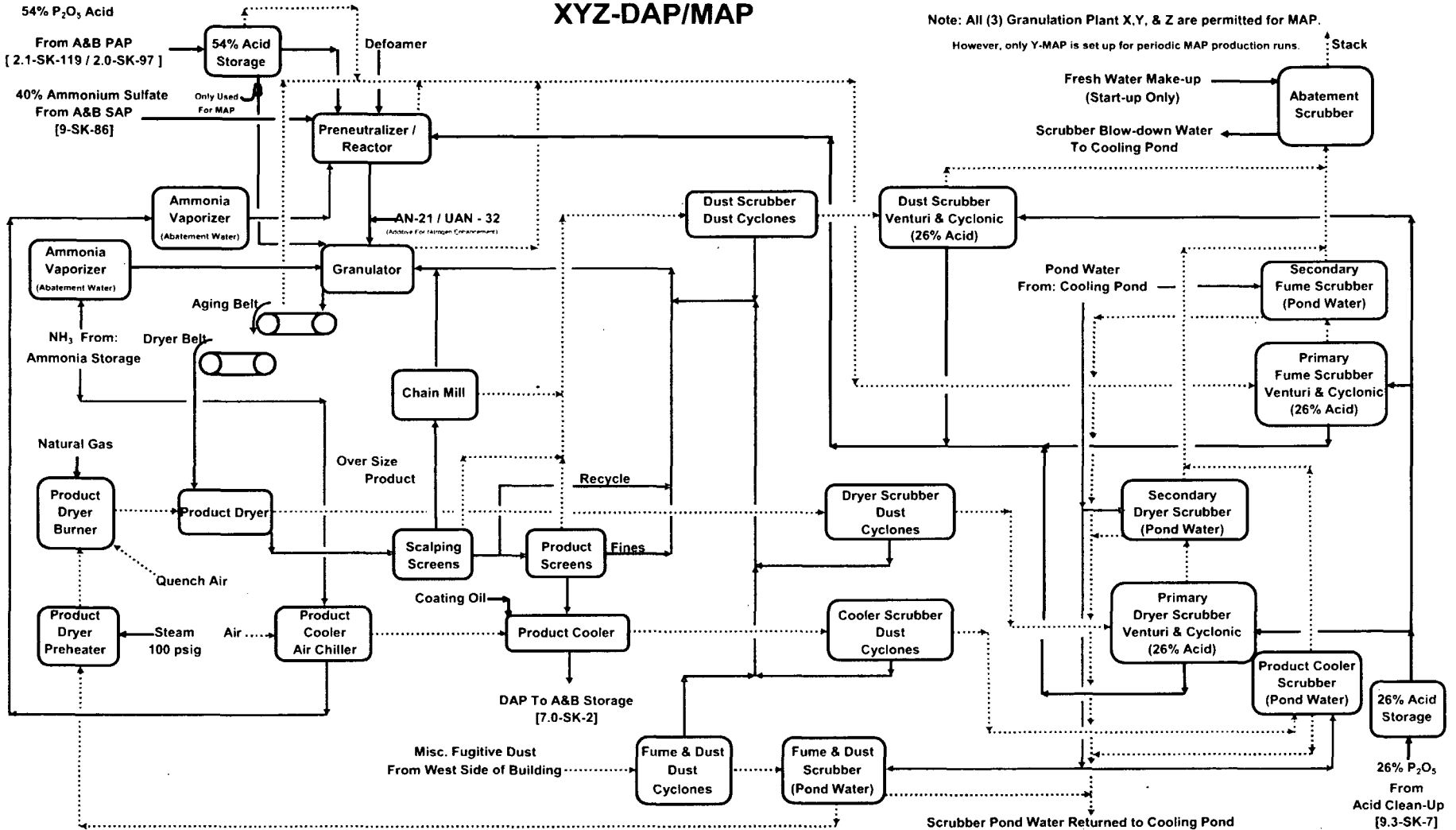
ATTACHMENT CFI-EU1-I1

PROCESS FLOW DIAGRAM

XYZ-DAP/MAP

Note: All (3) Granulation Plant X, Y, & Z are permitted for MAP.

However, only Y-MAP is set up for periodic MAP production runs.



Legend		Revision By	Date	CF Industries, Inc. Plant City Phosphate Complex P.O. Drawer L Plant City, Florida 33564 Phone: (813) 782-1591 Fax: (813) 788-9126	Title	DWR. NO
.....	Fume or Air Duct	Randy Charlot	2/2/2009			XYZ-DAP/MAP Granulation
————	25% / 40% P ₂ O ₅ Acid			Block Flow Diagram		
————	Ammonia					
————	Granular DAP/MAP					
————	Process Water					
————	Process Water To Pond					

ATTACHMENT CFI-EU1-I2

FUEL ANALYSIS

ATTACHMENT CFI-EU1-I2
X-DAP/MAP PLANT
FUEL ANALYSIS

Fuel	Density	Moisture (%)	Weight % Sulfur	Weight % Nitrogen	Weight % Ash	Heat Capacity
Natural Gas	0.048 lb/scf	< 0.01	< 0.001	0.62	----	1,000 Btu/scf
No. 5 Fuel Oil	8.0 lb/gal	0.05	1.1	0.006	< 0.01	146,000 Btu/gal
No. 3 Fuel Oil	7.50 lb/gal	< 0.01	1.2	0.006	< 0.01	142,000 Btu/gal
No. 2 Fuel Oil	6.83 lb/gal	< 0.01	0.02	0.006	< 0.01	136,000 Btu/gal

ATTACHMENT CFI-EU1-I3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

**ATTACHMENT CFI-EU1-I3a
CONTROL EQUIPMENT PARAMETERS
X-DAP/MAP PLANT REACTOR/GRANULATOR/AGING BELT SCRUBBERS
AT CF INDUSTRIES, PLANT CITY, FL**

Manufacturer	Ducon Envir. Tech Series 550 Scrubbers ^a	
Sources Controlled	Reactor, Granulator, Aging Belt	
Primary Scrubber Delivery Pressure	Scrubber Liquid Composition:	Partially-Neutralized Phosphoric Acid
Secondary Scrubber Delivery Pressure	HF MACT Minimum:	40.0 psig
	HF MACT Maximum:	72.0 psig
Acid Scrubber Pressure Drop ^b	Scrubber Liquid Composition:	Partially-Neutralized Phosphoric Acid
	HF MACT Minimum:	19.6 inches w.c.
	HF MACT Maximum:	28.7 inches w.c.
<hr/>		
Abatement Scrubber	Ducon Envir. Tech Size 15' x 35' scrubber	
Scrubber Delivery Flow Rate	HF MACT Minimum:	1,970 gpm
	HF MACT Maximum:	2,311 gpm
Scrubbing Liquid pH	HF MACT Minimum:	4.5
	Scrubber Liquid Composition:	Fresh Water

^a Values obtained from July 27, 2007 submittal of revisions to the HF MACT indicator ranges. Flow rate and pressure drop ranges will be adjusted during compliance tests following the scrubber reconfigurations.

^b Total pressure drop across primary and secondary scrubbers.

**ATTACHMENT CFI-EU1-I3b
CONTROL EQUIPMENT PARAMETERS
X-DAP/MAP PLANT DRYER SCRUBBERS
AT CF INDUSTRIES, PLANT CITY, FL**

Manufacturer	Ducon Envir. Tech Series 555 Scrubbers ^a	
Sources Controlled	Dryer	
Primary Scrubber Delivery Pressure	Scrubber Liquid Composition:	Partially-Neutralized Phosphoric Acid
Secondary Scrubber Delivery Pressure	HF MACT Minimum:	40.0 psig
	HF MACT Maximum:	70.0 psig
	Scrubber Liquid Composition:	Partially-Neutralized Phosphoric Acid
Acid Scrubber Pressure Drop ^b	Ducon Envir. Tech Series 810/175 Type VM	
	HF MACT Minimum:	19.0 inches w.c.
	HF MACT Maximum:	31.5 inches w.c.
<hr style="border-top: 1px dashed black;"/>		
Abatement Scrubber	See Attachment CFI-EU1-I3a	

^a Values obtained from July 27, 2007 submittal of revisions to the HF MACT indicator ranges. Flow rate and pressure drop ranges will be adjusted during compliance tests following the scrubber reconfigurations.

^b Total pressure drop across primary and secondary scrubbers.

**ATTACHMENT CFI-EU1-I3c
CONTROL EQUIPMENT PARAMETERS
X-DAP/MAP MILLS AND SCREENS SCRUBBERS
AT CF INDUSTRIES, PLANT CITY, FL**

Manufacturer	Ducon Envir. Tech Series 810/175 Type VM	
Sources Controlled	Mills and Screens	
Acid Scrubber Pressure Drop ^b	HF MACT Minimum:	9.3 inches w.c.
	HF MACT Maximum:	29.0 inches w.c.
	Scrubber Liquid Composition:	Partially-Neutralized Phosphoric Acid
<hr style="border-top: 1px dashed black;"/>		
Abatement Scrubber	See Attachment CFI-EU1-I3a	

^a Values obtained from July 27, 2007 submittal of revisions to the HF MACT indicator ranges. Flow rate and pressure drop ranges will be adjusted during compliance tests following the scrubber reconfigurations.

^b Total pressure drop across primary and secondary scrubbers.

ATTACHMENT A

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1.0 INTRODUCTION

CF Industries, Inc. (CFI) operates the "X" diammonium phosphate/monoammonium phosphate (X-DAP/MAP) Plant (EU 012) in Plant City, Hillsborough County, Florida. CFI is proposing to replace the pre-neutralizer in the X-DAP/MAP Plant. The replacement of the pre-neutralizer is minor in comparison to the entire X-DAP/MAP Plant and this replacement should fall under the categorization of routine maintenance, repair, and replacement (RMRR). Because this project is RMRR, it does not constitute a modification under Rule 62-210.200 of the Florida Administrative Code (F.A.C.), and does not require an air construction permit. However, if the Florida Department of Environmental Protection (FDEP) determines that this project does not constitute RMRR, this air construction permit application has been submitted in order to expedite the permitting process.

The X-DAP/MAP Plant is currently limited to a maximum processing rate of 48.7 tons per hour (TPH) in DAP production mode, and 55.0 TPH in MAP production mode, measured as 100-percent phosphorus pentoxide (P_2O_5) input. The X-DAP/MAP Plant is also limited to 7,884 hours per year (hr/yr) operation in DAP production mode, and 6,091 hr/yr operation in MAP production mode. The dryer in the X-DAP/MAP plant is limited to a maximum heat input rate of 49.7 million British thermal units per hour (MMBtu/hr).

In the event that FDEP determines that the proposed pre-neutralizer replacement is not RMRR, CFI believes that no actual emission increases will result from the proposed project because there will be no increase in process or production rate, and no effect upon hourly emissions. CFI has performed a comparison of past actual (baseline actual) annual emissions to projected actual annual emissions for the proposed pre-neutralizer replacement project, based on the new source review (NSR) reform rules. Due to the nature of this comparison, emission increases due to the project are predicted; however, these increases are less than the prevention of significant deterioration (PSD) significant emission rates. Therefore, the project will not trigger NSR under the Federal and State PSD regulations.

A more detailed project description is provided in Section 2.0 of this attachment. An RMRR analysis is provided in Section 3.0 of this attachment. PSD review requirements are discussed in Section 4.0, and air emissions estimates and the PSD applicability of the project are presented in Section 5.0.

2.0 PROJECT DESCRIPTION

CFI is proposing to replace the pre-neutralizer in the X-DAP/MAP Plant. The X-DAP/MAP has the emissions unit (EU) number of 012. The X-DAP/MAP is currently operating under Title V operating permit No. 0570005-022-AV. This permit was issued on December 17, 2007.

