

Florida Department of
Environmental Protection

Memorandum

To: Trina Vielhauer, Bureau of Air Regulation *JH*
Through: Jonathan K. Holtom, Title V Section *JH*
From: Yousry Attalla (Joe), Title V Section *YHA*
Date: February 18, 2010
Subject: Draft Minor Source Air Construction Permit
Project No. 0330045-028-AC
Gulf Power Company, Crist Electric Generating Plant
Unit 6 SCR/HLI Project

Attached for your review is a draft minor air construction permit package for the existing Crist Electric Generating Plant, which is located in Escambia County at Pate Road, off of 10 Mile Road on Governors Bayou, North of Pensacola, Florida. Briefly, the draft permit authorizes to construct a new Selective Catalytic Reduction (SCR) system on Crist Unit 6 for compliance to the Clean Air Interstate Rule (CAIR). The startup date for the project is scheduled for April, 2012. The application also addresses an additional ammonia tank, hydrated lime injection (HLI) and use of a higher sulfur fuel blend. The attached Technical Evaluation and Preliminary determination provides a detailed description of the project and the rationale for permit issuance. The project is considered a new source review reform project. Day 90 of the permitting time clock is February 22, 2010.

I recommend your approval of the attached draft permit package.

Attachments

TLV/jkh/yha

P.E. CERTIFICATION STATEMENT

PERMITTEE

Gulf Power Company
One Energy Place
Pensacola, Florida 32520-0100


Draft Permit No. 0330045-028-AC
Crist Electric Generating Plant
Unit 6 SCR/HLI Project
Escambia County, Florida

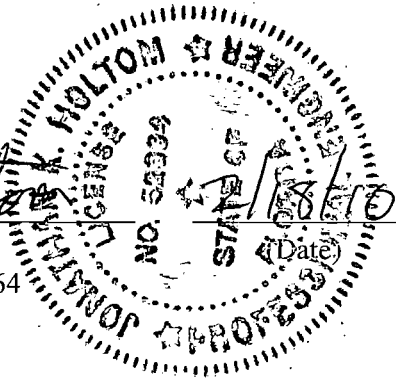
PROJECT DESCRIPTION

This is the draft air construction permit, which authorizes Gulf Power to construct a new Selective Catalytic Reduction (SCR) system on the existing Crist Unit 6 for compliance with the Clean Air Interstate Rule (CAIR). The startup date for the project is scheduled for April of 2012. The application also addresses the installation of a permanent hydrated lime injection (HLI) system to reduce emissions of sulfuric acid mist. The proposed work will be conducted at the existing Crist Electric Generating Plant, which is a Power Plant categorized under Standard Industrial Classification No. 4911. The existing facility is located in Escambia County on Pate Road, off of 10 Mile Road on Governors Bayou, North of Pensacola, Florida.

This project is subject to the general preconstruction review requirements in Rule 62-212.300, Florida Administrative Code (F.A.C.) and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. The Department's full review of the project and rationale for issuing the draft permit is provided in the Technical Evaluation and Preliminary Determination.

***I HEREBY CERTIFY** that the air pollution control 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 any other aspects of the proposal (including, but not limited to, the electrical, civil, mechanical, structural, hydrological, geological, and meteorological features).*


Jonathan K. Holtom, P.E.
Registration Number 0052664





Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

February 19, 2010

Mr. James O. Vick, Environmental Affairs Director
Gulf Power Company
One Energy Place
Pensacola, Florida 32520-0100

Re: Project No. 0330045-028-AC
Gulf Power Company, Crist Electric Generating Plant
Unit 6 SCR/HLI Project

Dear Mr. Vick:

On November 24, 2009, you submitted an application requesting to construct a new Selective Catalytic Reduction (SCR) system on the existing Crist Unit 6. The startup date for the project is scheduled for April of 2012. The application also addresses a permanent hydrated lime injection (HLI) system to reduce emissions of sulfuric acid mist. The proposed work will be conducted at the existing Crist Electric Generating Plant, which is a Power Plant categorized under Standard Industrial Classification No. 4911. The existing facility is located in Escambia County at Pate Road, off of 10 Mile Road on Governors Bayou, North of Pensacola, Florida. Enclosed are the following documents: the Written Notice of Intent to Issue Air Permit; the Public Notice of Intent to Issue Air Permit; the Technical Evaluation and Preliminary Determination; and the Draft Permit with Appendices. The Public Notice of Intent to Issue Air Permit is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project. If you have any questions, please contact the project engineer, Yousry Attalla (Joe), at (850)921-9527.

Sincerely,

Trina Trina Vielhauer, Chief
Bureau of Air Regulation

Enclosures

TLV/jkh/yha

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

*In the Matter of an
Application for Air Permit by:*

Gulf Power Company
One Energy Place
Pensacola, Florida 32520-0100

Project No. 0330045-028-AC
Minor Air Construction Permit

Authorized Representative:

Mr. James O. Vick, Environmental Affairs Director

Crist Electric Generating Plant
Unit 6 SCR/HLI Project
Escambia County, Florida

Facility Location: Gulf Power Company operates the existing Crist Electric Generating Plant, which is located in Escambia County on Pate Road, off of 10 Mile Road on Governors Bayou, North of Pensacola, Florida.

Project: The applicant proposes to construct a new Selective Catalytic Reduction (SCR) system on the existing Crist Unit 6 for compliance with the Clean Air Interstate Rule (CAIR). The startup date for the project is scheduled for April of 2012. The application also addresses the installation of a permanent hydrated lime injection (HLI) system to reduce emissions of sulfuric acid mist. The proposed work will be conducted at the existing Crist Electric Generating Plant, which is a Power Plant categorized under Standard Industrial Classification No. 4911. Details of the project are provided in the application and the enclosed Technical Evaluation and Preliminary Determination.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the draft permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address or phone number listed above.

Notice of Intent to Issue Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of the proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a final permit in accordance with the conditions of the proposed draft permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Permit (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet 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 Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5) and (9), F.A.C., the applicant shall provide

Gulf Power Company
Unit 6 SCR/HLI Project

Project No. 0330045-028-AC
Minor Air Construction Permit

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

proof of publication to the Permitting Authority at the above address within 7 days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the proposed draft permit for a period of 14 days from the date of publication of the Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written comments received result in a significant change to the Draft Permit, the Permitting Authority shall revise the draft permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the attached Public Notice or within 14 days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 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 (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

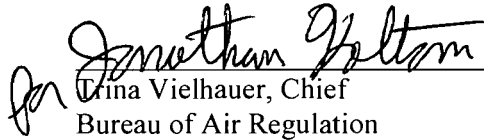
A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; 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 when and how each petitioner received notice of the agency action or proposed decision; (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 including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the 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 Permitting Authority'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, F.A.C.

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

Mediation: Mediation is not available in this proceeding.

WRITTEN NOTICE OF INTENT TO ISSUE AIR PERMIT

Executed in Tallahassee, Florida.


Tina Vielhauer, Chief
Bureau of Air Regulation


CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Written Notice of Intent to Issue Air Permit package (including the Written Notice of Intent to Issue Air Permit, the Public Notice of Intent to Issue Air Permit, the Technical Evaluation and Preliminary Determination and the Draft Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on 2/19/10 to the persons listed below.

Mr. Theodore J. McCullough, Vice President, Gulf Power Company: tjmccull@southernco.com
Mr. James O. Vick, Gulf Power Company: jovick@southernco.com
Mr. G. Dwain Waters, Q.E.P., Gulf Power Company: gdwaters@southernco.com
Mr. Greg N. Terry, P.E., Gulf Power Company: gnterry@southernco.com
Mr. Rick Bradburn, DEP-NWD: rick.bradburn@dep.state.fl.us
Ms. Katy Forney, U.S. EPA Region 4: forney.kathleen@epamail.epa.gov
Ms. Ana Oquendo, U.S. EPA Region 4: oquendo.ana@epamail.epa.gov
Ms. Victoria Gibson, DEP-BAR: victoria.gibson@dep.state.fl.us (for reading file)
Ms. Barbara Friday, DEP-BAR: barbara.friday@dep.state.fl.us (for posting with U.S. EPA, Region 4)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.



(Clerk)

2/19/10

(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AIR PERMIT

Florida Department of Environmental Protection
Division of Air Resource Management, Bureau of Air Regulation
Draft Air Construction Permit
Project No. 0330045-028-AC
Gulf Power Company, Crist Electric Generating Plant
Escambia County, Florida

Applicant: The applicant for this project is Gulf Power Company. The applicant's authorized representative and mailing address is: James O. Vick, Environmental Affairs Director, Gulf Power Company, Crist Electric Generating Plant, One Energy Place, Pensacola, Florida 32520-0100.

Facility Location: Gulf Power Company operates the existing Crist Electric Generating Plant, which is located in Escambia County on Pate Road, off of 10 Mile Road on Governors Bayou, North of Pensacola, Florida.

Project: This is the draft air construction permit, which authorizes the applicant to construct a new Selective Catalytic Reduction (SCR) system on the existing Crist Unit 6 for compliance with the Clean Air Interstate Rule (CAIR). The startup date for the project is scheduled for April of 2012. The application also addresses the installation of a permanent hydrated lime injection (HLI) system to reduce emissions of sulfuric acid mist.

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Permitting Authority responsible for making a permit determination for this project is the Bureau of Air Regulation in the Department of Environmental Protection's Division of Air Resource Management. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at the physical address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application and information submitted by the applicant (exclusive of confidential records under Section 403.111, F.S.). Interested persons may contact the Permitting Authority's project engineer for additional information at the address and phone number listed above. In addition, electronic copies of these documents are available on the following web site by entering draft permit number:
<http://www.dep.state.fl.us/air/emission/apds/default.asp>.

