REVISED

APPLICATION FOR MODIFICATION OF AIR CONSTRUCTION PERMIT FOR THE C AND D SULFURIC ACID PLANTS PLANT CITY PHOSPHATE COMPLEX

PLANT CITY, FLORIDA

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

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

November 2007

07387702

DISTRIBUTION:
4 Copies – FDEP
2 Copies – CF Industries, Inc.
2 Copies – Golder Associates Inc.

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 at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air permit. Also use this form to apply for an air construction permit:

- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- Where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- Where the applicant proposes 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/renewal Title V air operation permit.

Air Construction Permit & Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

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? ☐ Yes ☒ No
6. Existing Title V Permitted Facility? ☒ Yes ☐ 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 Email Address: **rbrunk@cfifl.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application: 11/26/07 3. PSD Number (if applicable):
2. Project Number(s): 0570005-626-AC 4. Siting Number (if applicable):
   RFI

APPLICATION INFORMATION

Purpose of Application

This application for air permit is 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

Application to increase the production rate of the "C" and "D" Sulfuric Acid Plants from 2,750 tons per day (TPD) to 2,962 TPD without increasing annual emissions. It is requested that the sulfur dioxide (SO_2), sulfuric acid mist (SAM), and nitrogen oxides (NO_x) permitted limits in lb/ton 100% H_2SO_4 be reduced to maintain current permitted hourly and annual emissions. This application also revises the maximum throughput of the Molten Sulfur Storage and Handling System. See Attachment A for further description.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
007	"C" Sulfuric Acid Plant	ACM1	
008	"D" Sulfuric Acid Plant	ACM1	
022, 023, 024, 033	Molten Sulfur Storage and Handling System	ACM1	

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

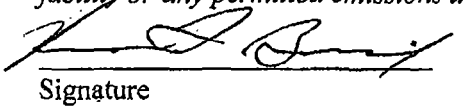
APPLICATION INFORMATION

Owner/Authorized Representative Statement

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

1. Owner/Authorized Representative Name :
   Ron Brunk, Environmental Superintendent
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**
3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(813) 364-5608** ext. Fax: **(813) 788-9126**
4. Owner/Authorized Representative Email Address: **rbrunk@cfifl.com**
5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility 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 requirements identified in this application to which the facility 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.

   Signature

   21 NOV 07

   Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V 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):
   - ☐ 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.
   - ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - ☐ The designated representative at an Acid Rain 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 Email Address:

6. Application Responsible Official Certification:

   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.

   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 N.W. 23rd Street, Suite 500**
   City: **Gainesville** State: **Florida** Zip Code: **32653**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext.**545** Fax: **(352) 336-6603**
4. Professional Engineer Email Address: **dbuff@golder.com**
5. Professional Engineer Statement:

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

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

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

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

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, 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 ☐, 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.

(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 ☐, 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.

David A. Buff
Signature

11/21/07
Date

(seal)

* Attach any exception to certification statement.

** Board of Professional Engineers Certificate of Authorization #00001670

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 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 for air permit. 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 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/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. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** 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 construction permitting and insignificant emissions units 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.

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:

"C" Sulfuric Acid Plant (SAP)

3. Emissions Unit Identification Number: **007**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**28**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

There exists a potential for fugitive emissions of SO_2/NO_x/SAM to occur from this emissions unit. It is our understanding, based on past FDEP interpretations and permitting history, that these emissions are not regulated under federal/state/local emission standards.

EMISSIONS UNIT INFORMATION
Section [1]
"C" Sulfuric Acid Plant

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Sulfuric Acid Plant – Double Contact Process
Mist Eliminator – High Velocity

2. Control Device or Method Code(s): **044, 014**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: **2,962 TPD 100% H_2SO_4**	
3. Maximum Heat Input Rate: 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	**8,760** hours/year
6. Operating Capacity/Schedule Comment:	

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: **"C" SAP**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **199** feet	7. Exit Diameter: **9.2** feet
8. Exit Temperature: **163**°F	9. Actual Volumetric Flow Rate: **131,725** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: Dscfm **112,692**		12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)
15. Emission Point Comment: **Exit temperature and volumetric flow rate updated based on 2007 stack test data.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Chemical Manufacturing; Sulfuric Acid (Contact Process); Absorber @ 99.9% Conversion**		
2. Source Classification Code (SCC): **3-01-023-01**	3. SCC Units: **Tons 100% H_2SO_4 Produced**	
4. Maximum Hourly Rate: **123.4**	5. Maximum Annual Rate: **1,081,130**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Maximum rates based on 2,962 TPD 100% H_2SO_4.**		

Segment Description and Rate: Segment of

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

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
SO_2	044		EL
SAM	014		EL
NO_x			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **401** lb/hour **1,757** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **3.25 lb/ton 100% H_2SO_4** Reference: **Proposed BACT Emission Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **3-hr average: 3.25 lb/ton x 2,962 TPD x 1 day/24 hr = 401 lb/hr** **24-hr average: 3.25 lb/ton x 2,962 TPD x 1 day/24 hr = 401 lb/hr** **Annual: 401 lb/hr x 8,760 hr/yr / 2,000 lb/ton = 1,757 TPY**	
11. Potential Fugitive and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: **3.25 lb/ton 100% H_2SO_4**	4. Equivalent Allowable Emissions: **401** lb/hour **1,757** tons/year
5. Method of Compliance: **SO_2 CEMS**	
6. Allowable Emissions Comment (Description of Operating Method): **Represents 3-hour average.**	

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: **3.25 lb/ton 100% H_2SO_4**	4. Equivalent Allowable Emissions: **401** lb/hour **1,757** tons/year
5. Method of Compliance: **SO_2 CEMS**	
6. Allowable Emissions Comment (Description of Operating Method): **Represents 24-hour average.**	

