TECO
TAMPA ELECTRIC

July 20, 2006

Ms. Trina Vielhauer
Florida Department of Environmental Protection
111 S. Magnolia Drive, Suite 23
Tallahassee, FL 32301

Via FedEx
Airbill No. 7915 0154 3022

Re: Tampa Electric Company – Big Bend Station
DEP File No. 0570039-023AC – Fly Ash Carbon Burn-Out (CBO) Process
Withdrawal of Air Construction Permit Application

Dear Ms. Vielhauer:

Tampa Electric wishes to withdraw the referenced permit application at this time.

If you have any questions or comments, please contact Sharon Good or me at (813) 228-4654.

Sincerely,

Byron T. Burrows, P.E.
Manager - Air Programs
Environmental, Health & Safety

EHS/rlk/SCG172

c: Mr. Tom Cascio, FDEP
Mr. Al Linero, FDEP
Mr. Doug Beason, Esquire

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

TAMPA ELECTRIC COMPANY-
BIG BEND STATION,

Petitioner,

v.

OGC No. 06-1098
DEP Permit No. 0570039-023-AC

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION,

Respondent.
_____/

ORDER DENYING SECOND REQUEST FOR EXTENSION OF TIME TO FILE PETITION FOR HEARING

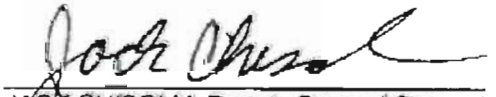
This cause has come before the Florida Department of Environmental Protection upon receipt of a second request made by Petitioner, Tampa Electric Company, to grant an additional extension of time to file a petition for an administrative hearing to allow time for them to resolve contractual issues prior to finalization of the permit. Because the request fails to show good cause for the extension of time,

IT IS ORDERED:

The request for an extension of time to file a petition for administrative proceeding is DENIED. Petitioner shall have until **July 13, 2006**, to file a petition in this matter. Filing shall be complete on receipt by the Office of General Counsel, Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

DONE AND ORDERED on this 26th day of June, 2006, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



JACK CHISOLM, Deputy General Counsel
3900 Commonwealth Boulevard – MS 35
Tallahassee, Florida 32399-3000
850/245-2242 facsimile 850/245-2302

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished via U. S. Mail and facsimile this 28th day of June, 2006, to:

Byron T. Burrows, P.E.
Manager, Air Programs
Environmental, Health & Safety
Post Office Box 111
Tampa, FL 33601-0111

facsimile: 813/228-1308

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Patricia E. Comer

PATRICIA E. COMER, Assistant General Counsel
FL Bar 0224146
3900 Commonwealth Boulevard MS - 35
Tallahassee, Florida 32399-3000
850/245-2242 facsimile 850/245-2302

with a courtesy copy to:

Trina L. Vielhauer, Chief
Bureau of Air Regulation

facsimile: 850/921-9533

Kathy

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

TAMPA ELECTRIC COMPANY-
BIG BEND STATION,

Petitioner,

v.

OGC No. 06-1098
DEP Permit No. 0570039-023-AC

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION,

Respondent.

ORDER GRANTING REQUEST FOR EXTENSION
OF TIME TO FILE PETITION FOR HEARING

This cause has come before the Florida Department of Environmental Protection upon receipt of a request made by Petitioner, Tampa Electric Company, to grant an extension of time to file a petition for an administrative hearing to allow time to discuss with FDEP several specific permit conditions for its facility in Hillsborough County, Florida. Because the request shows good cause for the extension of time,

IT IS ORDERED:

The request for an extension of time to file a petition for administrative proceeding is granted. Petitioner shall have until **June 27, 2006**, to file a petition in this matter. Filing shall be complete on receipt by the Office of General Counsel, Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

DONE AND ORDERED on this 22nd day of May, 2006, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Jack Chisolm

JACK CHISOLM, Deputy General Counsel
3900 Commonwealth Boulevard – MS 35
Tallahassee, Florida 32399-3000
850/245-2242 facsimile 850/245-2302

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished via √ U. S. Mail _ facsimile √ **only**, this 22nd day of May, 2006, to:

Byron T. Burrows, P.E.
Manager, Air Programs
Environmental, Health & Safety
Post Office Box 111
Tampa, FL 33601-0111

facsimile: 813/228-1308

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Patricia E. Comer

PATRICIA E. COMER, Assistant General Counsel
FL Bar 0224146
3900 Commonwealth Boulevard MS - 35
Tallahassee, Florida 32399-3000
850/245-2242 facsimile 850/245-2302

with a courtesy copy to:

Trina L. Vielhauer, Chief
Bureau of Air Regulation

facsimile: 850/921-9533

TAMPA ELECTRIC

May 11, 2006

Ms. Lea Crandall
Agency Clerk – Office of the General Counsel
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, MS #35
Tallahassee, FL 32399-3000

Via FedEx
Airbill No. 7919 3993 7982

Re: Tampa Electric Company – Big Bend Station
DEP File No. 0570039-023AC – Fly Ash Carbon Burn-Out (CBO) Process
Intent to Issue Air Construction Permit

Dear Ms. Crandall:

By letter dated April 24, 2006, and received by Tampa Electric Company on April 27, 2006, the Florida Department of Environmental Protection (FDEP) announced its intent to issue an air construction permit for the Fly Ash Carbon Burn-Out (CBO) Process at Big Bend Station located in Hillsborough County, Florida. Tampa Electric Company has had an opportunity to review the intent to issue the construction permit along with the proposed conditions and have some issues that we believe need to be resolved prior to finalization of the permit document.

Tampa Electric is beginning discussions with the staff of FDEP on these issues and we request that the time for Tampa Electric Company to petition for a formal administrative hearing be extended by an additional 45 days from the deadline set forth in the Intent to Issue Air Construction Permit pursuant to Rule 62-110.106(4), Florida Administrative Code. Tampa Electric Company believes that this time will be sufficient to amicably resolve the issues without the necessity of pursuing a formal administrative hearing.

Thank you for your consideration of this request. If you have any questions or comments, please contact Shelly Castro or me at (813) 228-4408.

Sincerely,

Byron T. Burrows, P.E.
Manager - Air Programs
Environmental, Health & Safety

EHS/rlk/SSC259

c: Mr. Tom Cascio, FDEP
Mr. Al Linero, FDEP
Mr. Doug Beason, Esquire

TAMPA ELECTRIC COMPANY
P. O. BOX 111 TAMPA, FL 33601-0111

(813) 228-4111

AN EQUAL OPPORTUNITY COMPANY
HTTP://WWW.TAMPAELECTRIC.COM

CUSTOMER SERVICE:
HILLSBOROUGH COUNTY (813) 223-0800
OUTSIDE HILLSBOROUGH COUNTY 1 (888) 223-0800

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

April 24, 2006

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

Re: **Big Bend Units No. 3 and 4**
DEP File No. **0570039-023-AC**
Fly Ash Carbon Burn-out (CBO) Process

Dear Ms. Sheffield:

Enclosed are documents indicating the Department's intent to issue an air construction permit for the installation of a Fly Ash Carbon Burn-out (CBO) Process on Units No. 3 and 4 at the Big Bend Station in Tampa. The documents include: the "Intent to Issue Air Construction Permit"; the "Public Notice of Intent to Issue Air Construction Permit"; the Department's "Technical Evaluation and Preliminary Determination"; and the Draft Permit.

The Public Notice must be published one time only as soon as possible in a newspaper of general circulation in the area affected, pursuant to Chapter 50, Florida Statutes. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven (7) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

Electronic versions of these documents have been posted on the Division of Air Resource Management's world wide web site for the United States Environmental Protection Agency (U.S. EPA) Region 4 office's review. The web site address is:

http://www.dep.state.fl.us/air/eproducts/ards/default.asp (Permit No. 0570039-023-AC)

Please submit any other written comments you wish to have considered concerning the Department's proposed action to Mr. A. A. Linero, Program Administrator, Permitting South Section, at the above letterhead address. If you have any questions, please call Tom Cascio at 850/921-9526, or Mr. Linero at 850/921-9523.

Sincerely,

Trina L. Vielhauer

Trina L. Vielhauer, Chief
Bureau of Air Regulation

TLV/aal/tbc

Enclosures

In the Matter of an
Application for Permit by:

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
P.O. Box 111
Tampa, FL 33601-0111

DEP File No. 0570039-023-AC
Fly Ash Carbon Burn-out (CBO) Process
Big Bend Station Units No. 3 and 4
Hillsborough County

INTENT TO ISSUE AIR CONSTRUCTION PERMIT

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit (copy of permit attached) for the project, detailed in the application specified above and the enclosed Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Tampa Electric Company (TEC), operates the Big Bend Station located at Big Bend Road, North Ruskin, Hillsborough County. TEC applied on August 10, 2005, for an air construction permit to install a fly ash carbon burn-out (CBO) process at the Big Bend Station. The Applicant has emphasized that CBO technology is an integral component of their Big Bend Station nitrogen oxides (NO_x) pollution control projects required by the U.S. Environmental Protection Agency (EPA) Consent Decree and Florida Department of Environmental Protection (FDEP) Consent Final Judgment. The air construction permit will also establish this specific project as applicable Title V Operation Permit conditions.

The Department has permitting jurisdiction under the provisions of Chapter 403.087, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210 and 62-213. This action is not exempt from permitting procedures. The Department has determined that an air construction permit is required. The Department intends to issue this air construction permit based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a)1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Construction Permit. The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/ 922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final construction permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed permit issuance action for a period of fourteen (14) days from the date of publication of Public Notice. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the construction permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying

(implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute (implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.

Trina L. Vielhauer

Trina L. Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue Air Construction Permit (including the Public Notice, Technical Evaluation and Preliminary Determination, and the Draft permit) was sent by certified mail (*) and copies were mailed by U.S. Mail or by e-mail before the close of business on 4/24/06 to the person(s) listed:

Karen Sheffield, General Manager, TEC Big Bend Station*
Thomas Davis, P.E., Environmental Consulting and Technology, Inc., via e-mail
Shelly Castro, TEC, via e-mail
Alice Harman, EPCHC, via e-mail
Mara Nasca, FDEP-SWD, via e-mail
David Lloyd, EPA Region 4, via e-mail
Buck Oven, Power Plant Siting Section, via e-mail

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Barbara J. Friday 4/24/06
(Clerk) (Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0570039-023-AC

Tampa Electric Company
Big Bend Station, Hillsborough County

The Department of Environmental Protection (Department) gives notice of its intent to issue an air construction permit to the Tampa Electric Company (TEC) for the Big Bend Station located at Big Bend Road, North Ruskin, Hillsborough County. The applicant's mailing address is: Tampa Electric Company, P.O. Box 111, Tampa, Florida 33601-0111.

This permit is for the installation of a fly ash carbon burn-out (CBO) process as a modification to Steam Generator Units No. 3 and 4. This technology includes a CBO fluidized bed combustor that will be integrated into the steam generators, as well as ancillary fly ash handling equipment. The CBO process is necessary to make the fly ash resulting from the Consent Final Judgment and the Consent Decree more marketable.

A Best Available Control Technology (BACT) determination was not required pursuant to Rules 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The air construction permit will also establish this specific project as applicable Title V Operation Permit conditions. The Department will issue the final construction permit unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments concerning the proposed construction permit issuance action for a period of fourteen (14) days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit. Written comments should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice. The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any

subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Protection Bureau of Air Regulation Suite 4, 111 S. Magnolia Drive Tallahassee, Florida, 32301 Telephone: 850/488-0114 Fax: 850/922-6979	Dept. of Environmental Protection Southwest District 13051 N Telecom Parkway Temple Terrace, FL 33637-0926 Telephone: 813/ 632-7600 Fax: 813/ 632-7665	Hillsborough County Environmental Protection Commission Air Management Division 3629 Queen Palm Drive Tampa, Florida 33619 Telephone: 813/627-2600

The complete project file includes the permit application, technical evaluation, Draft construction permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Department's reviewing engineer for this project, Tom Cascio, at MS 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, or Tom.Cascio@dep.state.fl.us , or call 850/921-9526 for additional information. Key documents may also be viewed at: www.dep.state.fl.us/Air/permitting/construction.htm in the power plant category.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

APPLICATION INFORMATION

Applicant Name and Address:
Tampa Electric Company (TEC)
P.O. Box 111
Tampa, Florida 33601-0111

Representative: Karen Sheffield, General Manager, Big Bend Station

Reviewing and Process Schedule:

August 10, 2005:	Application received at FDEP Bureau of Air Regulation
January 25, 2006:	Application deemed complete
	Intent to issue draft permit clerked

FACILITY INFORMATION

Facility Location: Big Bend Station located at Big Bend Road, North Ruskin, Hillsborough County

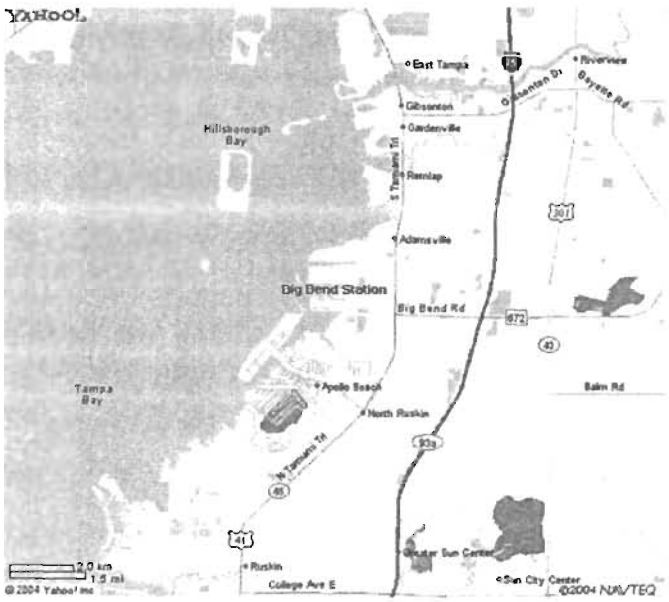


Figure 1. Ruskin, Apollo Beach, Big Bend

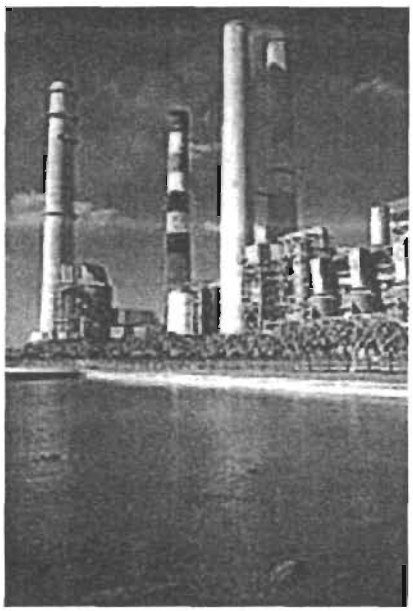


Figure 2. Big Bend Station

Standard Industrial Classification (SIC) Codes:

Major Group No.	49	Electric, Gas, and Sanitary Services
Group No.	491	Electric Services
Industry No.	4911	Electric Services

FACILITY DESCRIPTION

This facility consists primarily of four existing fossil fuel steam generators (boilers) and three simple-cycle combustion turbines. Emissions from all steam generators are controlled by electrostatic precipitators (ESPs), and flue gas desulfurization (FGD) systems. In addition, there are nitrogen oxides (NO_x) control projects utilizing selective catalytic reduction (SCR) systems currently being implemented

pursuant to the Consent Final Judgment (CFJ) between TEC and the Department and a Consent Decree (CD) between TEC and the United States Environmental Protection Agency (EPA) as noted above.

EMISSIONS UNITS

This permit addresses the modification and/or installation of the following equipment:

Emission Unit No.	System	Emission Unit / Equipment Description
003	Power Generation	445 MW Fossil Fuel Steam Generator (installation of the Carbon Burn-Out Fluidized Bed Combustor is considered a modification to Emission Unit Nos. 3 and 4)
004	Power Generation	486 MW Fossil Fuel Steam Generator (installation of the Carbon Burn-Out Fluidized Bed Combustor is considered a modification to Emission Unit Nos. 3 and 4)
040	Fly Ash Handling	CBO Feed Fly Ash Silo
041	Fly Ash Handling	CBO Feed Fly Ash Storage Dome
042	Fly Ash Handling	CBO Product Fly Ash Storage Dome
043	Fly Ash Handling	CBO Product Fly Ash Truck Loadout Storage Silo and Truck Loading
044	Fly Ash Handling	CBO Product Fly Ash Truck Fugitives

REGULATORY CLASSIFICATION

Because potential emissions of at least one regulated pollutant exceed 100 tons per year, the existing facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and volatile organic compounds (VOC). The existing facility is a major source of hazardous air pollutants (HAPs). The facility operates emissions units subject to the acid rain provisions of the Clean Air Act (Title IV).

The facility is considered a "fossil fuel fired steam electric plant of more than 250 million BTU per hour of heat input". This kind of facility is one of the 28 source categories with the lower applicability threshold of 100 tons per year with respect to the Rule 62-212.400, Prevention of Significant Deterioration of Air Quality (PSD). Potential emissions of at least one regulated pollutant exceed 100 tons per year. Therefore, the facility is classified as a PSD-major source. Unit 4 was certified pursuant Electrical Power Plant Siting in accordance with Chapter 62-17, F.A.C. and Chapter 403, Part II, F.S.

PERMITTING STATUS

Operation of the Big Bend Station is authorized by the Title V Operation Permit Revision 0570039-017-AV that has an effective date of January 1, 2005, and expires on December 31, 2009. The current Title V permit includes the applicable requirements from federal and state regulations and

construction permits. It also includes a Consent Final Judgment (CFJ, DEP vs. TEC) dated December 6, 1999, and a Consent Decree (CD, EPA vs. TEC) dated February 29, 2000, and amended October 4, 2000. The CFJ and CD require substantial progressive emission reductions from the four coal fired steam generation units by specific dates.

The current Title V permit includes a number of projects or improvements pursuant to the CFJ and CD including: improved scrubbing efficiency on Units 1 and 2; Low NO_X Burners (LNBs) on Units 1, 2, and 3; installation of new coal nozzles suitable for low NO_X operation; modification redesign of windbox components to allow for proper distribution and staging of air; and installation of a separate overfire air (SOFA) system on Unit 4. TEC has received air construction permits from the Department to install selective catalytic reduction (SCR) systems for NO_x control on Units 1 through 4.

CARBON BURN-OUT (CBO) PROJECT ON UNITS 3 AND 4

TEC submitted an application to the Department on August 10, 2005, for the installation of a carbon burn-out (CBO) process at the facility. This process includes a CBO fluidized bed combustor that will be integrated into Steam Generator Unit Nos. 3 and 4, as well as ancillary fly ash handling equipment. The CBO process is necessary to mitigate the adverse environmental and operational impacts that would otherwise result from an emissions reduction program required by a Consent Final Judgment with the Department and a Consent Decree with the United States Environmental Protection Agency.

In a letter dated January 20, 2006, EPA Region 4 reported their determination that the fluidized bed combustor within the carbon burnout project can be viewed as a physical change of the existing Big Bend Units 3 and 4, and that new source review (NSR) applicability can be assessed using current Florida rules that allow comparison of actual annual emissions prior to the change with representative actual emissions after the change. Further, actual emissions from Units 3 and 4 prior to development of the carbon burnout project can be based on total emissions from Units 3 and 4 within a recent two-year period without any adjustments that take into account the Consent Decree between the federal government and Tampa Electric Company.

The applicant escaped prevention of significant deterioration (PSD) review for the current air construction permit. (Please refer to the attached Table 1., Big Bend Units 3 & 4 and CBO PSD Emission Evaluation). Because the projected net increases in actual emissions for the pollutants are below the significant emissions rates listed in Rule 62-210.200(242), F.A.C., Definitions – Significant Emissions Rates, it has been determined by the Department that this change constitutes a minor modification to the facility. Therefore, this permit modification is not subject to review under Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD), so neither a revised Best Available Control Technology (BACT) determination, nor an analysis of the air quality impact is required. The proposed project is otherwise subject to preconstruction review requirements under the provisions of Chapter 403, Florida Statutes, and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The emission units affected by this permit shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein), and all specific conditions of the facility's existing Title V Air Operation Permit Renewal No. 0570039-017-AV.