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air construction permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297, F.A.C. The Permitting Authority will issue a final permit in accordance with the conditions of the proposed draft permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Comments: The Permitting Authority will accept written comments concerning the proposed draft permit for a period of 14 days from the date of publication of this Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 p.m.) on or before the end of the 14-day period. If written comments received result in a significant change to the draft permit, the Permitting Authority shall revise the draft permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for

(Public Notice to be Published in the Newspaper)

an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241). Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 14 days of publication of this Public Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within 14 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 (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority'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 when and how each petitioner received notice of the agency action or proposed decision; (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 including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the 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 Permitting Authority'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, F.A.C.

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

Mediation: Mediation is not available for this proceeding.



**TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION**

Gulf Power Company

One Energy Place
Pensacola, Florida 32520-0100

Crist Electric Generating Plant

Facility ID No. 0330045

Project No. 0330045-028-AC
Minor Source Air Construction Permit

Unit 6 SCR/HLI Project

New Source Review Reform Project

Escambia County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
New Source Review Section
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

February 18, 2010

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of this permit.

Facility Description and Location

Gulf Power Company operates the existing Crist Electric Generating Plant, which is categorized under Standard Industrial Classification Code No. 4911. The existing facility consists of four coal-fired boilers, Units 4-7, which are designated as EU-004 - EU-007 in the Division's ARMS database. Units 4 and 5 control particulate with electrostatic precipitators (ESP) and control nitrogen oxides (NO_x) with selective non-catalytic reduction (SNCR). Unit 6 controls particulate with an ESP and controls NO_x with low-NO_x burners and a SNCR system. Unit 7 controls particulate with an ESP and controls NO_x with low-NO_x burners and a selective catalytic reduction (SCR) system. The facility is located in Escambia County, at Governor's Bayou off 10 Mile Road in Pensacola, Florida. The UTM coordinates of the existing facility are Zone 16, 478.5 km east, and 3381.44 km north. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act.
- The facility operates units subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Project Description

On November 24, 2009, Gulf Power Company submitted an application for an air construction permit to construct a new SCR system on the existing Crist Unit 6 for compliance with CAIR. The startup date for the project is scheduled for April 2012. The application also mentions a separate pending project (permit No. 0330045-030-AC) to authorize the use of a higher sulfur coal blend (3.30 lb sulfur dioxide (SO₂) per million British thermal units (MMBtu) of coal). The increased fuel sulfur blend will result in an increase in SO₂ and sulfuric acid mist

(SAM) emissions in all four units. These impacts will be fully evaluated in Project No. 0330045-030-AC; however, Gulf Power is requesting the authority to construct a permanent hydrated lime injection (HLI) system as part of this project in order to be able to control the resultant increase in sulfuric acid mist (SAM) emissions associated with the higher sulfur coal. As part of the SCR project, Gulf Power is also proposing a multi-unit emission cap for SAM emissions of 165.5 tons/year, for units 4, 5, 6 and 7, to offset the potential acid mist emission increase from the Unit 6 SCR operation.

In a separate request received February 2, 2010, Gulf Power would like to eliminate the requirement to dismantle the mercury research center that was authorized to be constructed under permit No. 0330045-011-AC. The original request was for a time-limited operational period followed by a return of the ductwork to the pre-installed configuration. The test center is currently providing beneficial information for various mercury control trials. Gulf Power would like to retain the ability to conduct future testing for new and different mercury control projects and is requesting the authority to continue operating the test center.

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the state and federal ambient air quality standards (AAQS) or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 5 tons per year or more of lead;
- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon monoxide (CO); nitrogen oxides (NO_x); sulfur dioxide (SO₂); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM₁₀); volatile organic compounds (VOC); lead (Pb); fluorides (F); sulfuric acid mist (SAM); and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification, which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 µg/m³, 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

major with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several “significant” regulated pollutants.

PSD Applicability for Project

The applicant’s proposed project to replace the existing SNCR system on Unit 6 with an SCR system is expected to reduce NO_x emissions by approximately 1,484 tons per year. This estimate assumes 96 hours/year of SCR bypass for startup/shutdown and 360 hours/year of SCR bypass for annual maintenance. Emissions of CO, SO₂ and VOC will be unchanged by the addition of an SCR system. It is possible that there will be a slight increase in PM and PM₁₀ emissions due to the HLI system, but the potential increases are expected to be small (3.1 tons/year) after control by the existing wet flue gas desulfurization (FGD) system. However, as shown in the following table, Sulfuric Acid Mist (SAM) emissions from Unit 6 prior to passing through the scrubber are predicted to increase by 5.0 tons per year because the SCR catalyst will convert some of the available SO₂ emissions to SAM emissions.

Table A. Summary of SAM Emissions

Unit	Actual SAM Emissions, Tons per Year		
	Baseline	Projected	Increase
4	5.8	5.3	-0.5
5	5.7	5.2	-0.5
6	33.9	58.3	24.4
7	113.1	94.7	-18.4
Total	158.5	163.5	5.0

Notes:

1. Baseline actual SAM emissions represent the 2-year average from September 2007 – August 2009.
2. Projected actual SAM emissions are based on the maximum sulfur content of the future coal blend (3.30% sulfur by weight), the conversion of available SO₂ to SAM emissions and exclude SAM emissions increases from demand growth. Pending project No. 0330045-030-AC considers an increase in the maximum fuel sulfur content, which will be thoroughly addressed in that permit.

As indicated in the above table, potential uncontrolled SAM emissions after installation of the SCR system do not exceed the PSD significant emission rate of 7 tons/year. However, in preparation for the proposed increase of the sulfur content of the coal from 1.6% to 3.3% (which is being addressed in project No. 0330045-030-AC), the applicant proposes to install a permanent HLI system to control SAM emissions from all four units before operating the Unit 6 SCR system. The applicant’s tentative schedule is to complete the installation of the permanent HLI system by the end of 2010, to begin the combustion of higher sulfur coal at the beginning of 2011 and to have the new SCR system for Unit 6 in operation by the end of 2012. The permanent HLI system will be installed in the common duct prior to the Chiyoda Thoroughbred 121 Jet Bubbling Reactor scrubber, thus reducing emissions from all four boilers at the facility.

In addition to the installation of the permanent HLI system, to ensure that the SCR project combined with the higher sulfur coal project will not cause a PSD significant emissions increase for SAM emissions, the applicant proposes a SAM emissions cap for Units 4 - 7 of 165.5 tons per consecutive 12 months. Compliance with this emissions cap ensures that the SAM emissions increase from the addition of the Unit 6 SCR will not exceed 5 tons/year. The multi-unit cap is necessary since the HLI system will control all four units.

An additional ammonia storage Tank of 20,500 gallons and a hydrated lime injection silo will also be added during the installation of this project. Due to the very small nature of their potential emissions, these units qualify for a generic exemption from the requirement to obtain construction permits. They will be added to the

insignificant activities list in the Title V permit the next time it is open for revision following construction of this equipment.

When in operation, the hydrated lime injection (HLI) system will reduce the sulfuric acid mist (SAM) emissions that are generated by the oxidation of fuel sulfur during combustion. SAM emissions may also increase across the SCR catalyst as SO₂ is converted into sulfur trioxide (SO₃) and then into SAM in the presence of moisture. The air pre-heater, electrostatic precipitator (ESP) and wet flue gas desulfurization (FGD) scrubber system will remove much of the SAM. The applicant estimates SAM emissions may be reduced by as much as 66.7% using lime injection and another 25% with the wet FGD system, thus the total reduction of acid mist at the facility is estimated at 75%. SAM reacts with the hydrated lime and is removed as particulate matter in the downstream FGD system. The applicant estimates that the HLI project will remove approximately 50 tons per year of SAM emissions. Therefore, the project is not subject to PSD preconstruction review.

3. DEPARTMENT REVIEW

Brief Discussion of Emissions

Crist emissions unit number 6 (ARMS Emission Unit 006) is a front wall fired, dry bottom boiler designated as "Boiler Number 6" manufactured by Foster Wheeler. It is rated at a maximum heat input of 3,704.8 MMBtu/hour when firing pulverized coal or natural gas, and 714.8 MMBtu/hr when firing No. 2 fuel oil or on-specification used oil. Fuel oil is used as a back-up fuel and for periods of start-up and flame stabilization. This emission unit is regulated under Acid Rain, Phase II and is subject to the standards and requirements contained in the Acid Rain Part of permit No. 0330045-025-AV. Also, this emission unit pre-dates Prevention of Significant Deterioration (PSD) regulations and is regulated under Rule 62-296.405, F.A.C., Fossil Fuel Fired Steam Generators with more than 250 million Btu per Hour Heat Input. NO_x emissions are currently controlled by Foster Wheeler Low NO_x Burners and by a Selective Non-Catalytic Reduction (SNCR) system designed to achieve no less than a 20% reduction in NO_x emissions as measured across the SNCR unit inlet and outlet. The designed target ammonia slip level for the SNCR system is 5 ppmv corrected to 3% O₂ based on a 24-hour average.

Selective Catalytic Reduction (SCR)

Unit 6 currently uses low-NO_x burners to inhibit the formation of NO_x and SNCR to reduce the emissions of NO_x that does form. Gulf Power Company proposes to replace the existing SNCR with the addition of a new SCR system manufactured by Southern Company Services, Inc. SCR is an add-on control technology in which ammonia is injected into the exhaust gas stream before a section of catalyst. The ammonia combines with NO_x in the presence of the catalyst in a reduction reaction to form nitrogen and water. For conventional catalysts such as vanadium pentoxide, the exhaust gas temperature must be maintained between 450° F and 850° F for the reaction to proceed satisfactorily. Ammonia that escapes past the catalyst without reacting with NO_x is called "ammonia slip". If a fuel contains significant amounts of sulfur, high levels of ammonia slip can lead to the formation of bisulfates and other particulate matter, which can foul the catalyst and reduce heat transfer rates. To avoid these problems, SCR systems can be designed with very low levels of ammonia slip (< 5 ppmv) while still achieving control efficiencies greater than 90%. SCR is a commercially available, demonstrated control technology currently employed on numerous utility boilers and combined cycle gas turbine projects worldwide.