The CFI facility is located at 10608 Paul Buchman Highway in Plant City, Hillsborough County. The following sections describe the existing X-DAP/MAP Plant and the proposed project in more detail.

2.1 Existing Operations

The X-DAP/MAP Plant is a phosphate granulation plant that produces DAP and MAP fertilizer products. A flow diagram of the X-DAP/MAP Plant is presented in Attachment MF-EU1-I1 of the permit application form. The X-DAP/MAP granulation train consists of a pre-neutralizer/reactor, granulator, aging belt, dryer, product cooler, mills, and product screens. The plant dryer is fired by natural gas, with fuel oil of grade No. 5 or better as backup. The maximum heat input rate to the dryer is 49.7 MMBtu/hr. The maximum processing rate is 48.7 TPH in DAP production mode, and 55.0 TPH in MAP production mode, measured as 100-percent P_2O_5 .

The X-DAP/MAP Plant has a pre-neutralizer/reactor, where phosphoric acid from the A & B phosphoric acid plants is combined with ammonium sulfate from the A & B sulfuric acid plants. The materials react to form DAP or MAP. A defoaming agent aids in the reaction. The ungranulated DAP/MAP then enters the granulator. The granulated material then exits the granulator onto the aging belt, the dryer belt, and then enters the product dryer. The dried product is sent to the scalping screens. The oversized product is sent to the chain mill and then recycled back into the granulator. The remaining product is further screened (in the product screens) where the fines are recycled back into the granulator, and the remaining product is sent to the product cooler. The final product is then cooled, coating oil is applied, and the product is transferred to the A & B storage buildings.

The current pre-neutralizer is a cylindrical tank of steel and brick construction. A drawing of the current pre-neutralizer is shown in Figure 2-1.

2.2 Proposed Operations

CFI is proposing to replace the pre-neutralizer/reactor in the X-DAP/MAP Plant. The existing pre-neutralizer will be replaced with a new pre-neutralizer of alloy construction, which is the current standard technology for this type of equipment. A drawing of the new pre-neutralizer is shown in Figure 2-2. The new pre-neutralizer will have a slightly different shape than the current one, with a cylindrical shape and the bottom being slightly conical. This new shape actually reduces the phosphoric acid retention time because of a slightly smaller volume; however, it does not affect the performance of the pre-neutralizer, as the liquid surface area is the primary driving force for the vapor disengagement and this is not changing. The current and proposed design specifications for the pre-neutralizer are provided below:

Parameter	Existing Pre-Neutralizer	New Pre-Neutralizer
Volume (ft ³)	3,309	2,922
Liquid Surface Area (ft ²)	138	154
Retention Time (min) (at normal production rate)	40 – 46	18-20

CFI has been routinely performing repairs on the pre-neutralizer during plant turnarounds. These plant turnarounds typically occur once per month for up to 24 hours. Longer turnarounds of 7 to 10 days occur less frequently, on average about every 2 to 3 years. However, repairs are no longer practical. The annual maintenance expenditures on the X-DAP/MAP Plant are approximately \$1 million per year. Costs of repairs on the pre-neutralizer have been increasing as the equipment has aged. The budgeted cost of repairs on the X-DAP/MAP for 2009 is estimated at \$2.2 million, which includes \$0.9 million for the pre-neutralizer replacement and \$1.3 million for other repairs.

The pre-neutralizer replacement cost of \$900,000 is less than 3 percent of the cost of replacing the entire X-DAP/MAP Plant, which is estimated at \$30 to \$50 million.

2.3 Air Pollution Control Equipment

Within the X-DAP/MAP Plant, emissions from the reactor, granulator, and aging belt are controlled by the following scrubbers:

- Fume Venturi – Venturi scrubber using partially-neutralized phosphoric acid as the scrubbing liquid;
- Primary Scrubber – Ducon Envir. Tech. Series 550 cyclonic scrubber using partially-neutralized phosphoric acid as the scrubbing liquid;
- Secondary Scrubber – Ducon Envir. Tech. Series 550 cyclonic scrubber using pond water as the scrubbing liquid; and
- Abatement scrubber – Ducon Envir. Tech. scrubber using fresh water as the scrubbing liquid.

Emissions from the dryer are controlled by the following cyclones and scrubbers:

- Dryer Cyclones – Ducon Envir. Tech. 810/175 Type VM cyclones;
- Dryer Venturi – Venturi scrubber using partially-neutralized phosphoric acid as the scrubbing liquid;
- Primary Scrubber – Ducon Envir. Tech. Series 555 scrubber using partially-neutralized phosphoric acid as the scrubbing liquid;
- Secondary Scrubber – Ducon Envir. Tech. Series 555 scrubber using pond water as the scrubbing liquid; and
- Abatement scrubber – is the same device as the reactor, granulator, and aging belt abatement scrubber.

Emissions from the mills and product screens are controlled by the following cyclones and scrubbers:

- Dust Cyclones – Ducon Envir. Tech. 810/175 Type VM cyclones;
- Dust Venturi – Venturi scrubber using partially-neutralized phosphoric acid as the scrubbing liquid;
- Primary Scrubber – Ducon Envir. Tech. Series 535 scrubber using partially-neutralized phosphoric acid as the scrubbing liquid; and
- Abatement scrubber – is the same device as the reactor, granulator, and aging belt abatement scrubber.

Emissions from the product cooler are controlled by the following cyclones and scrubbers:

- Cooler Cyclones – Ducon Envir. Tech. 810/175 Type VM cyclones;
- Ducon Envir. Tech. Series 550 scrubber using pond water as the scrubbing liquid; and
- Abatement scrubber – is the same device as the reactor, granulator, and aging belt abatement scrubber.

All equipment gases pass through a single abatement scrubber and then are discharged to the atmosphere through a stack. A process flow diagram of the X-DAP/MAP Plant, including current scrubber configuration, is presented in Attachment CFI-EU1-II of the application form.

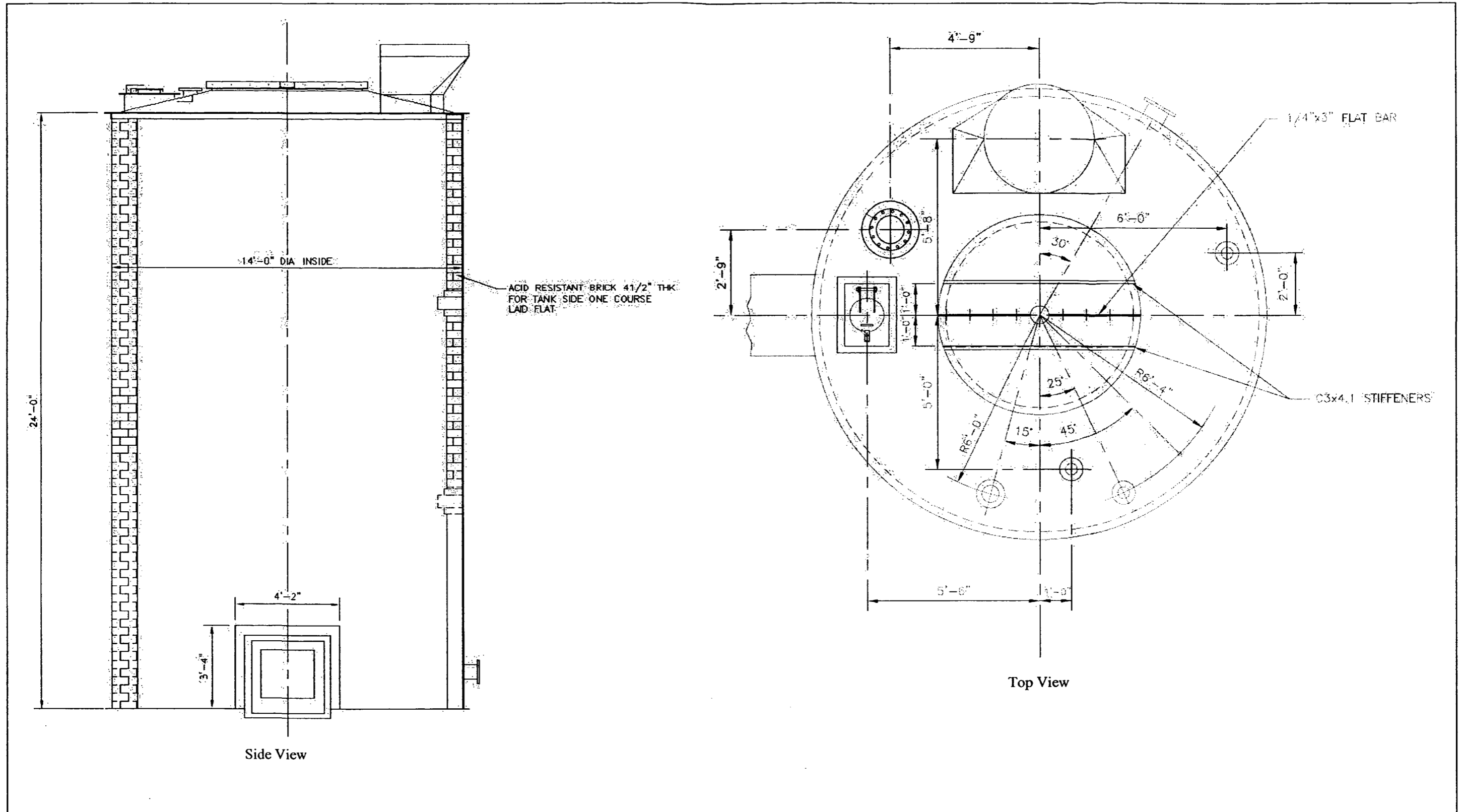


Figure 2-1
Existing Pre-Neutralizer / Reactor

Figure 2-1

Source: CF Industries, 2009.