PROJECT SCHEDULE

Emissions Unit ID Number	Estimated Start Date	Estimated Completion Date
003	June 1, 2006	December 1, 2007
004	June 1, 2006	December 1, 2007
040	June 1, 2006	December 1, 2007
041	June 1, 2006	June 1, 2007
042	June 1, 2006	December 1, 2007
043	June 1, 2006	December 1, 2007
044	June 1, 2006	December 1, 2007

BACKGROUND AND PROJECT DESCRIPTION

The Tampa Electric Company has entered into agreements with EPA and FDEP concerning the installation of additional air pollution control systems at the Big Bend Station. These agreements (EPA Consent Decree and FDEP Consent Final Judgment) included requirements to install additional systems for NO_x control on Units 1 through 4. In response to these requirements, the Tampa Electric Company determined that the installation of combustion modifications and SCR systems are the technologies to be used to reduce NO_x emissions from these units. Via prior permitting actions, the Department issued air construction permits to implement these changes at the facility. However, installation of these systems to effect NO_x reductions will necessarily impact the Tampa Electric Company's current beneficial reuse of its fly ash at the Big Bend Station.

Combustion by-product fly ash generated at Units 1 through 4 is presently transferred offsite and used as a raw material in the production of Portland cement or as a substitute for Portland cement in the production of concrete. The current and planned NO_x control systems for Units 1 through 4 will increase the fly ash carbon and ammonia concentrations to levels that will render the fly ash unusable as a Portland cement raw material or substitute. The Big Bend Station generates approximately 280,000 tons of fly ash per year as a result of its operations; 100 percent of that fly ash is currently transferred offsite for use in the production of either Portland cement or concrete. If the fly ash cannot be used for those purposes, this could potentially result in the landfill disposal of 280,000 tons of fly ash annually.

In addition to reducing NO_x to molecular nitrogen, the SCR control systems will unavoidably increase boiler flue gas sulfur trioxide (SO_3) concentrations due to the oxidation of sulfur dioxide (SO_2) to SO_3 by the SCR catalyst. SO_3 vapor will subsequently condense to form sulfuric acid mist aerosol as the flue gas temperature is reduced in the inlet to the wet flue gas desulfurization (FGD) control system. Sulfuric acid mist aerosol is not efficiently removed by wet FGD control systems. To avoid corrosion downstream of the ductwork and ESP internals, and avoid potential plume opacity problems, ammonia injection systems will be installed at the Big Bend Station to mitigate the environmental impacts of SO_3 formation by the SCR control systems. The ammonia injection systems will further increase the fly ash ammonia concentration to levels that are well above the maximum concentration (i.e., 50 parts per million) required for recycling the fly ash as a Portland cement raw material or substitute.

The SCR and the control measures to mitigate SO_3 formation will alter the quality of the fly ash so that it cannot be recycled in the current manner. The CBO technology will be installed to produce a low-carbon, low-ammonia, fly ash material suitable for reuse in cement and concrete production (in lieu of landfilling the fly ash). The technology will also recover a significant portion of the energy contained in the high-carbon fly ash for beneficial use at the Big Bend Station. Thus, it is expected that the heat

recovered from the process will displace the energy derived from solid fuels that would otherwise be burned in Units 3 and 4, resulting in a fuel savings and corresponding reduction in air emissions.

An issue raised during pre-application meetings was that of potential mercury (Hg) emissions associated with the CBO process. The Applicant reported that extensive testing conducted by the process vendor, Progress Materials, Inc. (PMI), confirmed that essentially all of the mercury present in the feed fly ash to the process will remain with the process product fly ash and therefore concluded that mercury emissions are not an issue. This finding was substantiated by the Department's own internal analysis. The DEP Bureau of Laboratories Chemistry Section analyzed samples of feed and product fly ash taken from CBO installations in South Carolina. It appears that Hg is effectively retained in the product fly ash (in the range of 0.5 to 0.8 ppm by weight) at those facilities. It is reasonable to expect (as TEC and PMI claim) for the present application that Hg will end up in the product that will ultimately be sold for use in concrete.

The permittee shall conduct initial and annual sampling for NO_x and CO of the CBO return prior to entering the common Units 3 and 4 FGD inlet duct in accordance with the requirements of Rule 62-297.310(7)(a)4.b., F.A.C. Testing of mercury (Hg) is also required by this permit; the permittee shall conduct initial and annual sampling for Hg emissions of the CBO return prior to entering the common Units 3 and 4 FGD inlet duct. The existing SO_2 CEMS located downstream of Units 3 and 4 FGD shall be used to monitor SO_2 emissions from Units 3 and 4 and the CBO return. Consistent with current testing requirements, initial and annual of sampling for particulate matter (PM) shall also be conducted downstream of Units 3 and 4 FGD to measure PM from Units 3 and 4 and the CBO return.

PROCESS DESCRIPTION

CBO™ technology is a proprietary, patented, environmentally beneficial technology whose primary function is the production of low-carbon, low-ammonia fly ash material suitable for commercial use as a Portland cement raw material or substitute. Major components of the process planned for the Big Bend Station include a feed fly ash silo, feed and product fly ash storage domes, fluidized bed combustor (FBC), hot cyclones for fly ash recycle to the FBC, heat recovery heat exchanger, cold cyclone and fabric filter baghouse for product fly ash recovery, and product fly ash truck loading.

Fly ash from Units 1 through 4 electrostatic precipitators (ESPs) will be conveyed pneumatically o the feed fly ash silo or feed fly ash storage dome. The ESPs are located downstream of the SCR and SO3 air emission control systems and therefore will collect high-carbon, ammoniated fly ash from Units 1 through 4 combustion gas streams. The feed fly ash silo will vent through a baghouse prior to discharging to the atmosphere. The feed fly ash storage dome will also vent through a baghouse prior to discharging to the atmosphere.

Fly ash from the feed silo will then be fed to the FBC for oxidation of carbon contained in the fly ash to carbon dioxide. The high temperature FBC process will also reduce fly ash ammonia compounds to molecular nitrogen (N_2) and water. The CBO technology does not require any auxiliary fuel to operate, with the limited exception of a minimal amount of startup fuel to initiate the combustion process. As with any fossil fuel combustion process, the FBC combustion gases will also contain combustion by-products including NO_x, carbon monoxide (CO), SO2, particulate matter less than or equal to 10 micrometers (PM_{10}), and volatile organic compounds (VOCs). The CBO process includes a forced draft fan to provide fluidization and combustion air to the FBC. An induced draft fan maintains the FBC freeboard pressure slightly below atmospheric pressure.

The FBC exhaust stream will be routed through hot cyclones to capture fly ash entrained in the FBC exhaust stream. Fly ash captured by the hot cyclones is returned to the FBC. The hot cyclones exhaust and FBC low carbon product ash streams are combined and sent to the gas/product cooler heat exchanger for heat recovery. Thermal energy recovered from the process will be used to heat condensate from the Units 3 and/or 4 low-pressure feedwater systems. Unit 3 will be the primary recipient of the recovered process energy; Unit 4 will be used during periods when Unit 3 is not available. Reuse of the process recovered energy saves fuel that would otherwise need to be burned in Units 3 and 4. This will result in less coal being consumed per Unit of electric output, with corresponding reductions in air pollutant emissions. The improvement in Unit 3 and Unit 4 heat rate, due to the use of recovered energy from the process, represents recovery of a portion of the efficiency lost when combustion controls were installed on Units 3 and 4 for NO_x reduction purposes. Lower combustion efficiency is a consequence of the lower flame temperatures and lower oxygen available in the combustion zone which is necessary to reduce NO_x emissions. This is the reason for the increase in fly ash carbon content.

Following heat recovery, the cooled FBC combustion gases, containing entrained product fly ash, will be routed through a cold cyclone and fabric filter baghouse for product fly ash separation. The exhaust from the fabric filter baghouse (i.e., the CBO return) will be routed to the inlet of Units 3 and 4 flue gas desulfurization (FGD) emission control system and subsequently discharged to the atmosphere through the existing Units 3 and 4 stacks. Product fly ash separated by the cold cyclone and fabric filter baghouse will be sent to a surge bin. A portion of the cooled, low-carbon product will be recycled to the FBC for temperature control. The remaining product ash is then conveyed pneumatically to the product fly ash storage dome or directly to the truck loadout silo. The product fly ash storage dome will vent through a baghouse prior to discharging to the atmosphere. The feed and product fly ash storage domes will be used to provide flexibility in product fly ash marketing. Product fly ash will be conveyed to the truck loadout silo for subsequent transfer to trucks for shipment to offsite customers. The PM_{10} emissions captured during the truck loading process will be routed to the truck loadout silo which will vent through a baghouse prior to discharging to the atmosphere.

The product fly ash trucks will travel on paved roads within the Big Bend Station and then exit the plant for delivery to offsite customers. Fugitive particulate matter (PM)/PM_{10} emissions associated with product fly ash truck traffic on Big Bend Station paved roads will be controlled by periodic watering on an as-needed basis.

PROJECT EMISSION RATES

Emissions associated with the project include PM_{10} due to fly ash handling and storage, combustion by-products (i.e., NO_x, CO, SO_2, VOC, and PM_{10}) due to combustion of feed fly ash in the FBC, PM and PM_{10} due to truck traffic, and pollutants caused by use of startup distillate fuel oil. Estimated emission rate changes are provided in the tables below. Each of these emission areas is discussed in the following sections. Also, please refer to the attached Table 1., Big Bend Units 3 & 4 and CBO PSD Emission Evaluation for netting calculations.

Estimated potential emissions increase from the FBC are:

Pollutant	Estimated tpy*
NO_x	362.0
CO	46
SO_2	16.5
VOC	6.6
PM_{10}	6.5

*Vendor estimate

Estimated potential PM_{10} emissions due to fly ash handling and storage: 16.4 tpy.

Estimated potential PM emissions due to truck traffic: 0.777 tpy.

Estimated potential PM_{10} emissions due to truck traffic: 0.152 tpy.

Startup distillate fuel oil potential emissions are as follows:

Pollutant	Estimated tpy*
NO_x	0.14
CO	0.04
VOC	0.0014
SO_2	0.025
PM	0.0014
PM_{10}	0.0014
Pb	0.0000090

*AP-42 use estimate

MATERIAL HANDLING AND STORAGE EMISSIONS

The CBO process will include five PM_{10} emission points associated with material handling and storage activities. These emission points include feed fly ash silo, feed fly ash storage dome, product fly ash storage dome, product fly ash truck load-out storage silo and truck loading operation, and fugitive emissions associated with product fly ash truck traffic on paved Big Bend Station roads.

The feed fly ash silo, feed and product fly ash storage domes, and product fly ash truck loadout silo will each be equipped with fabric filter baghouses designed to achieve an outlet PM_{10} concentration of no more than 0.020 grains per dry standard cubic foot (gr/dscf). These baghouses will employ Nomex™/Teflon™ filter bags and pulse jet cleaning. Design pressure drop for each baghouse is 6 inches of water. Baghouse air-to-cloth ratios are 3:1 (feed fly ash silo) and 4:1 (feed and product fly ash storage domes and product fly ash truck loadout silo). The truck loading operation will include a telescoping chute with local ventilation designed to capture the fugitive PM_{10} emissions that would otherwise occur in the absence of this collection equipment. The PM_{10} emissions captured during the truck loading process will be routed to the truck loadout silo. Fugitive PM_{10} emissions associated with product fly ash truck traffic on paved Big Bend Station roads will be minor due to relatively short travel distances. Potential PM_{10} emissions, based on the conservative premise of continuous operation, total 16.4 tons per year (tpy) for these emission sources.

The existing Big Bend Station fly ash handling and storage systems will remain in use. However, the existing fly ash truck loading equipment will not be used while the CBO process is operational.

COMBUSTION BY-PRODUCT EMISSIONS

The FBC combustion gases will contain combustion by-products including NO_x, CO, SO_2, PM_{10}, and VOCs. The FBC will utilize good combustion practices to minimize emissions of CO. Following product fly ash separation by the cold cyclone and fabric filter baghouse, this exhaust stream will be routed to the inlet of Units 3 and 4 FGD control system prior to discharging to the atmosphere through existing Units 3 and 4 stacks. Emission estimates for these combustion by-products, provided in the table above, were developed based on data provided by the CBO vendor, Progress Materials, Inc. (PMI).

Including the CBO return stream, the Units 3 and 4 FGD control system will continue to achieve the SO_2 removal rates required by the EPA Consent Decree and FDEP Consent Final Judgment. Units 3 and 4 shall also continue to comply with the PM emission limits required by the EPA Consent Decree and FDEP Consent Final Judgment. As noted above, reuse of the CBO process recovered energy will save fuel that would otherwise need to be consumed in Units 3 and 4.

The Big Bend Station NO_x pollution control projects, including the integral CBO process, are environmentally beneficial due to the substantial reductions in actual NO_x emissions that will occur following completion of these projects. (Please refer to the attached Table 1., Big Bend Units 3 & 4 and CBO PSD Emission Evaluation).

The emission units affected by this permit shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein), and all specific conditions of the facility's existing Title V Air Operation Permit Renewal No. 0570039-017-AV.

PRELIMINARY DETERMINATION

Based on the foregoing technical evaluation of the application and other available information, the Department has made a determination that the proposed project will comply with all applicable state and federal air pollution regulations. The Department will issue a Draft Air Construction Permit to the applicant that provides for the above changes at the facility.

Big Bend Units 3 & 4 and CBO PSD Emission Evaluation

Historic Heat Input Values Based on CEMS Data

	BB3	BB4
2004	24,458,761	31,531,089
2005	20,358,762	30,356,932
Average	22,408,762	30,944,011

Big Bend Unit 3

Parameter	BB3 Baseline Actual Annual Emissions (tons)[1] 2004	2005	Average	Source	BB3 Calculated Future Actual Annual Emissions (tons) Calculated Future Actuals	Basis
NOx	6,506	5,232	5,869	CEMS	1,345	(0.12 lb/MMBtu emission rate)*(2004-5 HI)/2000
SO2	2,697	2,355	2,526	CEMS	2,465	(0.22 lb/MMBtu emission rate)*(2004-5 HI)/2000
CO	2446	2036	2,241	Estimate (eng. study)	2,241	(0.2 lb/MMBtu emission rate)*(2004-5 HI)/2000
VOC	21	18	19	Estimate (AP-42)	19	(0.0017 lb/MMBtu emission rate)*(2004-5 HI)/2000
PM	194	162	178	Stack Test/AOR	178	(0.0159 lb/MMBtu emission rate)*(2004-5 HI)/2000

Big Bend Unit 4

Parameter	BB4 Baseline Actual Annual Emissions (tons)[1] 2004	2005	Average	Source	BB4 Calculated Future Actual Annual Emissions (tons) Calculated Future Actuals	Basis
NOx	3,516	3,081	3,298	CEMS	1,547	(0.10 lb/MMBtu emission rate)*(2004-5 HI)/2000
SO2	3,477	3,511	3,494	CEMS	3,404	(0.22 lb/MMBtu emission rate)*(2004-5 HI)/2000
CO	457	440	449	Estimate/Permit Limit	449	(0.029 lb/MMBtu emission rate)*(2004-5 HI)/2000
VOC	41	40	40	Estimate (AP-42)	40	(0.0026 lb/MMBtu emission rate)*(2004-5 HI)/2000
PM	67	65	66	Stack Test/AOR	66	(0.0159 lb/MMBtu emission rate)*(2004-5 HI)/2000

Big Bend CBO

Parameter	CBO Baseline Actual Annual Emissions (tons) 2004	2005	Average	Source	CBO Calculated Future Actual Annual Emissions (tons) Calculated Future Actuals	Basis
NOx	0	0	0	Not in operation	362	See CBO Permit Application
SO2	0	0	0	Not in operation	16.5	See CBO Permit Application
CO	0	0	0	Not in operation	46	See CBO Permit Application[2]
VOC	0	0	0	Not in operation	6.6	See CBO Permit Application
PM_{10}	0	0	0	Not in operation	6.5	See CBO Permit Application

Combined Emissions - Big Bend CBO, Unit 3, & Unit 4

Parameter	Baseline Actual Emissions[1] (tons)	Calculated Future Actual Emissions[2] (tons)	Emissions Increase or (Reduction)[3] (tons)	PSD Significance Level (tons)
NOx	9,168	3,254	(5,914)	40
SO2	6,020	5,885	(135)	40
CO	2690	2736	46	100
VOC	60	66	6	40
PM_{10}	244	251	6	15

Notes:

1. 2004-2005 emissions are selected as the baseline actual emissions.
2. *The CBO CO value is revised from the application due to a higher heat recovery emissions offset value because of revised future CO emissions from Units 3 & 4.*
3. BB Unit 4 CO increase is based on 0.029 lb/MMBtu permit limit. TEC will request a higher CO limit based on effect of Consent Decree Early NOx Reduction Projects.

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

DRAFT AIR CONSTRUCTION PERMIT NO. 0570039-023-AC

PERMITTEE

Tampa Electric Company (TEC)	File/Permit No.	**0570039-023-AC**
Big Bend Station	Facility ID:	0570039
Post Office Box 111	Project:	Carbon Burn-out (CBO) Process
Tampa, Florida 33601-0111		Steam Generator Unit 3
		Steam Generator Unit 4
	SIC No.	4911
Authorized Representative:	Expires:	December 31, 2008
Karen Sheffield, General Manager	County	Hillsborough

PROJECT AND LOCATION

This is an Air Construction Permit for the installation of a carbon burn-out (CBO) process at the facility. This process includes a CBO fluidized bed combustor that will be integrated into Steam Generator Units 3 and 4 as well as ancillary fly ash handling equipment. The CBO process is necessary to make the fly ash resulting from the Consent Final Judgment and a Consent Decree more marketable. The air construction permit will also establish this specific project as applicable Title V Operation Permit conditions.

The TEC Big Bend Station is located at Wyandotte Road, Apollo Beach, Hillsborough County. UTM Coordinates are Zone 17, 361.9 km East and 3075.0 km North; Latitude: 27° 47' 36" North and Longitude: 82° 24' 11" West.

STATEMENT OF BASIS

This Air Construction Permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The above named permittee is authorized to install the CBO process at the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

THE ATTACHED APPENDIX IS MADE A PART OF THIS PERMIT:

Appendix GC Construction Permit General Conditions

Michael G. Cooke, Director
Division of Air Resource Management

MGC/tbc

FACILITY DESCRIPTION

This facility consists primarily of four existing fossil fuel steam generators (boilers) and three simple-cycle combustion turbines. Emissions from all steam generators are controlled by electrostatic precipitators (ESPs), and flue gas desulfurization (FGD) systems. In addition, there are ongoing nitrogen oxides (NO_x) control projects utilizing selective catalytic reduction (SCR) systems currently being implemented pursuant to the Consent Final Judgment between TEC and the Department and a Consent Decree between TEC and the United States Environmental Protection Agency (EPA) as noted above.

EMISSIONS UNITS

This permit addresses the modification and/or installation of the following equipment:

Emission Unit No.	System	Emission Unit / Equipment Description
003	Power Generation	445 MW Fossil Fuel Steam Generator (installation of the Carbon Burn-Out Fluidized Bed Combustor is considered a modification to Emission Unit Nos. 3 and 4)
004	Power Generation	486 MW Fossil Fuel Steam Generator (installation of the Carbon Burn-Out Fluidized Bed Combustor is considered a modification to Emission Unit Nos. 3 and 4)
040	Fly Ash Handling	CBO Feed Fly Ash Silo
041	Fly Ash Handling	CBO Feed Fly Ash Storage Dome
042	Fly Ash Handling	CBO Product Fly Ash Storage Dome
043	Fly Ash Handling	CBO Product Fly Ash Truck Loadout Storage Silo and Truck Loading
044	Fly Ash Handling	CBO Product Fly Ash Truck Fugitives

REGULATORY CLASSIFICATION AND BACKGROUND

Because potential emissions of at least one regulated pollutant exceed 100 tons per year, the existing facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C. Regulated pollutants include pollutants such as carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and volatile organic compounds (VOC). The existing facility is major source of hazardous air pollutants (HAPs). The facility operates emissions units subject to the Acid Rain Program provisions of the federal Clean Air Act (Title IV).