Design Specifications

The following specifications summarize the preliminary design of the proposed new SCR system.

- *Basic Design Specifications:* The SCR system is designed for a NO_x conversion efficiency of 85% based on an inlet NO_x emissions rate of 0.50 lb/MMBtu.
- *Catalyst Design Specifications:* The catalyst will consist of titanium dioxide and molybdenum oxide with vanadium pentoxide as the active component. The catalyst is fabricated by applying ceramic catalyst material to a perforated stainless steel mesh grid plate. The catalyst structure will be a honey-comb type. The operational temperature range is approximately 600° to 800° F. The initial configuration is for a catalyst volume of approximately 460 cubic meters (16,260 cubic feet) divided between three catalyst layers. The design inlet NO_x concentration is 0.50 lb/MMBtu and the design output NO_x emissions is 0.07 lb/MMBtu.

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

- *Ammonia Storage and Mixing:* Anhydrous ammonia will be delivered by truck (or possibly rail), and stored on site in two 20,500 gallon tanks. Ammonia is diluted with air (< 10% by volume) and injected into the SCR inlet duct through the ammonia injection grid (AIG), which is divided into about two dozen zones. Each zone is equipped with a flow indicator and manual control valve for tuning the AIG to match the inlet NO_x profile. Effective ammonia distribution and NO_x conversion are dependent on the velocity profile entering the AIG. A static mixer installed upstream of the AIG creates flow resistance, flattens the velocity profile, and provides uniform gas flow. Downstream of the AIG, a second static mixer is positioned at the AIG injection points to impart a swirl to the diluted ammonia and promote good mixing with the flue gas. For 85% NO_x conversion, the design molar ratio of ammonia-to-NO_x is 0.95 at SCR inlet.
- *Ammonia Slip:* The design target ammonia slip level is less than 5 ppmv measured at the stack. There are no provisions for continuously monitoring ammonia concentration in the flue gas. When ammonia measurements in the flue gas are required, a wet chemical method will be utilized. These measurements are taken periodically over the operating life of the SCR catalyst. More frequent tracking of ammonia slip will be monitored by measuring the amount of residual ammonia adsorbed by the fly ash. Fly ash samples will be measured periodically using an ion-specific electrode. Ammonia slip may also be estimated from the ammonia injection monitoring system based on the NO_x rate at the SCR inlet/outlet and the ammonia injection rate.
- *Gas Sampling Grid (GSG):* During commissioning and periodically over the life of the system, it will be necessary to tune the AIG to optimize the distribution of ammonia in the SCR inlet duct relative to the NO_x distribution to provide optimum NO_x conversion with minimum ammonia slip. To facilitate tuning, a manual gas sampling grid (GSG) is installed downstream of the last catalyst layer. The GSG allows a high-resolution traverse of the flue gas stream for composition across the outlet of the SCR, which can be used to precisely adjust the AIG. The GSG is comprised of individual small-bore (~½”) heavy-wall pipes extending from outside the SCR to distributed sampling locations below the last catalyst layer. Portable equipment is used to sample and measure gas concentrations using the GSG.

Figure A (below) shows the process flow diagram for the proposed system.

Ammonia Control System

An ammonia flow control valve adjusts the flow of undiluted anhydrous ammonia vapor from the operating vaporizer into the diluted ammonia stream via a mixing chamber. The flow control valve set point for the SCR reactor is established by an algorithm using an ammonia flow control loop with a cascaded, feed-forward control scheme. The lower controller in this scheme is a simple ammonia flow controller. The upper controller and its feed-forward signal develop the ammonia flow set point, which is compared to the measured ammonia flow compensated for temperature and pressure. The ammonia flow control valve is then adjusted accordingly when in automatic mode. The feed-forward signal is generated from the measured SCR inlet NO_x, the outlet NO_x set point, and the heat input to the boiler, which is estimated from the measured megawatt (MW) output of the steam turbine. The multiplication of the two signals, and the scaling factor, is used to determine the flow of ammonia (lbs/hr) required for the given uncontrolled NO_x emission rate into the SCR.

The upper controller of the cascaded control loop compares the SCR outlet NO_x rate to the preset NO_x set point. It then trims the feed-forward signal to adjust for any inaccuracies in the other measurements and for any ammonia slip that actually occurred. The stack NO_x signal is also monitored since it is the measurement used to determine compliance with the air permit limits. The scaling factor for the ammonia flow feed-forward signal (0.39) is based upon the differences in molecular weight between one molecule of NO_x and one molecule of ammonia. This calculation assumes that 95% of the NO_x will be nitrogen oxide (NO) and 5% of it will be nitrogen dioxide (NO₂). It also assumes that all of the ammonia molecules find NO_x to react with and that there is no ammonia slip.

The following table summarizes the expected ammonia injection rates at various loads:

Table B. Summary of Ammonia Injection Rates vs. Load	
Load %	Ammonia Injection Rate (lb/hour)

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Peak Maximum Condition	585
75% of Maximum Condition	400
50% Load*	230
Minimum Load	338

* It is expected that the SCR will limit low load operation to a minimum load of about 160 MW because the economizer outlet temperature may not meet the minimum 600°F required for ammonia injection. At 210 MW, the ammonia injection rate is expected to be about 338 lb/hour.

Catalyst Maintenance Procedures and Schedule

The catalyst has been selected for a 16,000-hour life at design conditions. The initial catalyst load consists of three layers. At the end of the first 16,000 hours, a full fourth layer is added. Full layers are replaced in succession thereafter. Catalyst deactivation can be observed in a variety of ways such as ammonia slip tests, increased ammonia usage, and estimated ammonia slip determined by the ammonia injection control system.

SCR Bypass Duct

The SCR bypass duct is configured to allow boiler exhaust gas to bypass the SCR catalyst under specific circumstances. Initial design locates it so the bypass inlet is at the top of the SCR reactor and the outlet is at the bottom of the SCR reactor. Two large bypass dampers redirect the gas flow through this duct. The SCR reaction takes high temperatures for the chemical reaction to occur. These temperatures (> 600° F) do not exist until the unit is loaded to approximately 210 MW. In addition, a cold SCR must be gradually warmed to control thermal expansion.

Three conditions are anticipated that require bypass duct operation.

1. *Boiler Problems:* Problems may occur that require personnel entry into the boiler for maintenance. By closing the bypass dampers in this situation, the SCR remains thermally isolated and warm while the boiler is cooled for entry. By keeping the SCR warm, the SCR can be returned to operation much faster. It is estimated that boiler problems may occur approximately 10 to 12 times per year for a bypass time of approximately 60 hours. Note: the unit is off line approximately 36 of these hours.
2. *Boiler Startup:* The SCR typically would require a longer startup time without bypassing. With the bypass, the dampers can be gradually opened to control SCR warming, which allows the system to reach the minimum SCR reactor temperature quicker than by adjusting boiler operation alone. It is estimated that such startups could occur about 10 times per year for a bypass time of approximately 48 hours.
3. *SCR Catalyst Problems:* Problems with the catalyst (such as plugging) would require maintenance and inspections on the SCR itself. The bypass would be used to allow entry and work on the SCR reactor without taking the boiler off line. These events on other units range from 4 days to 2 weeks in duration and would be expected to occur about 3-4 times per year on a unit operated with SCR year-round.

The proposed design specifications appear to fall within the typical ranges for similar SCR projects and the conclusions of the earlier SCR demonstration project conducted at the Crist plant. Based on the application, the preliminary design will achieve a minimum NO_x conversion efficiency of 85%. Although the Department does not oppose the SCR bypass as a design element, it does not believe it is appropriate to exclude periods of uncontrolled emissions from the plant-wide NO_x and SAM emissions standards.

Hydrated Lime Injection (HLI)

Hydrated Lime Injection is a process to inject powdered hydrated lime into the flue gas stream at the discharge of the booster fans, upstream of the wet/dry interface at the Flue Gas Desulfurization (FGD) to reduce acid aerosol mist emissions from the power plant. The acid aerosol mist is created in the combustion process, and is also increased across the Selective Catalytic Reduction (SCR) catalyst (where the catalyst converts SO₂ to SO₃ in the NO_x reduction process). The Air Preheater (APH), Electrostatic Precipitator (ESP) and FGD all help remove the acid aerosol mist but do not necessarily remove it all. A permanent HLI system is planned for full time operation prior to the installation of the Unit 6 SCR in 2012.