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):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **SAM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **11** lb/hour **50** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.093 lb/ton 100% H_2SO_4** Reference: **Proposed BACT Emission Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Hourly: 0.093 lb/ton x 2,962 TPD x 1 day/24 hr = 11 lb/hr** **Annual: 11 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 50 TPY**	
11. Potential Fugitive and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.093 lb/ton 100% H_2SO_4**	4. Equivalent Allowable Emissions: **11** lb/hour **50** tons/year
5. Method of Compliance: **Annual stack test using EPA Method 8.**	
6. Allowable Emissions Comment (Description of Operating Method):	

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):	

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):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **14** lb/hour **60** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.11 lb/ton 100% H_2SO_4** Reference: **Proposed BACT Emission Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly: 0.11 lb/ton x 2,962 TPD x 1 day/24 hr = 14 lb/hr

Annual: 14 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 60 TPY

11. Potential Fugitive and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.11 lb/ton 100% H_2SO_4**	4. Equivalent Allowable Emissions: **14** lb/hour **60** tons/year
5. Method of Compliance: **Annual source test using EPA Method 7E.**	
6. Allowable Emissions Comment (Description of Operating Method):	

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):	

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):	

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 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 for air permit. 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 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/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. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** 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 construction permitting and insignificant emissions units 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.

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:

"D" Sulfuric Acid Plant (SAP)

3. Emissions Unit Identification Number: **008**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**28**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

There exists a potential for fugitive emissions of SO_2/NO_x/SAM to occur from this emissions unit. It is our understanding, based on past FDEP interpretations and permitting history, that these emissions are not regulated under federal/state/local emission standards.

EMISSIONS UNIT INFORMATION
Section [2]
"D" Sulfuric Acid Plant

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Sulfuric Acid Plant – Double Contact Process
Mist Eliminator – High Velocity

2. Control Device or Method Code(s): **044, 014**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: **2,962 TPD 100% H_2SO_4**	
3. Maximum Heat Input Rate: 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	**8,760** hours/year
6. Operating Capacity/Schedule Comment:	

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: **"D" SAP**		2. Emission Point Type Code: **1**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **199** feet	7. Exit Diameter: **9.2** feet
8. Exit Temperature: **157**°F	9. Actual Volumetric Flow Rate: **125,718** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: Dscfm **108,712**		12. Nonstack Emission Point Height: feet
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)
15. Emission Point Comment: **Exit temperature and volumetric flow rate updated based on 2007 stack test data.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Chemical Manufacturing; Sulfuric Acid (Contact Process); Absorber @ 99.9% Conversion**		
2. Source Classification Code (SCC): **3-01-023-01**	3. SCC Units: **Tons 100% H_2SO_4 Produced**	
4. Maximum Hourly Rate: **123.4**	5. Maximum Annual Rate: **1,081,130**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Maximum rates based on 2,962 TPD 100% H_2SO_4.**		

Segment Description and Rate: Segment of

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

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
SO_2	044		EL
SAM	014		EL
NO_x			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **401** lb/hour **1,757** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **3.25 lb/ton 100% H_2SO_4** Reference: **Proposed BACT Emission Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **3-hr average: 3.25 lb/ton x 2,962 TPD x 1 day/24 hr = 401 lb/hr** **24-hr average: 3.25 lb/ton x 2,962 TPD x 1 day/24 hr = 401 lb/hr** **Annual: 401 lb/hr x 8,760 hr/yr / 2,000 lb/ton = 1,757 TPY**	
11. Potential Fugitive and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete 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: **3.25 lb/ton 100% H_2SO_4**	4. Equivalent Allowable Emissions: **401** lb/hour **1,757** tons/year
5. Method of Compliance: **SO_2 CEMS**	
6. Allowable Emissions Comment (Description of Operating Method): **Represents 3-hour average.**	

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: **3.25 lb/ton 100% H_2SO_4**	4. Equivalent Allowable Emissions: **401** lb/hour **1,757** tons/year
5. Method of Compliance: **SO_2 CEMS**	
6. Allowable Emissions Comment (Description of Operating Method): **Represents 24-hour average.**	

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):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **SAM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **11** lb/hour **50** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.093 lb/ton 100% H_2SO_4** Reference: **Proposed BACT Emission Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Hourly: 0.093 lb/ton x 2,962 TPD x 1 day/24 hr = 11 lb/hr** **Annual: 11 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 50 TPY**	
11. Potential Fugitive and Actual Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.093 lb/ton 100% H_2SO_4**	4. Equivalent Allowable Emissions: **11** lb/hour **50** tons/year
5. Method of Compliance: **Annual stack test using EPA Method 8.**	
6. Allowable Emissions Comment (Description of Operating Method):	

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):	

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):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **NO_x**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **14** lb/hour **60** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **0.11 lb/ton 100% H_2SO_4** Reference: **Proposed BACT Emission Limit**	7. Emissions Method Code: **0**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years

10. Calculation of Emissions:

Hourly: 0.11 lb/ton x 2,962 TPD x 1 day/24 hr = 14 lb/hr

Annual: 14 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb = 60 TPY

11. Potential Fugitive and Actual Emissions Comment:

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.11 lb/ton 100% H_2SO_4**	4. Equivalent Allowable Emissions: **14** lb/hour **60** tons/year
5. Method of Compliance: **Annual source test using EPA Method 7E.**	
6. Allowable Emissions Comment (Description of Operating Method):	

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):	

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):	

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 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 for air permit. 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 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/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. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** 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 construction permitting and insignificant emissions units 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.