The facility is considered a "fossil fuel fired steam electric plant of more than 250 million BTU per hour of heat input", which is one of the 28 PSD source categories with the lower PSD applicability threshold of 100 tons per year. Potential emissions of at least one regulated pollutant exceed 100 tons per year. Therefore, the facility is classified as a PSD-major source of air pollution with respect to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD) of Air Quality. Unit 4 was certified pursuant Electrical Power Plant Siting in accordance with Chapter 62-17, F.A.C. and Chapter 403, Part II, F.S. This facility is classified as a "Major Source of Air Pollution or Title V Source" due to emissions of at least one regulated air pollutant, such as sulfur dioxide, that exceeds 100 tons per year.

In a letter dated January 20, 2006, EPA Region 4 reported their determination that the fluidized bed combustor within the CBO project can be viewed as a physical change of the existing Big Bend Units 3 and 4, and that new source review (NSR) applicability can be assessed using current Florida rules that allow comparison of actual annual emissions prior to the change with representative actual emissions after the change. Further, actual emissions from Units 3 and 4 prior to development of the CBO project can be based on total emissions from Units 3 and 4 within a recent two-year period without any adjustments that take into account the Consent Decree between the federal government and the Tampa Electric Company.

The applicant escaped prevention of significant deterioration (PSD) review for the current air construction permit. (Please refer to the attached Table 1., Big Bend Units 3 & 4 and CBO PSD Emission Evaluation). Because the projected net increases in actual emissions for the pollutants are below the significant emissions rates listed in Rule 62-210.200(242), F.A.C., Definitions – Significant Emissions Rates, it has been determined by the Department that this change constitutes a minor modification to the facility. Therefore, this permit modification is not subject to review under Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD), so neither a revised Best Available Control Technology (BACT) determination, nor an analysis of the air quality impact is required. The proposed project is otherwise subject to preconstruction review requirements under the provisions of Chapter 403, Florida Statutes, and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). The emission units affected by this permit shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein), and all specific conditions of the facility's existing Title V Air Operation Permit Renewal No. 0570039-017-AV.

PERMIT SCHEDULE

- Notice of Intent to Issue Draft Permit published.
- Intent to Issue Draft Permit distributed.
- January 25, 2006 Response from Applicant received and Application deemed complete.
- September 2, 2005 Request for additional information letter sent.
- August 10, 2005 Application received.

RELEVANT DOCUMENTS

The documents listed below are the basis of the permit. They are specifically related to this permitting action, but not all are incorporated into this permit. These documents are on file with the Department.

- Air construction permit application received on August 10, 2005.
- Response letters from TEC to Departmental requests for additional information.
- The Department's Technical Evaluation and Preliminary Determination, issued concurrently with this draft air construction permit.
- Letter from EPA Region 4 dated January 20, 2006.
- Title V Air Operation Permit Renewal No. 0570039-017-AV.
- EPA Consent Decree (U.S. vs. TEC) dated February 29, 2000, amended October 4, 2000.
- FDEP Consent Final Judgment (DEP vs. TEC) dated December 6, 1999.

PROJECT DESCRIPTION

As noted above, the Tampa Electric Company has entered into agreements with EPA and FDEP concerning the installation of additional air pollution control systems at the Big Bend Station. These agreements included requirements to install additional systems for NO_x control on Units 1 through 4. In response to these requirements, the Tampa Electric Company determined that the installation of combustion modifications and SCR systems are the technologies to be used to reduce NO_x emissions from these units. Via prior permitting actions, the Department issued air construction permits to implement these changes at the facility. However, installation of these systems to effect NO_x reductions will necessarily impact the Tampa Electric Company's current beneficial reuse of its fly ash at the Big Bend Station.

Combustion by-product fly ash generated at Units 1 through 4 is presently transferred offsite and used as a raw material in the production of Portland cement or as a substitute for Portland cement in the production of concrete. The current and planned NO_x control systems for Units 1 through 4 will increase the fly ash carbon and ammonia concentrations to levels that will render the fly ash unusable as a Portland cement raw material or substitute. The Big Bend Station generates approximately 280,000 tons of fly ash per year as a result of its operations. If the fly ash cannot be used for those purposes, this could potentially result in the landfill disposal of the material.

In addition to reducing NO_x to molecular nitrogen, the SCR control systems will unavoidably increase boiler flue gas sulfur trioxide (SO_3) concentrations due to the oxidation of sulfur dioxide (SO_2) to SO_3 by the SCR catalyst. SO_3 vapor will subsequently condense to form sulfuric acid mist aerosol as the flue gas temperature is reduced in the inlet to the wet flue gas desulfurization (FGD) control system. Sulfuric acid mist aerosol is not efficiently removed by wet FGD control systems. To avoid corrosion downstream of the ductwork and ESP internals, and avoid potential plume opacity problems, ammonia injection systems will be installed to mitigate the environmental impacts of SO_3 formation by the SCR control systems. The ammonia injection systems will further increase the fly ash ammonia concentration to levels that are well above the maximum concentration (i.e., 50 parts per million) required for recycling the fly ash as a Portland cement raw material or substitute.

The SCR and the control measures to mitigate SO_3 formation will alter the quality of the fly ash so that it cannot be recycled in the current manner. This technology will be installed to produce a low-carbon, low-ammonia, fly ash material suitable for reuse in cement and concrete production. The technology will also recover a significant portion of the energy contained in the high-carbon fly ash for beneficial use at the facility. Thus, it is expected that the heat recovered from the process will displace the energy derived from solid fuels that would otherwise be burned in Units 3 and 4, resulting in a fuel savings and corresponding reduction in air emissions.

The permittee shall conduct initial and annual sampling for NO_x and CO of the CBO return prior to entering the common Units 3 and 4 FGD inlet duct in accordance with the requirements of Rule 62-297.310(7)(a)4.b., F.A.C. Testing of mercury (Hg) is also required by this permit; the permittee shall conduct initial and annual sampling for Hg emissions of the CBO return prior to entering the common Units 3 and 4 FGD inlet duct. The existing SO_2 CEMS located downstream of Units 3 and 4 FGD shall be used to monitor SO_2 emissions from Units 3 and 4 and the CBO return. Consistent with current testing requirements, initial and annual sampling for particulate matter (PM) shall also be conducted downstream of Units 3 and 4 FGD to measure PM from Units 3 and 4 and the CBO return.

PROCESS DESCRIPTION

CBO technology is a proprietary, patented, environmentally beneficial technology whose primary function is the production of low-carbon, low-ammonia fly ash material suitable for commercial use as a Portland cement raw material or substitute. Major components of the process planned for the Big Bend Station include a feed fly ash silo, feed and product fly ash storage domes, fluidized bed combustor (FBC), hot cyclones for fly ash recycle to the FBC, heat recovery heat exchanger, cold cyclone and fabric filter baghouse for product fly ash recovery, and product fly ash truck loading.

Fly ash from Units 1 through 4 electrostatic precipitators (ESPs) will be conveyed pneumatically to the feed fly ash silo or feed fly ash storage dome. The ESPs are located downstream of the SCR and SO_3 air emission control systems and therefore will collect high-carbon, ammoniated fly ash from Units 1 through 4 combustion gas streams. The feed fly ash silo will vent through a baghouse prior to discharging to the atmosphere. The feed fly ash storage dome will also vent through a baghouse prior to discharging to the atmosphere.

Fly ash from the feed silo will then be fed to the FBC for oxidation of carbon contained in the fly ash to carbon dioxide. The high temperature FBC process will also reduce fly ash ammonia compounds to molecular nitrogen (N_2) and water. The CBO technology does not require any auxiliary fuel to operate, with the exception of a minimal amount of startup fuel to initiate the combustion process. As with any fossil fuel combustion process, the FBC combustion gases will also contain combustion by-products including NO_x, carbon monoxide (CO), SO_2, particulate matter less than or equal to 10 micrometers (PM_{10}), and volatile organic compounds (VOCs). The CBO process includes a forced draft fan to provide fluidization and combustion air to the FBC. An induced draft fan maintains the FBC freeboard pressure slightly below atmospheric pressure.

The FBC exhaust stream will be routed through hot cyclones to capture fly ash entrained in the FBC exhaust stream. Fly ash captured by the hot cyclones is returned to the FBC. The hot cyclones exhaust and FBC low carbon product ash streams are combined and sent to the gas/product cooler heat exchanger for heat recovery. Thermal energy recovered from the process will be used to heat condensate from the Units 3 and/or 4 low-pressure feedwater systems. Unit 3 will be the primary recipient of the recovered process energy; Unit 4 will be used during periods when Unit 3 is not available. Reuse of the process recovered energy saves fuel that would otherwise need to be burned in Units 3 and 4. This will result in less coal being consumed per Unit of electric output, with corresponding reductions in air pollutant emissions. The improvement in Unit 3 and Unit 4 heat rate, due to the use of recovered energy from the process, represents recovery of a portion of the efficiency lost when combustion controls were installed for NO_x reduction purposes. Lower combustion efficiency is a consequence of the lower flame temperatures and lower oxygen available in the combustion zone which is necessary to reduce NO_x emissions. This is the reason for the increase in fly ash carbon content.

Following heat recovery, the cooled FBC combustion gases, containing entrained product fly ash, will be routed through a cold cyclone and fabric filter baghouse for product fly ash separation. The exhaust from the fabric filter baghouse (i.e., the CBO return) will be routed to the inlet of Units 3 and 4 flue gas desulfurization (FGD) emission control system and subsequently discharged to the atmosphere through the existing Units 3 and 4 stacks.

Product fly ash separated by the cold cyclone and fabric filter baghouse will be sent to a surge bin. A portion of the cooled, low-carbon product will be recycled to the FBC for temperature control. The remaining product ash is then conveyed pneumatically to the product fly ash storage dome or directly to the truck loadout silo. The product fly ash storage dome will vent through a baghouse prior to discharging to the atmosphere. The feed and product fly ash storage domes will be used to provide flexibility in

product fly ash marketing. Product fly ash will be conveyed to the truck loadout silo for subsequent transfer to trucks for shipment to offsite customers. The PM_{10} emissions captured during the truck loading process will be routed to the truck loadout silo which will vent through a baghouse prior to discharging to the atmosphere.

The product fly ash trucks will travel on paved roads within the Big Bend Station and then exit the plant for delivery to offsite customers. Fugitive particulate matter (PM)/PM_{10} emissions associated with product fly ash truck traffic on Big Bend Station paved roads will be controlled by periodic watering on an as-needed basis. The existing Big Bend Station fly ash handling and storage systems will remain in use. However, the existing fly ash truck loading equipment will not be used while the CBO process is operational.

PROJECT SCHEDULE

Emissions Unit ID Numbers	Estimated start date	Estimated completion date
003	June 1, 2006	December 1, 2007
004	June 1, 2006	December 1, 2007
040	June 1, 2006	December 1, 2007
041	June 1, 2006	June 1, 2007
042	June 1, 2006	December 1, 2007
043	June 1, 2006	December 1, 2007
044	June 1, 2006	December 1, 2007

The fly ash CBO project will process fly ash from each of the four Big Bend Station Units following installation of an SCR control system on each unit. Accordingly, construction of the CBO project should commence with adequate lead time in order to be operational prior to completion of the first Big Bend Station SCR installation on Unit 4 (estimated as June 1, 2007).

ADMINISTRATIVE REQUIREMENTS

A.1. Regulating Agencies. All documents related to applications for permits to construct, operate or modify an emissions unit should be submitted to the Bureau of Air Regulation, Florida Department of Environmental Protection, at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, and phone number (850) 488-0114. All documents related to reports, tests, and notifications should be submitted to the Environmental Protection Commission of Hillsborough County, and copies of those submittals shall be sent to the Department of Environmental Protection, Southwest District Office.

Addresses and telephone numbers are:

Environmental Protection Commission of Hillsborough County
Roger P. Stewart Center
3629 Queen Palm Drive
Tampa, Florida 33619
Telephone: 813/627-2600; Fax: 813/627-2660

Department of Environmental Protection
Southwest District Office, Air Resources Section
13051 N Telecom Parkway
Temple Terrace, FL 33637-0926
Telephone: 813/632-7600; Fax: 813/632-7665

A.2. General Conditions. The owner and operator is subject to, and shall operate under the attached General Permit Conditions **G.1.** through **G.15.** listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes.
[Rule 62-4.160, F.A.C.]

A.3. Terminology. The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code (F.A.C.).

A.4. Forms and Application Procedures. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C., and follow the application procedures in Chapter 62-4, F.A.C.
[Rule 62-210.900, F.A.C.]

A.5. Modifications. The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change.
[Chapters 62-210 and 62-212, F.A.C.]

A.6. New or Additional Conditions. For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
[Rule 62-4.080, F.A.C.]

A.7. Permit Extension. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit.
[Rule 62-4.080, F.A.C.]

APPLICABLE STANDARDS AND REGULATIONS

A.8. Unless otherwise indicated in this permit, the construction and operation of the subject emission unit(s) shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S., and Florida Administrative Code Chapters 62-4, 62-103, 62-204, 62-210, 62-212, 62-213, 62-214, 62-296, and 62-297.

A.9. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements or regulations.
[Rule 62-210.300, F.A.C.]

A.10. The facility is subject to all of the requirements specified in Title V Air Operation Permit Renewal No. 0570039-017-AV.

A.11. An application for a Title V Air Operation Permit Revision, pursuant to Chapter 62-213, F.A.C., must be submitted to the Department's Bureau of Air Regulation to incorporate the specific conditions of this Air Construction Permit.
[Chapter 62-213, F.A.C.]

GENERAL OPERATION REQUIREMENTS

A.12. Unconfined Particulate Emissions. During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary.
[Rule 62-296.320(4)(c)., F.A.C.]

A.13. Plant Operation – Problems. If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the owner or operator shall notify the Environmental Protection Commission of Hillsborough County as soon as possible, but at least within (1) working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; the steps being taken to correct the problem and prevent future recurrence; and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit and the regulations.
[Rule 62-4.130, F.A.C.]

A.14. Operating Procedures. Operating procedures shall include good operating practices and proper training of all operators and supervisors. The good operating practices shall meet the guidelines and procedures as established by the equipment manufacturers. All operators (including supervisors) of air pollution control devices shall be properly trained in plant specific equipment.
[Rule 62-4.070(3), F.A.C.]

A.15. Circumvention. The owner or operator shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. There requirements also hold for the operation of the CBO technology.
[Rules 62-210.650, F.A.C.]

CONTROL TECHNOLOGY

A.16. At all times except during startups, shutdowns, and/or malfunctions, the CBO FBC exhaust gases shall be directed to the Unit Nos. 3 and 4 flue gas desulfurization (FGD) system.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A17. At all times, the CBO Feed Fly Ash Silo exhaust gases shall be directed to the CBO Feed Fly Ash Silo Dust Collector.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.18. At all times, the CBO Feed Fly Ash Storage Dome exhaust gases shall be directed to the CBO Feed Fly Ash Storage Dome Dust Collector.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.19. At all times, the CBO Product Fly Ash Storage Dome exhaust gases shall be directed to the CBO Product Fly Ash Storage Dome Dust Collector.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.20. At all times, the CBO Product Fly Ash Truck Loadout Storage Silo and Truck Loading exhaust gases shall be directed to the CBO Product Fly Ash Truck Loadout Dust Collector.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

EMISSION LIMITS AND STANDARDS

A.21. After April 30, 2008, NO_x emissions (reported as NO_2) from Unit No. 3 when combusting solid fuel, shall not exceed 0.12 lb NO_x/million Btu heat input on a heat input weighted 30 day rolling average basis. Based upon a maximum heat input of 4115 million Btu/hour, NO_x emissions shall not exceed 494

lb/hr. These emission limits are based on the definition of "emission rate" so that an equation is used that divides total pounds of NO_x by total heat input in each 30-day period to reach a 30-day rolling average. These limits shall not apply for periods when the CBO exhaust is routed to the Unit 3 boiler exhaust. During periods when the CBO exhaust is routed to the Unit 3 boiler exhaust, the NO_x limit affecting Unit 3 is 0.15 lb NOx /million Btu heat input on a heat input weighted 30 day rolling average basis.
Note: This specific condition is based on an interim position and it will be modified when the Consent Decree discussions between TEC and EPA have been completed if needed.
[0570039-022-AC, Specific Condition A.16.; and Applicant request.]

A.22. After May 31, 2007, NO_x emissions (reported as NO_2) from Unit No. 4 when combusting bituminous or anthracite coal, or a coal/petroleum coke blend, shall not exceed 0.10 lb/million Btu heat input. And, based upon a heat input limit of 4330 million Btu/hour, NO_x emissions shall not exceed 433 lb/hr. These emission limits are based on a 30-day rolling average.
[0570039-020-AC, Specific Condition A.16.]

A.23. Particulate matter (PM) emissions from the CBO Feed Fly Ash Silo Dust Collector shall not exceed 0.020 grains per dry standard cubic foot (dscf) of exhaust gas, and not exceed 0.4 lb per hour.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.24. PM emissions from the CBO Feed Fly Ash Storage Dome Dust Collector shall not exceed 0.020 grains/dscf of exhaust gas, and not exceed 1.1 lb per hour.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.25. PM emissions from the CBO Product Fly Ash Storage Dome Dust Collector shall not exceed 0.020 grains/dscf of exhaust gas, and not exceed 1.1 lb per hour.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.26. PM emissions from the CBO Product Fly Ash Truck Loadout Dust Collector shall not exceed 0.020 grains/dscf of exhaust gas, and not exceed 1.1 lb per hour.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.27. Specific Conditions **A.28.** through **A.33.**, below, apply to the new Feed Fly Ash Silo, Feed Fly Ash Storage Dome, Product Fly Ash Storage Dome, and Product Fly Ash Truck Loadout Storage Silo and Truck Loading emission units.

A.28. Particulate Matter Emissions. Particulate matter emissions from each silo and dome baghouse shall not exceed 0.020 grains per dry standard cubic foot (gr/dscf).
[Applicant request; and Rule 62-4.070(3), F.A.C.]

A.29. Visible Emissions. Visible emissions from each of the silos and domes shall not exceed 5% opacity for these minor sources equipped with a baghouse.
[Rule 62-297.620(4), F.A.C.]

A.30. Annual Tests Required. Annual visible emissions compliance tests shall be performed for each emissions unit.
[Rule 62-297.310(7), F.A.C.]

A.31. Visible Emissions. The test method for visible emissions shall be EPA Method 9, adopted and incorporated in Rule 62-204.800, F.A.C.
[Rule 62-4.070(3), F.A.C.]

A.32. Particulate Matter Emissions. The test method for particulate matter emissions for all units shall be EPA Method 5, adopted and incorporated in Rule 62-204.800, F.A.C.
[Rule 62-4.070(3), F.A.C.]

A.33. Particulate Matter Emissions. In the case of an emissions unit which has the potential to emit less than 100 tons per year of particulate matter and is equipped with a baghouse, the Department waives any particulate matter compliance test requirements for such emissions unit specified in any otherwise applicable rule, and specifies an alternative standard of 5% opacity. If the Department has reason to believe that the particulate weight emission standard applicable to such an emissions unit is not being met, it shall require that compliance be demonstrated by the test method specified in the applicable rule.
[Rule 62-297.620(4), F.A.C]

SPECIFIC OPERATION REQUIREMENTS

A.34. Except during periods of startup, shutdown, and malfunction, the CBO FBC shall not be operated unless heated condensate is being returned from the CBO FBC gas/product cooler to either Unit No. 3 or Unit No. 4.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.35. For each hour of operation of the CBO FBC, the rate of heat transfer in Btu per hour from the CBO FBC system to Unit No. 3 or Unit No. 4 shall be recorded. The monitoring system shall provide a continuous indication of the condensate flow rate (in pounds per hour) through the CBO system and shall provide a continuous record of which boiler (either Unit No. 3 or Unit No. 4) is receiving the heat generated by the CBO system.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.36. The CBO FBC shall be operated in compliance with the requirements of 40 CFR 60, Subpart Dc. The emissions limits in Subpart Dc that apply to coal combustion do not apply to this system because the high-carbon fly ash does not meet the ASTM definition of "coal."
[40 CFR 60 Subpart Dc; Applicant Request.]

TESTING AND COMPLIANCE DETERMINATION

A.37. The permittee shall conduct initial and annual sampling for NO_x and CO of the CBO return prior to entering the common Units 3 and 4 FGD inlet duct in accordance with the requirements of Rule 62-297.310(7)(a)4.b., F.A.C. The existing SO_2 CEMS located downstream of Units 3 and 4 FGD will be used to monitor SO_2 emissions from Units 3 and 4 and the CBO return. Consistent with current testing requirements, initial and annual of sampling for particulate matter (PM) will also be conducted downstream of Units 3 and 4 FGD to measure PM from Units 3 and 4 and the CBO return.
[Applicant request; and Rule 62-4.070(3), F.A.C.]