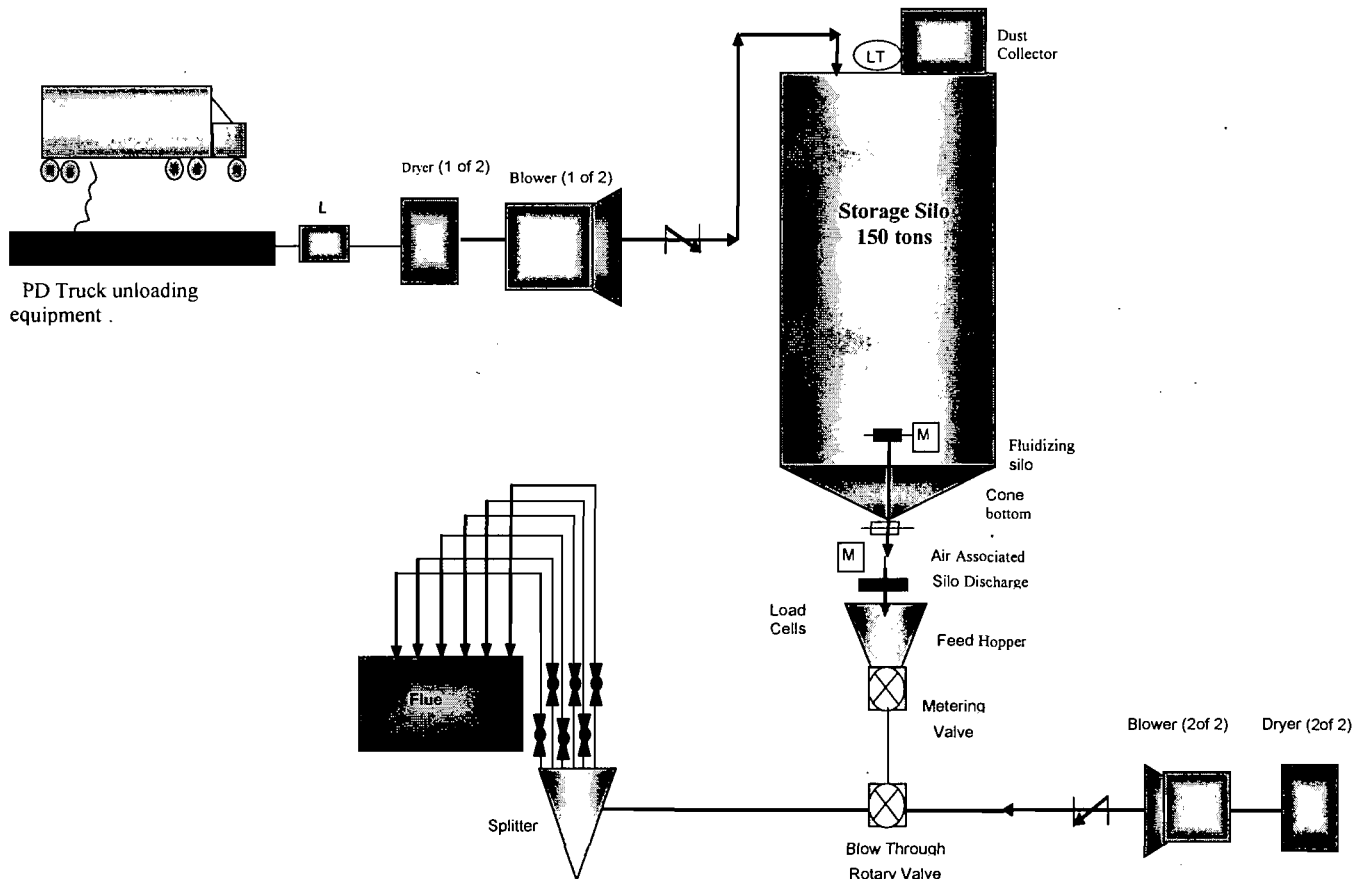
TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

HLI Project Description

The function of the hydrated lime injection system is the receipt, storage, pneumatic conveyance, and injection of hydrated lime. This system is designed to remove aerosol emissions, primarily SO_3 , from the flue gas prior to the flue gas entering the scrubber gas cooling duct. The primary system equipment includes: truck unloaders, dryers, blowers, compressors, silo, piping, splitters, and injection lances.

Hydrated lime will be delivered by truck. The hydrated lime will be unloaded and will be conveyed into a 150-ton storage silo. From the silo, the hydrated lime will be conveyed through the injection lances. The injection lances will be located around the ductwork directly after the booster fans.

The projected lime usage will be based on a stoichiometric ratio of 4 moles hydrated lime to 1 mole of SO_3 . At the projected lime injection usage, the storage silo will provide dedicated reserve of 7.4 days at 1.6% sulfur fuel, 950 MW based on full load, continuous operations.



Crist Hydrated Lime Injection Flow Diagram

Controls Description

- **Unloading Equipment:** Unloading blowers supply transport air to the silo. There will be a main conveyance line from the blowers, each containing a mass flowmeter. Upon pressurizing the truck, the line will be filled with lime, which then will be conveyed through a plate screen to block any trash or large particles of lime. At the top of each silo, the lime will then be blown against a target plate and then falls into the storage silo.
- **Storage Silo:** The silo will be equipped with three continuous and redundant level sensors and one point level sensor for emergency high level only. The silo will be equipped with two fluidizing silo cone bottoms to eliminate funnel flow condition that could result in rat-holing, bridging, or flooding of hydrated lime. The

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

bin bottoms will serve as refill devices for the loss-in-weight continuous feed system (gravimetric feeder) located under each day bin.

- *Feed Hopper:* The feed hopper will be mounted on three load cells, which will send a signal to the control loop to signal when the feed hopper is to recharge. Each hopper will discharge to a drop through the rotary air valve, which will meter the hydrated lime. The rotary valve will be run by a variable frequency drive linked to the control system as part of the process control loop.
- *Air Assists:* Blowout ports have been provided at frequent intervals to aid in locating and dealing with any plug condition that may arise.
- *Blowers:* The blowers will be equipped with flow meters and variable frequency drive controls. Any variation in the steady state operation of the blower could signal the need for maintenance of the conveying line.
- *Injection Lances and Splitters:* Each of the main conveying lines will terminate in a convey line splitter that first equally distributes the conveyed hydrated lime to four secondary lines. There will be conveying lines, each conveying an equal amount of the hydrated lime introduced by the loss-in-weight feeder. The conveying lines will connect to injection lance assemblies; each injection lance assembly having discharge points located in the duct. The line splitters must be oriented vertically to provide proper distribution of hydrated lime. The duct injection lances will have an automatic pinch valve, a pressure transducer, and a solenoid valve installed to automatically detect and clean any injection lance plug condition.

Sulfuric Acid Mist Emissions Cap Proposal

Gulf Power is proposing to use “Hydrated Lime Injection” to reduce Sulfuric Acid Mist due to projected emissions increases from the Unit 6 SCR operation. Due to the plant configuration, Gulf will inject hydrated lime in the Unit 4 -7 common duct prior to the scrubber thus reducing acid mist emissions for all units at the facility. The maximum projected rate of lime is 1,400 pounds per hour.

Gulf Power projects an acid mist reduction rate of 66.7% using lime injection. An additional 25% reduction is expected from the scrubber, thus the total reduction of acid mist at the facility is estimated at 75%. The projected increase of acid mist (without demand growth) due to the Crist Unit 6 SCR is 7.13 tons per year prior to the HLI system. In addition to the use of the HLI system, Gulf Power is proposing a multi-unit emissions cap of 165.5 tons/year for Units 4, 5, 6 and 7 to offset the acid mist emission increase from the Unit 6 SCR operation.

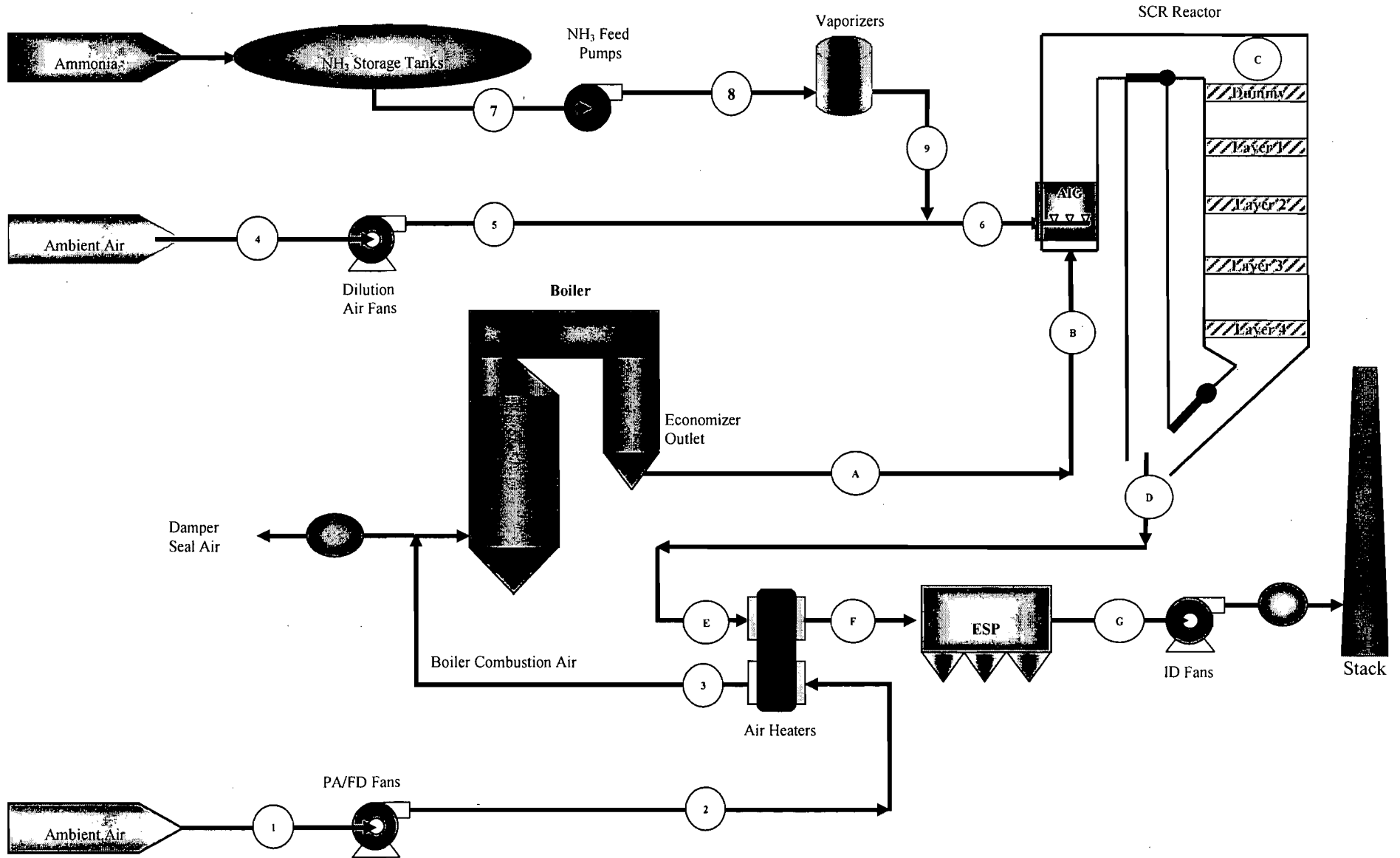
Gulf proposes to demonstrate reasonable assurance of compliance to the Crist multi-unit acid mist emissions cap by establishing a parametric model using FGD scrubber and hydrated lime injection rates to correlate the acid mist reduction efficiency.