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:

Molten Sulfur Storage and Handling System: 2 Tanks, 3 Pits, Truck and Railcar Unloading

3. Emissions Unit Identification Number: **022, 023, 024, 033**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A			**28**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

There exists a potential for fugitive emissions to occur from this emissions unit. It is our understanding, based on past FDEP interpretations and permitting history, that these emissions are not regulated under federal/state/local emission standards.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
2. Control Device or Method Code(s):

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate: **1,051,677 TPY**	
3. Maximum Heat Input Rate: million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Maximum throughput is based on maximum daily sulfuric acid production of 8,824 TPD 100% H_2SO_4. Maximum annual production: 8,824 TPD x 365 day/yr = 3,220,760 TPY 100% H_2SO_4 (x 32 tons S/98 tons H_2SO_4 = 1,051,677 TPY sulfur required).**	

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: **Truck Pits A (023), B (024), Tank (022), Tank (033), Railcar Pit**	2. Emission Point Type Code: **3**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **Storage Tank 022 = 022 (2,600-ton tank)** **Truck Pit A = 023** **Truck Pit B = 024** **Storage Tank 033 = 033 (5,000-ton tank)** **Railcar Unloading Pit**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code:	6. Stack Height: **12** feet	7. Exit Diameter: **0.67** feet
8. Exit Temperature: **212**°F	9. Actual Volumetric Flow Rate: **131,725** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: Dscfm **30**	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **Stack parameters represent Truck Pit A. All other stack/vent parameters listed in Attachment CF_EU3_C15.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Mineral Products; Bulk Materials Unloading Operation; Sulfur**		
2. Source Classification Code (SCC): **3-05-104-08**	3. SCC Units: ***Tons Processed***	
4. Maximum Hourly Rate: **450**	5. Maximum Annual Rate: **1,051,677**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Maximum loading rate based on:** **2 railcars @ 80 TPH = 160 TPD for the railcar pit** **6 trucks @ 22 tons = 132 TPH + 10% = 145 TPH per truck pit** **Total = 160 + 145 + 145 = 450 TPH**		

Segment Description and Rate: Segment of

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

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
SO_2			NS
PM			NS
PM_{10}			NS
VOC			NS
TRS			NS

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **SO_2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.66** lb/hour **2.87** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **7.30×10^{-5} lb/dscf** Reference: **Attachment A, Table A-4**	7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Refer to Attachment A, Table A-4.**	
11. Potential Fugitive and Actual Emissions Comment: **Represents total emissions from entire system.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

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):	

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):	

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):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.65** lb/hour **2.08** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: Reference: **Attachment A, Table A-4**	7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Refer to Attachment A, Table A-4**	
11. Potential Fugitive and Actual Emissions Comment: **Represents total emissions from entire system.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

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):	

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):	

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):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **PM_{10}**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.65** lb/hour **2.08** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **Attachment A, Table A-4** Reference: **Assume 100% of PM.**	7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Refer to Attachment A, Table A-4**	
11. Potential Fugitive and Actual Emissions Comment: **Represents total emissions from entire system.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

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):	

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):	

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):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **VOC**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.47** lb/hour **2.04** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **5.20×10^{-5} lb/dscf** Reference: **Attachment A, Table A-4**	7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Attachment A, Table A-4.**	
11. Potential Fugitive and Actual Emissions Comment: **Represents total emissions from entire system.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

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):	

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):	

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):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete 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 permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: **TRS**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.32** lb/hour **1.38** tons/year	4. Synthetically Limited? ☒ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **3.50×10^{-5} lb/dscf** Reference: **Attachment A, Table A-4**	7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Attachment A, Table A-4.**	
11. Potential Fugitive and Actual Emissions Comment: **Represents total emissions from entire system.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

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

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):	

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):	

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):	

ATTACHMENT CF_EU3_C-15

STACK AND OPERATING PARAMETERS FOR THE MOLTEN SULFUR AND HANDLING SYSTEM
CF INDUSTRIES, PLANT CITY

ATTACHMENT CF_EU3_C-15
STACK AND OPERATING PARAMETERS FOR THE MOLTEN SULFUR STORAGE AND HANDLING SYSTEM
CF INDUSTRIES, PLANT CITY

Emission Unit		Height		Diameter		Ventilation Rate	Exit Temperature		Velocity	
	EU ID	ft	m	ft	m	(dscfm)	°F	K	ft/s	m/s
Molten Sulfur Storage and Handling System:										
--Storage Tank (022)	022	38	11.58	2.0	0.61	30	212	373.2	0.033	0.01
--Storage Tank (033)	033	41	12.50	-	-	30	-	-	-	-
--Truck Pit A	023	12	3.66	0.67	0.20	30	212	373.2	0.033	0.01
--Truck Pit B	024	12	3.66	0.67	0.20	30	212	373.2	0.033	0.01
--Railcar Unloading Pit		0	0.00	-	-	30	-	-	-	-

ATTACHMENT A

ATTACHMENT A

SUPPLEMENTAL INFORMATION FOR CONSTRUCTION PERMIT APPLICATION

The CF Industries, Inc. (CFI) Plant City facility is located south of Zephyrhills and north of Plant City in northeastern Hillsborough County, Florida. The CFI Plant City facility operates four sulfuric acid plants (SAPs), two phosphoric acid plants (PAPs), four diammonium phosphate/ monoammonium phosphate (DAP/MAP) plants, molten sulfur storage and handling operations, product storage and shipping operations, and ancillary equipment in order to produce phosphate fertilizers. The CFI Plant City facility currently operates under Title V Permit No. 0570005-017-AV, most recently issued on October 13, 2005, and two construction permits: 0570005-019-AC, and 0570005-021-AC.

