

Florida Department of Environmental Protection

Memorandum

To: Joseph Kahn, Division of Air Resource Management
Through: Trina Vielhauer, Bureau of Air Regulation
Jeff Koerner, New Source Review Section
From: Christy DeVore, New Source Review Section
Date: April 30, 2010
Subject: Final Air Permit No. 0330045-029-AC
Gulf Power Company, Crist Electric Generating Plant
Higher Sulfur Coal Project

The final permit for this project is attached for your approval and signature. The project requires a minor air construction permit to authorize: a higher sulfur coal blend for Units 4 – 7; an upgrade of the existing Unit 6 steam turbine; a sulfuric acid mist emissions cap; and additional boiler additives for Units 4 – 7 contingent on successful use and testing on Unit 7. The projects will be completed during the next regularly scheduled outage in 2012. The proposed work will be performed at the existing Crist Electric Generating Plant, which is located in Escambia County at 11999 Pate Street in Pensacola Florida. The project is not considered a new source review reform project.

The attached Final Determination summarizes the publication and comment process. There are no pending petitions for administrative hearings or extensions of time in which to file a petition for an administrative hearing. I recommend your approval of the attached final permit for this project.

Attachments

TLV/jfk/scd

FINAL DETERMINATION

PERMITTEE

Gulf Power Company
One Energy Place, BIN 0328
Pensacola, FL 32520

PERMITTING AUTHORITY

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

PROJECT

Air Permit No. 0330045-029-AC
Minor Air Construction Permit
Crist Electric Generating Plant

The purpose of this project is to authorize: a higher sulfur coal blend for Units 4 – 7; an upgrade of the existing Unit 6 steam turbine; a sulfuric acid mist emissions cap; and additional boiler additives for Units 4 – 7 contingent on successful use and testing on Unit 7. The projects will be completed during the next regularly scheduled outage in 2012.

NOTICE AND PUBLICATION

The Department distributed a draft minor air construction permit package on April 13, 2010. The applicant published the Public Notice in the Pensacola News Journal on April 15, 2010. The Department received the proof of publication on April 26, 2010. No requests for administrative hearings or requests for extensions of time to file a petition for administrative hearing were received.

COMMENTS

Applicant

On April 22, 2010, the Department received comments from the applicant. The following summarizes the comments and the Department's response.

Section B. Unit 6: Steam Turbine on Page 9 of 11:

Correct BP43 to BB43 and BP43PA to BB43PA in the first sentence. Correct the 7 MW of additional generation to 8.9 MW as noted in the response to request for additional information dated January 26, 2010.

Response: The condition has been corrected as requested and is shown below.

Unit 6 Steam Turbine: As described in the application, the permittee is authorized to upgrade Unit 6 steam turbine from a Model No. BPB43 design to a reconfigured Model No. BPB43PA design. The original Model No. BB43 design consists of a combined high-pressure and split-flow intermediate-pressure arrangement. By providing a new outer cylinder design, the Model No. BB43PA can be re-configured as a combined high-pressure and straight-flow intermediate-pressure element. The new configuration is intended to provide significant performance benefits by removing the multiple leakage paths and losses associated with the split-flow design and allowing unconstrained design of the high-pressure and intermediate-pressure blade paths. The greater available axial and radial space of the new design allows for optimal blade heights and higher stage counts to be utilized and results in highly efficient high-pressure and intermediate-pressure blade paths. The project will improve efficiency and produce approximately 7 8.9 MW of additional generation while firing the same amount of fuel to produce the same amount of steam flow.

FINAL DETERMINATION

CONCLUSION

The final action of the Department is to issue the permit with the minor changes, corrections and clarifications as described above.



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

PERMITTEE

Gulf Power Company
One Energy Place, BIN 0328
Pensacola, FL 32520

Air Permit No. 0330045-029-AC
Permit Expires: February 15, 2013
Minor Air Construction Permit

Authorized Representative:

Mr. James Vick, Environmental Affairs Director

Crist Electric Generating Plant
Higher Sulfur Coal Project

PROJECT

This is the final air construction permit, which: authorizes a higher sulfur coal blend for Units 4 – 7; authorizes an upgrade of the existing Unit 6 steam turbine; establishes a sulfuric acid mist emissions cap; and authorizes additional boiler additives for Units 4 – 7 contingent on successful use and testing on Unit 7. 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 11999 Pate Street in Pensacola, Florida. The UTM coordinates are Zone 16, 478.50 km East, and 3381.30 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); 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. As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft 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

Joseph Kahn, Director
Division of Air Resource Management

4/30/10

(Date)

FINAL 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 5/3/10 to the persons listed below.

- Mr. James Vick, Gulf Power Company (jovick@southernco.com)
- Mr. G. Dwain Waters, Gulf Power Company (gdwaters@southernco.com)
- Mr. Gregory Terry, Gulf Power Company (gnterry@southernco.com)
- Mr. John Dominey, Gulf Power Company (jmdominey@southernco.com)
- Mr. Kevin White, Gulf Power Company (kwhite@southernco.com)
- Mr. Rick Bradburn, DEP NWD Office (rick.bradburn@dep.state.fl.us)
- Mr. Mike Halpin, DEP Siting Office (mike.halpin@dep.state.fl.us)
- Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
- Ms. Ana M. Oquendo, EPA Region 4 (oquendo.ana@epa.gov)
- Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
- Ms. Vickie Gibson, DEP BAR Reading File (victoria.gibson@dep.state.fl.us)

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)

5/3/10

(Date)

SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

The existing facility consists of the following emissions units.