Gulf Power projects an insignificant particulate emissions increase from the lime injection process due to greater than 99.95% removal of the solids in the scrubber. Thus, using the maximum 1,400 pounds per hour for Units 4, 5, 6 and 7, particulate emissions can be expected to produce 0.70 pounds per hour or about 3.1 tons per year.

4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a significant increase in emissions. Yousry (Joe) Attalla is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department’s Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

FIGURE A - SCR SYSTEM PROCESS FLOW DIAGRAM FOR UNIT 6



DRAFT PERMIT

PERMITTEE

Gulf Power Company
One Energy Place
Pensacola, Florida 32520-0100

Authorized Representative:
Mr. James O. Vick, Environmental Affairs Director

Air Permit No. 0330045-028-AC
Permit Expires: May 1, 2013
Minor Air Construction Permit
SIC Nos.: 49, 4911
Crist Electric Generating Plant
Unit 6 SCR/HLI Project

PROJECT

This air construction permit authorizes the construction of a new Selective Catalytic Reduction (SCR) system on the existing Crist Unit 6 for compliance with the Clean Air Interstate Rule (CAIR) and the DEP-Gulf Power Ozone Agreement. The permit also authorizes the construction of a permanent hydrated lime injection (HLI) system to reduce emissions of sulfuric acid mist to avoid major source preconstruction review. In addition, this permit removes the December 31, 2009 ending date established in permit No. 0330045-011-AC for the operation of mercury research center and allowing indefinite commercial operation. The proposed work will be conducted at the existing Crist Electric Generating Plant, which is a Power Plant categorized under Standard Industrial Classification No. 4911. The existing facility is located in Escambia County at Pate Road, off of 10 Mile Road on Governors Bayou, North of Pensacola, Florida. UTM Coordinates are: Zone 16; 478.5 Kilometer (km) East, and 3381.44 km North. Latitude is: 30° 34' 0.6552" North; and, Longitude is: 87° 13' 35.1261" West.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and, Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

STATEMENT OF BASIS

This air pollution 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 permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

(DRAFT)

Joseph Kahn, Director
Division of Air Resource Management

(Date)

DRAFT PERMIT

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on _____(DRAFT)_____ to the persons listed below.

- Mr. Theodore J. McCullough, Vice President, Gulf Power Company: tjmccull@southernco.com
- Mr. James O. Vick, Gulf Power Company: jovick@southernco.com
- Mr. G. Dwain Waters, Q.E.P., Gulf Power Company: gdwaters@southernco.com
- Mr. Greg N. Terry, P.E., Gulf Power Company: gnterry@southernco.com
- Mr. Rick Bradburn, DEP-NWD: rick.bradburn@dep.state.fl.us
- Ms. Katy Forney, U.S. EPA Region 4: forney.kathleen@epamail.epa.gov
- Ms. Ana Oquendo, U.S. EPA Region 4: oquendo.ana@epamail.epa.gov
- Ms. Victoria Gibson, DEP-BAR: victoria.gibson@dep.state.fl.us (for reading file)
- Ms. Barbara Friday, DEP-BAR: barbara.friday@dep.state.fl.us (for posting with U.S. EPA, Region 4)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

(DRAFT)

(Clerk)

(Date)

SECTION 1. GENERAL INFORMATION (DRAFT)

FACILITY DESCRIPTION

This existing facility consists of four active fossil fuel fired steam generators (boilers) and three fly ash silos. Boilers 4 and 5 were Acid Rain Phase I substitution Units. Boilers 6 and 7 were Acid Rain Phase I Units. All four boilers are subject to the Acid Rain Phase II and CAIR requirements. Pulverized coal is the primary fuel for boilers 4, 5, 6 and 7. Natural gas, fuel oil and on-specification used oil are used as supplemental fuels in all four of the Boilers.

The existing facility consists of the following emissions units.

EU No.	Brief Description
<i>Regulated Emissions Units</i>	
-004	Boiler Number 4 - 1,096.7 MMBtu/hour (Substitution Acid Rain Phase I & CAIR Unit)
-005	Boiler Number 5 - 1,096.7 MMBtu/hour (Substitution Acid Rain Phase I & CAIR Unit)
-006	Boiler Number 6 - 3,704.8 MMBtu/hour (Acid Rain & CAIR Unit)
-007	Boiler Number 7 - 6,406.4 MMBtu/hour (Acid Rain & CAIR Unit)
-008	Fly Ash Silos (3)
-014	Unit -007, Mechanical Draft Cooling Tower with a maximum circulation rate of 190,000 GPM
<i>Unregulated Emissions Units and Activities</i>	
-009	Material Handling of Coal and Ash
-010	Fugitive PM Sources - On-site Vehicles
-011	General Purpose Internal Combustion Engines
-012	Cooling Towers (2), one sharing Units -004 and -005 and other for Unit -006
-013	Fugitive PM Sources - Sandblasting operations

PROPOSED PROJECT

This air construction permit authorizes the construction of a new Selective Catalytic Reduction (SCR) system on the existing Crist Unit 6 for compliance with the Clean Air Interstate Rule (CAIR). The SCR system includes a new 20,500-gallon ammonia tank. The startup date for the project is scheduled for April 2012. This permit also authorizes the construction of a permanent hydrated lime injection (HLI) system that will be used to reduce sulfuric acid mist (SAM) emissions from all four boilers. The HLI system includes hydrated lime injection lances, a truck unloading station and a lime storage silo. In addition, this permit removes the December 31, 2009 ending date established in permit No. 0330045-011-AC for the operation of mercury research center and allowing indefinite commercial operation. The new ammonia storage tank and the new lime storage silo are categorically exempt from the requirement to obtain construction permits, but will be added to the insignificant list in the Title V permit the next time it is revised.

SECTION 1. GENERAL INFORMATION (DRAFT)

This project will modify the following emissions unit.

ID No.	Emission Unit Description
-006	Emissions unit number -006 is a front wall fired, dry bottom boiler designated as "Boiler Number 6" manufactured by Foster Wheeler. It is rated at a maximum heat input of 3,704.8 MMBtu/hour when firing pulverized coal or natural gas, and 714.8 MMBtu/hr when firing No. 2 fuel oil or on-specification used oil. Fuel oil is used as a back-up fuel and for periods of start-up and flame stabilization. This emission unit is regulated under Acid Rain, Phase II and is subject to the standards and requirements contained in the Acid Rain Part permit No. 0330045-025-AV. Also, this emission unit pre-dates Prevention of Significant Deterioration (PSD) regulations and is regulated under Rule 62-296.405, F.A.C., Fossil Fuel Fired Steam Generators with more than 250 million Btu per Hour Heat Input. NO _x emissions are currently controlled by Foster Wheeler Low NO _x Burners and by a Selective Non-Catalytic Reduction (SNCR) system designed to achieve no less than a 20% reduction in NO _x emissions as measured across the SNCR unit inlet and outlet. The designed target ammonia slip level is 5 ppmv corrected to 3% O ₂ based on a 24-hour average.

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act.
- The facility operates units subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

SECTION 2. ADMINISTRATIVE REQUIREMENTS (DRAFT)

1. Permitting Authority. The permitting authority for this project is the Bureau of Air Regulation, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The Bureau of Air Regulation's mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall also be submitted to the Compliance Authority.
2. Compliance Authority. All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Department's Northwest District Office at 160 Governmental Center, Suite 308, Pensacola, Florida 32502-5794.
3. Appendices. The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); and Appendix D (Common Testing Requirements).
4. Applicable Regulations, Forms and Application Procedures. Unless otherwise specified in this permit, the construction and operation of the subject emissions units 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 Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. 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.]
6. Modifications. The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Source Obligation.
 - (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
 - (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
[Rule 62-212.400(12), F.A.C.]
8. Application for Title V Permit. This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department

SECTION 2. ADMINISTRATIVE REQUIREMENTS (DRAFT)

may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

A. EU 006 – Boiler No. 6

This section of the permit addresses the following emission unit.

ID No.	Emission Unit Description
-006	Boiler Number 6 - 3,704.8 MMBtu/hour (Acid Rain & CAIR Unit)

PREVIOUS APPLICABLE REQUIREMENTS

1. Other Permits. The conditions of this permit supplement all previously issued air construction and operation permits for this emissions unit. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. No previously established emissions limits have been changed as a result of this permitting action. [Rule 62-4.070, F.A.C.]
2. Mercury Research Center (MerRC). To remove the ending date and to allow for on-going commercial operation of the Mercury Research Center, Specific Condition No. 10. of permit No. 0330045-011-AC is changed as follows (deletions are indicated by ~~strike through~~ text and additions are indicated by double underlined text):
 9. This Department action is only to authorize the MerRC construction and operation. Notification shall occur within 45 days, in writing, upon completion of the final test. Prior to ~~December 31, 2009~~removal of the mercury research center, the permittee shall provide the DEP Northwest District Office and the Bureau of Air Regulation with its plan to disassemble and remove all slipstream components, returning the unit back to its original condition. ~~Such plans shall be completely executed by April 1, 2010.~~

[Applicant Request]

EQUIPMENT

3. Selective Catalytic Reduction (SCR) System. The permittee is authorized to construct, tune, operate, and maintain a new SCR system for Unit 6 to reduce emissions of nitrogen oxides (NO_x) as described in the application, approved drawings, plans, and other documents on file with the Department. The storage of ammonia shall comply with all applicable requirements of the Chemical Accident Prevention Provisions in 40 CFR 68.