The purpose of this application is to increase the permitted production rate of the C and D SAPs from 2,750 tons per day (TPD) of 100-percent sulfuric acid (H_2SO_4) to 2,962 TPD 100-percent H_2SO_4. The C and D SAPs were issued Permit No. 0570005-019-AC/PSD-FL-339 on June 1, 2004, to increase the production rate of each plant from 2,600 TPD 100-percent H_2SO_4 to 2,750 TPD 100-percent H_2SO_4. CFI has recently (February 2007) completed construction on the C SAP under this permit and is continuing with construction on D SAP. Based on operating experience with the C SAP, CFI now believes the C and D SAPs are capable of somewhat higher production rates.

The C and D SAPs are Monsanto double-absorption SAPs with a current maximum production capacity of 2,750 tons per day (TPD) of 100-percent sulfuric acid (H_2SO_4). At the C and D SAPs, dry air and molten sulfur are ignited in a sulfur burner. The combustion gases, primarily sulfur dioxide (SO_2), are passed through a three-stage catalytic converter where SO_2 is converted to sulfur trioxide (SO_3). The gases, now primarily SO_3, enter the interpass tower where the SO_3 is absorbed into a sulfuric acid solution. The remaining gases (a mixture of SO_2, SO_3, and other products) exit the interpass tower through a high-efficiency mist eliminator. The gas then enters the fourth stage of the catalytic converter, where additional SO_2 is converted to SO_3. This gas enters the final tower, where SO_3 is again absorbed into a sulfuric acid solution. The remaining gases exit to the atmosphere through a high-efficiency mist eliminator. The SAPs also incorporate a Waste-Heat Boiler System for generating steam from the energy produced by the combustion of the molten sulfur.

CFI is proposing to increase the C and D SAP production rates at its Plant City Phosphate Complex located in Plant City, Florida. Currently, the C and D SAPs are each permitted to produce H_2SO_4 up

to 2,750 TPD of 100-percent H_2SO_4. The proposed increased production rate will allow them to produce up to 2,962 TPD of 100-percent H_2SO_4. It is requested that the SO_2, sulfuric acid mist (SAM), and nitrogen oxides (NO_x) permitted limits in pounds per ton (lb/ton) of 100-percent H_2SO_4 be reduced to avoid any mass emission increases from the current permitted mass emissions. In addition, to accommodate the increase in sulfuric acid production, CFI is requesting an increase in the maximum throughput rate of the Molten Sulfur Storage and Handling System from 965,388 tons per year (TPY) to 1,051,677 TPY. There will be no physical change to the Molten Sulfur Storage and Handling System.

Since the late 1980s, the production rate of phosphoric acid at the Plant City facility has exceeded the availability of sulfuric acid manufactured onsite. To maximize fertilizer production, purchased sulfuric acid has been imported annually to make up the imbalance. The Plant City facility can no longer purchase sulfuric acid at a reasonable cost. Since the cost of purchased sulfuric acid has increased, DAP and MAP cannot be economically manufactured from imported sulfuric acid. As a result, the increase in the permitted production rate will allow CFI to replace purchased sulfuric acid with acid manufactured onsite.

The current SO_2 emissions limit for both the C and D SAPs is 3.5 lb/ton of 100-percent H_2SO_4, which is equivalent to 401 pounds per hour (lb/hr) and 1,757 TPY for each SAP. The hourly limits are based on a 3-hour rolling average and the annual limit is based on a consecutive 12-month rolling average. The current SAM emission limit is 0.10 lb/ton of 100-percent H_2SO_4 for each SAP, which is equivalent to 11 lb/hr and 50 TPY, based on a consecutive 12-month rolling average for each SAP. The current hourly NO_x emissions limit for each SAP is 0.12 lb/ton of 100-percent H_2SO_4, which is equivalent to 14 lb/hr and 60 TPY for each SAP. These limits and emissions are presented in Tables A-1 and A-2 for the C and D SAPs, respectively. In addition, the baseline actual emissions due to the Molten Sulfur Storage and Handling System are presented in Table A-3.

The proposed production rate increase to 2,962 lb/ton of 100-percent H_2SO_4 for C and D SAPs requires a reduction in the permitted SO_2, SAM, and NO_x limits in lb/ton of 100-percent H_2SO_4 to retain the current hourly and annual emissions. The following permit limits are proposed as shown in Tables A-1 and A-2: 3.25 lb/ton of 100-percent H_2SO_4 for SO_2, 0.093 lb/ton of 100-percent H_2SO_4 for SAM, and 0.11 lb/ton of 100-percent H_2SO_4 for NO_x. There will be no increase in the hourly or annual emissions at the reduced permitted limits and higher production rate.

The future potential emissions due to the Molten Sulfur Storage and Handling System are presented in Table A-4. These emissions are based on a total sulfur throughput of 1,051,677 TPY, which represents the total sulfur necessary to supply all four SAPs at permitted production rates (i.e., 1,300 TPD + 1,600 TPD + 2,962 TPD + 2,962 TPD = 8,824 TPD H_2SO_4).

A comparison of the baseline actual emissions to the future potential emissions for the Molten Sulfur Storage and Handling System, along with the net increase in annual emissions, is shown in Table A-5. As shown, the net emissions increases for the project are 0.10 TPY for particulate matter (PM/PM_{10}), and 0 TPY for SO_2, NO_x, volatile organic compounds (VOCs), total reduced sulfur (TRS), and SAM.