A.38. Nitrogen oxides emissions shall be continuously monitored to confirm compliance, using the Units' existing continuous emissions monitoring systems (CEMS), and an additional NO_x CEMS installed downstream of the CBO. All CEMS shall be installed, operated, and maintained using the specifications of the appropriate specific conditions of the facility's Title V Air Operation Permit. Compliance is determined by calculating the heat input weighted average of all hourly emission rates for NO_X for the 30 successive boiler operating days, except for data obtained during startup, shutdown, malfunction, or abnormal events.
[Rule 62-204.800(7)(b)2., F.A.C.; 40 CFR 60.46a(g), and 0570039-017-AV]

A.39. Carbon monoxide (CO) emissions from Unit No. 4 shall not exceed 0.029 lb/million Btu heat input, and shall not exceed 124 lb/hr.
[0570039-017-AV, Specific Condition B.10.]

A.40. Carbon Monoxide. Compliance with Specific Condition **A.39.** shall be demonstrated using EPA Method 10 in accordance with Chapter 62-297, F.A.C. A formal compliance test shall be conducted annually.
[Rules 62-213.440, 62-297.310(7), and 62-297.401, F.A.C.]

A.41. Performance testing shall be performed in order to determine the NO_x emission rate from the CBO FBC within 180 days after initial startup. The test method shall be EPA Methods 7 or 7E, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.42. During the performance testing for NO_x emissions as required by Specific Condition **A.21.**, the heat input to the CBO shall be monitored and recorded. The measured NO_x emission rate and heat input rate shall be used to calculate a unit-specific NO_x emission factor expressed in lb/million Btu heat input.
[Applicant Request; and Rule 62-4.070(3), F.A.C.]

A.43. The permittee shall conduct initial and annual sampling for mercury (Hg) emissions of the CBO return prior to entering the common Units 3 and 4 FGD inlet duct using EPA Test Method 324 (Appendix K to Part 75—Quality Assurance and Operating Procedures for Sorbent Trap Monitoring Systems).
[Rule 62-4.070(3), F.A.C.]

A.44. Compliance with the allowable emission limiting standards specified in this Air Construction Permit shall be determined within 180 days after initial startup, and annually thereafter, using the appropriate specific conditions of the facility's existing Title V Air Operations Permit No. 0570039-017-AV, by using the appropriate EPA reference test methods, or Department test methods.
[0570039-017-AV; and Rules 62-204.220 and 62-4.070(3), F.A.C.]

A45. Test Results. Compliance test results shall be submitted to the Environmental Protection Commission of Hillsborough County and the Department no later than 45 days after completion of the last test run.
[Rule 62-297.310(8), F.A.C.]

NOTIFICATION, REPORTING, AND RECORDKEEPING

A.46. Emission Compliance Stack Test Reports. A test report indicating the results of the required compliance tests shall be filed as per Specific Condition **A.22.** The test report shall provide sufficient detail on the tested emission unit and the procedures used to allow the compliance authority to determine if the test was properly conducted and if the test results were properly computed.
[Rule 62-297.310(8), F.A.C.]

A.47. Reporting and Recordkeeping.

1. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations if the change increases the design capacity of that emissions unit or its potential to emit that PSD pollutant. Emissions shall be computed in accordance with Rule 62-210.370, F.A.C.
2. The permittee shall report to the Department within 60 days after the end of each year during which records must be generated under subparagraph 62-212.300(1)(e)1., F.A.C., setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
a. The name, address and telephone number of the owner or operator of the major stationary source;
b. The annual emissions as calculated pursuant to subparagraph 62-212.300(1)(e)1., F.A.C.;
c. If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
d. Any other information that the owner or operator wishes to include in the report.

3. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1. and 2., F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.
[Rule 62-212.300(1)(e), F.A.C.]

COMPLIANCE ASSURANCE

A.48. Compliance Assurance Monitoring (CAM). The permittee shall evaluate the applicability of CAM to the CBO and, if applicable, submit a CAM plan as a revision to the facility's current Title V air operation permit.
[40 CFR 64; and Rule 62-204.800, F.A.C.]

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
   a. Have access to and copy and records that must be kept under the conditions of the permit;
   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit, and,
   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

   Reasonable time may depend on the nature of the concern being investigated.
8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
   a. A description of and cause of non-compliance; and
   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

    a. Determination of Best Available Control Technology (NA);
    b. Determination of Prevention of Significant Deterioration (NA); and
    c. Compliance with New Source Performance Standards (NA).

14. The permittee shall comply with the following:

    a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application or this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

    c. Records of monitoring information shall include:

        1) The date, exact place, and time of sampling or measurements;
        2) The person responsible for performing the sampling or measurements;
        3) The dates analyses were performed;
        4) The person responsible for performing the analyses;
        5) The analytical techniques or methods used; and
        6) The results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

P.E. Certification Statement

Permittee:
Tampa Electric Company
Big Bend Station

Permit No.: 0570039-023-AC

Project Type: Air Construction Permit
Fly Ash Carbon Burn-out (CBO™) Project on Unit Nos. 3 and 4

I HEREBY CERTIFY *that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).*

Scott M. Sheplak, P.E. Date
Registration Number: 48866

Permitting Authority:
Department of Environmental Protection
Bureau of Air Regulation
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301
Telephone: 850/921-9532
Fax: 850/921-9533

SMS/TBC/AAL

Friday, Barbara

From: Exchange Administrator
Sent: Monday, April 24, 2006 12:44 PM
To: Friday, Barbara
Subject: Delivery Status Notification (Relay)

Attachments: ATT444409.txt; DRAFT AC Permit No.: 0570039-023-AC - TECO - Big Bend Station


ATT444409.txt
(284 B)


DRAFT AC Permit
No.: 0570039-0...

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

tdavis@ectinc.com

Friday, Barbara

From: Exchange Administrator
Sent: Monday, April 24, 2006 12:44 PM
To: Friday, Barbara
Subject: Delivery Status Notification (Relay)

Attachments: ATT444424.txt; DRAFT AC Permit No.: 0570039-023-AC - TECO - Big Bend Station


ATT444424.txt
(373 B)


DRAFT AC Permit
No.: 0570039-0...

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

dmlukcic@tecoenergy.com
sscastro@tecoenergy.com

Friday, Barbara

From: Nasca, Mara
To: Friday, Barbara
Sent: Monday, April 24, 2006 12:44 PM
Subject: Read: DRAFT AC Permit No.: 0570039-023-AC - TECO - Big Bend Station

Your message

To:	'tdavis@ectinc.com'; 'Harman, Alice'; Nasca, Mara; 'lloyd.david@epa.gov'; Oven, Hamilton; 'dmlukcic@tecoenergy.com'; 'sscastro@tecoenergy.com'
Cc:	Cascio, Tom
Subject:	DRAFT AC Permit No.: 0570039-023-AC - TECO - Big Bend Station
Sent:	4/24/2006 12:43 PM

was read on 4/24/2006 12:44 PM.

Friday, Barbara

From: Exchange Administrator
Sent: Monday, April 24, 2006 12:44 PM
To: Friday, Barbara
Subject: Delivery Status Notification (Relay)

Attachments: ATT444442.txt; DRAFT AC Permit No.: 0570039-023-AC - TECO - Big Bend Station


ATT444442.txt
(283 B)


DRAFT AC Permit
No.: 0570039-0...

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

Harman@epchc.org

Friday, Barbara

From: Oven, Hamilton
To: Friday, Barbara
Sent: Monday, April 24, 2006 12:48 PM
Subject: Read: DRAFT AC Permit No.: 0570039-023-AC - TECO - Big Bend Station

Your message

To:	'tdavis@ectinc.com'; 'Harman, Alice'; Nasca, Mara; 'lloyd.david@epa.gov'; Oven, Hamilton; 'dmlukcic@tecoenergy.com'; 'sscastro@tecoenergy.com'
Cc:	Cascio, Tom
Subject:	DRAFT AC Permit No.: 0570039-023-AC - TECO - Big Bend Station
Sent:	4/24/2006 12:43 PM

was read on 4/24/2006 12:48 PM.

Friday, Barbara

From: System Administrator
To: lloyd.david@epa.gov
Sent: Monday, April 24, 2006 12:52 PM
Subject: Delivered:DRAFT AC Permit No.: 0570039-023-AC - TECO - Big Bend Station

Your message

To: Unknown
Subject: DRAFT AC Permit No.: 0570039-023-AC - TECO - Big Bend Station
Sent: 4/24/2006 12:47 PM

was delivered to the following recipient(s):

lloyd.david@epa.gov on 4/24/2006 12:47 PM

UNITED STATES POSTAL SERVICE®

Track & Confirm

Search Results

Label/Receipt Number: **7000 1670 0013 3110 0673**

There is no record of this item.

Why Are You Receiving This Message?

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2. The number was entered incorrectly. Be sure to enter all of the letters and numbers as they appear on your mailing label or receipt.

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Enter Label/Receipt Number.

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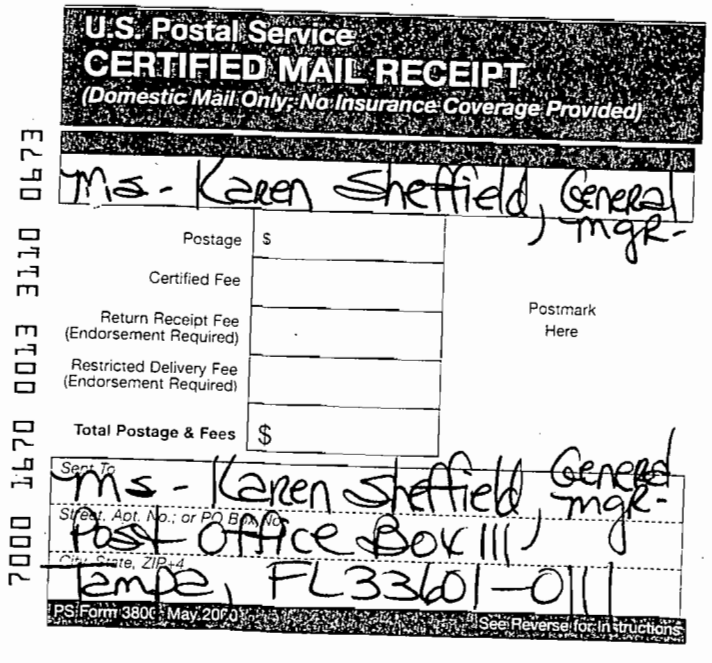

UNITED STATES POSTAL SERVICE

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Why Are You Receiving This Message?

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05700039-023Ac

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

Ms - Karen Sheffield, General mgr-

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Ms - Karen Sheffield General mgr-
Street, Apt. No.; or PO Box No.
Post Office Box 111
City, State, ZIP+4
Tempe, FL 33601-0111

PS Form 3800, May 2000 See Reverse for Instructions

7000 1670 0013 3110 0673

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) [illegible] C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

DOWNTOWN STATION TAMPA FL 33601 OCT 28 2005

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7001 0320 0004 3692 1865

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage $
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)

Postmark Here

7001 0320 0004 3692 1865

Ms. Karen Sheffield, General Manager
Big Bend Station
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

PS Form 3800, January 2001 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Karen Sheffield
General Manager
Tampa Electric Company / Big Bend Station
P. O. Box 111
Tampa, FL 33601-0111

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

DOWNTOWN STATION SEP 12 2005 TAMPA FL 33601

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
(Transfer from service label) 7000 2870 0000 7028 4236

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7000 2870 0000 7028 4236

O F F I C I A L U S E

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Karen Sheffield
Street, Apt. No.; or PO Box No.
PO Box 111
City, State, ZIP+ 4
Tampa, FL 33601-0111

PS Form 3800, May 2000 See Reverse for Instructions

BIG BEND STATION

FLY ASH CARBON BURN-OUT (CBO™)

APPLICATION FOR AIR CONSTRUCTION PERMIT

Prepared for:

TAMPA ELECTRIC
Tampa, Florida

Prepared by:

Environmental Consulting & Technology, Inc.
3701 Northwest 98th Street
Gainesville, Florida 32606

ECT No. 040923-0100

August 2005

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LIST OF FIGURES

1.0 INTRODUCTION

Tampa Electric Company (Tampa Electric) requests an air construction permit to install fly ash carbon burn-out (CBO™) technology at its Big Bend Station. CBO™ technology is an integral component of the Big Bend Station nitrogen oxides (NO_x) pollution control projects required by the U.S. Environmental Protection Agency (EPA) Consent Decree and Florida Department of Environmental Protection (FDEP) Consent Final Judgment.

Tampa Electric entered into agreements with EPA and FDEP concerning the installation of additional air pollution control systems at the Big Bend Station. These agreements (EPA Consent Decree and FDEP Consent Final Judgment) included requirements to install additional systems for NO_x control on Units 1 through 4. In response to these requirements, Tampa Electric determined that the installation of combustion modifications and SCR systems are the technologies to be used to reduce NO_x emissions from Big Bend Station Units 1 through 4. However, installation of those systems to effect NO_x reductions will necessarily impact Tampa Electric's current beneficial reuse of its fly ash at the Big Bend Station.

An air construction permit application for the Unit 4 SCR control system was submitted to FDEP in February 2005. In response, on May 6, 2005, FDEP issued an air construction permit for the Unit 4 SCR control system project. In June 2005 an air construction permit application for the Unit 3 SCR control system was submitted to FDEP; this permit application is currently being reviewed by FDEP. Air construction permit applications for Units 1 and 2 SCR control systems will be submitted approximately 3 months prior to the commencement of construction activities.

Combustion by-product fly ash generated at Units 1 through 4 is presently transferred offsite and used as a raw material in the production of Portland cement or as a substitute for Portland cement in the production of concrete. The current and planned NO_x control systems for Units 1 through 4 will increase the fly ash carbon and ammonia concentrations to levels that will render the fly ash unusable as a Portland cement raw material or substitute. Big Bend Station generates approximately 280,000 tons of fly ash per year as a

result of its operations; 100 percent of that fly ash is currently transferred offsite for use in the production of either Portland cement or concrete. If the fly ash cannot be used for those purposes, this could potentially result in the landfill disposal of 280,000 tons of fly ash annually.

In addition to reducing NO_x to molecular nitrogen, the SCR control systems will unavoidably increase boiler flue gas sulfur trioxide (SO_3) concentrations due to the oxidation of sulfur dioxide (SO_2) to SO_3 by the SCR catalyst. SO_3 vapor will subsequently condense to form sulfuric acid mist aerosol as the flue gas temperature is reduced in the inlet to the wet flue gas desulfurization (FGD) control system. Sulfuric acid mist aerosol is not efficiently removed by wet FGD control systems. To avoid corrosion downstream of the ductwork and ESP internals, and avoid potential plume opacity problems, ammonia injection systems will be installed at the Big Bend Station to mitigate the environmental impacts of SO_3 formation by the SCR control systems. The ammonia injection systems will further increase the fly ash ammonia concentration to levels that are well above the maximum concentration (i.e., 50 parts per million) required for recycling the fly ash as a Portland cement raw material or substitute.

The SCR and the control measures to mitigate SO_3 formation will alter the quality of the fly ash so that it cannot be recycled in the current manner. Landfill disposal of large quantities of fly ash is not an acceptable alternative or environmentally sound. Therefore, CBO™ technology is a necessary component of the projects required by the FDEP Consent Final Judgment and EPA Consent Decree. CBO™ technology will be installed to produce a low-carbon, low-ammonia, fly ash material suitable for reuse in cement and concrete production (in lieu of landfilling the fly ash). CBO™ technology will also recover a significant portion of the energy contained in the high-carbon fly ash for beneficial use at the Big Bend Station. Heat recovered from the CBO™ process will displace the energy derived from solid fuels that would otherwise be burned in Units 3 and 4, resulting in a fuel savings and corresponding reduction in air emissions. Although the CBO™ process will cause collateral increases in air pollutant emissions, it is an important and necessary element of the significant emission reductions of the Big Bend Station NO_x Pollution Control Project.

The Big Bend Station fly ash CBO™ project is not subject to New Source Review (NSR) permitting requirements pursuant to Section V., Paragraph M of the FDEP Consent Final Judgment and Paragraph 44. of the EPA Consent Decree. The applicable provision of the FDEP Consent Final Judgment states as follows:

> M. TAMPA ELECTRIC COMPANY shall also be protected from triggering NSR requirements with respect to repairs, maintenance and physical or operation changes during the term of the Consent Final Judgment which term shall remain effective until the actions required hereunder have been implemented.
>
> FDEP Consent Final Judgment, Section V, at page 8.

Both the FDEP Consent Final Judgment and the EPA Consent Decree allow projects such as the CBO™ project that are made necessary by and undertaken during pendency of the Consent Final Judgment and Consent Decree to proceed without the need to obtain Prevention of Significant Deterioration (PSD) permits. As set forth above, installation of CBO™ technology at Big Bend Station is a crucial component of the NO_x pollution control projects required by the Consent Final Judgment and Consent Decree, without which approximately 280,000 tons of fly ash would be compromised. Accordingly, this permit application requests a non-PSD air construction permit for the Big Bend Station fly ash CBO™ project.

A pre-application meeting was held with the Bureau of Air Regulation staff in Tallahassee on May 31, 2005. One issue discussed at this meeting was the planned location of the CBO™ return stream at the common duct on Units 3 and 4 downstream of the SCR control systems and upstream of the common flue gas desulfurization (FGD) control system. As the Department was advised, routing the relatively low temperature CBO™ return stream immediately upstream of a SCR control system is problematical due to SCR temperature constraints. The temperature of the SCR inlet stream, with the inclusion of the CBO™ return, could be reduced below the minimum SCR effective operating temperature, particularly at low boiler loads, resulting in possible compliance issues. Tampa Electric also considered routing the CBO™ return to the boiler wind boxes of Unit 3 and 4. However, this option is not feasible due to the risk of boiler operational problems aris-

ance issues and/or a boiler trip causing a loss in generation. The planned location of the CBO™ return at the common duct on Units 3 and 4 was selected so as not to jeopardize the safe and effective operation of Units 3 and 4 and their SCR control systems.

Another issue raised during the pre-application meeting was that of potential mercury emissions associated with the CBO™ process. Extensive testing conducted by the CBO™ process vendor, Progress Materials, Inc. (PMI), has confirmed that essentially all of the mercury present in the feed fly ash to the CBO™ process will remain with the CBO™ process product fly ash; therefore, mercury emissions are not an issue with the CBO™ process.

Regarding emissions monitoring, Tampa Electric proposes to conduct initial and annual sampling for NO_x and CO of the CBO™ return prior to entering the common Units 3 and 4 FGD inlet duct in accordance with the requirements of Rule 62-297.310(7)(a)4.b., F.A.C. The existing SO_2 CEMS located downstream of Units 3 and 4 FGD will be used to monitor SO_2 emissions from Units 3 and 4 and the CBO™ return. Consistent with current testing requirements, initial and annual of sampling for particulate matter (PM) will also be conducted downstream of Units 3 and 4 FGD to measure PM from Units 3 and 4 and the CBO™ return.

The fly ash CBO™ project will process fly ash from each of the four Big Bend Station units following installation of SCR control systems on each unit. Accordingly, construction of the CBO™ project should commence no later than October 1, 2005 in order to be operational prior to completion of the first Big Bend Station SCR installation on Unit 4.

Following this introduction, a description of the CBO™ process and discussion of project emissions are provided in Sections 2.0 and 3.0, respectively. Attachment B provides FDEP's Application for Air Permit—Long Form. Attachment B provides detailed CBO™ technology emission rate calculations.

2.0 PROCESS DESCRIPTION

CBO™ technology is a proprietary, patented, environmentally beneficial technology whose primary function is the production of low-carbon, low-ammonia fly ash material suitable for commercial use as a Portland cement raw material or substitute. Major components of the CBO™ process planned for the Big Bend Station include a feed fly ash silo, feed and product fly ash storage domes, fluidized bed combustor (FBC), hot cyclones for fly ash recycle to the FBC, heat recovery heat exchanger, cold cyclone and fabric filter baghouse for product fly ash recovery, and product fly ash truck loading. A flow diagram of the CBO™ process proposed for the Big Bend Station is provided in Figure 2-1. A process flow diagram for Units 1 through 4, including all air emission control equipment, is shown in Figure 2-2. A plan view of the Big Bend Station showing the locations of the CBO™ process emission points is provided in Figure 2-3.