The following specifications summarize the preliminary design of the proposed new SCR system.

- *Basic Design Specifications: The SCR system is designed for a NO_x conversion efficiency of 85% based on an inlet NO_x emissions rate of 0.50 lb/MMBtu.*
- *Catalyst Design Specifications: The catalyst will consist of titanium dioxide and molybdenum oxide with vanadium pentoxide as the active component. The catalyst is fabricated by applying ceramic catalyst material to a perforated stainless steel mesh grid plate. The catalyst structure will be a honey-comb type. The operational temperature range is approximately 600° to 800° F. The initial configuration is for a catalyst volume of approximately 460 cubic meters (16,260 cubic feet) divided between three catalyst layers. The design inlet NO_x concentration is 0.5 lb/MMBtu and the design output NO_x emissions is 0.07 lb/MMBtu.*
- *Ammonia Storage and Mixing: Anhydrous ammonia will be stored on site in three 20,500 gallon tanks (two tanks are existing, one new tank will be built as part of this project). Ammonia is diluted with air (< 10% by volume) and injected into the SCR inlet duct through the ammonia injection grid (AIG), which is divided into about two dozen zones. Each zone is equipped with a flow indicator and manual control valve for tuning the AIG to match the inlet NO_x profile. Effective ammonia distribution and NO_x conversion are dependent on the velocity profile entering the AIG. A static mixer installed upstream of the AIG creates flow resistance, flattens the velocity profile, and provides uniform gas flow. Downstream of the AIG, a second static mixer is positioned at the AIG injection points to impart a swirl*

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

A. EU 006 – Boiler No. 6

to the diluted ammonia and promote good mixing with the flue gas. For 85% NO_x conversion, the design molar ratio of ammonia-to- NO_x is 0.95 at SCR inlet.

- **Ammonia Control System:** The ammonia control system consists of a control loop with a cascaded, feed-forward control scheme. Process monitors will provide NO_x emission rate data collected at the inlet to and the outlet from the SCR system. The ammonia injection rate is set based on a variety of input data including the measured NO_x rates at the SCR inlet/outlet, the outlet NO_x set point, the heat input to the boiler, the actual NO_x rate measured by the stack monitor, and a scaling factor based on the molecular weights of ammonia and NO_x . The system is capable of continually adjusting flow control valves to fine-tune the ammonia injection rate based on changing gas stream conditions.
- **Ammonia Slip:** The design target ammonia slip level is less than 5 ppmv measured at the stack. There are no provisions for continuously monitoring ammonia concentration in the flue gas. When ammonia measurements in the flue gas are required, a wet chemical method will be utilized. These measurements are taken periodically over the operating life of the SCR catalyst. More frequent tracking of ammonia slip will be monitored by measuring the amount of residual ammonia adsorbed by the fly ash. Fly ash samples will be measured periodically using an ion-specific electrode. Ammonia slip may also be estimated from the ammonia injection monitoring system based on the NO_x rate at the SCR inlet/outlet and the ammonia injection rate.
- **Gas Sampling Grid (GSG):** During commissioning and periodically over the life of the system, it will be necessary to tune the AIG to optimize the distribution of ammonia in the SCR inlet duct relative to the NO_x distribution to provide optimum NO_x conversion with minimum ammonia slip. To facilitate tuning, a manual gas sampling grid (GSG) is installed downstream of the last catalyst layer. The GSG allows a high-resolution traverse of the flue gas stream for composition across the outlet of the SCR, which can be used to precisely adjust the AIG. The GSG is comprised of individual small-bore (~1/2") heavy-wall pipes extending from outside the SCR to distributed sampling locations below the last catalyst layer. Portable equipment is used to sample and measure gas concentrations using the GSG.
- **SCR Bypass:** The SCR design incorporates dampers and ductwork to provide the capability of bypassing the SCR system. The bypass is most commonly used to gradually heat or cool the catalyst structure to minimize thermal fatigue during startup and shutdown. During catalyst maintenance and repair, it would also allow access to the SCR reactor without requiring complete shutdown of the Unit 6 boiler.

[Design; Rule 62-204.800, F.A.C.; 40 CFR 68; and, Application No. 0330045-028-AC]

4. **Hydrated Lime Injection (HLI) System.** The permittee shall install a permanent HLI system consisting of the following: truck unloaders, dryers, blowers, compressors, silo, piping, splitters, and injection lances. The permanent HLI system shall be constructed and fully operational prior to the operation of the Unit 6 SCR system authorized by this permit and prior to the burning of the proposed higher sulfur coal, which is being addressed by permit No. 0330045-030-AC.

The following descriptions summarize the preliminary design of the proposed new SCR system.

- **Basic Design Specifications:** Gulf Power projects an acid mist reduction rate of 66.7% using lime injection.
- **Unloading Equipment:** Unloading blowers supply transport air from the truck unloading station to the silo. There will be a main conveyance line from the blowers, each containing a mass flowmeter. Upon pressurizing the truck, the line will be filled with lime, which then will be conveyed through a plate screen to block any trash or large particles of lime. At the top of each silo, the lime will then be blown against a target plate and then falls into the storage silo.
- **Storage Silo:** The silo will be equipped with three continuous and redundant level sensors and one point level sensor for emergency high level only. The silo will be equipped with two fluidizing silo cone bottoms to eliminate funnel flow condition that could result in rat-holing, bridging, or flooding of hydrated lime. The bin bottoms will serve as refill devices for the loss-in-weight continuous feed system (gravimetric feeder) located under each day bin.

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

A. EU 006 – Boiler No. 6

- *Hoppers: Hoppers will be mounted on three load cells, which will send a signal to the control loop to signal when the feed hopper is to recharge. Each hopper will discharge to a drop through rotary air valve, which will meter the hydrated lime. The rotary valve will be run by a variable frequency drive linked to the control system as part of the process control loop.*
- *Air Assists: Blowout ports will be provided at frequent intervals to aid in locating and dealing with any plug condition that may arise.*
- *Blowers: The blowers will be equipped with flow meters and variable frequency drive controls. Any variation in the steady state operation of the blower could signal the need for maintenance of the conveying line.*
- *Injection Lances and Splitters: Each of the main conveying lines will terminate in a convey line splitter that first equally distributes the conveyed hydrated lime to four secondary lines. Each of the secondary lines will convey an equal amount of the hydrated lime introduced by the loss-in-weight feeder. The conveying lines will connect to injection lance assemblies; each injection lance assembly having discharge points located in the duct. The line splitters will be oriented vertically to provide proper distribution of hydrated lime. The duct injection lances will have an automatic pinch valve, a pressure transducer, and a solenoid valve installed to automatically detect and clean any injection lance plug condition.*

[Design; Rule 62-204.800, F.A.C.; and, Application No. 0330045-028-AC]

5. Updated Designs. The permittee shall update the Department with final design specifications and any substantial changes made to the final design specifications during the actual construction phase. [Rule 62-4.070(3), F.A.C.]

PERFORMANCE RESTRICTIONS

{Permitting Note: This permit does not alter any specifications or limitations included in previous permits that define permitted capacities such as heat input rates, fuel consumption, or hours of operation. It does not authorize any additional fuels or such other methods of operation.}

6. SCR Bypass, Startup/Shutdown. During Unit 6 startup and shutdown, the SCR system may be bypassed in accordance with manufacturer's recommended procedures to allow for controlled catalyst heating and cooling. During startup, the SCR system shall be on line and functioning when the minimum operating temperature of the catalyst is achieved ($\geq 600^{\circ}$ F). During shutdown, the SCR system may be removed from service when the catalyst temperature drops below 600° F. [Design; Rule 62-210.700, F.A.C.]
7. SCR Bypass, Catalyst Maintenance and Repair. The permittee may bypass the SCR system to perform catalyst maintenance and repair (projected to be approximately 360 hours per consecutive 12 months) during non-ozone events. The daily NO_x emission rates for these periods shall be included when demonstrating compliance with the plant-wide 30-day NO_x standard. The permittee shall notify the Compliance Authority in advance of the purpose of the SCR bypass, the expected dates of SCR bypass, and the expected duration of SCR bypass. To the extent practical, the permittee shall schedule regular maintenance of the SCR system for the non-ozone season. [Rules 62-210.700 and 62-4.070(3), F.A.C.]