This project will not have an effect on any other downstream units. Even though sulfuric acid is used as a raw material in the A and B PAPs, CFI will not produce any additional phosphoric acid as a result of this project. With the proposed increase in SAP production, CFI hopes to be able to eliminate the need to purchase any H_2SO_4 to meet the demands of the PAPs. Permit No. 0510005-021-AC/PSD-FL-355 was issued on July 23, 2007, to increase the production rates of both the A and B PAPs. Under this permit, the A PAP is permitted to process 1,699 TPD of 100-percent rock phosphorus pentoxide (P_2O_5) and the B PAP is permitted to process 2,530 TPD of 100-percent P_2O_5. It was through this permit that the expected increase in downstream fertilizer production in the DAP/MAP plants was addressed. Therefore, for the purposes of the present application, the downstream units (A and B PAP; A, X, Y, and Z DAP/MAP Plants) will not be debottlenecked.

In addition to increasing the production rate of the C and D SAPs, CFI is requesting to extend the expiration date of the current air construction permit (Permit No. 0570005-019-AC/PSD-FL-339), which currently expires April 30, 2008. CFI has faced extensive delivery problems with the boiler feedwater pumps for the SAPs, which are not expected to be delivered until after June 1, 2008. The attached letter from The Revak Companies provides the supplier's schedule, which is approximately 1 year from order, or by about September 2008. Therefore, CFI requests that the construction permit be extended to December 31, 2008.

TABLE A-1
SUMMARY OF CURRENT AND PROPOSED PERMITTED EMISSION RATES FOR THE C SULFURIC ACID PLANT, CF INDUSTRIES, PLANT CITY

Pollutant & Averaging Time	Current Permit Limits [a]				Proposed Permit Limits				Project Increase (TPY)
	Production Rate (TPD)	Emission Rates lb/ton H_2SO_4	Emission Rates lb/hr	Emission Rates TPY	Production Rate (TPD)	Emission Rates lb/ton H_2SO_4	Emission Rates lb/hr	Emission Rates TPY	
	2,750				2,962				
SO_2									
3-Hour		3.5 [b]	401 [b]	--		3.25	401	--	
24-Hour		3.5	401	--		3.25	401	--	
Annual		--	--	1,757 [c]		--	--	1,757	0
SAM									
Hourly		0.10	11	--		0.09	11	--	
Annual		--	--	50 [c]		--	--	50	0
NO_x									
Hourly		0.12	14	--		0.11	14	--	
Annual		--	--	60		--	--	60	0

[a] Based on Title V Permit No. 0570005-017-AV.

[b] Limits are based on a 3-hour rolling average.

[c] Limits are based on a consecutive 12-month rolling average.

TABLE A-2
SUMMARY OF CURRENT AND PROPOSED PERMITTED EMISSION RATES FOR THE D SULFURIC ACID PLANT, CF INDUSTRIES, PLANT CITY

Pollutant & Averaging Time	Current Permit Limits [a]				Proposed Permit Limits				Project Increase (TPY)
	Production Rate (TPD)	Emission Rates lb/ton H_2SO_4	Emission Rates lb/hr	Emission Rates TPY	Production Rate (TPD)	Emission Rates lb/ton H_2SO_4	Emission Rates lb/hr	Emission Rates TPY	
	2,750				2,962				
SO_2									
3-Hour		3.5 [b]	401 [b]	--		3.25	401	--	
24-Hour		3.5	401	--		3.25	401	--	
Annual		--	--	1,757 [c]		--	--	1,757	0
SAM									
Hourly		0.10	11	--		0.09	11	--	
Annual		--	--	50 [c]		--	--	50	0
NO_x									
Hourly		0.12	14	--		0.11	14	--	
Annual		--	--	60		--	--	60	0

[a] Based on Title V Permit No. 0570005-017-AV.

[b] Limits are based on a 3-hour rolling average.

[c] Limits are based on a consecutive 12-month rolling average.

TABLE A-3
SUMMARY OF CURRENT ACTUAL EMISSION RATE CALCULATIONS FOR THE MOLTEN SULFUR HANDLING AND STORAGE SYSTEM
CF INDUSTRIES, PLANT CITY (PAGE 1 OF 2)