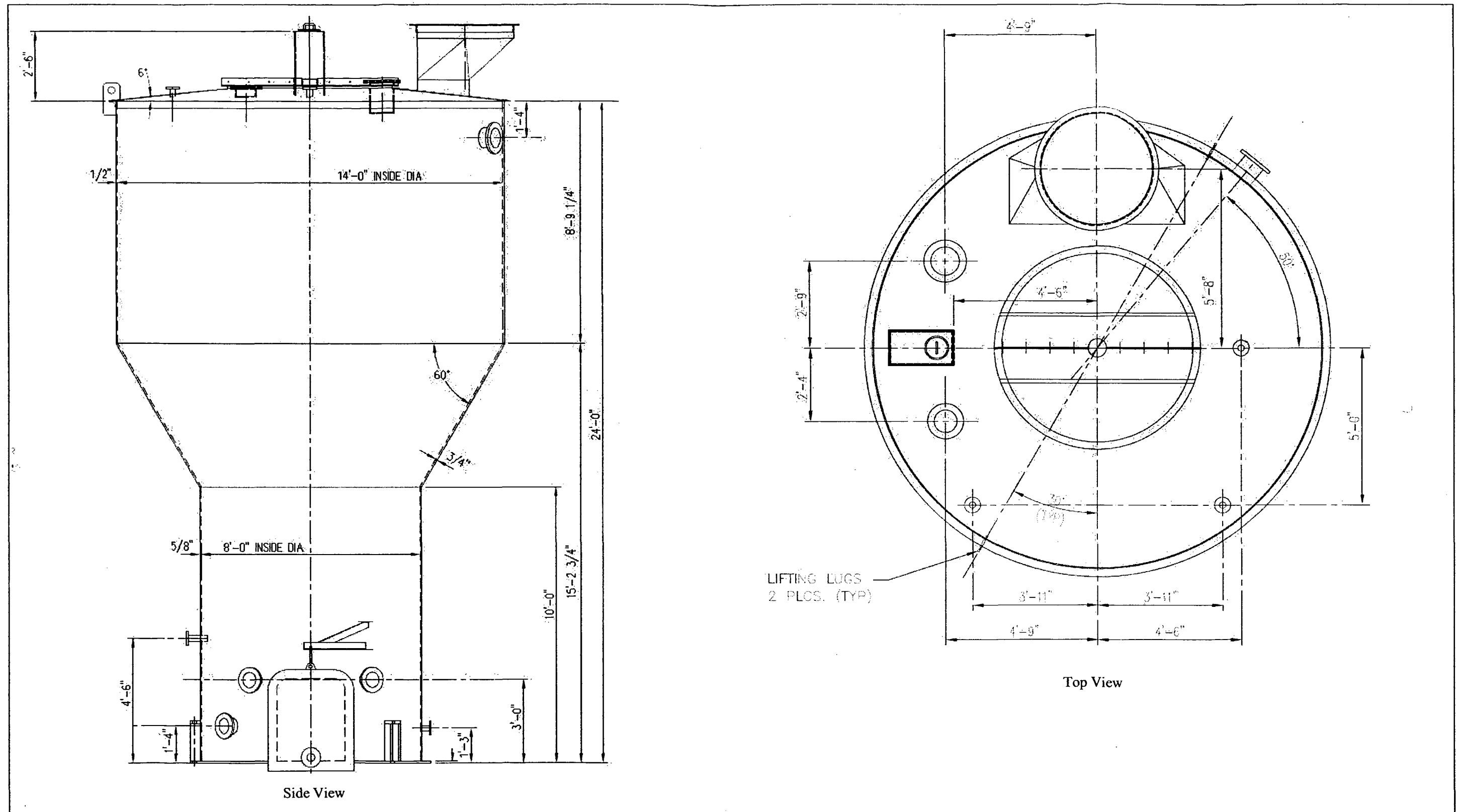


Figure 2-2
Proposed Pre-Neutralizer / Reactor

Figure 2-2

Source: CF Industries, 2009.

3.0 ROUTINE MAINTENANCE, REPAIR, AND REPLACEMENT ANALYSIS

3.1 Five Factor Evaluation

On May 23, 2000, EPA Region V issued guidance in determining whether a proposed project constituted RMRR. The guidance includes five factors, which must be evaluated for each project. The five factors are based on the EPA guidance are as follows:

1. Nature,
2. Extent,
3. Purpose,
4. Frequency, and
5. Cost.

Based on the EPA guidance, these categories are interrelated. Many facts could be relevant to both nature and extent, while others could overlap with purpose. In addition, none of these factors, standing alone, conclusively determines a project to be routine or non-routine. Instead, a permitting authority should take into account how each of these factors might apply in a particular circumstance to arrive at a conclusion considering the project as a whole.

EPA has stated that the “determination of whether the repair or replacement of a particular item of equipment is ‘routine’ under the NSR regulations, while made on a case-by-case basis, must be based on the evaluation of whether that type of equipment has been repaired or replaced by sources within the relevant industrial category.” As a result, EPA has historically considered whether a typical source in the relevant industry undertakes the proposed activity as a routine matter. This does not mean, however, that whatever activity members of a particular industry have done – no matter how infrequent, costly, sizable, or capable of expanding the source’s operations or extending its useful life – is necessarily routine.

Considering this guidance, the FDEP must consider how each factor applies under the circumstances, considering the project as a whole. Looking at the nature, extent, purpose, frequency and cost of the project, along with other relevant factors in light of the framework discussed above, CFI believes that the proposed X-DAP/MAP pre-neutralizer replacement project is a routine physical change. The configuration of the new pre-neutralizer is only slightly different than the existing vessel, and the

minor difference will not impact functionality or process rate. Since the pre-neutralizer is in need of replacement, the technology and metallurgy representative of current industry standards will be used.

CFI does not expect the new pre-neutralizer to increase the unit's ability to convert phosphoric acid and ammonia to DAP or MAP based on its original design, and the project will reduce ongoing costly annual repairs. Finally, the project requires only a minor capital expenditure of \$900,000, which is less than 3 percent of replacement of the entire X-DAP/MAP Plant. A more detailed application of the relevant factors to the proposed CFI project follows below.

3.1.1 Nature

The nature of the project is the first factor that is considered in determining whether a project is RMRR. The project details are examined in order to determine the following:

- Whether major components of the facility are being modified or replaced;
- Whether the emissions unit undergoing the change is of considerable size, function, or importance to the operation of the entire facility;
- Whether the emissions unit itself has characterized the changes as non-routine;
- Whether the change could be performed during the full functioning of the facility or while it was in full working order; and
- Whether the materials, equipment, and resources necessary to carry out the planned change are already onsite at the facility.

The X-DAP/MAP Plant includes a number of components (pre-neutralizer, granulator, dryer, cooler, screens/mills, scrubbers, conveyors, etc.). Refer to process flow diagram (see application Attachment CFI-EU1-II). The pre-neutralizer is only one component, albeit an important component of the plant, since this is the vessel where the reaction between phosphoric acid and ammonia takes place.

However, in terms of size, the pre-neutralizer is a relatively small piece of equipment. As shown in the attached diagrams, the pre-neutralizer is only about 24 feet tall and 14 feet in diameter. CFI proposes to replace the entire pre-neutralizer vessel to allow for a modern designed vessel with modern metallurgy. In reality, the proposed change is not of considerable importance to the operation of the facility because the facility could go on repairing the pre-neutralizer vessel on an annual basis. The change will not enable the unit to produce more DAP/MAP product, but will allow operation of the unit with less maintenance. Therefore, there is no economic incentive to implement the proposed change, other than decreasing maintenance costs.

Pre-neutralizers in the phosphate industry are typically replaced only once every 30 years, when maintenance costs become greater than replacement costs. The X-DAP/MAP pre-neutralizer is approximately 36 years old. Maintenance costs have averaged about \$1 million per year over the last 5 years, compared to the pre-neutralizer replacement cost of approximately \$900,000 and total 2009 X-DAP maintenance budget of \$2.2 million (including the pre-neutralizer). Therefore, CFI characterizes the proposed replacement as "routine".

Another fact that EPA has found important in past decisions and guidance also indicates that the pre-neutralizer replacement project would be routine: the project can be performed during a normal plant maintenance shutdown, thus the X-DAP/MAP Plant would not be shut down beyond its normal downtime. The pre-neutralizer will be replaced during a scheduled 10-day downtime for the X-DAP/MAP Plant, which is not out of the ordinary for the X-DAP/MAP Plant. The Plant undergoes routine maintenance about once a week for 8 hours; for 24 hours once every 5 weeks; and for 7 to 10 days once every 2 to 3 years.

The project will be completed with parts not typically stored on site. As stated previously, the cost of the pre-neutralizer replacement is estimated to be \$900,000. Of this total cost, approximately \$450,000 is the labor cost, and approximately \$450,000 is the materials cost. The materials are of modern design and therefore are readily available. CFI plans to capitalize 100 percent of the cost of the project.

3.1.2 Extent

The extent of the project is the second factor that is considered in determining whether a project is RMRR. The project details are examined in order to determine the following:

- Whether an entire emissions unit will be replaced;
- Whether the change will take significant time to perform;
- Whether the collection of activities, taken as a whole, constitutes a non-routine effort, notwithstanding that individual elements could be routine; and
- Whether the change requires the addition of parts to existing equipment.

Only the pre-neutralizer will be replaced, which is only one component of many components within the X-DAP/MAP Plant. The pre-neutralizer will be replaced during a scheduled 10-day downtime for the X-DAP/MAP Plant. This 10-day downtime is not out of the ordinary for the X-DAP/MAP Plant. The Plant has outages of this duration frequently, i.e., every 2 to 3 years.

CFI believes the pre-neutralizer replacement, taken as a whole, represents a routine replacement project. It is only one, small component of the X-DAP/MAP Plant. Pre-neutralizers in the phosphate industry are typically replaced only once every 30 years, when maintenance costs become greater than replacement costs. The X-DAP/MAP pre-neutralizer is approximately 36 years old (began producing MAP/DAP in 1973). Maintenance costs are as high as \$1 million per year, compared to the pre-neutralizer replacement cost of approximately \$900,000, and a total 2009 annual maintenance budget of \$2.2 million (including the pre-neutralizer replacement). Therefore, CFI characterizes the proposed replacement as "routine".

The project would involve the replacement of a part or component (the pre-neutralizer), but not the addition of parts not previously used at the facility. There will be no addition of parts to the X-DAP/MAP Plant as a result of the planned repairs/replacement activity. There will only be replacement of an existing part.

3.1.3 Purpose

The purpose of the project is the third factor that is considered in determining whether a project is RMRR. The project details are examined in order to determine the following:

- Whether the purpose of the effort is to extend the useful life of the units;
- Whether the emissions unit proposes to replace a unit at the end of its useful life; and
- Whether the modification will keep the emissions unit operating in its present condition, or whether it will allow enhanced operation (e.g., will it permit increased capacity, operating rate, utilization, or fuel adaptability).

The purpose of the replacement is not to extend the useful life of the X-DAP/MAP Plant. The purpose of the project is for maintenance of the unit due to a leaking and malfunctioning component that is no longer able to be repaired economically. The replacement will also render the equipment safer. CFI has no plans to replace the X-DAP/MAP Plant in the near future. It will continue to operate for many more years.

Replacement of the pre-neutralizer with a pre-neutralizer of the same capacity will ensure that an increase in production rate does not occur due to the project. The new pre-neutralizer vessel will be of slightly different design, but this is the current standard for pre-neutralizer tanks.

The replacement project will simply maintain the equipment at the current state and resolve safety issues, with reduced future maintenance costs, but will not enhance the operation of the X-DAP/MAP Plant by recovering any lost efficiency or increasing the efficiency over the original design. CFI has not used an increase in efficiency or utilization as an economic basis for justifying the project. As discussed below, CFI does not intend to use the unit more in the future as a result of the replacement project.

3.1.4 Frequency

The frequency of the project is the fourth factor that is considered in determining whether a project is RMRR. The project details are examined to determine whether the change is performed frequently in a typical emissions unit's life.

Pre-neutralizer replacements are performed about once every 30 years, and once or twice during the life of a DAP/MAP unit. They are only replaced when maintenance cost become excessive, i.e., when maintenance costs exceed the cost of replacement of the vessel. CFI believes that individual facilities in the phosphate industry replace their pre-neutralizers or similar equipment on a similar schedule.

3.1.5 Cost

The cost of the project is the fifth and final factor that is considered in determining whether a project is RMRR. The project details are examined to determine the following:

- Whether the change will be costly, both in absolute terms and relative to the cost of replacing the emissions unit;
- Whether a significant amount of the cost of the change is included in the source's capital expenses; and
- Whether the change can be paid for out of the operating budget (i.e., whether the costs are reasonably reflective of the costs originally projected during the source's or emission unit's design phase as necessary to maintain the day-to-day operation of the source).

CFI expects the pre-neutralizer project to cost approximately \$900,000. A new DAP/MAP plant is estimated to cost \$30 million to \$50 million. An absolute cost of \$900,000 is not a significant cost in comparison to replacing the entire plant, and is less than the annual maintenance budget of the X-DAP/MAP Plant of about \$1 million to \$2 million per year.

CFI believes that the \$900,000 expenditure in this case supports a determination that the proposed project is routine. The relative cost of the pre-neutralizer project, when compared with replacing the entire X-DAP/MAP Plant, is small, and it is of the same order of magnitude as the annual maintenance budget for the X-DAP/MAP Plant. Further, the project is only slightly more costly than simply replacing the pre-neutralizer with the identical design and metallurgy.