Fly ash from Units 1 through 4 electrostatic precipitators (ESPs) will be conveyed pneumatically to the CBO™ feed fly ash silo or feed fly ash storage dome. The ESPs are located downstream of the SCR and SO_3 air emission control systems and therefore will collect high-carbon, ammoniated fly ash from Units 1 through 4 combustion gas streams. The feed fly ash silo will vent through a baghouse prior to discharging to the atmosphere (Emission Point ID CBO-001). The feed fly ash storage dome will also vent through a baghouse prior to discharging to the atmosphere (Emission Point ID CBO-002).

Fly ash from the feed silo will then be fed to the FBC for oxidation of carbon contained in the fly ash to carbon dioxide. The high temperature FBC process will also reduce fly ash ammonia compounds to molecular nitrogen (N_2) and water. The CBO™ technology does not require any auxiliary fuel to operate, with the limited exception of a minimal amount of start up fuel to initiate the combustion process. As with any fossil fuel combustion process, the FBC combustion gases will also contain combustion by-products including NO_x, carbon monoxide (CO), SO_2, particulate matter less than or equal to 10 micrometers (PM_{10}), and volatile organic compounds (VOCs). The CBO™ process

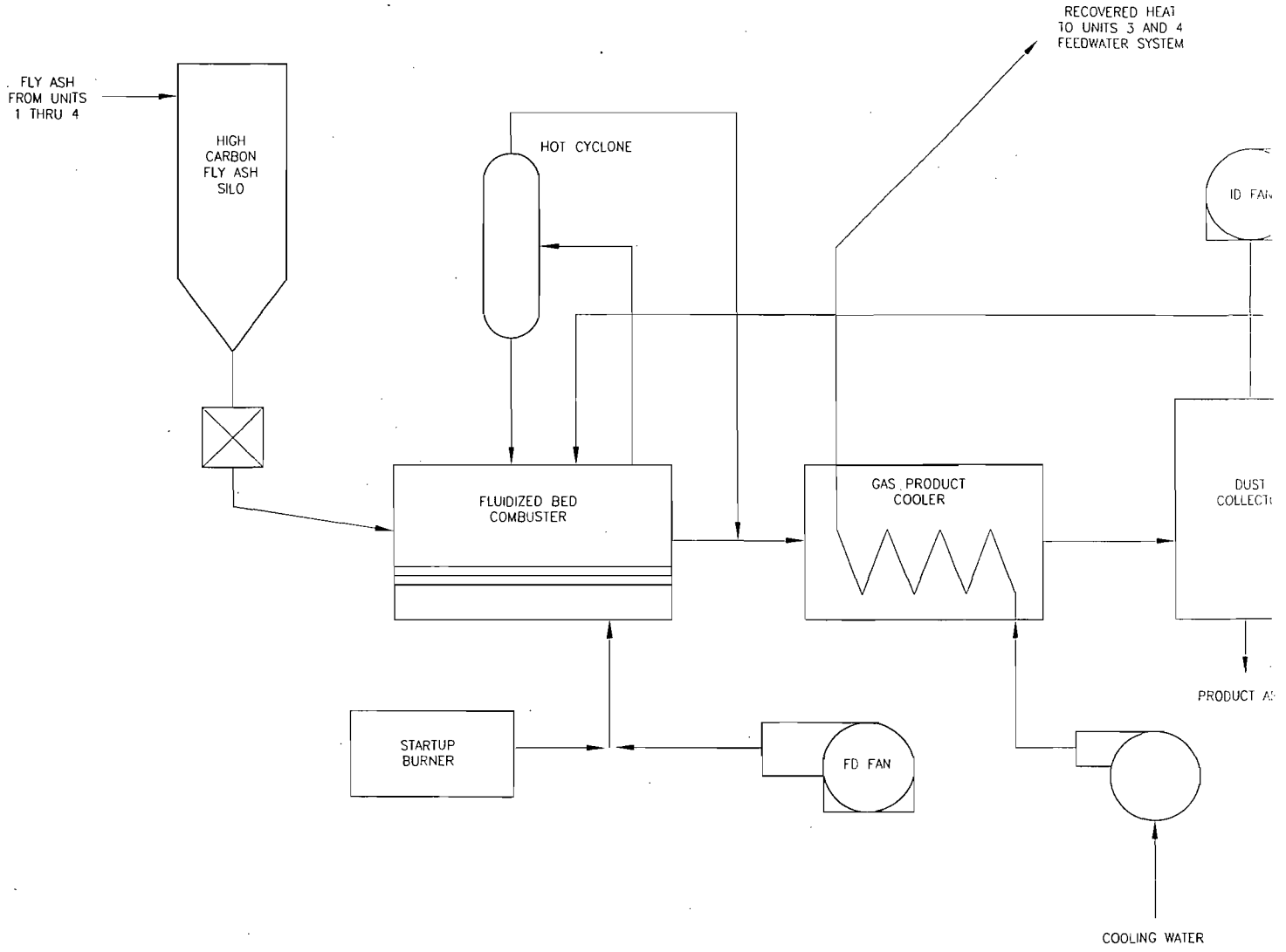

FIGURE 2-1.

CARBON BURN-OUT PROCESS FLOW DIAGRAM

Source: PMI, 2005.

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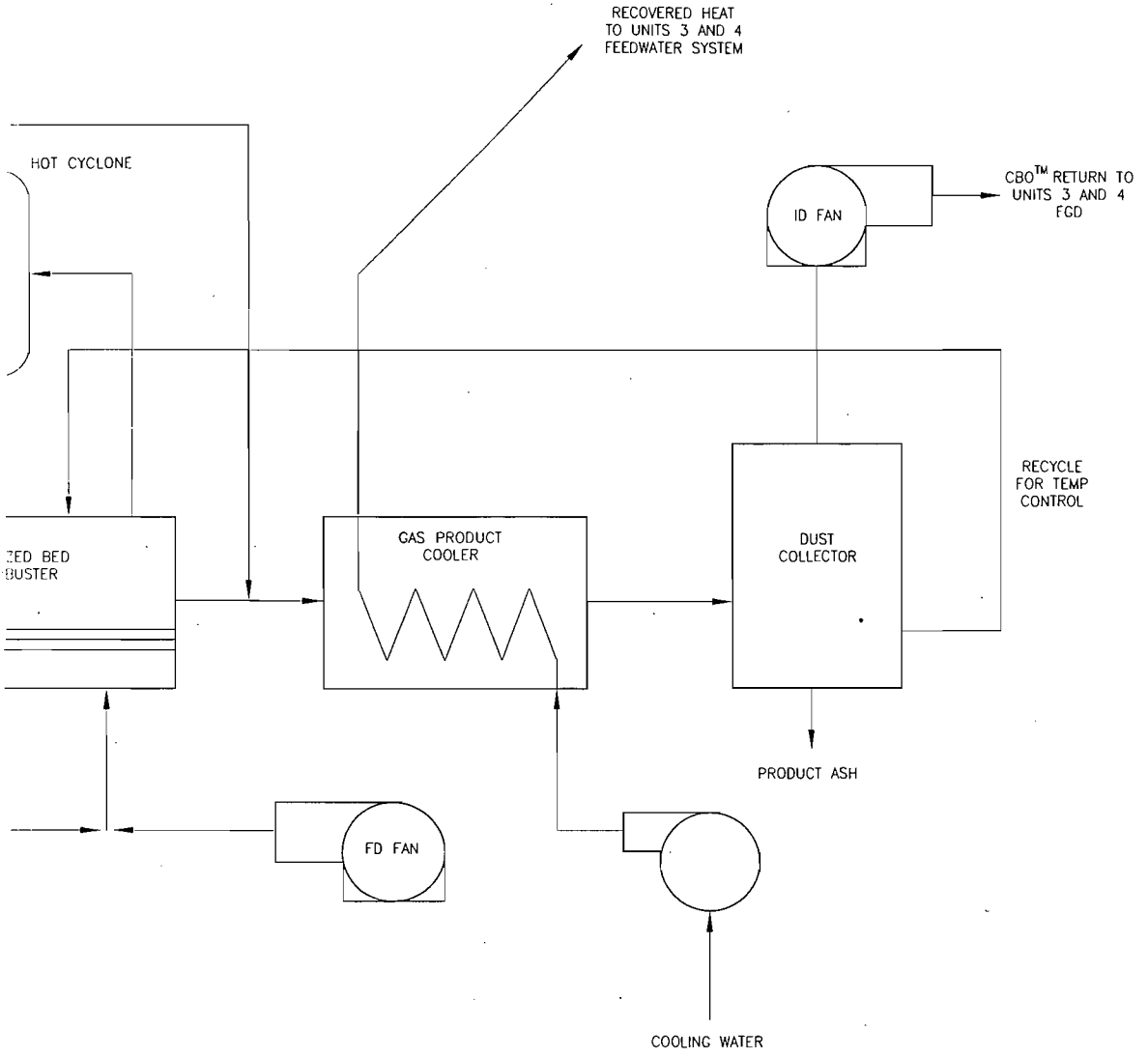
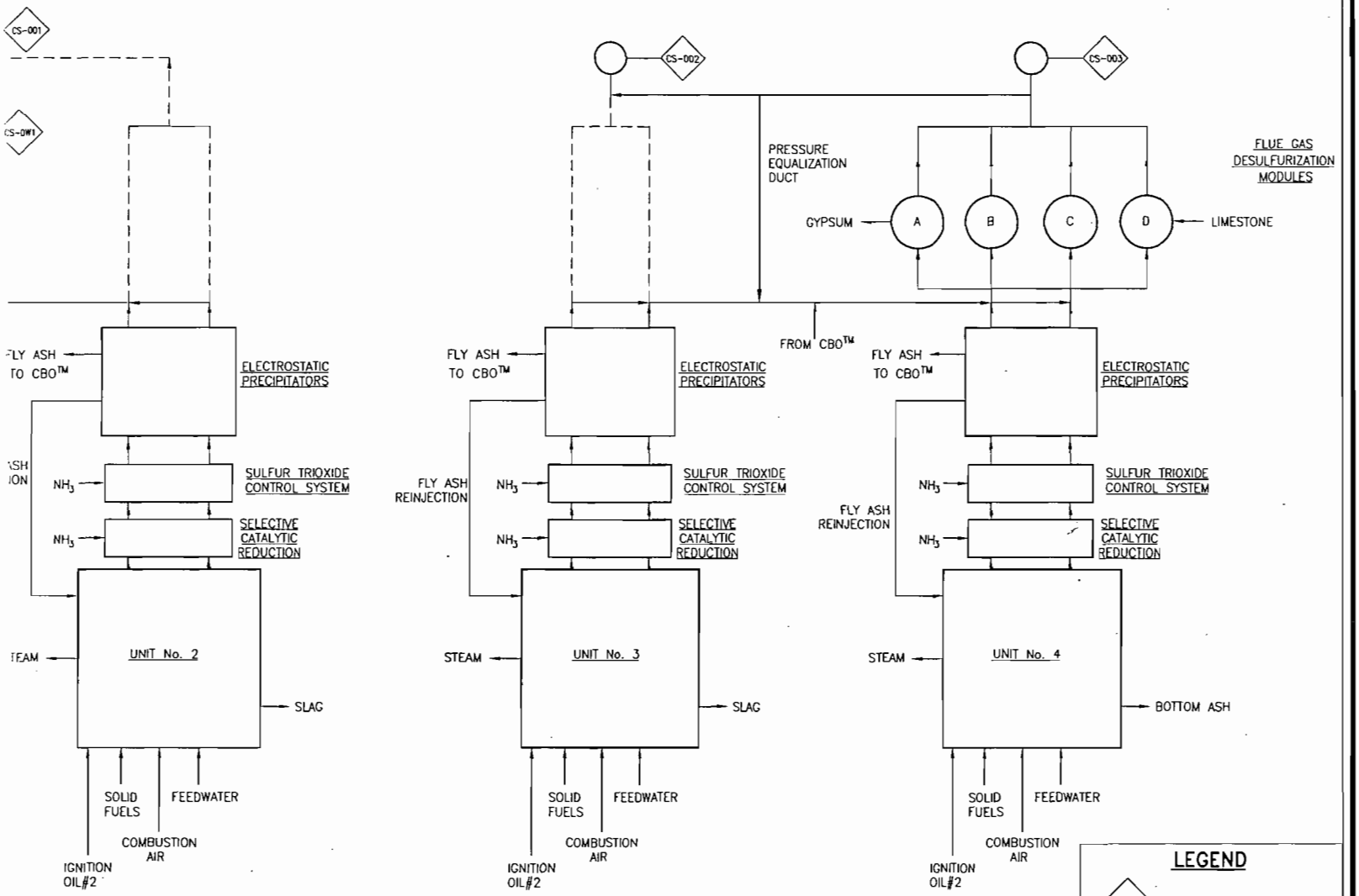


ECT
Environmental Consulting & Technology, Inc.



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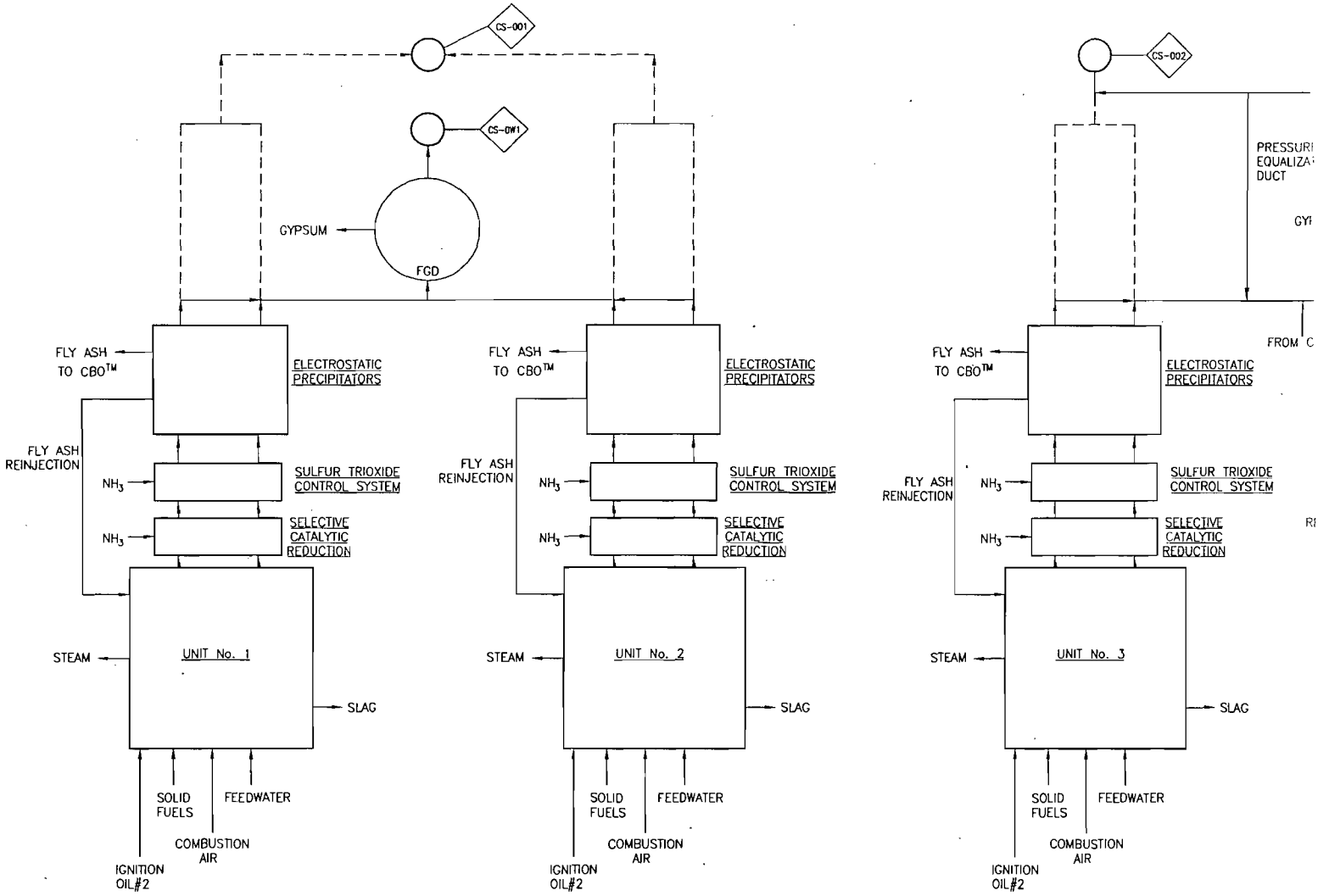
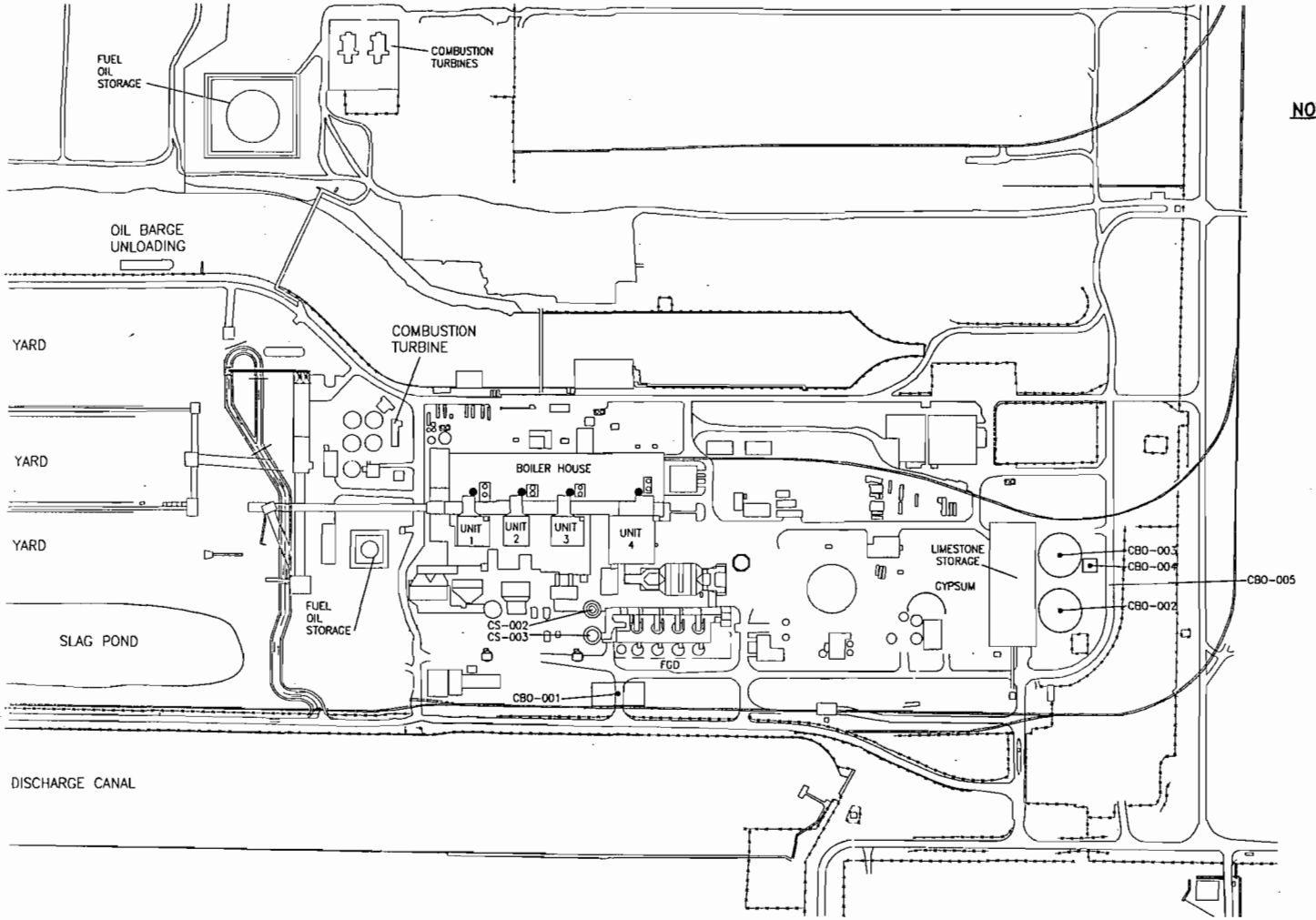


FIGURE 2-2.