{Permitting Note: The ozone season is defined as May 1st through September 15th. An Ozone event is defined as any level on the Air Quality Index for Ozone greater than good or moderate (green or yellow).}

EMISSIONS STANDARDS

8. Sulfuric Acid Mist (SAM) Emissions Limit. Total SAM emissions from boilers 4 – 7, including periods of start up, shut down, malfunctions, and SCR bypass, shall not exceed 165.5 tons per year, based on the record keeping and reporting requirements specified in this permit. [Application No. 0330045-028-AC and Rule 62-212.400(12)(b) & (c), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS (DRAFT)

A. EU 006 – Boiler No. 6

TESTING REQUIREMENTS

9. SAM Performance Tests. Within 90 days of completing installation of the SCR system, the permittee shall conduct a series of initial performance tests to determine: the SAM conversion factor across the SCR catalyst; the control efficiency of the HLI system at full load operation; and the SAM emissions rates for a variety of operating scenarios. This information shall be used to correlate the HLI rate with the reduction in SAM emissions as well as to evaluate the plant equation for estimating SAM emissions and compliance with the SAM emissions cap. At least 60 days before conducting the SAM performance tests, the permittee shall submit a test protocol for approval to the Bureau of Air Regulation. The test protocol shall include at least the following: a preliminary test schedule; proposed tests methods; proposed test locations; proposed operating levels; proposed fuels; fuel sulfur contents; and proposed HLI rates. Within 45 days after completing the performance tests, the permittee shall submit a test report summarizing the results. Within 90 days after completing the performance tests, the permittee shall submit a second report summarizing the following:
- Identify each set of operating conditions and parameters evaluated;
 - Identify the relative influence of each operating condition or parameter;
 - Describe how the control system will adjust the HLI rate based on the given operating condition or parameter; and
 - Show how the information will be used to adjust the equation in order to estimate SAM emissions based on different operating conditions, parameters and HLI rates.
- [Rule 62-4.070, F.A.C.]
10. Test Requirements. The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]
11. Test Methods. Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
8 *	Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources

* To demonstrate compliance with the SAM limit specified in this permit, Gulf Power may utilize EPA Method 8; conditional test methods: CTM-013, CTM-013A or CTM-013B., as appropriate; or, other test methods as approved through the Department’s alternate sampling procedure (ASP) protocol.

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800 and 62-297.100, F.A.C.; and Appendix A of 40 CFR 60]

MONITORING REQUIREMENTS

12. Sulfuric Acid Mist. The permittee shall demonstrate reasonable assurance of compliance with the Crist multi-unit sulfuric acid mist emissions cap by establishing a parametric model using FGD scrubber and hydrated lime injection rates to correlate the acid mist reduction efficiency. The injection rates established during the initial testing shall become the basis for the Compliance Assurance Monitoring (CAM) plan proposal that will be required to be submitted with Title V permit revision application and shall establish the indicator ranges that will be specified in the CAM plan that will be included in the revised Title V permit. A sufficient number of test runs shall be performed in order to establish a reasonable correlation between the injection rates and the actual SAM emission rates. [40 CFR 64 and Rule 62-4.070(3), F.A.C.]

RECORDS AND REPORTS

13. Test Reports. The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. For each test run, the report shall also indicate the FGD scrubber and the hydrated lime injection rates. [Rule 62-297.310(8), F.A.C.]

SECTION 4. APPENDICES (DRAFT)

Contents

Appendix A - Citation Formats and Glossary of Common Terms.

Appendix B - General Conditions.

Appendix C - Common Conditions.

Appendix D - Common Testing Requirements.

SECTION 4. APPENDIX A (DRAFT)
Citation Formats and Glossary of Common Terms

CITATION FORMATS

The following illustrate the formats used in the permit to identify applicable requirements from permits and regulations.

Old Permit Numbers

Example: Permit No. AC50-123456 or Permit No. AO50-123456

Where: “AC” identifies the permit as an Air Construction Permit
“AO” identifies the permit as an Air Operation Permit
“123456” identifies the specific permit project number

New Permit Numbers

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: “099” represents the specific county ID number in which the project is located
“2222” represents the specific facility ID number for that county
“001” identifies the specific permit project number
“AC” identifies the permit as an air construction permit
“AF” identifies the permit as a minor source federally enforceable state operation permit
“AO” identifies the permit as a minor source air operation permit
“AV” identifies the permit as a major Title V air operation permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: “PSD” means issued pursuant to the preconstruction review requirements of the Prevention of Significant Deterioration of Air Quality
“FL” means that the permit was issued by the State of Florida
“317” identifies the specific permit project number

Florida Administrative Code (F.A.C.)

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

GLOSSARY OF COMMON TERMS

° F: degrees Fahrenheit

µg: microgram

AAQS: Ambient Air Quality Standard

acf: actual cubic feet

acfm: actual cubic feet per minute

ARMS: Air Resource Management System
(Department’s database)

BACT: best available control technology

bhp: brake horsepower

Btu: British thermal units

CAM: compliance assurance monitoring

CEMS: continuous emissions monitoring system

cfm: cubic feet per minute

CFR: Code of Federal Regulations

SECTION 4. APPENDIX A (DRAFT)

Citation Formats and Glossary of Common Terms

CAA: Clean Air Act	NESHAP: National Emissions Standards for Hazardous Air Pollutants
CMS: continuous monitoring system	NO_x: nitrogen oxides
CO: carbon monoxide	NSPS: New Source Performance Standards
CO₂: carbon dioxide	O&M: operation and maintenance
COMS: continuous opacity monitoring system	O₂: oxygen
DARM: Division of Air Resource Management	Pb: lead
DEP: Department of Environmental Protection	PM: particulate matter
Department: Department of Environmental Protection	PM₁₀: particulate matter with a mean aerodynamic diameter of 10 microns or less
dscf: dry standard cubic feet	ppm: parts per million
dscfm: dry standard cubic feet per minute	ppmv: parts per million by volume
EPA: Environmental Protection Agency	ppmvd: parts per million by volume, dry basis
ESP: electrostatic precipitator (control system for reducing particulate matter)	QA: quality assurance
EU: emissions unit	QC: quality control
F: fluoride	PSD: prevention of significant deterioration
F.A.C.: Florida Administrative Code	psi: pounds per square inch
F.A.W.: Florida Administrative Weekly	PTE: potential to emit
F.D.: forced draft	RACT: reasonably available control technology
F.S.: Florida Statutes	RATA: relative accuracy test audit
FGD: flue gas desulfurization	RBLC: EPA's RACT/BACT/LAER Clearinghouse
FGR: flue gas recirculation	SAM: sulfuric acid mist
ft²: square feet	scf: standard cubic feet
ft³: cubic feet	scfm: standard cubic feet per minute
gpm: gallons per minute	SIC: standard industrial classification code
gr: grains	SIP: State Implementation Plan
HAP: hazardous air pollutant	SNCR: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)
Hg: mercury	SO₂: sulfur dioxide
I.D.: induced draft	TPD: tons/day
ID: identification	TPH: tons per hour
kPa: kilopascals	TPY: tons per year
lb: pound	TRS: total reduced sulfur
MACT: maximum achievable technology	UTM: Universal Transverse Mercator coordinate system
MMBtu: million British thermal units	VE: visible emissions
MSDS: material safety data sheets	VOC: volatile organic compounds
MW: megawatt	

SECTION 4. APPENDIX B (DRAFT)

General Conditions

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 403.141, 403.727, or 403.859 through 403.861, F.S. 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 403.987(6) and 403.722(5), F.S., 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 of or approval of any other department permit that may be required for other aspects of the total project, which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and 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 and 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 reasonable times, access to the premises where the permitted activity is located or conducted to:
 - a. Have access to and copy any records that must be kept under 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 noncompliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. 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 403.111 and 403.73, F.S. 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

SECTION 4. APPENDIX B (DRAFT)

General Conditions

rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

11. This permit is transferable only upon Department approval in accordance with 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 (not applicable);
 - b. Determination of Prevention of Significant Deterioration (PSD Avoidance); and
 - c. Compliance with New Source Performance Standards (not applicable).
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 for 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:
 - (a) The date, exact place, and time of sampling or measurements;
 - (b) The person responsible for performing the sampling or measurements;
 - (c) The dates analyses were performed;
 - (d) The person responsible for performing the analyses;
 - (e) The analytical techniques or methods used;
 - (f) 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.

SECTION 4. APPENDIX C (DRAFT)

Common Conditions

Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

EMISSIONS AND CONTROLS

1. **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 permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; 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 or the regulations. [Rule 62-4.130, F.A.C.]
2. **Circumvention:** The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. **Excess Emissions Allowed:** Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed 2 hours in any 24-hour period unless specifically authorized by the Department for longer duration. Pursuant to Rule 62-210.700(5), F.A.C., the permit subsection may specify more or less stringent requirements for periods of excess emissions. Rule 62-210-700(Excess Emissions), F.A.C., cannot vary or supersede any federal NSPS or NESHAP provision. [Rule 62-210.700(1), F.A.C.]
4. **Excess Emissions Prohibited:** Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
5. **Excess Emissions - Notification:** In case of excess emissions resulting from malfunctions, the permittee shall notify the Compliance Authority in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]
6. **VOC or OS Emissions:** No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
7. **Objectionable Odor Prohibited:** No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(Definitions), F.A.C.]
8. **General Visible Emissions:** No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
9. **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.]

RECORDS AND REPORTS

10. **Records Retention:** All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]
11. **Emissions Computation and Reporting:**
 - a. **Applicability.** This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance with this rule. This rule is not intended to establish methodologies for determining compliance with the emission

SECTION 4. APPENDIX C (DRAFT)

Common Conditions

limitations of any air permit. [Rule 62-210.370(1), F.A.C.]

- b. *Computation of Emissions.* For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.
- (1) **Basic Approach.** The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.
- (a) If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.
- (b) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
- (c) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
- (2) **Continuous Emissions Monitoring System (CEMS).**
- (a) An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:
- 1) The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or
- 2) The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.
- (b) Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:
- 1) A calibrated flow meter that records data on a continuous basis, if available; or
- 2) The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
- (c) The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.
- (3) **Mass Balance Calculations.**
- (a) An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:
- 1) Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and
- 2) Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the

SECTION 4. APPENDIX C (DRAFT)

Common Conditions

process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.

- (b) Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.
 - (c) In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.
- (4) Emission Factors.
- a. An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements.
 - 1) If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
 - 2) Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.
 - 3) The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.
 - b. If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.
- (5) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.
- (6) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.
- (7) Fugitive Emissions. In computing the emissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.
- (8) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the department for any regulatory purpose.