3.1.6 Summary

An evaluation of EPA's five factors for determining if a project is RMRR has been prepared. Considering all the relevant facts for the replacement of the pre-neutralizer in the X-DAP/MAP Plant, as described above, CFI believes that the proposed project is RMRR. CFI has demonstrated that the project is inexpensive and performed for the purpose of maintaining the facility in its present condition. Therefore, CFI believes that the project is eligible for the exclusion from the definition of modification as a "routine" replacement project. This determination of whether a proposed physical change is "routine" is a case-specific determination which takes into consideration the nature, extent, purpose, frequency, and cost of the work, as well as other relevant factors. After carefully reviewing all the available information, in light of the relevant factors, CFI believes that the proposed project would be "routine."

3.2 Prevention of Significant Deterioration (PSD) Applicability Analysis

A PSD applicability analysis for the pre-neutralizer replacement project has been performed and it has been determined that the proposed project will not trigger PSD NSR. This analysis is explained further in Sections 4.0 and 5.0.

The new pre-neutralizer will be of a slightly different design than the current pre-neutralizer, with a slightly conical shape at its base. This represents the current standard design for pre-neutralizers in phosphate fertilizer plants, and will result in slightly increased reaction efficiency, as well as a reduced P₂O₅ retention time (from the smaller volume). The main driving force of the pre-neutralizer is the liquid surface area, which controls the vapor disengagement. The liquid surface area of the new pre-neutralizer will not change, as the new tank will have the same diameter as the old tank. Therefore, the total P₂O₅ throughput rate will not increase in the X-DAP/MAP Plant. The annual production rate of the X-DAP/MAP Plant over the last 10 years has ranged from 308,397 to 356,281 tons per year of P₂O₅ (TPY P₂O₅) throughput.

The proposed change will not result in an increase in P_2O_5 throughput rate in the X-DAP/MAP Plant. As a result, no additional fertilizer product will be produced. Because emissions on the basis of pounds per hour (lb/hr) or pounds per ton (lb/ton) of phosphoric acid throughput will not increase, and the replacement of the pre-neutralizer will not result in an increase in production or hours of operation, there will be no increase in actual or permitted emissions, either on a short-term or annual basis, from the X-DAP/MAP Plant as a result of this change. However, the conservative approach of determining the projected actual emissions by using the maximum 5-year average stack tests, highest annual production, and operating time results in small increases in the PSD pollutants (see Table 5-5).

CFI believes that this project does not constitute a modification, as the replacement of the pre-neutralizer is RMRR. In the event that the FDEP does not agree that the project is RMRR, CFI has demonstrated that the project will not result in a significant increase in actual emissions and therefore will not trigger PSD review. An air construction application is being submitted in case the FDEP concludes that the project does not fall under the RMRR categorization.

3.3 Permit Conditions

No permit term or condition needs to be changed to address the planned replacement. Once installed and operational, the X-DAP/MAP Plant will continue to operate in accordance with the requirements of CFI's current Title V air operating permit (0570005-022-AV). There will be no change in regulatory applicability and no change in permitted emission rates or emission source parameters. Therefore, no modification or revision to the Title V permit is needed.

3.4 Conclusion

For the reasons discussed above, CFI believes that the FDEP should determine that this project is RMRR. In accordance with previous determinations and guidance provided by the FDEP, CFI understands that this conclusion applies to this project only. If the FDEP decides that this project does not constitute RMRR, then an air construction permit has been submitted in order to expedite the approval and permitting process.

4.0 PSD REVIEW

4.1 PSD Review Requirements

A PSD applicability analysis was conducted to demonstrate that the proposed project would not trigger PSD review. PSD review is used to determine whether significant air quality deterioration will result from a major new or modified facility. Federal PSD requirements are contained in Title 40, Section 52.21 of the Code of Federal Regulations (40 CFR 52.21) (Prevention of Significant Deterioration of Air Quality). The FDEP has adopted PSD regulations that are equivalent to the federal PSD regulations (Rule 62-212.400, F.A.C.). For an existing major stationary source for which a modification is proposed, the modification is subject to PSD review if the net increase in emissions due to the modification is greater than the PSD significant emissions rates (i.e., a "major modification"). The PSD significant emissions rates are listed in Table 4-1.

The determination of whether a significant net increase in emissions will occur is based on comparison of "baseline actual emissions" to "projected actual emissions" for all emissions units affected by the proposed project. "Baseline actual emissions" and "projected actual emissions" are defined in Rules 62-210.200(34) and (215), F.A.C. "Baseline actual emissions" for an existing emissions unit other than an electric utility steam generating unit, is the average rate, in TPY, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period, selected by the owner/operator, within the 10-year period immediately preceding the date a complete permit application is received by FDEP. The average rate includes fugitive emissions to the extent quantifiable and emissions associated with startups and shutdowns. The average rate must also be adjusted downward to exclude any non-compliant emissions that occurred while the emissions units were operating above an emissions limitation that was legally enforceable during the consecutive 24-month period.

For projects involving multiple emissions units, only one consecutive 24-month period can be used for all the emissions units being changed. However, a different 24-month period can be used for each PSD pollutant.

Rule 62-210.370, F.A.C., requires a specific methodology for computing baseline actual emissions and net emissions increases. In general, this rule sets forth a hierarchy of emission estimating methods, of which the most accurate method is to be used. Continuous emissions monitoring systems

(CEMS) are generally recognized as the most accurate method, followed by mass balance calculations, followed by emission factors. If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid tests conducted during at least a 5-year period encompassing the period over which the emissions are computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

“Projected actual emissions” is the maximum annual rate, in TPY, at which an existing emissions unit is projected to emit a regulated air pollutant in any one of the 5 years following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit’s potential to emit that regulated air pollutant, and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the facility.

In determining the projected actual emissions, FDEP shall consider all relevant information, including historical operating data, the company’s own representations, the company’s expected business activity, the company’s filings with the state or federal regulatory authorities, and compliance plans or orders. Fugitive emissions, to the extent quantifiable, and emissions associated with startups and shutdowns shall be considered.

The projected actual emissions shall exclude that portion of the unit’s emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions, and that are also unrelated to the particular project, including any increased utilization due to demand growth (this is referred to as the “demand growth exclusion”). EPA’s final PSD rule revisions, promulgated on December 31, 2002, state:

That is, under today’s new provisions for non-routine physical or operational changes to existing emissions units, rather than basing a unit’s post-change emissions on its PTE, you may project an annual rate, in TPY, that reflects the maximum annual emissions rate that will occur during any one of the 5 years immediately after the physical or operational change. ...This projection of the unit’s annual emissions rate following the change is defined as the “projected actual emissions”, and will be based on your maximum annual rate in tons per year at which you are projected to emit a regulated NSR pollutant, less any amount of emissions that could have been accommodated during the selected 24-month baseline period and is not related to the change. Accordingly, you will calculate the unit’s projected actual emissions as the product of: (1) The hourly emissions rate, which is

based on the operational capabilities following the change(s), taking into account legally enforceable restrictions that could affect the hourly emissions rate following the change(s); and (2) the projected level of utilization, which is based on both the emissions unit's historical annual utilization rate and available information regarding the emissions units' likely post-change capacity utilization. ...From the initial calculation, you may then make the appropriate adjustment to subtract out any portion of the emissions increase that could have been accommodated during the unit's 24-month baseline period and is unrelated to the change.

[Federal Register, Vol. 67, pg. 80196]

Consequently, under today's new rules, when a projected increase in equipment utilization is in response to a factor such as the growth in market demand, you may subtract the emission increases from the unit's projected actual emissions if: (1) The unit could have achieved the necessary level of utilization during the consecutive 24-month period you selected to establish the baseline actual emission; and (2) the increase is not related to the physical or operational change(s) made to the unit.

[Federal Register, Vol. 67, pg. 80203]

Further explanation was provided in the preamble to EPA's proposed PSD rule revisions on September 14, 2006:

That is, the source can emit up to its current maximum capacity without triggering major NSR under the actual-to-projected-actual test, as long as the increase is unrelated to the change. [Federal Register, Vol. 71, pg. 54237]

Post-change emissions are generally projected using the emissions unit's maximum annual rate, in tons per year, at which it is expected to emit a regulated NSR pollutant within 5 years following a change, less any amount of emissions that the unit could have accommodated during the selected 24-month baseline period and that are unrelated to the change. This final "projected actual" value, in tons per year, is the value you compare to the "baseline actual emissions" in order to determine...whether the proposed project will result in a "significant" emissions increase, as defined in the first step of the calculation.

[Federal Register, Vol. 71, pg. 54238]

If the proposed modification results in a significant emissions increase for any PSD pollutant, then all contemporaneous increases or decreases in emissions of that pollutant, which have occurred at the facility in the last 5 years, must also be considered.

The CFI facility is an existing major stationary facility because potential emissions of at least one PSD-regulated pollutant exceed 100 TPY [for example, potential sulfur dioxide (SO₂) emissions currently exceed 100 TPY]. Therefore, PSD review is required for any pollutant for which the net

increase in emissions due to a modification is greater than the PSD significant emissions rates (see Table 4-1). If a modification meets these criteria, it is deemed a "major modification".

4.2 New Source Performance Standards (NSPS) Applicability

The X-DAP/MAP Plant is already subject to the federal New Source Performance Standards (NSPS) for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants, contained in 40 CFR 60, Subpart V. Therefore, there are no issues surrounding the terms "modification" or "reconstruction" in the NSPS sense. Nevertheless, the planned changes are expected to cost well below the 50-percent cost threshold, which defines "reconstruction". The planned replacement is not expected to result in an increase in the maximum hourly emission rate of any NSPS-regulated pollutant. CFI will not be increasing the hourly P_2O_5 throughput rate to the X-DAP/MAP Plant. Therefore, this project does not constitute a modification under 40 CFR 60.

**TABLE 4-1
NATIONAL AND STATE AAQS, ALLOWABLE PSD INCREMENTS, AND SIGNIFICANT IMPACT LEVELS ($\mu\text{g}/\text{m}^3$)**

Pollutant	Averaging Time	AAQS			PSD Increments		Significant Impact Levels ^d	
		National Primary Standard	National Secondary Standard	State of Florida	Class I	Class II	Class I (proposed)	Class II
Particulate Matter ^a (PM ₁₀)	Annual Arithmetic Mean	50	50	50	4	17	0.2	1
	24-Hour Maximum ^b	150 ^b	150 ^b	150 ^b	8	30	0.3	5
Sulfur Dioxide	Annual Arithmetic Mean	80	N/A	60	2	20	0.1	1
	24-Hour Maximum ^c	365 ^b	N/A	260 ^b	5	91	0.2	5
	3-Hour Maximum ^b	NA	1,300 ^b	1,300 ^b	25	512	1	25
Carbon Monoxide	8-Hour Maximum ^b	10,000 ^b	10,000 ^b	10,000 ^b	N/A	N/A	N/A	500
	1-Hour Maximum ^b	40,000 ^b	40,000 ^b	40,000 ^b	N/A	N/A	N/A	2,000
Nitrogen Dioxide	Annual Arithmetic Mean	100	100	100	2.5	25	0.1	1
	Ozone ^a	1-Hour Maximum	235 ^c	235 ^c	235 ^c	N/A	N/A	N/A
		8-Hour Maximum	157	157	N/A	N/A	N/A	N/A
Lead	Calendar Quarter Arithmetic Mean	1.5	1.5	1.5	N/A	N/A	N/A	N/A

Note: N/A = Not applicable, i.e., no standard exists.
 PM₁₀ = particulate matter with aerodynamic diameter less than or equal to 10 micrometers.
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.