UNITS 1 THRU 4 FLOW DIAGRAM

Source: ECT, 2005.



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Environmental Consulting & Technology, Inc.

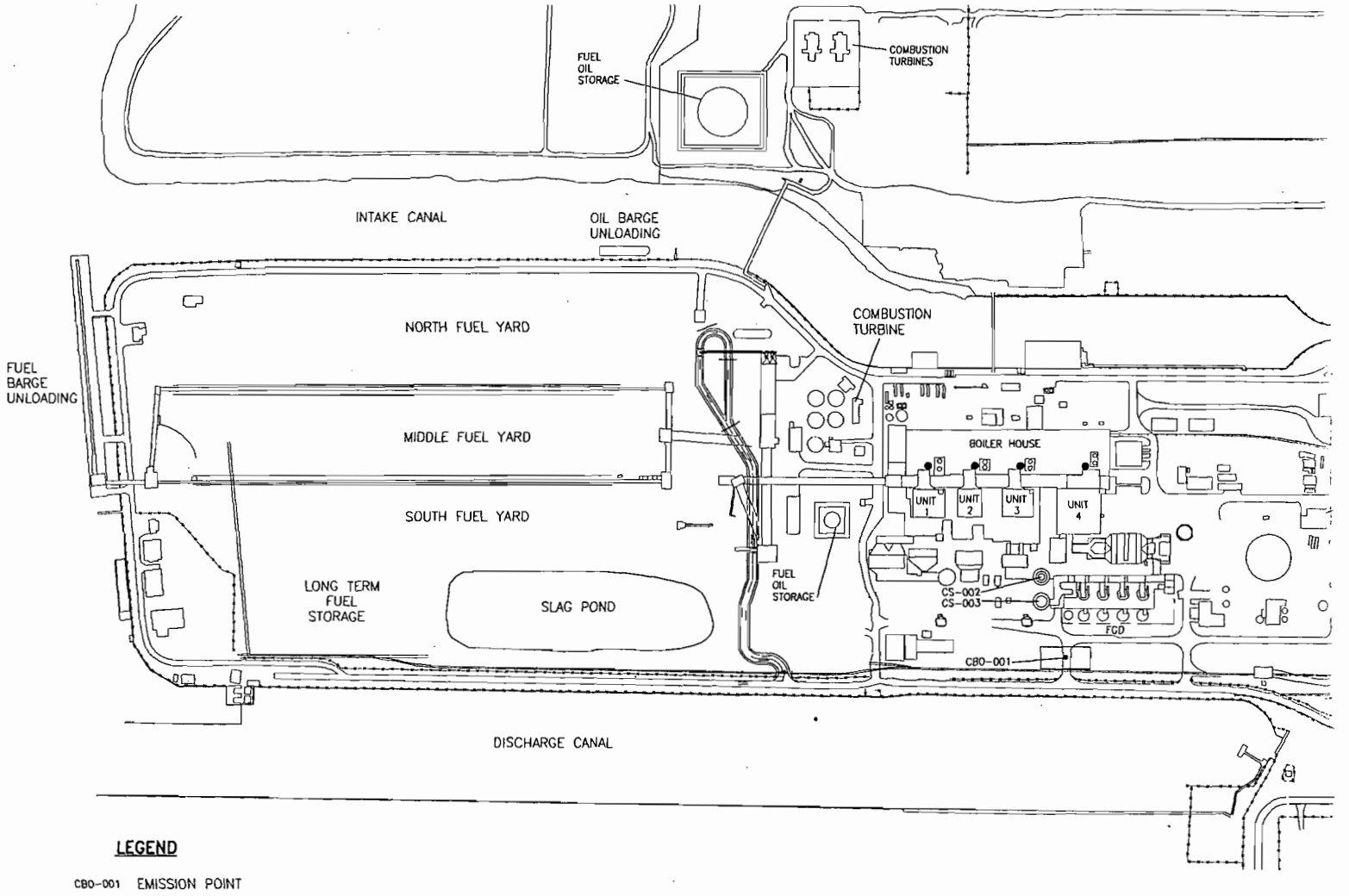


FIGURE 2-3.

BURN-OUT EMISSION SOURCE LOCATIONS

Sources: Boral, 2005; ECT, 2005.

includes a forced draft fan to provide fluidization and combustion air to the FBC. An induced draft fan maintains the FBC freeboard pressure slightly below atmospheric pressure.

The FBC exhaust stream will be routed through hot cyclones to capture fly ash entrained in the FBC exhaust stream. Fly ash captured by the hot cyclones is returned to the FBC. The hot cyclones exhaust and FBC low carbon product ash streams are combined and sent to the gas/product cooler heat exchanger for heat recovery. Thermal energy recovered from the CBO™ process will be used to heat condensate from the Units 3 and/or 4 low-pressure feedwater systems. Unit 3 will be the primary recipient of the recovered CBO™ process energy; Unit 4 will be used during periods when Unit 3 is not available. Reuse of the CBO™ process recovered energy saves fuel that would otherwise need to be burned in Units 3 and 4. This will result in less coal being consumed per Unit of electric output, with corresponding reductions in air pollutant emissions. The improvement in Unit 3 and Unit 4 heat rate, due to the use of recovered energy from the CBO™ process, represents recovery of a portion of the efficiency lost when combustion controls were installed on Units 3 and 4 for NO_x reduction purposes. Lower combustion efficiency is a consequence of the lower flame temperatures and lower oxygen available in the combustion zone which is necessary to reduce NO_x emissions. This is the reason for the increase in fly ash carbon content.

Following heat recovery, the cooled FBC combustion gases, containing entrained product fly ash, will be routed through a cold cyclone and fabric filter baghouse for product fly ash separation. The exhaust from the fabric filter baghouse (i.e., the CBO™ return) will be routed to the inlet of Units 3 and 4 flue gas desulfurization (FGD) emission control system and subsequently discharged to the atmosphere through the existing Units 3 and 4 stacks (Emission Point IDs CS-002 and CS-003).

Product fly ash separated by the cold cyclone and fabric filter baghouse will be sent to a surge bin. A portion of the cooled, low-carbon product will be recycled to the FBC for temperature control. The remaining product ash is then conveyed pneumatically to the product fly ash storage dome or directly to a truck loadout silo. The product fly ash stor-

age dome will vent through a baghouse prior to discharging to the atmosphere (Emission Point ID CBO-003). The feed and product fly ash storage domes will be used to provide flexibility in product fly ash marketing. Product fly ash will be conveyed to the truck loadout silo for subsequent transfer to trucks for shipment to offsite customers. The PM_{10} emissions captured during the truck loading process will be routed to the truck loadout silo which will vent through a baghouse prior to discharging to the atmosphere (Emission Point ID CBO-004).

The product fly ash trucks will travel on paved roads within Big Bend Station and then exit the plant for delivery to offsite customers. Fugitive particulate matter (PM)/PM_{10} emissions associated with product fly ash truck traffic on Big Bend Station paved roads (Emission Point CBO-005) will be controlled by periodic watering on an as-needed basis.

3.0 PROJECT EMISSION RATES

Emissions associated with the CBO™ pollution control project include PM_{10} due to fly ash handling and storage and combustion by-products (NO_x, CO, SO_2, PM_{10}, and VOC) due to combustion of feed fly ash in the CBO™ FBC. A plan view of the Big Bend Station showing the locations of the CBO™ process emission points was previously provided in Figure 2-3. Detailed emission rate calculations are provided in Attachment B. Each of these CBO™ emission areas is discussed in the following sections.

Material Handling and Storage PM_{10} Emissions

The CBO™ process will include five PM_{10} emission points associated with material handling and storage activities. These PM_{10} emission points include: (1) feed fly ash silo (Emission Point CBO-001), (2) feed fly ash storage dome (Emission Point CBO-002), (3) product fly ash storage dome (Emission Point CBO-003), (4) product fly ash truck loadout storage silo and truck loading operation (Emission Point CBO-004), and (5) fugitive emissions associated with product fly ash truck traffic on paved Big Bend Station roads (Emission Point CBO-005).

The feed fly ash silo, feed and product fly ash storage domes, and product fly ash truck loadout silo will each be equipped with fabric filter baghouses designed to achieve an outlet PM_{10} concentration of no more than 0.020 grains per dry standard cubic foot (gr/dscf). These baghouses will employ Nomex™/Teflon™ filter bags and pulse jet cleaning. Design pressure drop for each baghouse is 6 inches of water. Baghouse air-to-cloth ratios are 3:1 (feed fly ash silo) and 4:1 (feed and product fly ash storage domes and product fly ash truck loadout silo). The truck loading operation will include a telescoping chute with local ventilation designed to capture the fugitive PM_{10} emissions that would otherwise occur in the absence of this collection equipment. The PM_{10} emissions captured during the truck loading process will be routed to the truck loadout silo. Fugitive PM_{10} emissions associated with product fly ash truck traffic on paved Big Bend Station roads will be minor due to relatively short travel distances. Potential PM_{10} emissions, based on the conservative premise of continuous operation, total 16.4 tons per year (tpy) for these CBO™ emission sources.

The existing Big Bend Station fly ash handling and storage systems will remain in use. However, the existing fly ash truck loading equipment will not be used while the CBO™ process is operational.

CBO™ Combustion By-Product Emissions

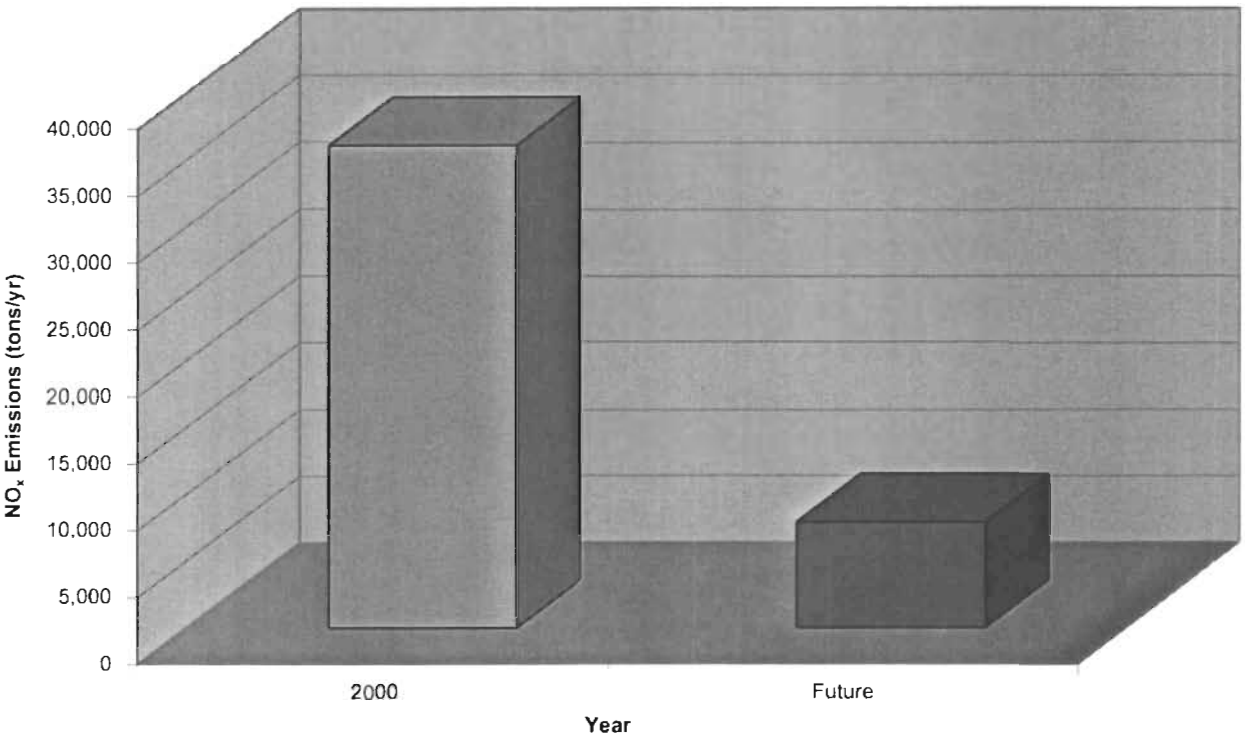
The CBO™ FBC combustion gases will contain combustion by-products including NO_x, CO, SO_2, PM_{10}, and VOCs. The CBO™ FBC will utilize good combustion practices to minimize emissions of CO. Following product fly ash separation by the cold cyclone and fabric filter baghouse, this exhaust stream will be routed to the inlet of Units 3 and 4 FGD control system prior to discharging to the atmosphere through existing Units 3 and 4 stacks. Emission estimates for these combustion by-products, provided in Attachment B, were developed based on data provided by the CBO™ vendor, Progress Materials, Inc. (PMI).

Including the CBO™ return stream, the Units 3 and 4 FGD control system will continue to achieve the SO_2 removal rates required by the EPA Consent Decree and FDEP Consent Final Judgment. Units 3 and 4 will also continue to comply with the PM emission limits required by the EPA Consent Decree and FDEP Consent Final Judgment.

As noted in Section 2.0, reuse of the CBO™ process recovered energy will save fuel that would otherwise need to be consumed in Units 3 and 4. The emission rate increases associated with the Big Bend Station CBO™ process range from 362 tpy (for NO_x) to 22.9 tpy (for PM_{10}). NO_x emissions from the Big Bend Station CBO™ process are expected to be greater than some other CBO™ process installations due to the high ammonia levels in the Big Bend fly ash. The increased NO_x emissions are a direct consequence of the SO_3 mitigation system and constitute a small collateral impact.

The Big Bend Station NO_x pollution control projects, including the integral CBO™ process, are environmentally beneficial due to the substantial reductions in actual NO_x emissions that will occur following completion of these projects. Actual Big Bend Station NO_x emissions in 2000 totaled 36,073 tons. Future Big Bend Station actual NO_x emissions, following completion of the NO_x pollution control projects, are estimated to total

approximately 7,900 tpy resulting in an actual NO_x emissions reduction of over 28,000 tpy. This substantial decrease in actual NO_x emissions is illustrated below.



ATTACHMENT A

FDEP APPLICATION FOR AIR PERMIT—LONG FORM

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit–Use this form to apply for an air construction permit for 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
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

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 & Revised/Renewal 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: **Tampa Electric Company**	
2. Site Name: **Big Bend Station**	
3. Facility Identification Number: **0570039**	
4. Facility Location...: Street Address or Other Locator: **13031 Wyandotte Road** City: **Apollo Beach** County: **Hillsborough** Zip Code: **33572**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: **Shelly Castro, Engineer – Air Programs**
2. Application Contact Mailing Address... Organization/Firm: **Tampa Electric Company** Street Address: **P. O. Box 111** City: **Tampa** State: **FL** Zip Code: **33601**
3. Application Contact Telephone Numbers... Telephone: **(813) 228-4408** ext. Fax: **(813) 228-1308**
4. Application Contact Email Address: **sscastro@tecoenergy.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	8/8/05
2. Project Number(s):	0570039-023-AC
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

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

Air Construction Permit

☒ Air construction permit.

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

Project consists of the addition of carbon burn-out (CBO™) technology at the Big Bend Station. CBO™ technology is an integral component of the Big Bend Station nitrogen oxides (NO_x) pollution control projects required by the FDEP Consent Final Judgment and the EPA Consent Decree.

The Big Bend Station CBO™ technology project is not subject to Prevention of Significant Deterioration (PSD) New Source Review (NSR) in accordance with Section V., Paragraph M of the FDEP Consent Final Judgment and Paragraph 44. of the EPA Consent Decree. These provisions allow projects that are undertaken pursuant to the Consent Final Judgment and Consent Decree to proceed without the need to obtain PSD permits. As requested by FDEP, this application constitutes TEC's request for a non-PSD air construction permit for the Big Bend Station CBO™ technology pollution control project.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
040	CBO™ Feed Fly Ash Silo	N/A	N/A
041	CBO™ Feed Fly Ash Storage Dome	N/A	N/A
042	CBO™ Product Fly Ash Storage Dome	N/A	N/A
043	CBO™ Product Fly Ash Truck Loadout Storage Silo and Truck Loading	N/A	N/A
044	CBO™ Product Fly Ash Truck Fugitives	N/A	N/A
045	CBO™ Fluidized Bed Combustor (FBC)	N/A	N/A

Application Processing Fee

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

APPLICATION INFORMATION

Owner/Authorized Representative Statement

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

1. Owner/Authorized Representative Name:
   Karen Sheffield, General Manager, Big Bend Station
2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **Tampa Electric Company**
   Street Address: **P.O. Box 111**
   City: **Tampa** State: **Florida** Zip Code: **33601-0111**
3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **813-228-4111** ext. Fax: **813-228-1308**
4. Owner/Authorized Representative Email Address: **kasheffield@tecoenergy.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 Date

APPLICATION INFORMATION

Owner/Authorized Representative Statement

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

1. Owner/Authorized Representative Name:
   Karen Sheffield, General Manager, Big Bend Station
2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **Tampa Electric Company**
   Street Address: **P.O. Box 111**
   City: **Tampa** State: **Florida** Zip Code: **33601-0111**
3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **813-228-4111** ext. Fax: **813-228-1308**
4. Owner/Authorized Representative Email Address: **kasheffield@tecoenergy.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.

   Karen A. Sheffield — Signature

   8/3/05 — Date

APPLICATION INFORMATION

Application Responsible Official Certification **N/A**

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: **Thomas W. Davis**
   Registration Number: **36777**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Environmental Consulting & Technology, Inc.**
   Street Address: **3701 Northwest 98th Street**
   City: **Gainesville** State: **FL** Zip Code: **32606-5004**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 332-0444** ext. Fax: **(352) 332-6722**
4. Professional Engineer Email Address: **tdavis@ectinc.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.

Signature (seal) Date: 8/4/05

* 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) **361.9** North (km) **3,075.0**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: **Karen Zwolak, Senior Environmental Consultant**
2. Facility Contact Mailing Address... Organization/Firm: **Tampa Electric Company** Street Address: **P. O. Box 111** City: **Tampa** State: **FL** Zip Code: **33601**
3. Facility Contact Telephone Numbers: Telephone: **(813) 228-4111** ext. Fax: **(813) 228-1308**
4. Facility Contact Email Address: **kozwolak@tecoenergy.com**

Facility Primary Responsible Official **N/A**

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 Email Address:

Facility Regulatory Classifications

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

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

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
NOX	**A**	**N**
SO2	**A**	**Y**
CO	**A**	**N**
PM10	**A**	**Y**
PM	**A**	**Y**
VOC	**A**	**N**
H106 (Hydrogen Chloride)	**A**	**N**
H107 (Hydrogen Fluoride)	**A**	**N**
H133 (Nickel Compounds)	**A**	**N**
HAPS (Total)	**A**	**N**

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap
SO2	**N**	**001 – 004**		**71,810**	**ESCPSD**
PM/PM10	**N**	**001 – 004**		**2,767**	**ESCPSD**

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

Additional SO_2 caps for Units 001 – 003 are 6.5 lb/mmBtu (2-hour average), 31.5 ton/hr (3-hour average), and 25 ton/hr (24-hour block average). In addition, Units 001 and 002 are limited to 16.5 ton/hr SO_2 (24-hour block average).

