

4014 NW 13th STREET
GAINESVILLE, FL 32609-1923
352/377-5822 • FAX/377-7158

KA 344-10-02

March 25, 2010

RECEIVED

MAR 25 2010

**BUREAU OF
AIR REGULATION**

Mr. Syed Arif, P.E.
Florida Department of
Environmental Protection
Division of Air Resource Management
2600 Blair Stone Road MS 5500
Tallahassee, Florida 32399-2400

**Subject: Construction Permit Application for B SAP Testing
CF Industries, Inc. - Plant City Phosphate Complex
Facility ID. No. 0570005**

Dear Mr. Arif:

As a follow up to our recent discussion on the matter, enclosed is an application for an air construction permit to conduct production and performance testing on the recently modified B Sulfuric Acid Plant (EU 003) located at CF Industries, Inc.'s Plant City facility.

The proposed testing would be conducted at higher production rates than allowed under Specific Condition 4a of Permit No. 0570003-021-AC and Specific Condition 2 of Permit No. 0570005-034-AC without exceeding applicable emissions limitations.

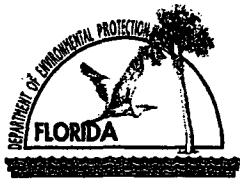
If you have any questions, please do not hesitate to call me.

Sincerely,

Pradeep Raval

Encl.

- C: R. Brunk, CF Industries, Inc.
- C. Zhang-Torres, FDEP SW District
- D. Lee, EPCHC



Department of Environmental Protection

Division of Air Resource Management APPLICATION FOR AIR PERMIT - LONG FORM

RECEIVED

MAR 25 2010

BUREAU OF
AIR REGULATION

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: Ronald L. Brunk, Superintendent Environmental Affairs	
2. Application Contact Mailing Address... Organization/Firm: CF Industries, Inc. Street Address: P.O. Drawer L City: Plant City State: FL Zip Code: 33564	
3. Application Contact Telephone Numbers... Telephone: (813) 364-5753 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: 3/25/10	3. PSD Number (if applicable):
2. Project Number(s): 0570005-042-AK	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.

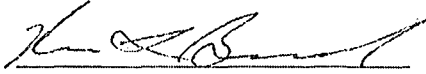
Application Comment

This application is submitted for an authorization to conduct production evaluation of the B Sulfuric Acid Plant (EU 003), as described in Attachment 1.

APPLICATION INFORMATION

Owner/Authorized Representative Statement

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

1. Owner/Authorized Representative Name : Ronald L. Brunk, Superintendent Environmental Affairs
2. Owner/Authorized Representative Mailing Address... Organization/Firm: CF Industries, Inc. Street Address: 10608 Paul Buchman Highway City: Plant City State: FL Zip Code: 33565
3. Owner/Authorized Representative Telephone Numbers... Telephone: (813) 364-5753 ext. Fax: (813) 788-9126
4. Owner/Authorized Representative E-mail Address: rbrunk@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 <u>24 MAR 10</u> 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: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> City: State: Zip Code: </div>
4. Application Responsible Official Telephone Numbers... Telephone: ext. Fax:
5. Application Responsible Official E-mail Address:
6. Application Responsible Official Certification: <i>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.</i> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> _____ _____ </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> Signature Date </div>

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: John B. Koogler, Ph.D., P.E. Registration Number: 12925
2. Professional Engineer Mailing Address... Organization/Firm: Koogler and Associates, Inc. Street Address: 4014 NW 13th Street City: Gainesville State: FL Zip Code: 32609
3. Professional Engineer Telephone Numbers... Telephone: (352) 377-5822 ext. Fax: (352) 377-7158
4. Professional Engineer E-mail Address: jkoogler@kooglerassociates.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: _____ Date: <u>3/24/2010</u> (seal)

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 17 East (km) 388.0 North (km) 3116.0		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 28/9/57 Longitude (DD/MM/SS) 82/8/27	
4. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 28	6. Facility SIC(s): 2874
7. Facility Comment : This is a phosphate fertilizer manufacturing facility.			