^a On July 18, 1997, EPA promulgated revised AAQS for particulate matter and ozone. For particulate matter, PM_{2.5} standards were introduced with a 24-hour standard of 65 $\mu\text{g}/\text{m}^3$ (3-year average of 98th percentile) and an annual standard of 15 $\mu\text{g}/\text{m}^3$ (3-year average at community monitors). The ozone standard was modified to be 0.08 ppm (157 $\mu\text{g}/\text{m}^3$) for an 8-hour average; achieved when 3-year average of 99th percentile is 0.08 ppm or less. FDEP has not yet adopted either of these standards.

^b Short-term maximum concentrations are not to be exceeded more than once per year except for the PM₁₀ AAQS (these do not apply to significant impact levels). The PM₁₀ 24-hour AAQS is attained when the expected number of days per year with a 24-hour concentration above 150 $\mu\text{g}/\text{m}^3$ is equal to or less than 1. For modeling purposes, compliance is based on the sixth-highest 24-hour average value over a 5-year period.

^c Achieved when the expected number of days per year with concentrations above the standard is fewer than 1.

^d Maximum concentrations.

Sources: Federal Register, Vol. 43, No. 118, June 19, 1978; 40 CFR 50; 40 CFR 52.21; Rule 62-204, F.A.C.

5.0 AIR EMISSIONS

5.1 Baseline Actual Emissions

The past actual (baseline actual) annual average emissions for the X-DAP/MAP Plant are presented in Table 5-1. The basis of the emissions estimates are presented in Appendix A. Based on recently adopted Florida PSD reform rules, the baseline actual emissions are based on a consecutive 24-month period out of the last 10 years. Actual emissions for each of these 10 years (1999 to 2008) were determined based on operating data, available stack test data, and emission factors. For each pollutant, the consecutive 2-year period with the highest average TPY emissions was selected as the baseline actual emissions for the X-DAP/MAP Plant. The 2-year averages used for each pollutant are as follows:

Sulfur Dioxide – SO ₂	1999 to 2000
Nitrogen Oxides – NO _x	1999 to 2000
Carbon Monoxide – CO	1999 to 2000
Particulate Matter – PM	2002 to 2003
Particulate Matter under 10 microns in diameter – PM ₁₀	2002 to 2003
Particulate Matter under 2.5 microns in diameter – PM _{2.5}	2002 to 2003
Volatile Organic Compounds – VOC	1999 to 2000
Sulfuric Acid Mist – SAM	1999 to 2000
Lead – Pb	1999 to 2000
Mercury – Hg	1999 to 2000
Fluorides – F	2001 to 2002

The baseline actual emissions for the X-DAP/MAP Plant shown in Appendix A, Table A-3 may differ from the annual emissions shown in the Annual Operating Reports (AORs) submitted to the FDEP by CFI, as described below.

The emission factors reported for each pollutant in the AOR submitted to FDEP, as well as the X-DAP/MAP Plant operating data, are presented in Appendix B, Table B-1. The revised emission factors used for determining the baseline actual emissions are shown in Appendix A, Table A-1. The emission factors used in the previous AORs were revised to reflect any current AP-42 emission factors, as well as the emissions reporting hierarchy required by Rule 62-210.370, F.A.C. The revised emission factors for PM/PM₁₀ and fluorides (F) were based on the historic stack test data from the X-DAP/MAP Plant. The revised emission factors are shown in Appendix A, Table A-1.

The Florida rules require that, if stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid tests conducted during at least a 5-year period encompassing the period over which the emissions are computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

To determine the operational and physical configuration of the X-DAP/MAP Plant for each year during the past 10 years, the permitting files were researched. It was concluded that the X-DAP/MAP Plant has had the same operational/physical configuration over all the years for which stack tests have been provided in this application. The available stack test data were averaged over 5-year periods encompassing the reporting years in order to obtain representative emission factors. Refer to Appendix A, Table A-4 and the discussion below for further information.

The resulting baseline actual emissions for each pollutant for each year, based on the revised emission factors, are presented in Appendix A, Table A-2. The resulting 2-year average emissions for each 2-year period during the last 10 years are presented in Appendix A, Table A-3. The highest 2-year average for each pollutant represents the baseline actual emissions (see Table 5-1 and Appendix A, Table A-3).

5.1.1 Sulfur Dioxide – SO₂

The SO₂ emission factor used in the past AOR reporting was 0.6 pound per million cubic feet (lb/10⁶ ft³) of natural gas burned from AP-42, Table 1.4-2 (see Appendix B, Table B-1). This is the current AP-42 emission factor, and was used for all years in the revised emission factors table (see Appendix A, Table A-1). The annual natural gas usage rate was used with this emission factor to determine the annual SO₂ emissions from the X-DAP/MAP Plant (see Appendix A, Table A-2). Emissions for the 2-year period of 1999 to 2000 were selected for the baseline actual SO₂ emissions (see Table 5-1 and Appendix A, Table A-3).

5.1.2 Nitrogen Oxides – NO_x

No NO_x emission factor has been used in the past AOR reporting (see Appendix B, Table B-1). The current AP-42 emission factor of 100 lb/10⁶ ft³ from AP-42, Table 1.4-1 for uncontrolled emissions from small boilers was used (see Appendix A, Table A-1). The annual natural gas usage rate was used with this emission factor to determine the annual NO_x emissions from the X-DAP/MAP Plant

(see Appendix A, Table A-2). Emissions for the 2-year period of 1999 to 2000 were selected for the baseline actual NO_x emissions (see Table 5-1 and Appendix A, Table A-3).

5.1.3 Carbon Monoxide – CO

The CO emission factor used in the past AOR reporting was either 40 lb/10⁶ ft³ or 84 lb/10⁶ ft³ of natural gas burned from AP-42, Table 1.4-1 (see Appendix B, Table B-1). The current AP-42 emission factor of 84 lb/10⁶ ft³ from AP-42, Table 1.4-1 was used for all years in the revised emission factors table (see Appendix A, Table A-1). The annual natural gas usage rate was used with this emission factor to determine the annual CO emissions from the X-DAP/MAP Plant (see Appendix A, Table A-2). Emissions for the 2-year period of 1999 to 2000 were selected for the baseline actual CO emissions (see Table 5-1 and Appendix A, Table A-3).

5.1.4 Particulate Matter – PM/PM₁₀/PM_{2.5}

The PM emission factor used in the past AOR reporting ranged between 0.039 and 0.14 lb/ton of fertilizer produced, based on stack test data (see Appendix B, Table B-1). Rule 62-210.370(2)(d)1.a., F.A.C., requires that when using annual stack test results to calculate baseline actual emissions, a minimum 5-year period that encompasses the 2-year period for which emissions estimates are being made must be used, if adequate data are available.

To comply with this requirement, to determine actual emissions for 1999, the year 1999 and the previous 4 years (1995 to 1998) were used (see Appendix A, Table A-4). Using the average PM emissions in lb/ton of fertilizer, the 5-year average PM emissions in lb/ton of fertilizer were determined (see Appendix A, Table A-1). Using the annual production rate for the X-DAP/MAP Plant (from the AOR data), the annual emissions for 1999 were then determined (see Appendix A, Table A-2). This process was repeated for all years to determine the PM emissions.

PM_{2.5} and PM₁₀ emissions were determined by using the conservative assumption that PM₁₀ and PM_{2.5} emissions are the same as PM emissions from the X-DAP/MAP Plant. Emissions for the 2-year period of 2002 to 2003 were selected for the baseline actual PM, PM₁₀, and PM_{2.5} emissions (see Table 5-1 and Appendix A, Table A-3).

5.1.5 Volatile Organic Compounds – VOC

The VOC emission factor used in the past AOR reporting was either 2.8 lb/10⁶ ft³ or 5.5 lb/10⁶ ft³ of natural gas burned from AP-42, Table 1.4-2 (see Appendix B, Table B-1). The current AP-42

emission factor of $5.5 \text{ lb}/10^6 \text{ ft}^3$ from AP-42, Table 1.4-2 was used for all years in the revised emission factors table (see Appendix A, Table A-1). The annual natural gas usage rate was used with this emission factor to determine the annual VOC emissions from the X-DAP/MAP Plant (see Appendix A, Table A-2). Emissions for the 2-year period of 1999 to 2000 were selected for the baseline actual VOC emissions (see Table 5-1 and Appendix A, Table A-3).

5.1.6 Sulfuric Acid Mist – SAM

No SAM emission factor has been used in the past AOR reporting (see Appendix B, Table B-1). No emission factor exists for SAM emissions from natural gas combustion. However, SAM emissions can be estimated from a method similar to fuel oil combustion where the ratio of SO_3 to SO_2 emissions from AP-42, Table 1.3-1 (5.7/157) is multiplied by the ratio of the molecular weight of H_2SO_4 to SO_3 , which results in an emission factor of approximately 4.45 percent of the SO_2 emissions (see Appendix A, Table A-1). The annual SO_2 emission factor, along with the annual natural gas usage, were used with this emission factor to determine the annual SAM emissions from the X-DAP/MAP Plant (see Appendix A, Table A-2). Emissions for the 2-year period of 1999 to 2000 were selected for the baseline actual SAM emissions (see Table 5-1 and Appendix A, Table A-3).

5.1.7 Lead – Pb

The Pb emission factor used in the past AOR reporting was $0.0005 \text{ lb}/10^6 \text{ ft}^3$ of natural gas burned from AP-42, Table 1.4-2 (see Appendix B, Table B-1). This is the current AP-42 emission factor, and was used for all years in the revised emission factors table (see Appendix A, Table A-1). The annual natural gas usage rate was used with this emission factor to determine the annual Pb emissions from the X-DAP/MAP Plant (see Appendix A, Table A-2). Emissions for the 2-year period of 1999 to 2000 were selected for the baseline actual Pb emissions (see Table 5-1 and Appendix A, Table A-3).

5.1.8 Mercury – Hg

The Hg emission factor used in the past AOR reporting was $0.00026 \text{ lb}/10^6 \text{ ft}^3$ of natural gas burned from AP-42, Table 1.4-2 (see Appendix B, Table B-1). This is the current AP-42 emission factor, and was used for all years in the revised emission factors table (see Appendix A, Table A-1). The annual natural gas usage rate was used with this emission factor to determine the annual Hg emissions from the X-DAP/MAP Plant (see Appendix A, Table A-2). Emissions for the 2-year period of 1999 to 2000 were selected for the baseline actual Hg emissions (see Table 5-1 and Appendix A, Table A-3).

5.1.9 Fluorides – F

The F emission factor used in the past AOR reporting ranged between 0.007 and 0.026 lb/ton of fertilizer produced, based on stack test data (see Appendix B, Table B-1). Rule 62-210.370(2)(d)1.a., F.A.C., requires that when using annual stack test results to calculate baseline actual emissions, a minimum 5-year period that encompasses the 2-year period for which emissions estimates are being made must be used, if adequate data are available.

To comply with this requirement, to determine actual emissions for 1999, the year 1999 and the previous 4 years (1995 to 1998) were used (see Appendix A, Table A-4). Using the average F emissions in lb/ton of fertilizer, the 5-year average F emissions in lb/ton of fertilizer were determined (see Appendix A, Table A-1). Using the production rate for the X-DAP/MAP Plant (from the AOR data), the annual emissions for 1999 were then determined (see Appendix A, Table A-2). This process was repeated for all years to determine the F emissions.

Emissions for the 2-year period of 2001 to 2002 were selected for the baseline actual F emissions (see Table 5-1 and Appendix A, Table A-3).