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)
   ☒ Attached, Document ID: **Fig. 2-3** ☐ Previously Submitted, Date:
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)
   ☒ Attached, Document ID: **Figs. 2-1 & 2-2** ☐ Previously Submitted, Date:
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)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date: **Oct. 2004**

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **June 30, 2004**
2. Description of Proposed Construction or Modification:
   ☒ Attached, Document ID: **Section 2.0** ☐ Not Applicable
3. Rule Applicability Analysis:
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **June 30, 2004**
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.):
   ☐ Attached, Document ID: ☒ Previously Submitted, Date: **June 30, 2004**
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.):
   ☐ Attached, Document ID: ☒ Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    ☐ Attached, Document ID: _____ ☒ Not Applicable

Additional Requirements for FESOP Applications **N/A**

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications **N/A**

See comment below

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

2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☐ Attached, Document ID: _____
   ☐ Not Applicable

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

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

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

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

Additional Requirements Comment

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:

CBO™ Feed Fly Ash Silo

3. Emissions Unit Identification Number: **040**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C	**10/01/05**		**49**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Fabric Filter - Low Temperature
[Control Device Code 018]

2. Control Device or Method Code(s): **018**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: **47 tons/hr**		
2. Maximum Production Rate:		
3. Maximum Heat Input Rate:		
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: **CBO-001**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **H**	6. Stack Height: **93 feet**	7. Exit Diameter: **1.3 feet**
8. Exit Temperature: **77 °F**	9. Actual Volumetric Flow Rate: **2,400 acfm**	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Feed Fly Ash Storage**		
2. Source Classification Code (SCC): **3-05-009-99**	3. SCC Units: **Tons Transferred or Handled**	
4. Maximum Hourly Rate: **47**	5. Maximum Annual Rate: **330,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

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
PM	**018**		**EL**
PM10	**018**		**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: **PM**	2. Total Percent Efficiency of Control: **99 percent**
3. Potential Emissions: **0.4** lb/hour **1.8** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.02 gr/dscf** Reference: **Vendor Data**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive 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: **Rule**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **5% Opacity**	4. Equivalent Allowable Emissions: **0.4** lb/hour **1.8** tons/year
5. Method of Compliance: **EPA Reference Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Rule 62-297.620(4), F.A.C.**	

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: **PM10**	2. Total Percent Efficiency of Control: **99 percent**
3. Potential Emissions: **0.4** lb/hour **1.8** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.02 gr/dscf** Reference: **Vendor Data**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive 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 __ of ___ **N/A**

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):	

G. VISIBLE EMISSIONS INFORMATION

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

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

1. Visible Emissions Subtype: **VE05**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **5** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Reference Method 9**	
5. Visible Emissions Comment: **Rule 62-297.620(4), F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation ___ of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor ___ of ___ **N/A**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Figs. 2-1 & 2-2** ☐ Previously Submitted, Date:

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Not Applicable

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Section 3.0** ☐ Previously Submitted, Date

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
   ☒ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Previously Submitted, Date **June 2004**
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID:
   Test Date(s)/Pollutant(s) Tested:

   ☐ Previously Submitted, Date:
   Test Date(s)/Pollutant(s) Tested:

   ☐ To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested:

   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications N/A

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
3. Alternative Methods of Operation
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: ☐ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Not Applicable

Additional Requirements Comment

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:

CBO™ Feed Fly Ash Storage Dome

3. Emissions Unit Identification Number: **041**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C	**10/01/05**		**49**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Fabric Filter - Medium Temperature
[Control Device Code 017]

2. Control Device or Method Code(s): **017**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: **75 tons/hr**	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate:	
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:	

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: **CBO-002**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **H**	6. Stack Height: **106 feet**	7. Exit Diameter: **2.2 feet**
8. Exit Temperature: **200 °F**	9. Actual Volumetric Flow Rate: **8,000 acfm**	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

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

1. Segment Description (Process/Fuel Type): **Feed Fly Ash Storage**		
2. Source Classification Code (SCC): **3-05-009-99**	3. SCC Units: **Tons Transferred or Handled**	
4. Maximum Hourly Rate: **75**	5. Maximum Annual Rate: **330,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

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
PM	**017**		**EL**
PM10	**017**		**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: **PM**	2. Total Percent Efficiency of Control: **99 percent**
3. Potential Emissions: **1.1** lb/hour **4.8** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.02 gr/dscf** Reference: **Vendor Data**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive 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: **Rule**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **5% Opacity**	4. Equivalent Allowable Emissions: **1.1** lb/hour **4.8** tons/year
5. Method of Compliance: **EPA Reference Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Rule 62-297.620(4), F.A.C.**	

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: **PM10**		2. Total Percent Efficiency of Control: **99 percent**	
3. Potential Emissions: **1.1** lb/hour	**4.8** tons/year	4. Synthetically Limited? ☐ Yes ☒ No	
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year			
6. Emission Factor: **0.02 gr/dscf** Reference: **Vendor Data**		7. Emissions Method Code: **2**	
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**			
9. Pollutant Potential/Estimated Fugitive 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 __ of ___ **N/A**

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):	

G. VISIBLE EMISSIONS INFORMATION

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

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

1. Visible Emissions Subtype: **VE05**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **5** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Reference Method 9**	
5. Visible Emissions Comment: **Rule 62-297.620(4), F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation ___ of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
6. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor ___ of ___ **N/A**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Figs. 2-1 & 2-2** ☐ Previously Submitted, Date:

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Not Applicable

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Section 3.0** ☐ Previously Submitted, Date

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
   ☒ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Previously Submitted, Date **June 2004**
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID:
   Test Date(s)/Pollutant(s) Tested:

   ☐ Previously Submitted, Date:
   Test Date(s)/Pollutant(s) Tested:

   ☐ To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested:

   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications N/A

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
3. Alternative Methods of Operation
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: ☐ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Not Applicable

Additional Requirements Comment

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.

3. Description of Emissions Unit Addressed in this Section:

CBO™ Product Fly Ash Storage Dome

3. Emissions Unit Identification Number: **042**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C	**10/01/05**		**49**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Fabric Filter - Medium Temperature
[Control Device Code 017]

2. Control Device or Method Code(s): **017**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: **75 tons/hr**		
2. Maximum Production Rate:		
3. Maximum Heat Input Rate:		
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: **CBO-003**	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **H**	6. Stack Height: **106 feet**	7. Exit Diameter: **2.2 feet**
8. Exit Temperature: **200 °F**	9. Actual Volumetric Flow Rate: **8,000 acfm**	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type): **Product Fly Ash Storage**		
2. Source Classification Code (SCC): **3-05-009-99**	3. SCC Units: **Tons Transferred or Handled**	
4. Maximum Hourly Rate: **75**	5. Maximum Annual Rate: **330,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

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
PM	**017**		**EL**
PM10	**017**		**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: **PM**	2. Total Percent Efficiency of Control: **99 percent**
3. Potential Emissions: **1.1** lb/hour **4.8** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.02 gr/dscf** Reference: **Vendor Data**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive 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: **Rule**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **5% Opacity**	4. Equivalent Allowable Emissions: **1.1** lb/hour **4.8** tons/year
5. Method of Compliance: **EPA Reference Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Rule 62-297.620(4), F.A.C.**	

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: **PM10**	2. Total Percent Efficiency of Control: **99 percent**
3. Potential Emissions: **1.1** lb/hour **4.8** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.02 gr/dscf** Reference: **Vendor Data**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive 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 __ of ___ **N/A**

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):	

G. VISIBLE EMISSIONS INFORMATION

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

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

1. Visible Emissions Subtype: **VE05**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **5** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Reference Method 9**	
5. Visible Emissions Comment: **Rule 62-297.620(4), F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation ___ of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
7. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor ___ of ___ **N/A**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Figs. 2-1 & 2-2** ☐ Previously Submitted, Date:

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Not Applicable

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Section 3.0** ☐ Previously Submitted, Date

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
   ☒ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Previously Submitted, Date **June 2004**
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID:
   Test Date(s)/Pollutant(s) Tested:

   ☐ Previously Submitted, Date:
   Test Date(s)/Pollutant(s) Tested:

   ☐ To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested:

   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications N/A

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
3. Alternative Methods of Operation
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: ☐ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Not Applicable

Additional Requirements Comment

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.

4. Description of Emissions Unit Addressed in this Section:

CBO™ Product Fly Ash Truck Loadout Storage Silo and Truck Loading

3. Emissions Unit Identification Number: **043**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C	**10/01/05**		**49**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Fabric Filter - Medium Temperature
[Control Device Code 017]

2. Control Device or Method Code(s): **017**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: **75 tons/hr**	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate:	
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:	

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: **CBO-004**	2. Emission Point Type Code: **2**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **Product Fly Ash Truck Loading Silo** **Product Fly Ash Truck Loading**		
5. Discharge Type Code: **H**	6. Stack Height: **87 feet**	7. Exit Diameter: **1.9 feet**
8. Exit Temperature: **200 °F**	9. Actual Volumetric Flow Rate: **8,000 acfm**	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

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

1. Segment Description (Process/Fuel Type): **Product Fly Ash Storage and Handling**		
2. Source Classification Code (SCC): **3-05-009-99**	3. SCC Units: **Tons Transferred or Handled**	
4. Maximum Hourly Rate: **75**	5. Maximum Annual Rate: **300,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

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
PM	**017**		**EL**
PM10	**017**		**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: **PM**	2. Total Percent Efficiency of Control: **99 percent**
3. Potential Emissions: **1.1** lb/hour **4.8** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.02 gr/dscf** Reference: **Vendor Data**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive 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: **Rule**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **5% Opacity**	4. Equivalent Allowable Emissions: **1.1** lb/hour **4.8** tons/year
5. Method of Compliance: **EPA Reference Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Rule 62-297.620(4), F.A.C.**	

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: **PM10**	2. Total Percent Efficiency of Control: **99 percent**
3. Potential Emissions: **1.1** lb/hour **4.8** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.02 gr/dscf** Reference: **Vendor Data**	7. Emissions Method Code: **2**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive 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 __ of ___ **N/A**

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):	

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: **VE05**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **5** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Reference Method 9**	
5. Visible Emissions Comment: **Rule 62-297.620(4), F.A.C.**	

Visible Emissions Limitation: Visible Emissions Limitation ___ of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
8. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor ___ of ___ **N/A**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☐ Other	
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: ☐ Rule ☐ Other	
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Figs. 2-1 & 2-2** ☐ Previously Submitted, Date:

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Not Applicable

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Section 3.0** ☐ Previously Submitted, Date

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
   ☒ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Previously Submitted, Date **June 2004**
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID:
   Test Date(s)/Pollutant(s) Tested:

   ☐ Previously Submitted, Date:
   Test Date(s)/Pollutant(s) Tested:

   ☐ To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested:

   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications N/A

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
3. Alternative Methods of Operation
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: ☐ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Not Applicable

Additional Requirements Comment

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.

5. Description of Emissions Unit Addressed in this Section:

CBO™ Product Fly Ash Truck Traffic Fugitives

3. Emissions Unit Identification Number: **044**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C	**10/01/05**		**49**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Watering of roadways, as necessary
[Control Device Code 062]

2. Control Device or Method Code(s): **062**

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: **300,000 tons/yr of product fly ash**	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate:	
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: **CBO-005**		2. Emission Point Type Code: **4**
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **N/A**		
5. Discharge Type Code: **F**	6. Stack Height:	7. Exit Diameter:
8. Exit Temperature: **77 °F**	9. Actual Volumetric Flow Rate:	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: **0 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:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

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

1. Segment Description (Process/Fuel Type): **Product Fly Ash Handling**		
2. Source Classification Code (SCC): **3-05-009-99**	3. SCC Units: **Tons Transferred or Handled**	
4. Maximum Hourly Rate: **104**	5. Maximum Annual Rate: **300,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: **Field 4 based on 8 trucks per hour each containing 13 tons of product fly ash.**		

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
PM	**062**		**NS**
PM10	**062**		**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: **PM**	2. Total Percent Efficiency of Control: **90 percent**
3. Potential Emissions: lb/hour tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **0.78 tons/year**	
6. Emission Factor: **N/A** Reference: **AP-42, Section 13.2.1**	7. Emissions Method Code: **3**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive 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 ___ of ___ **N/A**

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: **PM10**	2. Total Percent Efficiency of Control: **90 percent**
3. Potential Emissions: lb/hour tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **0.15 tons/year**	
6. Emission Factor: **N/A** Reference: **AP-42, Section 13.2.1**	7. Emissions Method Code: **3**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive 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 ___ of ___ **N/A**

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):	

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation ___ of __ **N/A**

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation ___ of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
9. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor ___ of ___ **N/A**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Figs. 2-1 & 2-2** ☐ Previously Submitted, Date:

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Not Applicable

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Section 3.0** ☐ Previously Submitted, Date

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
   ☒ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Previously Submitted, Date **June 2004**
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID:
   Test Date(s)/Pollutant(s) Tested:

   ☐ Previously Submitted, Date:
   Test Date(s)/Pollutant(s) Tested:

   ☐ To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested:

   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications N/A

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
3. Alternative Methods of Operation
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: ☐ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Not Applicable

Additional Requirements Comment

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.

6. Description of Emissions Unit Addressed in this Section:

CBO™ Fluidized Bed Combustor (FBC) - FBC Return to Units 3 and 4

3. Emissions Unit Identification Number: **045**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
C	**10/01/05**		**49**	☐ Yes ☒ No

9. Package Unit:
Manufacturer: Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

Unit 3 and 4 Wet Limestone Injection Flue Gas Desulfurization (FGD) - SO_2 & PM/PM_{10} [Control Device Code 042]

2. Control Device or Method Code(s): **042**

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:	
3. Maximum Heat Input Rate: **95.6 MMBtu/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:	

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: **CS-002 and CS-003**	2. Emission Point Type Code: **2**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: **N/A**		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common: **003 – Unit No. 3 Steam Generator** **004 – Unit No. 4 Steam Generator** **045 – CBO™ FBC Return**		
5. Discharge Type Code: **V**	6. Stack Height: **490 feet**	7. Exit Diameter: **24 feet**
8. Exit Temperature: **127 °F**	9. Actual Volumetric Flow Rate: **2,351,800 acfm**	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **Field 9 is estimated flow rate for Unit 3, Unit 4, and CBO™ FBC return combined.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment **1** of **2**

1. Segment Description (Process/Fuel Type): **Feed fly ash burned in the CBO™ FBC**		
2. Source Classification Code (SCC): **1-02-002-17**	3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **37.67**	5. Maximum Annual Rate: **330,000**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.7**	8. Maximum % Ash: **100**	9. Million Btu per SCC Unit: **2.76**
10. Segment Comment:		

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

1. Segment Description (Process/Fuel Type): **Distillate fuel oil burned in the CBO™ FBC (start-up fuel)**		
2. Source Classification Code (SCC): **1-02-005-02**	3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **0.25**	5. Maximum Annual Rate: **14.3**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: **0.5**	8. Maximum % Ash: **0.1**	9. Million Btu per SCC Unit: **140**
10. Segment Comment: **Field 5 based on four cold starts per year.**		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	**042**		**NS**
PM10	**042**		**NS**
SO2	**042**		**NS**
NOX			**NS**
CO			**NS**
VOC			**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: **PM**	2. Total Percent Efficiency of Control: **50 percent**
3. Potential Emissions: **2.3** lb/hour **10.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.024 lb/MMBtu** Reference: **Vendor Data**	7. Emissions Method Code: **5**

8. Calculation of Emissions:

See Attachment B for emission rate calculations.

In accordance with the requirements of Rule 62-297.310(7)(a)4.b., F.A.C. , TEC proposes to conduct initial and annual PM sampling of the combined CBO™ return and Units 3 and 4 exhaust streams downstream of the common Unit 3 and 4 FGD control system using EPA reference methods.

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Field 2 is estimate of PM removal for Units 3 & 4 FGD control 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 ___ **N/A**

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: **PM10**	2. Total Percent Efficiency of Control: **50 percent**
3. Potential Emissions: **2.3** lb/hour **10.1** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.024 lb/MMBtu** Reference: **Vendor Data**	7. Emissions Method Code: **5**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: **Field 2 is estimate of PM_{10} removal for Units 3 & 4 FGD control 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 ___ **N/A**

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: **SO2**	2. Total Percent Efficiency of Control: **95 percent**
3. Potential Emissions: **23.9** lb/hour **104.7** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.25 lb/MMBtu** Reference: **Vendor Data**	7. Emissions Method Code: **5**

8. Calculation of Emissions:

See Attachment B for emission rate calculations.

TEC proposes to conduct continuous SO_2 monitoring of the combined CBO™ return and Units 3 and 4 exhaust streams using the existing SO_2 CEMS located downstream of the common Units 3 and 4 FGD control system.

9. Pollutant Potential/Estimated Fugitive Emissions Comment:

Field 2 is estimate of SO_2 removal for Units 3 & 4 FGD control 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 ___ **N/A**

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: **NOX**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **90.7** lb/hour **397.3** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.95 lb/MMBtu** Reference: **Vendor Data**	7. Emissions Method Code: **5**

8. Calculation of Emissions:

See Attachment B for emission rate calculations.

In accordance with the requirements of Rule 62-297.310(7)(a)4.b., F.A.C. , TEC proposes to conduct initial and annual NO_x sampling of the CBO™ return upstream of Units 3 and 4 FGD control system using EPA reference methods.

9. Pollutant Potential/Estimated Fugitive 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 ___ of ___ **N/A**

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: **CO**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **23.3** lb/hour **102.2** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.24 lb/MMBtu** Reference: **Vendor Data**	7. Emissions Method Code: **5**

8. Calculation of Emissions:

See Attachment B for emission rate calculations.

In accordance with the requirements of Rule 62-297.310(7)(a)4.b., F.A.C. , TEC proposes to conduct initial and annual CO stack testing of the CBO™ return upstream of Units 3 and 4 FGD control system using EPA reference methods.

9. Pollutant Potential/Estimated Fugitive 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 ___ of ___ **N/A**

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: **1.7** lb/hour **7.6** tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): **N/A** to tons/year	
6. Emission Factor: **0.018 lb/MMBtu** Reference: **Vendor Data**	7. Emissions Method Code: **5**
8. Calculation of Emissions: **See Attachment B for emission rate calculations.**	
9. Pollutant Potential/Estimated Fugitive 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 ___ of ___ **N/A**

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):	

G. VISIBLE EMISSIONS INFORMATION

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

Visible Emissions Limitation: Visible Emissions Limitation ___ of ___ **N/A**

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
5. Visible Emissions Comment:	

Visible Emissions Limitation: Visible Emissions Limitation ___ of

1. Visible Emissions Subtype:	2. Basis for Allowable Opacity: ☐ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance:	
10. Visible Emissions Comment:	

H. CONTINUOUS MONITOR INFORMATION

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

Continuous Monitoring System: Continuous Monitor ___ of ___ **N/A**

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information: Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Figs. 2-1 & 2-2** ☐ Previously Submitted, Date:

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Not Applicable

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **Section 3.0** ☐ Previously Submitted, Date

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
   ☒ Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: ☒ Previously Submitted, Date **June 2004**
   ☐ Not Applicable

6. Compliance Demonstration Reports/Records
   ☐ Attached, Document ID:
   Test Date(s)/Pollutant(s) Tested:

   ☐ Previously Submitted, Date:
   Test Date(s)/Pollutant(s) Tested:

   ☐ To be Submitted, Date (if known):_____
   Test Date(s)/Pollutant(s) Tested:

   ☒ Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: ☒ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: ☒ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications **N/A**

1. Identification of Applicable Requirements
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
2. Compliance Assurance Monitoring
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
3. Alternative Methods of Operation
   ☐ Attached, Document ID: ☐ Previously Submitted, Date
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: ☐ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID:
     - ☐ Previously Submitted, Date:
   - ☐ Not Applicable

Additional Requirements Comment

ATTACHMENT B

CBO™ EMISSION RATE CALCULATIONS

Table B-1. Tampa Electric Company Big Bend Generating Station
CBO™ Project - Potential Emission Estimates
Fly Ash Handling and Storage Particulate Matter Emissions

Emission Source	Control Device	Operating Hours (hrs/yr)	Exhaust Temperature (°F)	Exhaust Flow Rates (acfm)	Exhaust Flow Rates (scfm)	PM_{10} Emission Rates (gr/dscf)	PM_{10} Emission Rates (lb/hr)	PM_{10} Emission Rates (tpy)
Feed Fly Ash Silo	Baghouse	8,760	Ambient	2,400	2,400	0.02	0.4	1.8
Feed Fly Ash Storage Dome	Baghouse	8,760	200	8,000	6,400	0.02	1.1	4.8
Product Fly Ash Storage Dome	Baghouse	8,760	200	8,000	6,400	0.02	1.1	4.8
Product Fly Ash Loadout Silo and Truck Loading	Baghouse	8,760	200	8,000	6,400	0.02	1.1	4.8
Fly Ash Truck Traffic	Paved Roads Watering	8,760	N/A	N/A	N/A	N/A	0.10	0.15
Totals							**3.8**	**16.4**

Sources: ECT, 2005.
PMI, 2005.