[Rule 62-210.370(2), F.A.C.]

c. *Annual Operating Report for Air Pollutant Emitting Facility*

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Common Conditions

- (1) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year for the following facilities:
 - a. All Title V sources.
 - b. All synthetic non-Title V sources.
 - c. All facilities with the potential to emit ten (10) tons per year or more of volatile organic compounds or twenty-five (25) tons per year or more of nitrogen oxides and located in an ozone nonattainment area or ozone air quality maintenance area.
 - d. All facilities for which an annual operating report is required by rule or permit.
- (2) Notwithstanding paragraph 62-210.370(3)(a), F.A.C., no annual operating report shall be required for any facility operating under an air general permit.
- (3) The annual operating report shall be submitted to the appropriate Department of Environmental Protection (DEP) division, district or DEP-approved local air pollution control program office by April 1 of the following year. If the report is submitted using the Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office.
- (4) Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C., for purposes of the annual operating report.
- (5) Facility Relocation. Unless otherwise provided by rule or more stringent permit condition, the owner or operator of a relocatable facility must submit a Facility Relocation Notification Form (DEP Form No. 62-210.900(6)) to the Department at least 30 days prior to the relocation. A separate form shall be submitted for each facility in the case of the relocation of multiple facilities which are jointly owned or operated.

[Rule 62-210.370(3), F.A.C.]

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Common Testing Requirements

Unless otherwise specified in the permit, the following testing requirements apply to all emissions units that require testing.

COMPLIANCE TESTING REQUIREMENTS

1. Required Number of Test Runs: For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]
2. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]
3. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]
4. Applicable Test Procedures:
 - a. Required Sampling Time.
 - (1) Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
 - (2) Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - (a) For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
 - (b) The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
 - (c) The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
 - b. Minimum Sample Volume. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.

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Common Testing Requirements

- c. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.
- d. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.
- e. Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

TABLE 297.310-1 CALIBRATION SCHEDULE			
ITEM	MINIMUM CALIBRATION FREQUENCY	REFERENCE INSTRUMENT	TOLERANCE
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent or thermometric points	+/-2%
Bimetallic thermometer	Quarterly	Calibration liquid in glass	5° F
Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5° F
Barometer	Monthly	Hg barometer or NOAA station	+/-1% scale
Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16" and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	+/- 0.001" mean of at least three readings; Max. deviation between readings, 0.004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, when 5% change observed, annually	Spirometer or calibrated wet test or dry gas test meter	2%
	2. One Point: Semiannually		
	3. Check after each test series	Comparison check	5%

[Rule 62-297.310(4), F.A.C.]

5. Determination of Process Variables:

- a. *Required Equipment.* The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
- b. *Accuracy of Equipment.* Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.]

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Common Testing Requirements

6. Sampling Facilities: The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C. Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must also comply with all applicable Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.
- a. Permanent Test Facilities. The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.
 - b. Temporary Test Facilities. The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.
 - c. Sampling Ports.
 - (1) All sampling ports shall have a minimum inside diameter of 3 inches.
 - (2) The ports shall be capable of being sealed when not in use.
 - (3) The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.
 - (4) For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45-degree angle.
 - (5) On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.
 - d. Work Platforms.
 - (1) Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.
 - (2) On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
 - (3) On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
 - (4) All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toe board, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.
 - e. Access to Work Platform.
 - (1) Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.
 - (2) Walkways over free-fall areas shall be equipped with safety rails and toe boards.
 - f. Electrical Power.

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- (1) A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.
- (2) If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

g. Sampling Equipment Support.

- (1) A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.
 - (a) The bracket shall be a standard 3 inch × 3 inch × one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.
 - (b) A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.
 - (c) The three-quarter inch eyebolt shall be capable of supporting a 500-pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.
- (2) A complete mono-rail or dual rail arrangement may be substituted for the eyebolt and bracket.
- (3) When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

7. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

a. General Compliance Testing.

1. The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.
2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.
3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to sub-subparagraph 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
 - (a) Did not operate; or
 - (b) In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours,
4. During each federal fiscal year (October 1 – September 30), unless otherwise specified by rule, order, or permit, the

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owner or operator of each emissions unit shall have a formal compliance test conducted for:

- (a) Visible emissions, if there is an applicable standard;
 - (b) Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
 - (c) c. Each NESHAP pollutant, if there is an applicable emission standard.
5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
 6. For fossil fuel steam generators on a semi-annual particulate matter emission compliance testing schedule, a compliance test shall not be required for any six-month period in which liquid and/or solid fuel is not burned for more than 200 hours other than during startup.
 7. For emissions units electing to conduct particulate matter emission compliance testing quarterly pursuant to paragraph 62-296.405(2)(a), F.A.C., a compliance test shall not be required for any quarter in which liquid and/or solid fuel is not burned for more than 100 hours other than during startup.
 8. Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.
 9. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.
 10. An annual compliance test conducted for visible emissions shall not be required for units exempted from air permitting pursuant to subsection 62-210.300(3), F.A.C.; units determined to be insignificant pursuant to subparagraph 62-213.300(2)(a)1., F.A.C., or paragraph 62-213.430(6)(b), F.A.C.; or units permitted under the General Permit provisions in paragraph 62-210.300(4)(a) or Rule 62-213.300, F.A.C., unless the general permit specifically requires such testing.
 - (a) Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.
 - (b) Waiver of Compliance Test Requirements. If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of paragraph 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.]

REPORTS

8. Test Reports:

- a. The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.
- b. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last

SECTION 4. APPENDIX D (DRAFT)

Common Testing Requirements

sampling run of each test is completed.

- c. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information.
 - (1) The type, location, and designation of the emissions unit tested.
 - (2) The facility at which the emissions unit is located.
 - (3) The owner or operator of the emissions unit.
 - (4) The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
 - (5) The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 - (6) The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
 - (7) A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
 - (8) The date, starting time and duration of each sampling run.
 - (9) The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
 - (10) The number of points sampled and configuration and location of the sampling plane.
 - (11) For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
 - (12) The type, manufacturer and configuration of the sampling equipment used.
 - (13) Data related to the required calibration of the test equipment.
 - (14) Data on the identification, processing and weights of all filters used.
 - (15) Data on the types and amounts of any chemical solutions used.
 - (16) Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
 - (17) The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
 - (18) All measured and calculated data required to be determined by each applicable test procedure for each run.
 - (19) The detailed calculations for one run that relate the collected data to the calculated emission rate.
 - (20) The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit plus the test result in the same form and unit of measure.
 - (21) A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

MISCELLANEOUS

9. Stack and Duct: The terms stack and duct are used interchangeably in this rule. [Rule 62-297.310(9), F.A.C.]

Livingston, Sylvania

From: Livingston, Sylvania
Sent: Friday, February 19, 2010 4:04 PM
To: 'jovick@southernco.com'
Cc: 'tjmccull@southernco.com'; 'gdwaters@southernco.com'; 'gnterry@southernco.com'; Bradburn, Rick; 'forney.kathleen@epamail.epa.gov'; 'oquendo.ana@epamail.epa.gov'; Gibson, Victoria; Friday, Barbara
Subject: Gulf Power Company - Crist Electric Generating Plant; 0330045-028-AC
Attachments: 0330045-028-AC_Intent.pdf

Dear Sir/ Madam:

Attached is the official **Notice of Intent to Issue** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0330045.028.AC.D_pdf.zip

Owner/Company Name: GULF POWER COMPANY
Facility Name: CRIST ELECTRIC GENERATING PLANT
Project Number: 0330045-028-AC
Permit Status: DRAFT
Permit Activity: CONSTRUCTION
Facility County: ESCAMBIA
Processor: Jonathan Holtom

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the "Air Permit Documents Search" website at <http://www.dep.state.fl.us/air/emission/apds/default.asp>.

Permit project documents addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation

Sylvia Livingston
Bureau of Air Regulation
Division of Air Resource Management (DARM)
850/921-9506
sylvia.livingston@dep.state.fl.us

Livingston, Sylvia

From: Waters, G. Dwain [GDWATERS@southernco.com]
Sent: Friday, February 19, 2010 6:52 PM
To: Livingston, Sylvia; Vick, James O.
Cc: McCullough, Theodore J.; Terry, Greg N.; Bradburn, Rick; 'forney.kathleen@epamail.epa.gov'; 'oquendo.ana@epamail.epa.gov'; Gibson, Victoria; Friday, Barbara
Subject: Re: Gulf Power Company - Crist Electric Generating Plant; 0330045-028-AC

Gulf Power has received the draft Crist 6 SCR Air Construction Permit. Thanks, Dwain Waters

Dwain Waters, QEP

From: Livingston, Sylvia <Sylvia.Livingston@dep.state.fl.us>
To: Vick, James O.
Cc: McCullough, Theodore J.; Waters, G. Dwain; Terry, Greg N.; Bradburn, Rick <Rick.Bradburn@dep.state.fl.us>; 'forney.kathleen@epamail.epa.gov' <forney.kathleen@epamail.epa.gov>; 'oquendo.ana@epamail.epa.gov' <oquendo.ana@epamail.epa.gov>; Gibson, Victoria <Victoria.Gibson@dep.state.fl.us>; Friday, Barbara <Barbara.Friday@dep.state.fl.us>
Sent: Fri Feb 19 15:04:13 2010
Subject: Gulf Power Company - Crist Electric Generating Plant; 0330045-028-AC

Dear Sir/ Madam:

Attached is the official **Notice of Intent to Issue** for the project referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0330045.028.AC.D_pdf.zip

Owner/Company Name: GULF POWER COMPANY
Facility Name: CRIST ELECTRIC GENERATING PLANT
Project Number: 0330045-028-AC
Permit Status: DRAFT
Permit Activity: CONSTRUCTION
Facility County: ESCAMBIA
Processor: Jonathan Holtom

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the "*Air Permit Documents Search*" website at <http://www.dep.state.fl.us/air/emission/apds/default.asp>.

Permit project documents are addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any