5.2 Projected Actual Emissions

“Projected actual emissions” for the X-DAP/MAP Plant were developed using the maximum annual fertilizer production from the last 10 years of 356,281 tons of fertilizer per year (see Appendix A, Table A-6). Emission factors for SO₂, NO_x, CO, VOC, Pb, and Hg are based on natural gas burning (see Appendix A, Tables A-1 and Appendix B, Table B-1). In order to have an emission factor that is dependent on the fertilizer production rate, a factor was calculated for each operating year based on the ratio of the annual natural gas usage to the annual fertilizer production rate (see Appendix A, Table A-6). The maximum annual ratio from the last 10 years, combined with the maximum annual fertilizer production rate from the last 10 years, was used to calculate the projected actual emissions for these pollutants.

Emission factors for PM and F were based on the maximum 5-year average stack test value from the last 10 years (see Appendix A, Table A-5). The emission factors for PM₁₀ and PM_{2.5} were assumed to be equal to the PM emission factor.

Projected actual annual emissions for the X-DAP/MAP Plant are shown in Table 5-2.

5.3 Post-Change Actual Emissions

The "post-change actual emissions" for the X-DAP/MAP Plant were based on the maximum emissions that the X-DAP/MAP Plant could have accommodated during the baseline period. The annual activity factor was based on the maximum hourly production of the X-DAP/MAP Plant during of the historical stack tests of 47.8 TPH of fertilizer (see Appendix A, Table A-4), multiplied by the maximum annual operation from the last 10 years of 7,890 hr/yr (see Appendix A, Table A-5). Emission factors for SO₂, NO_x, CO, VOC, SAM, Pb, and Hg were the same as those used to calculate the baseline actual and projected actual emissions. The emission factors for PM and F are based on the maximum annual stack test value from the last 15 years (see Appendix A, Table A-4). PM₁₀/PM_{2.5} emissions were assumed to be the same as PM emissions.

Post-change actual annual emissions for the X-DAP/MAP Plant are shown in Table 5-3. These are the emissions the X-DAP/MAP was capable of accommodating during the baseline emissions period.

5.4 Demand Growth Exclusion Calculation

The emissions due to demand growth can be excluded from the PSD applicability analysis for the X-DAP/MAP Plant. The demand growth emissions are calculated by subtracting the projected actual emissions (see Table 5-2) from the post-change actual emissions (see Table 5-3). The demand growth exclusion emissions are shown in Table 5-4.

5.5 Effects on Other Emissions Units

No other emissions units at the CFI facility will be affected by the X-DAP/MAP Plant project. No additional phosphoric acid or ammonia will be processed, and no additional fertilizer will be produced.

5.6 PSD Review

The CFI facility is considered to be an existing major stationary facility because potential emissions of at least one PSD-regulated pollutant exceed 100 TPY (for example, potential SO₂ emissions currently exceed 100 TPY). Therefore, PSD review is required for any pollutant for which the net increase in emissions due to the modification is greater than the PSD significant emissions rates.

The net increase in emissions due to the proposed project at the CFI facility are summarized in Table 5-5. For the X-DAP/MAP Plant, the baseline actual emissions and projected actual emissions are based on information from Tables 5-1 and 5-2, respectively. The post-change actual emissions are based on information from Table 5-3. The “demand growth exclusion” represents the additional emissions that the X-DAP/MAP Plant could have accommodated during the baseline period, as shown in Table 5-4.

As shown in Table 5-5, the increase in emissions due to the project does not exceed the PSD significant emission rate for any pollutant. Therefore, PSD review does not apply to the proposed project.

TABLE 5-1
SUMMARY OF BASELINE ACTUAL EMISSIONS
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY

Pollutant Source Description (EU ID)	Highest 2-Year Average Emissions (TPY) ^a		
	Year 1	Year 2	Average
<u>Sulfur Dioxide - SO₂</u>	<u>1999</u>	<u>2000</u>	<u>'99-'00</u>
--"X" DAP/MAP Plant (EU 012)	0.019	0.016	0.017
<u>Nitrogen Oxides - NO_x</u>	<u>1999</u>	<u>2000</u>	<u>'99-'00</u>
--"X" DAP/MAP Plant (EU 012)	3.18	2.61	2.90
<u>Carbon Monoxide - CO</u>	<u>1999</u>	<u>2000</u>	<u>'99-'00</u>
--"X" DAP/MAP Plant (EU 012)	2.67	2.19	2.43
<u>Particulate Matter - PM</u>	<u>2002</u>	<u>2003</u>	<u>'02-'03</u>
--"X" DAP/MAP Plant (EU 012)	16.33	14.38	15.35
<u>Particulate Matter - PM₁₀</u>	<u>2002</u>	<u>2003</u>	<u>'02-'03</u>
--"X" DAP/MAP Plant (EU 012)	16.33	14.38	15.35
<u>Particulate Matter - PM_{2.5}</u>	<u>2002</u>	<u>2003</u>	<u>'02-'03</u>
--"X" DAP/MAP Plant (EU 012)	16.33	14.38	15.35
<u>Volatile Organic Compounds - VOC</u>	<u>1999</u>	<u>2000</u>	<u>'99-'00</u>
--"X" DAP/MAP Plant (EU 012)	0.175	0.144	0.159
<u>Sulfuric Acid Mist - SAM</u>	<u>1999</u>	<u>2000</u>	<u>'99-'00</u>
--"X" DAP/MAP Plant (EU 012)	8.49E-04	6.97E-04	7.73E-04
<u>Lead - Pb</u>	<u>1999</u>	<u>2000</u>	<u>'99-'00</u>
--"X" DAP/MAP Plant (EU 012)	1.59E-05	1.31E-05	1.45E-05
<u>Mercury - Hg</u>	<u>1999</u>	<u>2000</u>	<u>'99-'00</u>
--"X" DAP/MAP Plant (EU 012)	8.27E-06	6.79E-06	7.53E-06
<u>Fluorides - F</u>	<u>2001</u>	<u>2002</u>	<u>'01-'02</u>
--"X" DAP/MAP Plant (EU 012)	2.68	2.70	2.69

Footnotes:

^a Based on Appendix A, Table A-3.

**TABLE 5-2
SUMMARY OF PROJECTED ACTUAL EMISSIONS
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY**

Pollutant Source Description (EU ID)	Emission Factor	Ref.	Activity Factor ^a	Annual Emissions (TPY)
<u>Sulfur Dioxide - SO₂</u>				
--"X" DAP/MAP Plant (EU 012)	0.6 lb/10 ⁶ ft ³	1	1.79E-04 10 ⁶ ft ³ /ton fertilizer 356,281 ton fertilizer/yr	0.019
<u>Nitrogen Oxides - NO_x</u>				
--"X" DAP/MAP Plant (EU 012)	100 lb/10 ⁶ ft ³	2	1.79E-04 10 ⁶ ft ³ /ton fertilizer 356,281 ton fertilizer/yr	3.18
<u>Carbon Monoxide - CO</u>				
--"X" DAP/MAP Plant (EU 012)	84 lb/10 ⁶ ft ³	2	1.79E-04 10 ⁶ ft ³ /ton fertilizer 356,281 ton fertilizer/yr	2.67
<u>Particulate Matter - PM</u>				
--"X" DAP/MAP Plant (EU 012)	0.0968 lb/ton fertilizer	3	356,281 ton fertilizer/yr	17.25
<u>Particulate Matter - PM₁₀</u>				
--"X" DAP/MAP Plant (EU 012)	0.0968 lb/ton fertilizer	4	356,281 ton fertilizer/yr	17.25
<u>Particulate Matter - PM_{2.5}</u>				
--"X" DAP/MAP Plant (EU 012)	0.0968 lb/ton fertilizer	4	356,281 ton fertilizer/yr	17.25
<u>Volatile Organic Compounds - VOC</u>				
--"X" DAP/MAP Plant (EU 012)	5.5 lb/10 ⁶ ft ³	1	1.79E-04 10 ⁶ ft ³ /ton fertilizer 356,281 ton fertilizer/yr	0.17
<u>Sulfuric Acid Mist - SAM</u>				
--"X" DAP/MAP Plant (EU 012)	4.45 % of SO ₂	5	-- --	8.49E-04
<u>Lead - Pb</u>				
--"X" DAP/MAP Plant (EU 012)	0.0005 lb/10 ⁶ ft ³	1	1.79E-04 10 ⁶ ft ³ /ton fertilizer 356,281 ton fertilizer/yr	1.59E-05
<u>Mercury - Hg</u>				
--"X" DAP/MAP Plant (EU 012)	0.00026 lb/10 ⁶ ft ³	6	1.79E-04 10 ⁶ ft ³ /ton fertilizer 356,281 ton fertilizer/yr	8.27E-06
<u>Fluorides - F</u>				
--"X" DAP/MAP Plant (EU 012)	0.0169 lb/ton fertilizer	3	356,281 ton fertilizer/yr	3.02

Footnotes:

^a Activity factor based on the maximum annual fertilizer production rate (see Appendix A, Table A-5).

References:

1. Based on AP-42, Table 1.4-2.
2. Based on AP-42, Table 1.4-1.
3. Based on maximum 5-year average stack test value (see Appendix A, Table A-4).
4. PM₁₀ and PM_{2.5} emissions assumed to be the same as PM emissions.
5. Based on similar method used for fuel oil, where the ratio of SO₃ emissions to SO₂ emissions (5.7/157) is multiplied by the ratio of the molecular weights of H₂SO₄ and SO₃ (98/80), resulting in approximately 4.45% of SO₂ emissions becoming SAM.
6. Based on AP-42, Table 1.4-4.

**TABLE 5-3
POST-CHANGE ACTUAL ANNUAL EMISSIONS
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY**

Pollutant Source Description (EU ID)	Emission Factor	Ref.	Activity Factor ^a	Annual Emissions (TPY)
<u>Sulfur Dioxide - SO₂</u>				
--"X" DAP/MAP Plant (EU 012)	0.6 lb/10 ⁶ ft ³	1	1.79E-04 10 ⁶ ft ³ /ton fertilizer 377,142 ton fertilizer/yr	0.020
<u>Nitrogen Oxides - NO_x</u>				
--"X" DAP/MAP Plant (EU 012)	100 lb/10 ⁶ ft ³	2	1.79E-04 10 ⁶ ft ³ /ton fertilizer 377,142 ton fertilizer/yr	3.37
<u>Carbon Monoxide - CO</u>				
--"X" DAP/MAP Plant (EU 012)	84 lb/10 ⁶ ft ³	2	1.79E-04 10 ⁶ ft ³ /ton fertilizer 377,142 ton fertilizer/yr	2.83
<u>Particulate Matter - PM</u>				
--"X" DAP/MAP Plant (EU 012)	0.1389 lb/ton fertilizer	3	377,142 ton fertilizer/yr	26.20
<u>Particulate Matter - PM₁₀</u>				
--"X" DAP/MAP Plant (EU 012)	0.1389 lb/ton fertilizer	4	377,142 ton fertilizer/yr	26.20
<u>Particulate Matter - PM_{2.5}</u>				
--"X" DAP/MAP Plant (EU 012)	0.1389 lb/ton fertilizer	4	377,142 ton fertilizer/yr	26.20
<u>Volatile Organic Compounds - VOC</u>				
--"X" DAP/MAP Plant (EU 012)	5.5 lb/10 ⁶ ft ³	1	1.79E-04 10 ⁶ ft ³ /ton fertilizer 377,142 ton fertilizer/yr	0.19
<u>Sulfuric Acid Mist - SAM</u>				
--"X" DAP/MAP Plant (EU 012)	4.45 % of SO ₂	5	--	8.99E-04
<u>Lead - Pb</u>				
--"X" DAP/MAP Plant (EU 012)	0.0005 lb/10 ⁶ ft ³	1	1.79E-04 10 ⁶ ft ³ /ton fertilizer 377,142 ton fertilizer/yr	1.68E-05
<u>Mercury - Hg</u>				
--"X" DAP/MAP Plant (EU 012)	0.00026 lb/10 ⁶ ft ³	6	1.79E-04 10 ⁶ ft ³ /ton fertilizer 377,142 ton fertilizer/yr	8.75E-06
<u>Fluorides - F</u>				
--"X" DAP/MAP Plant (EU 012)	0.0271 lb/ton fertilizer	3	377,142 ton fertilizer/yr	5.10

Footnotes:

^a Activity factor based on the maximum hourly production rate of 47.8 TPH (Appendix A, Table A-4) from the "X" DAP/MAP Plant multiplied by the maximum annual hours of operation (Appendix A, Table A-5).