Table B-2. Tampa Electric Company Big Bend Generating Station
CBO™ Project - Potential Emission Estimates
Fluidized Bed Combustor By-Products and CBO™ Heat Recovery

A. NO_x, SO_2, CO, VOC, and PM_{10} - CBO™ Return to Units 3 and 4 FGD

Emission Source:	CBO™ Return to Units 3 and 4	
Control System:	FGD (Units 3 and 4)	
Operating Hours:	8,760	hr/yr
CBO™ Heat Input:	95.61	10^6 Btu/hr

Pollutant	Control System Efficiency (%)	Emission Rates (lb/10^6 Btu)[1]	Emission Rates (lb/hr)	Emission Rates (tpy)
NO_x	0.0	0.949	90.7	397.3
CO	0.0	0.244	23.3	102.2
SO_2	95.0	5.0	23.9	104.7
VOC	0.0	0.018	1.7	7.6
PM_{10}	50.0	0.048	2.3	10.1

[1] CBO™ return prior to Units 3 and 4 FGD.

B. NO_x, SO_2, CO, VOC, and PM_{10} - Units 3 and 4 Decreases (CBO™ Heat Recovery)

Emission Source:	CBO™ Heat Recovery - Units 3 & 4	
Operating Hours:	8,760	hr/yr
CBO™ Heat Recovery:	705,882	10^6 Btu/yr (100% capacity factor)
CBO™ Heat Recovery:	80.6	10^6 Btu/hr

Pollutant	Historical Units 3 & 4 (lb/10^6 Btu)[2]	Emission Rates (lb/hr)	Emission Rates (tpy)
NO_x	0.10	(8.06)	(35.29)
CO	0.022	(1.81)	(7.91)
SO_2	0.25	(20.15)	(88.24)
VOC	0.0027	(0.22)	(0.95)
PM_{10}	0.01	(0.81)	(3.53)

[2] Per EPA Consent Decree for NO_x, SO_2 and PM_{10}. AP-42 factors for CO and VOC.

C. NO_x, SO_2, CO, VOC, and PM_{10} - Change in Emissions

Pollutant	Emission Rates[3] CBO™ Return to Units 3 & 4 (tpy)	Emission Rates[3] CBO™ Units 3 & 4 Heat Recovery (tpy)	Change (tpy)
NO_x	397.3	(35.3)	362.0
CO	102.2	(7.9)	94.3
SO_2	104.7	(88.2)	16.5
VOC	7.6	(0.9)	6.6
PM_{10}	10.1	(3.5)	6.5

[3] Downstream of all emission control systems.

Sources: ECT, 2005.
PMI, 2005.

EMISSION INVENTORY WORKSHEET

Tampa Electric Company - Big Bend Station

Truck Traffic (Paved Roads)

EMISSION SOURCE TYPE

FUGITIVE PM - TRUCK TRAFFIC ON PAVED ROADS

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM - CBO™ Product Fly Ash Truck Traffic on Paved Roads
Emission Control Method(s)/ID No.(s):	Watering, As Necessary
Emission Point ID:	CBO-005

EMISSION ESTIMATION EQUATIONS

PM Emission (lb/hr) = ((0.082 x [(Silt Loading Factor/2)$^{0.65}$] x [(Truck Weight/3)$^{1.5}$)] - 0.00047) x (1 - ("Wet" Days/1,460)) x Vehicle Miles Traveled (VMT)/hr x (1 - (Control Eff. / 100))

PM Emission (ton/yr) = ((0.082 x [(Silt Loading Factor/2)$^{0.65}$] x [(Truck Weight/3)$^{1.5}$)] - 0.00047) x (1-("Wet" Days/1,460)) x Vehicle Miles Traveled (VMT)/yr x (1 ton/2,000 lb) x (1 - (Control Eff. / 100))

Source: Section 13.2.1, AP-42, December 2003.

INPUT DATA AND EMISSIONS CALCULATIONS

Uncontrolled Silt Loading Factor:	9.7	g/m^2	Mean Annual Number of "Wet" Days:	100	
Operating Hours:	8	hr/dy	7 dy/wk	52	wk/yr
CBO™ Fly Ash Shipped by Truck:	300,000	ton/yr	Truck Travel Distance (one way):	483	ft
Hourly Truck Count:	8	trucks/hr	Annual Truck Count:	23,077	trucks/yr

Truck Traffic Type	Source ID	Vehicle Miles Traveled (VMT/hr)	Vehicle Miles Traveled (VMT/yr)	Vehicle Weight (ton)	Control Efficiency (%)	Potential PM Emission Rates (lb/hr)	Potential PM Emission Rates (ton/yr)
CBO™ Fly Ash Trucks (Empty)	CBO-005a	0.725	2,112	13.0	90.0	0.139	0.203
CBO™ Fly Ash Trucks (Full)	CBO-005b	0.725	2,112	26.0	90.0	0.395	0.574
					Totals	**0.53**	**0.777**

SOURCES OF INPUT DATA

Parameter	Data Source
Uncontrolled Silt Loading Factor	Based on factor for iron and steel production, ECT, 2005.
Mean Annual Number of "Wet" Days	Figure 13.2.1-2, Section 13.2.1, AP-42, November 2003.
Vehicle Miles Traveled, VMT	TEC, 2005.
Truck Weights, ton	TEC, 2005.
Control Efficiency	Estimated, ECT 2005.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	S. Castro	**Date:**	8/05
Evaluated by:	T. Davis	**Date:**	8/05
Data Entered by:	T. Davis	**Date:**	8/05

EMISSION INVENTORY WORKSHEET

Tampa Electric Company - Big Bend Station

Truck Traffic (Paved Roads)

EMISSION SOURCE TYPE

FUGITIVE PM_{10} - TRUCK TRAFFIC ON PAVED ROADS

FACILITY AND SOURCE DESCRIPTION

Emission Source Description:	Fugitive PM_{10} - CBO™ Product Fly Ash Truck Traffic on Paved Roads
Emission Control Method(s)/ID No.(s):	Watering, As Necessary
Emission Point ID:	CBO-005

EMISSION ESTIMATION EQUATIONS

PM_{10} Emission (lb/hr) = ((0.016 x [(Silt Loading Factor/2)$^{0.65}$] x [(Truck Weight/3)$^{1.5}$] - 0.00047) x (1 - ("Wet" Days/1,460)) x Vehicle Miles Traveled (VMT)/hr x (1 - (Control Eff. / 100))

PM_{10} Emission (ton/yr) = ((0.016 x [(Silt Loading Factor/2)$^{0.65}$] x [(Truck Weight/3)$^{1.5}$] - 0.00047) x (1-("Wet" Days/1,460)) x Vehicle Miles Traveled (VMT)/yr x (1 ton/2,000 lb) x (1 - (Control Eff. / 100))

Source: Section 13.2.1, AP-42, December 2003.

INPUT DATA AND EMISSIONS CALCULATIONS

Uncontrolled Silt Loading Factor:	9.7	g/m^2	Mean Annual Number of "Wet" Days:	100	
Operating Hours:	8	hr/dy	7 dy/wk	52	wk/yr
CBO™ Fly Ash Shipped by Truck:	300,000	ton/yr	Truck Travel Distance (one way):	483	ft
Hourly Truck Count:	8	trucks/hr	Annual Truck Count:	23,077	trucks/yr

Truck Traffic Type	Source ID	Vehicle Miles Traveled (VMT/hr)	Vehicle Miles Traveled (VMT/yr)	Vehicle Weight (ton)	Control Efficiency (%)	Potential PM_{10} Emission Rates (lb/hr)	Potential PM_{10} Emission Rates (ton/yr)
CBO™ Fly Ash Trucks (Empty)	CBO-005a	0.725	2,112	13.0	90.0	0.027	0.040
CBO™ Fly Ash Trucks (Full)	CBO-005b	0.725	2,112	26.0	90.0	0.077	0.112
					Totals	**0.10**	**0.152**

SOURCES OF INPUT DATA

Parameter	Data Source
Uncontrolled Silt Loading Factor	Based on factor for iron and steel production, ECT, 2005.
Mean Annual Number of "Wet" Days	Figure 13.2.1-2, Section 13.2.1, AP-42, November 2003.
Vehicle Miles Traveled, VMT	TEC, 2005.
Truck Weights, ton	TEC, 2005.
Control Efficiency	Estimated, ECT 2005.

NOTES AND OBSERVATIONS

DATA CONTROL

Data Collected by:	S. Castro	**Date:**	8/05
Evaluated by:	T. Davis	**Date:**	8/05
Data Entered by:	T. Davis	**Date:**	8/05

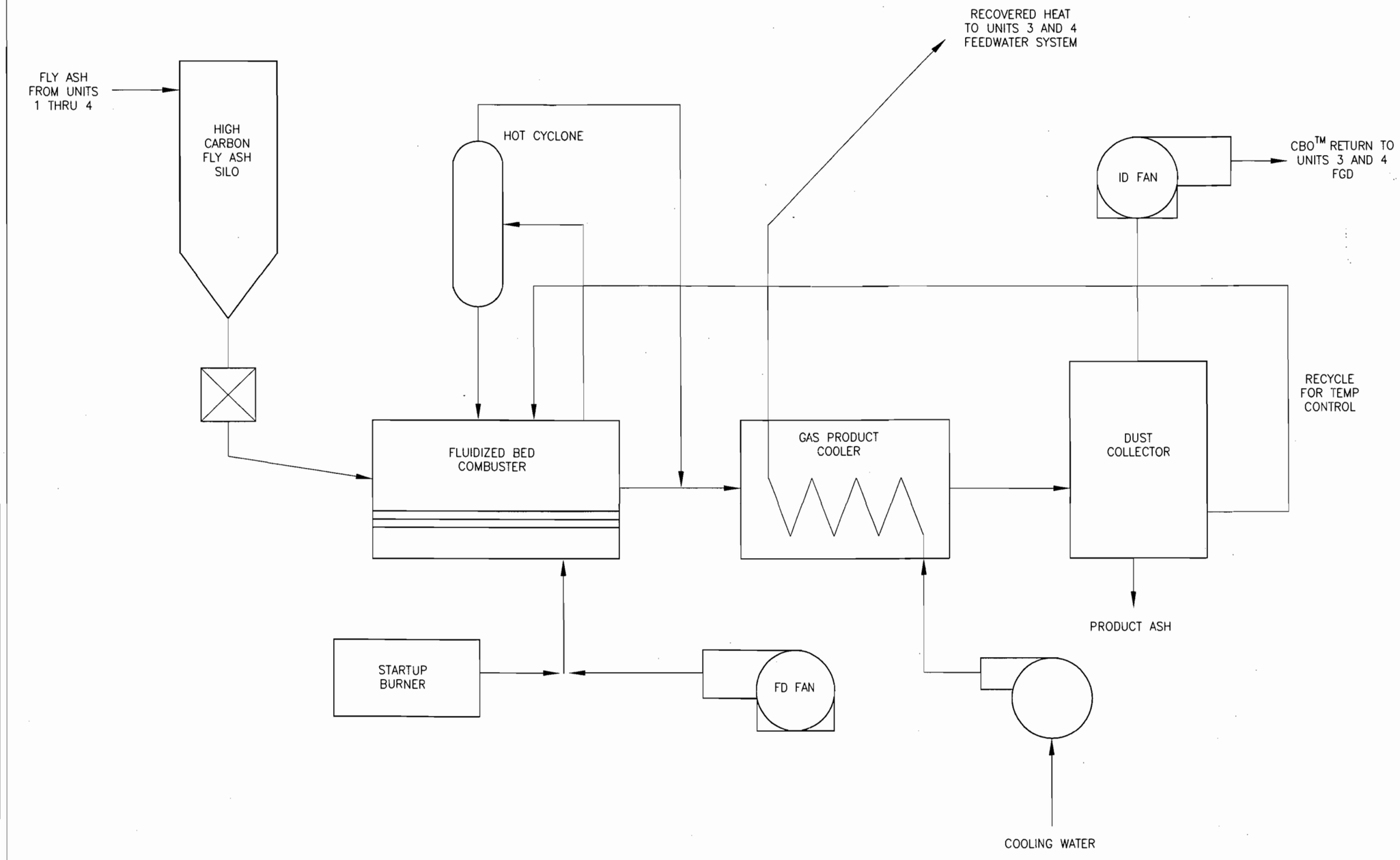


FIGURE 2-1.

CARBON BURN-OUT PROCESS FLOW DIAGRAM

Source: PMI, 2005.

ECT
Environmental Consulting & Technology, Inc.

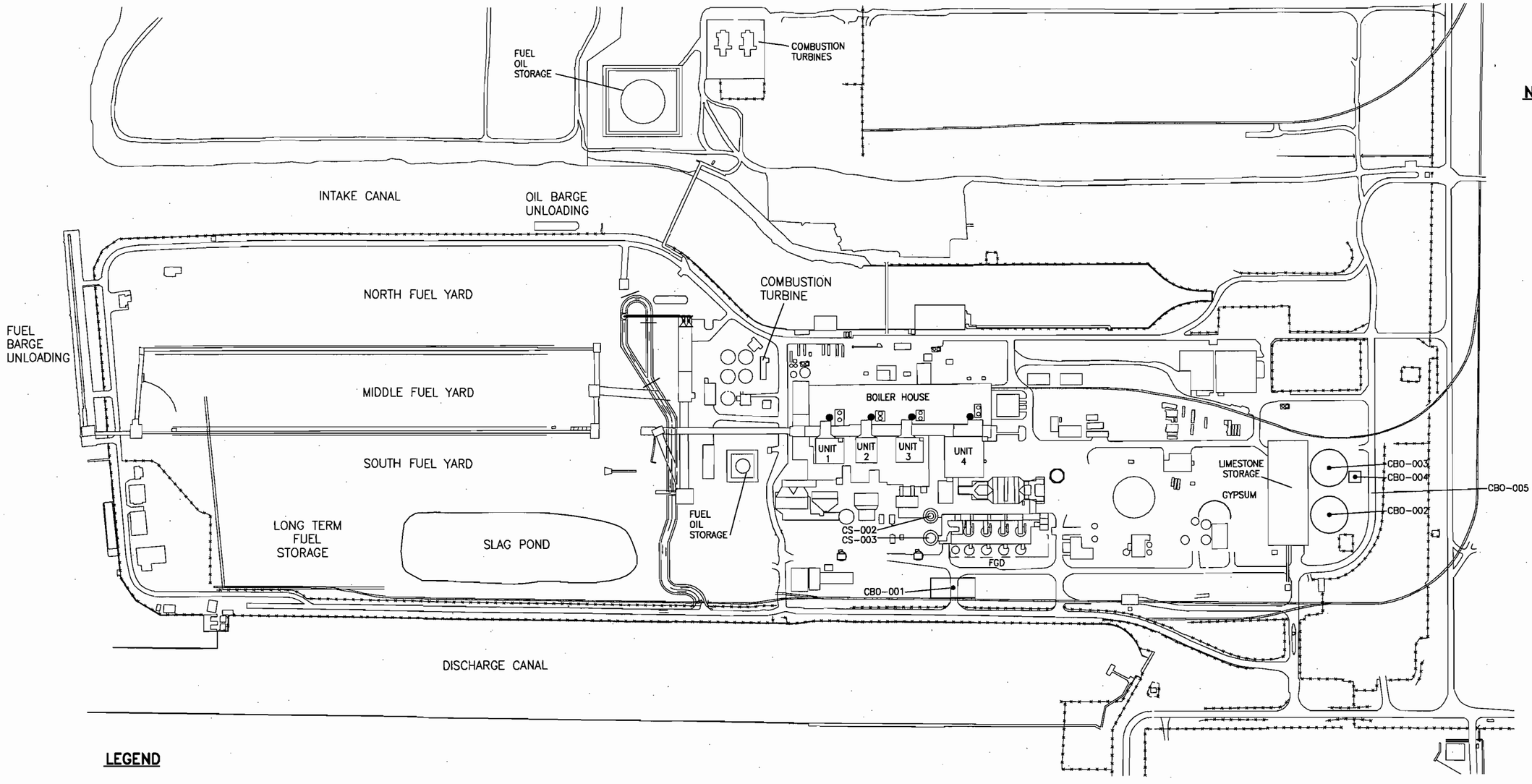


FIGURE 2-3.

BURN-OUT EMISSION SOURCE LOCATIONS

Sources: Boral, 2005; ECT, 2005.

ECT
Environmental Consulting & Technology, Inc.

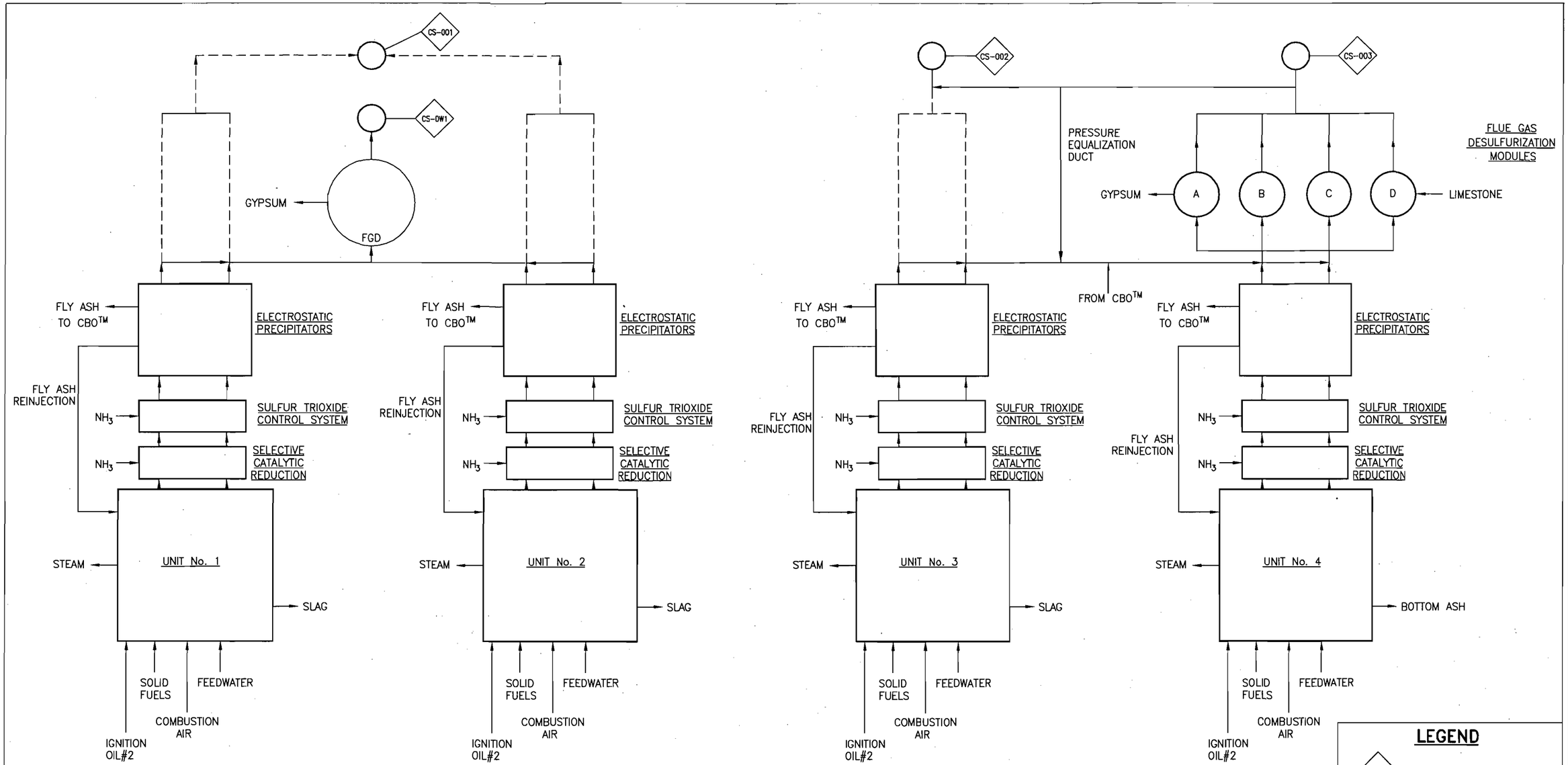


FIGURE 2-2.

UNITS 1 THRU 4 FLOW DIAGRAM

Source: ECT, 2005.

ECT
Environmental Consulting & Technology, Inc.