Parameters	Units	2600 Ton Storage Tank					5000 Ton Storage Tank					Truck Pit A				
		Loading from Pits	Unloading Into Pits	Storage/ Idle	Total Emissions (TPY)	Max Emissions (lb/hr)	Loading from Pits	Unloading Into Pits	Storage/ Idle	Total Emissions (TPY)	Max Emissions (lb/hr)	Loading	Unloading	Storage/ Idle	Total Emissions (TPY)	Max Emissions (lb/hr)
SULFUR FLOW RATES																
Maximum loading rate	TPH	100	100	0			100	100	0			100	100	0		
Annual loading rate	TPY	166,686	166,686	0			333,372	333,372	0			333,372	333,372	0		
VENTILATION RATES																
Loading/Unloading	dscfm	30	0	0			30	0	0			30	0	0		
Natural Ventilation through vents	dscfm	0	30	30			0	30	30			0	30	30		
Total Ventilation Rate	dscfm	30	30	30			30	30	30			30	30	30		
TRANSFER TIMES																
Loading/Unloading	hr/yr	1,667	1,667	--			3,334	3,334	--			3,334	3,334	--		
Idle	hr/yr	--	--	5,426			--	--	2,093			--	--	2,093		
EMISSION FACTORS																
Sulfur particulate [a]	grains/dscf	0.51	0.29	0.29			0.51	0.29	0.29			0.51	0.29	0.29		
TRS (as H_2S) [b]	lb/dscf	3.50E-05	3.50E-05	3.50E-05			3.50E-05	3.50E-05	3.50E-05			3.50E-05	3.50E-05	3.50E-05		
SO_2 [b]	lb/dscf	7.30E-05	7.30E-05	7.30E-05			7.30E-05	7.30E-05	7.30E-05			7.30E-05	7.30E-05	7.30E-05		
VOC [b]	lb/dscf	5.20E-05	5.20E-05	5.20E-05			5.20E-05	5.20E-05	5.20E-05			5.20E-05	5.20E-05	5.20E-05		
					Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)				Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)				Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)
EMISSION RATES																
Sulfur Particulate	lb/hr	0.13	0.075	0.075	--	0.13	0.13	0.075	0.075	--	0.13	0.13	0.075	0.075	--	0.13
	TPY	0.11	0.062	0.20	0.37	--	0.22	0.12	0.08	0.42	--	0.22	0.12	0.078	0.42	--
TRS (as H_2S)	lb/hr	0.063	0.063	0.063	--	0.063	0.063	0.063	0.063	--	0.063	0.063	0.063	0.063	--	0.063
	TPY	0.052	0.053	0.17	0.28	--	0.104	0.105	0.066	0.28	--	0.104	0.105	0.066	0.28	--
Sulfur Dioxide	lb/hr	0.13	0.13	0.13	--	0.13	0.13	0.13	0.13	--	0.13	0.13	0.13	0.13	--	0.13
	TPY	0.11	0.11	0.36	0.57	--	0.22	0.22	0.14	0.57	--	0.22	0.22	0.14	0.57	--
Volatile Organic Compounds	lb/hr	0.093	0.094	0.094	--	0.094	0.093	0.094	0.094	--	0.094	0.093	0.094	0.094	--	0.094
	TPY	0.077	0.078	0.25	0.41	--	0.15	0.16	0.10	0.41	--	0.15	0.16	0.10	0.41	--

Notes:
Total Sulfur Throughput = 833,429 TPY Based on the average of 2005-2006 throughput.

TPH = tons per hour
TPY = tons per year
Density of Sulfur (280°F) = 112 lb/cf

[a] Emission factors based on emissions tests performed at Cargill Riverview in 1988 (refer to Appendix B for reference).
0.51 grains/dscf when molten sulfur is pumped into tanks and 0.29 grains/dscf when tanks are idle.
[b] Emission factors based on Pennzoil study.

TABLE A-3
SUMMARY OF CURRENT ACTUALEMISSION RATE CALCULATIONS FOR THE MOLTEN SULFUR HANDLING AND STORAGE SYSTEM
CF INDUSTRIES, PLANT CITY (PAGE 2 OF 2)

Parameters	Units	Truck Pit B					Railcar Unloading Pit				
		Loading	Unloading	Storage/ Idle	Total Emissions (TPY)	Max Emissions (lb/hr)	Loading	Unloading	Storage/ Idle	Total Emissions (TPY)	Max Emissions (lb/hr)
SULFUR FLOW RATES											
Maximum loading rate	TPH	100	100	0			100	100	0		
Annual loading rate	TPY	333,372	333,372	0			166,686	166,686	0		
VENTILATION RATES											
Loading/Unloading	dscfm	30	0	0			30	0	0		
Natural Ventilation through vent	dscfm	0	30	30			0	30	30		
Total Ventilation Rate	dscfm	30	30	30			30	30	30		
TRANSFER TIMES											
Loading/Unloading	hr/yr	3,334	3,334	--			1,667	1,667	--		
Idle	hr/yr	--	--	2,093			--	--	5,426		
EMISSION FACTORS											
Sulfur particulate [a]	grains/dscf	0.51	0.29	0.29			0.51	0.29	0.29		
TRS (as H_2S) [b]	lb/dscf	3.50E-05	3.50E-05	3.50E-05			3.50E-05	3.50E-05	3.50E-05		
SO_2 [b]	lb/dscf	7.30E-05	7.30E-05	7.30E-05			7.30E-05	7.30E-05	7.30E-05		
VOC [b]	lb/dscf	5.20E-05	5.20E-05	5.20E-05			5.20E-05	5.20E-05	5.20E-05		
					Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)				Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)
EMISSION RATES											
Sulfur Particulate	lb/hr	0.13	0.075	0.075	--	0.13	0.13	0.075	0.075	--	0.13
	TPY	0.22	0.12	0.078	0.42	--	0.108	0.062	0.20	0.37	--
TRS (as H_2S)	lb/hr	0.063	0.063	0.063	--	0.063	0.063	0.063	0.063	--	0.063
	TPY	0.104	0.105	0.066	0.28	--	0.052	0.053	0.17	0.28	--
Sulfur Dioxide	lb/hr	0.13	0.13	0.13	--	0.13	0.13	0.13	0.13	--	0.13
	TPY	0.22	0.22	0.14	0.57	--	0.109	0.110	0.36	0.57	--
Volatile Organic Compounds	lb/hr	0.093	0.094	0.094	--	0.094	0.093	0.094	0.094	--	0.094
	TPY	0.15	0.16	0.10	0.41	--	0.077	0.078	0.25	0.41	--

Total Emission Rates from All Sources	Total Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)
Sulfur Particulates	2.00	0.65
TRS (as H_2S)	1.38	0.32
Sulfur Dioxide	2.87	0.66
Volatile Organic Compounds	2.04	0.47

Notes:
Total Sulfur Throughput = 833,429 TPY Based on the average of 2005-2006 throughput.

TPH = tons per hour
TPY = tons per year
Density of Sulfur (280°F) = 112 lb/cf

[a] Emission factors based on emissions tests performed at Cargill Riverview in 1988 (refer to Appendix B for reference).
0.51 grains/dscf when molten sulfur is pumped into tanks and 0.29 grains/dscf when tanks are idle.
[b] Emission factors based on Pennzoil study.