References:

1. Based on AP-42, Table 1.4-2.
2. Based on AP-42, Table 1.4-1.
3. Based on maximum annual stack test value (see Appendix A, Table A-4).
4. PM₁₀ and PM_{2.5} emissions assumed to be the same as PM emissions.
5. Based on similar method used for fuel oil, where the ratio of SO₃ emissions to SO₂ emissions (5.7/157) is multiplied by the ratio of the molecular weights of H₂SO₄ and SO₃ (98/80), resulting in approximately 4.45% of SO₂ emissions becoming SAM.
6. Based on AP-42, Table 1.4-4.

**TABLE 5-4
DEMAND GROWTH EXCLUSION CALCULATION
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY**

Source Description	Pollutant Emission Rate (TPY)											
	SO ₂	NO _x	CO	PM	PM ₁₀	PM _{2.5}	VOC	SAM	Lead	Mercury	Fluorides	
Post-Change Actual Emissions ^a												
--"X" DAP/MAP Plant (EU 012)	0.020	3.37	2.83	26.20	26.20	26.20	0.19	8.99E-04	1.68E-05	8.75E-06	5.10	
Projected Actual Emissions ^b												
--"X" DAP/MAP Plant (EU 012)	0.019	3.18	2.67	17.25	17.25	17.25	0.17	8.49E-04	1.59E-05	8.27E-06	3.02	
Demand Growth Exclusion ^c												
--"X" DAP/MAP Plant (EU 012)	0.001	0.19	0.16	8.95	8.95	8.95	0.01	4.97E-05	9.31E-07	4.84E-07	2.09	

Footnotes:

^a See Table 5-3. Based on maximum emissions the emissions unit could have accommodated during the baseline period.

^b Based on annual emissions presented in Table 5-2.

^c Represents the additional emissions that the unit could have accommodated during the baseline period.

**TABLE 5-5
PSD EMISSIONS NETTING ANALYSIS
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY**

Source Description	Pollutant Emission Rate (TPY)										
	SO ₂	NO _x	CO	PM	PM ₁₀	PM _{2.5}	VOC	SAM	Lead	Mercury	Fluorides
Post-Change Actual Emissions ^a	0.020	3.37	2.83	26.20	26.20	26.20	0.19	8.99E-04	1.68E-05	8.75E-06	5.10
Demand Growth Exclusion ^b	0.001	0.19	0.16	8.95	8.95	8.95	0.01	4.97E-05	9.31E-07	4.84E-07	2.09
Projected Actual Emissions ^c	0.019	3.18	2.67	17.25	17.25	17.25	0.17	8.49E-04	1.59E-05	8.27E-06	3.02
Baseline Actual Emissions ^d	0.017	2.90	2.43	15.35	15.35	15.35	0.16	7.73E-04	1.45E-05	7.53E-06	2.69
Increase Due to Project^e	0.002	0.29	0.24	1.90	1.90	1.90	0.02	7.61E-05	1.43E-06	7.41E-07	0.33
PSD SIGNIFICANT EMISSION RATE	40	40	100	25	15	10	40	7	0.6	0.1	3
<u>Netting Triggered?</u>	No	No	No	No	No	No	No	No	No	No	No

Footnotes:

^a See Table 5-3. Based on maximum emissions the emissions unit could have accommodated during the baseline period.

^b See Table 5-4. Represents the additional emissions that the unit could have accommodated during the baseline period.

^c Based on annual emissions presented in Table 5-2.

^d Based on annual emissions presented in Table 5-1.

^e Based on Projected Actual Emissions minus Baseline Actual Emissions.

APPENDIX A

BASELINE ACTUAL EMISSIONS CALCULATIONS

FOR THE X-DAP/MAP PLANT

TABLE A-1
REVISED EMISSION FACTORS USED TO DETERMINE ACTUAL ANNUAL EMISSIONS (1999-2008)
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY

Source Description	EU ID	Annual Operation (hr/yr)	Annual Fuel Usage / Production Rate	Emission Factor	Pollutant Emission Factors										
					SO ₂	NO _x	CO	PM	PM ₁₀	PM _{2.5}	VOC	SAM	Lead	Mercury	Fluorides
1999 Actual Factors and Emissions															
--"X" DAP/MAP Plant	012	7,890	356,281 tons fertilizer/yr 63.62 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 100 ^D	-- 84 ^D	0.0860 ^A -- ^E	0.0860 ^B -- ^E	0.0860 ^B -- ^E	-- 5.5 ^C	-- 0.027 ^F	-- 0.0005 ^C	-- 0.00026 ^G	0.0086 ^A --
2000 Actual Factors and Emissions															
--"X" DAP/MAP Plant	012	7,548	332,287 tons fertilizer/yr 52.22 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 100 ^D	-- 84 ^D	0.0811 ^A -- ^E	0.0811 ^B -- ^E	0.0811 ^B -- ^E	-- 5.5 ^C	-- 0.027 ^F	-- 0.0005 ^C	-- 0.00026 ^G	0.0151 ^A --
2001 Actual Factors and Emissions															
--"X" DAP/MAP Plant	012	7,182	317,031 tons fertilizer/yr 33.49 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 100 ^D	-- 84 ^D	0.0782 ^A -- ^E	0.0782 ^B -- ^E	0.0782 ^B -- ^E	-- 5.5 ^C	-- 0.027 ^F	-- 0.0005 ^C	-- 0.00026 ^G	0.0169 ^A --
2002 Actual Factors and Emissions															
--"X" DAP/MAP Plant	012	7,632	337,271 tons fertilizer/yr 27.64 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 100 ^D	-- 84 ^D	0.0968 ^A -- ^E	0.0968 ^B -- ^E	0.0968 ^B -- ^E	-- 5.5 ^C	-- 0.027 ^F	-- 0.0005 ^C	-- 0.00026 ^G	0.0160 ^A --
2003 Actual Factors and Emissions															
--"X" DAP/MAP Plant	012	7,344	308,397 tons fertilizer/yr 13.37 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 100 ^D	-- 84 ^D	0.0932 ^A -- ^E	0.0932 ^B -- ^E	0.0932 ^B -- ^E	-- 5.5 ^C	-- 0.027 ^F	-- 0.0005 ^C	-- 0.00026 ^G	0.0161 ^A --
2004 Actual Factors and Emissions															
--"X" DAP/MAP Plant	012	7,428	339,045 tons fertilizer/yr 9.17 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 100 ^D	-- 84 ^D	0.0835 ^A -- ^E	0.0835 ^B -- ^E	0.0835 ^B -- ^E	-- 5.5 ^C	-- 0.027 ^F	-- 0.0005 ^C	-- 0.00026 ^G	0.0169 ^A --
2005 Actual Factors and Emissions															
--"X" DAP/MAP Plant	012	7,466	329,335 tons fertilizer/yr 0.61 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 100 ^D	-- 84 ^D	0.0721 ^A -- ^E	0.0721 ^B -- ^E	0.0721 ^B -- ^E	-- 5.5 ^C	-- 0.027 ^F	-- 0.0005 ^C	-- 0.00026 ^G	0.0121 ^A --
2006 Actual Factors and Emissions															
--"X" DAP/MAP Plant	012	7,764	329,335 tons fertilizer/yr 0.61 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 100 ^D	-- 84 ^D	0.0766 ^A -- ^E	0.0766 ^B -- ^E	0.0766 ^B -- ^E	-- 5.5 ^C	-- 0.027 ^F	-- 0.0005 ^C	-- 0.00026 ^G	0.0112 ^A --
2007 Actual Factors and Emissions															
--"X" DAP/MAP Plant	012	7,493	338,783 tons fertilizer/yr 0.18 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 100 ^D	-- 84 ^D	0.0664 ^A -- ^E	0.0664 ^B -- ^E	0.0664 ^B -- ^E	-- 5.5 ^C	-- 0.027 ^F	-- 0.0005 ^C	-- 0.00026 ^G	0.0128 ^A --
2008 Actual Factors and Emissions															
--"X" DAP/MAP Plant	012	7,131	213,080 tons fertilizer/yr 28.50 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 100 ^D	-- 84 ^D	0.0680 ^A -- ^E	0.0680 ^B -- ^E	0.0680 ^B -- ^E	-- 5.5 ^C	-- 0.027 ^F	-- 0.0005 ^C	-- 0.00026 ^G	0.0128 ^A --

Footnotes:

^A Based on 5-year average stack tests (see Table A-4).

^B PM₁₀ and PM_{2.5} emissions assumed to be the same as PM emissions.

^C Based on AP-42, Table 1.4-2.

^D Based on AP-42, Table 1.4-1.

^E PM emissions accounted for during stack tests.

^F Based on similar method used for fuel oil, where the ratio of SO₃ emissions to SO₂ emissions (5.7/157) is multiplied by the ratio of the molecular weights of H₂SO₄ and SO₃ (98/80), resulting in approximately 4.45% of SO₂ emissions becoming SAM.

^G Based on AP-42, Table 1.4-4.

**TABLE A-2
SUMMARY OF BASELINE 2-YEAR AVERAGE ACTUAL EMISSIONS (1999-2008)
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY**

Source Description	EU ID	Pollutant Emission Rate (TPY) ^a											
		SO ₂	NO _x	CO	PM	PM ₁₀	PM _{2.5}	VOC	SAM	Lead	Mercury	Fluorides	
1999 Actual Emissions													
--"X" DAP/MAP Plant	012	0.019	3.18	2.67	15.32	15.32	15.32	0.175	8.49E-04	1.59E-05	8.27E-06	1.54	
2000 Actual Emissions													
--"X" DAP/MAP Plant	012	0.016	2.61	2.19	13.48	13.48	13.48	0.144	6.97E-04	1.31E-05	6.79E-06	2.51	
2001 Actual Emissions													
--"X" DAP/MAP Plant	012	0.010	1.67	1.41	12.39	12.39	12.39	0.092	4.47E-04	8.37E-06	4.35E-06	2.68	
2002 Actual Emissions													
--"X" DAP/MAP Plant	012	8.29E-03	1.38	1.16	16.33	16.33	16.33	0.076	3.69E-04	6.91E-06	3.59E-06	2.70	
2003 Actual Emissions													
--"X" DAP/MAP Plant	012	4.01E-03	0.67	0.56	14.38	14.38	14.38	0.037	1.78E-04	3.34E-06	1.74E-06	2.48	
2004 Actual Emissions													
--"X" DAP/MAP Plant	012	2.75E-03	0.46	0.39	14.15	14.15	14.15	0.025	1.22E-04	2.29E-06	1.19E-06	2.87	
2005 Actual Emissions													
--"X" DAP/MAP Plant	012	1.83E-04	0.031	0.026	11.87	11.87	11.87	1.68E-03	8.14E-06	1.53E-07	7.93E-08	2.00	
2006 Actual Emissions													
--"X" DAP/MAP Plant	012	1.83E-04	0.031	0.026	12.62	12.62	12.62	1.68E-03	8.14E-06	1.53E-07	7.93E-08	1.84	
2007 Actual Emissions													
--"X" DAP/MAP Plant	012	5.40E-05	9.00E-03	7.56E-03	11.24	11.24	11.24	4.95E-04	2.40E-06	4.50E-08	2.34E-08	2.17	
2008 Actual Emissions													
--"X" DAP/MAP Plant	012	8.55E-03	1.43E+00	1.20E+00	7.24	7.24	7.24	7.84E-02	3.80E-04	7.13E-06	3.71E-06	1.36	

TPY = Tons per year.