Facility Contact

1. Facility Contact Name: Ronald L. Brunk, Superintendent Environmental Affairs
2. Facility Contact Mailing Address... Organization/Firm: CF Industries, Inc. Street Address: P.O. Drawer L City: Plant City State: FL Zip Code: 33564-9007
3. Facility Contact Telephone Numbers: Telephone: (813) 364-5753 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: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: () - ext. Fax: () -
4. Facility Primary Responsible Official E-mail Address:

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
Particulate Matter (PM)	A	N
Fluoride (FL)	B	N
Sulfur Dioxide (SO ₂)	A	N
Sulfuric Acid Mist (SAM)	A	N
Nitrogen Oxides (NO _x)	A	N
Particulate Matter (PM ₁₀)	A	N
Hydrogen Fluoride (H107)	A	N
Total HAPs (HAPs)	A	N

FACILITY INFORMATION

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>10/05</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>10/05</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>10/05</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 1</u>
3. Rule Applicability Analysis: <input checked="" type="checkbox"/> Attached, Document ID: <u>Attachment 1</u>
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 checked="" type="checkbox"/> Attached, Document ID: <u>Attachment 1</u> <input 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

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications NA

1. List of Exempt Emissions Units: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications NA

1. List of Insignificant Activities: (Required for initial/renewal applications only) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> 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) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (revision application with no change in applicable requirements)
3. Compliance Report and Plan: (Required for all initial/revision/renewal applications) <input type="checkbox"/> 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) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities Onsite but Not Required to be Individually Listed <input type="checkbox"/> Not Applicable
5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
6. Requested Changes to Current Title V Air Operation Permit: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

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

NA

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

ATTACHMENT 1

This request is for approval to conduct testing to determine the maximum production rate achievable by the recently modified B SAP (EU 003) and to determine compliance with applicable air emissions limitations at the higher production rates (see Permit Nos. 0570005-021-AC and 0570005-034-AC).

Test Protocol

CFI will initially run the plant for at least a period of 24 hours at the currently permitted rate of 1600 tons per day. Compliance capability, for the BART exemption Scenario A sulfur dioxide (SO₂) rate of 93.3 pounds per hour and 100.0 lb/hr for Scenario B, will be demonstrated using the SO₂ CEMS data.

During the subsequent two weeks, the plant production rate will be gradually increased while maintaining a SO₂ emissions rate at or below 100.0 lb/hr, as determined from the SO₂ CEMS data. The production rate will not be increased beyond the point at which the 100.0 lb/hr threshold cannot be consistently maintained. Upon reaching stable operating conditions at the maximum established production rate CFI will determine if an emissions rate of 93.3 lb/hr can also be consistently maintained. At that point, CFI will conduct performance tests for sulfuric acid mist (SAM) and nitrogen oxides (NO_x) using EPA Methods 8 and 7E, respectively.

As a practical matter, the stack testing for NO_x and SAM will only be conducted upon achieving the maximum established production rate at the desired SO₂ emission rate. Past compliance test results, presented below, indicate that the plant should be able to comfortably meet the target SAM and NO_x emissions rates of 1.8 and 8.0 lbs/hr, respectively, even at higher production rates.

<u>YEAR</u>	<u>RATE (tpd)</u>	<u>SO₂ (lb/hr)</u>	<u>SAM (lb/hr)</u>	<u>NO_x (lb/hr)</u>
Test 3-24-09	1034	137.2	0.52	NA
Test 9-19-09	1600	233.0	1.33	3.25

References:

Current Limit	1600	233.3	5.0	8.0
Scenario B	1600	100.0	1.8	8.0
Scenario A	1600	93.3	1.8	8.0

It should be noted that as long as the plant operates within the current emissions limits during the testing period, it will be deemed to be operating in compliance.

Post Test Plant Operation

Upon completion of the production test evaluation, as described above, CFI may either revert to operating the plant under the requirements of the current Permit No. 0570005-021-AC or continue to operate at the higher established production rate and in compliance with the emissions limitations for B SAP in accordance with Scenario B in Permit No. 0570005-034-AC until September 1, 2010. Thereafter, CFI will comply with the emissions limitations for the Scenario A or B, as selected by June 1, 2010.

Within 30 days of completion of the production testing, CFI will submit a construction permit application to modify the above referenced air construction permits to incorporate the higher operation into the permits, if required.

When a request for a permit modification is submitted for the increase in the production rate of the B SAP, the proposed project will be subject to the construction permitting provisions of Chapters 120 and 403, Florida Statutes as well as Rules 62-4, 204, 210, 296 and 297 of the Florida Administrative Code.