TABLE A-4
SUMMARY OF FUTURE POTENTIAL EMISSION RATE CALCULATIONS FOR THE MOLTEN SULFUR HANDLING AND STORAGE SYSTEM
CF INDUSTRIES, PLANT CITY (PAGE 1 OF 2)

Parameters	Units	2600 Ton Storage Tank					5000 Ton Storage Tank					Truck Pit A				
		Loading from Pits	Unloading Into Pits	Storage/ Idle	Total Emissions (TPY)	Max Emissions (lb/hr)	Loading from Pits	Unloading Into Pits	Storage/ Idle	Total Emissions (TPY)	Max Emissions (lb/hr)	Loading	Unloading	Storage/ Idle	Emissions (TPY)	Max Emissions (lb/hr)
SULFUR FLOW RATES																
Maximum loading rate	TPH	100	100	0			100	100	0			100	100	0		
Annual loading rate	TPY	210,335	210,335	0			420,671	420,671	0			420,671	420,671	0		
VENTILATION RATES																
Loading/Unloading	dscfm	30	0	0			30	0	0			30	0	0		
Natural Ventilation through vents	dscfm	0	30	30			0	30	30			0	30	30		
Total Ventilation Rate	dscfm	30	30	30			30	30	30			30	30	30		
TRANSFER TIMES																
Loading/Unloading	hr/yr	2,103	2,103	--			4,207	4,207	--			4,207	4,207	--		
Idle	hr/yr	--	--	4,553			--	--	347			--	--	347		
EMISSION FACTORS																
Sulfur particulate [a]	grains/dscf	0.51	0.29	0.29			0.51	0.29	0.29			0.51	0.29	0.29		
TRS (as H_2S) [b]	lb/dscf	3.50E-05	3.50E-05	3.50E-05			3.50E-05	3.50E-05	3.50E-05			3.50E-05	3.50E-05	3.50E-05		
SO_2 [b]	lb/dscf	7.30E-05	7.30E-05	7.30E-05			7.30E-05	7.30E-05	7.30E-05			7.30E-05	7.30E-05	7.30E-05		
VOC [b]	lb/dscf	5.20E-05	5.20E-05	5.20E-05			5.20E-05	5.20E-05	5.20E-05			5.20E-05	5.20E-05	5.20E-05		
					Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)				Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)				Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)
EMISSION RATES																
Sulfur Particulate	lb/hr	0.13	0.075	0.075	--	0.13	0.13	0.075	0.075	--	0.13	0.13	0.075	0.075	--	0.13
	TPY	0.14	0.078	0.17	0.39	--	0.27	0.16	0.01	0.44	--	0.27	0.16	0.013	0.44	--
TRS (as H_2S)	lb/hr	0.063	0.063	0.063	--	0.063	0.063	0.063	0.063	--	0.063	0.063	0.063	0.063	--	0.063
	TPY	0.066	0.066	0.14	0.28	--	0.131	0.133	0.011	0.27	--	0.131	0.133	0.011	0.27	--
Sulfur Dioxide	lb/hr	0.13	0.13	0.13	--	0.13	0.13	0.13	0.13	--	0.13	0.13	0.13	0.13	--	0.13
	TPY	0.14	0.14	0.30	0.57	--	0.27	0.28	0.02	0.57	--	0.27	0.28	0.02	0.57	--
Volatile Organic Compounds	lb/hr	0.093	0.094	0.094	--	0.094	0.093	0.094	0.094	--	0.094	0.093	0.094	0.094	--	0.094
	TPY	0.098	0.098	0.21	0.41	--	0.20	0.20	0.02	0.41	--	0.20	0.20	0.02	0.41	--

Notes:
Total Sulfur Throughput = 1,051,677 TPY

TPH = tons per hour
TPY = tons per year
Density of Sulfur (280°F) = 112 lb/cf

[a] Emission factors based on emissions tests performed at Cargill Riverview in 1988 (refer to Appendix B for reference).
0.51 grains/dscf when molten sulfur is pumped into tanks and 0.29 grains/dscf when tanks are idle.
[b] Emission factors based on Pennzoil study.

TABLE A-4
SUMMARY OF FUTURE POTENTIAL EMISSION RATE CALCULATIONS FOR THE MOLTEN SULFUR HANDLING AND STORAGE SYSTEM
CF INDUSTRIES, PLANT CITY (PAGE 2 OF 2)