Notes:

^a See Table A-1 for emission factors.

**TABLE A-3
SUMMARY OF BASELINE 2-YEAR AVERAGE ACTUAL EMISSIONS
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY**

Source Description	EU ID	Pollutant Emission Rate (TPY) ^a										
		SO ₂	NO _x	CO	PM	PM ₁₀	PM _{2.5}	VOC	SAM	Lead	Mercury	Fluorides
1999 - 2000 Average Emissions												
--"X" DAP/MAP Plant	012	0.017	2.90	2.43	14.40	14.40	14.40	0.159	7.73E-04	1.45E-05	7.53E-06	2.02
2000 - 2001 Average Emissions												
--"X" DAP/MAP Plant	012	0.013	2.14	1.80	12.94	12.94	12.94	0.118	5.72E-04	1.07E-05	5.57E-06	2.59
2001 - 2002 Average Emissions												
--"X" DAP/MAP Plant	012	9.17E-03	1.53	1.28	14.36	14.36	14.36	0.084	4.08E-04	7.64E-06	3.97E-06	2.69
2002 - 2003 Average Emissions												
--"X" DAP/MAP Plant	012	6.15E-03	1.03	0.86	15.35	15.35	15.35	0.056	2.74E-04	5.13E-06	2.67E-06	2.59
2003 - 2004 Average Emissions												
--"X" DAP/MAP Plant	012	3.38E-03	0.56	0.47	14.27	14.27	14.27	0.031	1.50E-04	2.82E-06	1.47E-06	2.68
2004 - 2005 Average Emissions												
--"X" DAP/MAP Plant	012	1.47E-03	0.24	0.21	13.01	13.01	13.01	0.013	6.52E-05	1.22E-06	6.36E-07	2.43
2005 - 2006 Average Emissions												
--"X" DAP/MAP Plant	012	1.83E-04	0.031	0.026	12.25	12.25	12.25	1.68E-03	8.14E-06	1.53E-07	7.93E-08	1.92
2006 - 2007 Average Emissions												
--"X" DAP/MAP Plant	012	1.19E-04	0.020	0.017	11.93	11.93	11.93	1.09E-03	5.27E-06	9.88E-08	5.14E-08	2.00
2007 - 2008 Average Emissions												
--"X" DAP/MAP Plant	012	4.30E-03	0.717	0.602	9.24	9.24	9.24	3.94E-02	1.91E-04	3.59E-06	1.86E-06	1.77
Average Actual Emissions of Highest 2-Year Period												
		<u>'99-'00</u>	<u>'99-'00</u>	<u>'99-'00</u>	<u>'02-'03</u>	<u>'02-'03</u>	<u>'02-'03</u>	<u>'99-'00</u>	<u>'99-'00</u>	<u>'99-'00</u>	<u>'99-'00</u>	<u>'01-'02</u>
--Total		0.017	2.90	2.43	15.35	15.35	15.35	0.159	7.73E-04	1.45E-05	7.53E-06	2.69

TPY = Tons per year.

Notes:

^a See Table A-1 for emission factors.

**TABLE A-4
STACK TESTS AND EMISSIONS DATA
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY**

Test Date	P ₂ O ₅ Processing Rate (TPH)	Particulate Matter (PM)				Fluorides (F)			
		Stack Test Emission Rate (lb/ton fertilizer)	Reporting Year	Averaging Period	Average Emission Rate (lb/ton fertilizer)	Stack Test Emission Rate (lb/ton fertilizer)	Reporting Year	Averaging Period	Average Emission Rate (lb/ton fertilizer)
<i>"X" DAP/MAP Plant (EU 012)</i>									
4/12/1995	47.2	0.0737				0.0042			
7/25/1995	45.5	0.1081				0.0057			
4/8/1997	46.3	0.0456				0.0129			
3/24/1998	46.1	0.0732				0.0069			
3/23/1999	47.8	0.1294	1999	1995-1999	0.0860	0.0135	1999	1995-1999	0.0086
3/21/2000	42.7	0.0763	2000	1996-2000	0.0811	0.0271	2000	1996-2000	0.0151
3/22/2001	46.0	0.0663	2001	1997-2001	0.0782	0.0241	2001	1997-2001	0.0169
4/9/2002	44.8	0.1389	2002	1998-2002	0.0968	0.0086	2002	1998-2002	0.0160
3/25/2003	45.4	0.0553	2003	1999-2003	0.0932	0.0073	2003	1999-2003	0.0161
4/20/2004	45.0	0.0806	2004	2000-2004	0.0835	0.0177	2004	2000-2004	0.0169
3/22/2005	45.0	0.0392	2005	2001-2005	0.0721	0.0079	2005	2001-2005	0.0121
10/25/2005	46.2	0.0483				0.0141			
10/27/2005	44.0	0.0761				0.0053			
3/21/2006	45.6	0.0982	2006	2002-2006	0.0766	0.0173	2006	2002-2006	0.0112
3/27/2007	44.7	0.0670	2007	2003-2007	0.0664	0.0201	2007	2003-2007	0.0128
3/18/2008	44.9	0.0666	2008	2004-2008	0.0680	0.0052	2008	2004-2008	0.0125
Maximum	47.8	0.1389			0.0968	0.0271			0.0169

**TABLE A-5
BASELINE ACTUAL OPERATING CONDITIONS
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY**

Year	Annual Operation (hours/yr) ^a	Fertilizer Production (tons/yr) ^a	Natural Gas Usage Rate (10 ⁶ ft ³ /yr) ^a	Gas/Production Ratio (10 ⁶ ft ³ /ton)	2-Year Period	2-Year Average		
						Operation (hours/yr)	Fertilizer (tons/yr)	Gas Usage (10 ⁶ ft ³ /yr)
<i>"X" DAP/MAP Plant (EU 012)</i>								
1999	7,890	356,281	63.62	1.79E-04	--	--	--	--
2000	7,548	332,287	52.22	1.57E-04	1999 - 2000	7,719	344,284	57.92
2001	7,182	317,031	33.49	1.06E-04	2000 - 2001	7,365	324,659	42.86
2002	7,632	337,271	27.64	8.20E-05	2001 - 2002	7,407	327,151	30.57
2003	7,344	308,397	13.37	4.34E-05	2002 - 2003	7,488	322,834	20.51
2004	7,428	339,045	9.17	2.70E-05	2003 - 2004	7,386	323,721	11.27
2005	7,466	329,335	0.61	1.85E-06	2004 - 2005	7,447	334,190	4.89
2006	7,764	329,335	0.61	1.85E-06	2005 - 2006	7,615	329,335	0.61
2007	7,493	338,783	0.18	5.31E-07	2006 - 2007	7,629	334,059	0.40
2008	7,131	213,080	28.50	1.34E-04	2007 - 2008	7,312	275,932	14.34
Maximum:	7,890	356,281	63.62	1.79E-04			Maximum 2-Year Average Conditions	
Average:	7,486	319,953	24.99	7.95E-05		<u>'99-'00</u>	<u>'99-'00</u>	<u>'99-'00</u>
Minimum:	7,131	213,080	0.18	5.31E-07		7,719	344,284	57.92

Footnotes:

^a Based on Annual Operating Report data (see Table 6). Maximum operating hours limited to 7,884 hr/yr in DAP production mode, and 6,091 hr/yr in MAP production mode (Permit No. 0570005-004-AC).

APPENDIX B

EMISSION FACTORS FROM ANNUAL OPERATING REPORTS

TABLE B-1
EMISSION FACTORS FROM ANNUAL OPERATING REPORTS (1998 - 2007)
X-DAP/MAP PLANT - CF INDUSTRIES, PLANT CITY

Source Description	EU ID	Annual Operation (hr/yr)	Annual Fuel Usage / Production Rate	Emission Factor	Pollutant Emission Factors							
					SO ₂	CO	PM	PM ₁₀	VOC	Lead	Mercury	Fluorides
1999 Actual Factors and Emissions												
--"X" DAP/MAP Plant	012	7,890	356,281 tons fertilizer/yr 63.62 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- --	0.129 ^A -- ^D	0.129 ^B -- ^D	-- 2.8 ^C	-- --	-- --	0.0135 ^A --
2000 Actual Factors and Emissions												
--"X" DAP/MAP Plant	012	7,548	332,287 tons fertilizer/yr 52.22 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 40 ^E	0.071 ^A -- ^D	0.071 ^B -- ^D	-- 2.8 ^C	-- --	-- --	0.025 ^A --
2001 Actual Factors and Emissions												
--"X" DAP/MAP Plant	012	7,182	317,031 tons fertilizer/yr 33.49 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 84 ^E	0.066 ^A -- ^D	0.066 ^B -- ^D	-- 5.5 ^C	-- 0.0005 ^C	-- 0.00026 ^F	0.024 ^A --
2002 Actual Factors and Emissions												
--"X" DAP/MAP Plant	012	7,632	337,271 tons fertilizer/yr 27.64 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 84 ^E	0.14 ^A -- ^D	0.14 ^B -- ^D	-- 5.5 ^C	-- 0.0005 ^C	-- 0.00026 ^F	0.026 ^A --
2003 Actual Factors and Emissions												
--"X" DAP/MAP Plant	012	7,344	308,397 tons fertilizer/yr 13.37 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 84 ^E	0.055 ^A -- ^D	0.055 ^B -- ^D	-- 5.5 ^C	-- 0.0005 ^C	-- 0.00026 ^F	0.007 ^A --
2004 Actual Factors and Emissions												
--"X" DAP/MAP Plant	012	7,428	339,045 tons fertilizer/yr 9.17 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 84 ^E	0.0807 ^A -- ^D	0.0807 ^B -- ^D	-- 5.5 ^C	-- 0.0005 ^C	-- 0.00026 ^F	0.018 ^A --
2005 Actual Factors and Emissions												
--"X" DAP/MAP Plant	012	7,466	329,335 tons fertilizer/yr 0.61 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 84 ^E	0.039 ^A -- ^D	0.039 ^B -- ^D	-- 5.5 ^C	-- 0.0005 ^C	-- 0.00026 ^F	0.0148 ^G --
2006 Actual Factors and Emissions												
--"X" DAP/MAP Plant	012	7,764	329,335 tons fertilizer/yr 0.61 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 84 ^E	0.039 ^A -- ^D	0.039 ^B -- ^D	-- 5.5 ^C	-- 0.0005 ^C	-- 0.00026 ^F	0.0148 ^G --
2007 Actual Factors and Emissions												
--"X" DAP/MAP Plant	012	7,493	338,783 tons fertilizer/yr 0.18 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- 0.6 ^C	-- 84 ^E	0.0444 ^A -- ^D	0.0444 ^B -- ^D	-- 5.5 ^C	-- 0.0005 ^C	-- 0.00026 ^F	0.015 ^G --
2008 Actual Factors and Emissions (2008 AOR not submitted at the time of the application)												
--"X" DAP/MAP Plant	012	--	-- tons fertilizer/yr -- 10 ⁶ ft ³ /yr	lb/ton fertilizer lb/10 ⁶ ft ³	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --

Footnotes:

^A Based on annual compliance tests.

^B PM₁₀ emissions assumed to be the same as PM emissions.

^C Based on AP-42, Table 1.4-2

^D Emissions accounted for during stack tests.

^E Based on AP-42, Table 1.4-1.

^F Based on AP-42, Table 1.4-4.

^G Based on the average of the last ten annual compliance tests.