Parameters	Units	Truck Pit B					Railcar Unloading Pit				
		Loading	Unloading	Storage/ Idle	Total Emissions (TPY)	Max Emissions (lb/hr)	Loading	Unloading	Storage/ Idle	Total Emissions (TPY)	Max Emissions (lb/hr)
SULFUR FLOW RATES											
Maximum loading rate	TPH	100	100	0			100	100	0		
Annual loading rate	TPY	420,671	420,671	0			210,335	210,335	0		
VENTILATION RATES											
Loading/Unloading	dscfm	30	0	0			30	0	0		
Natural Ventilation through vent	dscfm	0	30	30			0	30	30		
Total Ventilation Rate	dscfm	30	30	30			30	30	30		
TRANSFER TIMES											
Loading/Unloading	hr/yr	4,207	4,207	--			2,103	2,103	--		
Idle	hr/yr	--	--	347			--	--	4,553		
EMISSION FACTORS											
Sulfur particulate [a]	grains/dscf	0.51	0.29	0.29			0.51	0.29	0.29		
TRS (as H_2S) [b]	lb/dscf	3.50E-05	3.50E-05	3.50E-05			3.50E-05	3.50E-05	3.50E-05		
SO_2 [b]	lb/dscf	7.30E-05	7.30E-05	7.30E-05			7.30E-05	7.30E-05	7.30E-05		
VOC [b]	lb/dscf	5.20E-05	5.20E-05	5.20E-05			5.20E-05	5.20E-05	5.20E-05		
					Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)				Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)
EMISSION RATES											
Sulfur Particulate	lb/hr	0.13	0.075	0.075	--	0.13	0.13	0.075	0.075	--	0.13
	TPY	0.27	0.16	0.013	0.44	--	0.137	0.078	0.17	0.39	--
TRS (as H_2S)	lb/hr	0.063	0.063	0.063	--	0.063	0.063	0.063	0.063	--	0.063
	TPY	0.131	0.133	0.011	0.27	--	0.066	0.066	0.14	0.28	--
Sulfur Dioxide	lb/hr	0.13	0.13	0.13	--	0.13	0.13	0.13	0.13	--	0.13
	TPY	0.27	0.28	0.02	0.57	--	0.137	0.138	0.30	0.57	--
Volatile Organic Compounds	lb/hr	0.093	0.094	0.094	--	0.094	0.093	0.094	0.094	--	0.094
	TPY	0.20	0.20	0.02	0.41	--	0.098	0.098	0.21	0.41	--

Total Emission Rates from All Sources	Total Annual Emission Rate (TPY)	Max Hourly Emission Rate (lb/hr)
Sulfur Particulates	2.10	0.65
TRS (as H_2S)	1.38	0.32
Sulfur Dioxide	2.87	0.66
Volatile Organic Compounds	2.04	0.47

Notes:
Total Sulfur Throughput = 1,051,677 TPY

TPH = tons per hour
TPY = tons per year
Density of Sulfur (280°F) = 112 lb/cf

[a] Emission factors based on emissions tests performed at Cargill Riverview in 1988 (refer to Appendix B for reference).
0.51 grains/dscf when molten sulfur is pumped into tanks and 0.29 grains/dscf when tanks are idle.

[b] Emission factors based on Pennzoil study.

TABLE A-5
PSD APPLICABILITY ANALYSIS FOR MOLTON SULFUR SYSTEM

Source Description	Pollutant Emission Rate (TPY)								
	SO_2	NO_x	CO	PM	PM_{10}	VOC	TRS	SAM	Fluoride
Future Potential Emissions [a]									
Molten Sulfur Handling and Storage System	2.87	--	--	2.10	2.10	2.04	1.38	--	--
Baseline Actual Emissions [b]									
Molten Sulfur Handling and Storage System	2.87	--	--	2.00	2.00	2.04	1.38	--	--
TOTAL CHANGE DUE TO PROPOSED PROJECT	**0.00**	**--**	**--**	**0.10**	**0.10**	**0.00**	**0.00**	**--**	**--**
PSD SIGNIFICANT EMISSION RATE	40	40	100	25	15	40	10	7	3
PSD REVIEW TRIGGERED?	No	No	No	No	No	No	No	No	No

Footnotes:

[a] Refer to Table A-4 for emission calculations.

[b] Refer to Table A-3.

The REVAK Companies

- *Revak Turbomachinery Services*
- *L-Mart International*
- *Revak Controls Corporation*
- *Revak Precision Bearings*
- *Turbo Storage Services*

12204 Fairmont Parkway La Porte, Texas 77571 Phone: (281) 474-4458 Fax: (281) 474-5137 Email : sales@revak.com

October 23, 2007

Mr. Randy Charlot
CF Industries
10608 Paul Buchman Hwy
Plant City, FL 33564

Subject: Our Proposal No. 16307
Nozzle Rings and Diaphragms

Dear Mr. Charlot,

Revak Turbomachinery Services is pleased to offer this proposal for your consideration.

We can offer you two sets of nozzle rings and diaphragms. Each set will consist of the following:

- One new nozzle block
- One 2nd stage diaphragm
- One 3rd stage diaphragm
- One 4th stage diaphragm
- One 5th stage diaphragm

The above items are to be exact duplicates of those quoted in our Proposal No. 16113A dated August 28, 2007, your Purchase Order No. 102519P.

The price for the above is $166,380.00 **per set** for a total of $332,760.00 for two sets. Routine delivery for two sets will be forty-two to fifty-four weeks.

NOTE 1: One set can be provided in thirty to thirty-six weeks and the second set to follow sixteen to eighteen weeks later.

NOTE 2: The guaranteed horse power at rated speed and steam conditions remain at 6500. A guaranteed horse power of 7000 would require changes to the rotating blades, as previously discussed. The 6500 horse power guarantee is conditional on inspection and verification that the governor valves and cages have sufficient area and lift to accommodate the increased steam flow. If not, it will be necessary for Revak to modify same at an additional cost. We regret we cannot offer a spare governor valve to meet the 6500 horse power steam flow requirements for these turbines.

Prices are F.O.B. La Porte, Texas and do not include taxes, freight, or duties. Our terms of payment are fifty (50) percent with the order and the balance due net fifteen (15) days.

Prices quoted are firm for acceptance within sixty (60) days. All products and services are subject to prior sale.

Should an order result from this quotation, the attached Standard Terms and Conditions will apply to the project. Unless specifically modified in the proposal, our Standard Limited Warranty, also attached, will apply to the finished job. Both of these documents are made a part of the quotation by this reference.

We appreciate your interest in the Revak Companies and trust our proposal will merit your favorable consideration. Should you have any questions or if we can be of additional service, please contact either me or the assigned account manager shown below.

Sincerely,

Dick Richardson
Sales Engineer

Jerry Fortenberry
Account Manager

DR: gp

Attachments