Facility ID No. 0330045	
EU No.	Brief Description
Regulated Emissions Units	
004	Unit 4 - 1,096.7 million British thermal units (MMBtu)/hour
005	Unit 5 - 1,096.7 MMBtu/hour
006	Unit 6 - 3,704.8 MMBtu/hour
007	Unit 7 - 6,406.4 MMBtu/hour
008	Fly Ash Silos (3)
014	Mechanical Draft Cooling Tower for Unit 7
Unregulated Emissions Units and Activities	
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 4 and 5 and one for Unit 6
013	Fugitive PM Sources - Sandblasting operations

PROPOSED PROJECT

This project affects the following emissions units.

Facility ID No. 0330045	
ID No.	Emission Unit Description
004	Unit 4 - 1,096.7 MMBtu/hour
005	Unit 5 - 1,096.7 MMBtu/hour
006	Unit 6 - 3,704.8 MMBtu/hour
007	Unit 7 - 6,406.4 MMBtu/hour

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 (CAA).
- 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(PSD), F.A.C.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

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.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Northwest District at 160 Governmental Center, Pensacola, Florida 32502-5794.
3. Other Permits: This permit is in addition to the requirements in all other valid air construction permits. Unless otherwise specified, this permit does not alter or change previous capacities, fuel firing rates or emissions limits.
4. 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).
5. 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.
6. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
7. 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.]
8. Source Obligation: 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. 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.]
9. 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 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

A. EU 004, 005, 006 and 007

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
004	Unit 4 - 1,096.7 MMBtu/hour (Substitution Acid Rain Phase I and CAIR Unit)
005	Unit 5 - 1,096.7 MMBtu/hour (Substitution for Acid Rain Phase I and CAIR Unit)
006	Unit 6 - 3,704.8 MMBtu/hour (Acid Rain and CAIR Unit)
007	Unit 7 - 6,406.4 MMBtu/hour (Acid Rain and CAIR Unit)

Unit Descriptions

Units 4 and 5 (EU-004 and EU-005) are tangentially-fired, dry-bottom electric utility boilers manufactured by Combustion Engineering with a nominal generating capacity of 93 megawatts (MW) per unit. Units 4 and 5 control particulate matter with electrostatic precipitators (ESP) and control nitrogen oxides (NO_x) with selective non-catalytic reduction (SNCR). After control by the ESP and SNCR, there is a common stack bypass stack for Units 4 and 5 that allows operation while bypassing the FGD system.

Unit 6 (EU-006) is a front wall-fired, dry-bottom electric utility boiler manufactured by Foster Wheeler with a nominal generating capacity of 369 MW. Unit 6 controls particulate matter with an ESP and currently controls NO_x with low-NO_x burners and a SNCR system. After control by the ESP and SNCR, there is a common stack bypass stack for Units 6 and 7 that allows operation while bypassing the FGD system.

Unit 7 is a rear wall-fired, dry-bottom electric utility boiler manufactured by Foster Wheeler with a nominal generating capacity of 578 MW. Unit 7 controls particulate matter with an ESP and controls NO_x with low-NO_x burners and a selective catalytic reduction (SCR) system. After control by the ESP and SCR, there is a common stack bypass stack for Units 6 and 7 that allows operation while bypassing the FGD system.

Units 4 - 7 control sulfur dioxide (SO₂) emissions with a common flue gas desulfurization (FGD) system. In addition, Units 4 - 7 continuously monitor and record opacity, SO₂ and NO_x emissions.

The primary fuel for all four units is pulverized coal. Supplemental fuels include natural gas, fuel oil and on-specification used oil. For Units 6 and 7, fuel oil is only used for startup and as needed for flame stabilization. In addition, Units 4 and 5 may fire carbonaceous fuel (biomass to include wood, switch grass, sawdust and sander dust). Finally, on-site generated "oil contaminated soil" is periodically combusted for energy recovery purposes.

Permit No. 0330045-028-AC requires the installation of a permanent hydrated lime injection (HLI) system. The hydrated lime injection point is in a duct common to all four units just prior to the inlet of the FGD system. The preliminary schedule is to have the HLI system operational by April 2012 when work is completed on the Unit 6 SCR system.

PERFORMANCE RESTRICTIONS

1. Coal Blend Sulfur Specification: Once the permanent HLI system is installed and fully functional, Units 4 – 7 are authorized to fire a coal blend having a maximum specification of 3.30 pounds of sulfur dioxide per million Btu (lb SO₂/MMBtu, equivalent to 2.1% sulfur by weight) based on the actual sulfur content and heating value of the fuel blend. Prior to permanently installing the HLI system, the permittee may conduct temporary operational trial burns on Unit 7 of coal blends up to this maximum specification; however, all such temporary trials shall be limited to no more than a total of 20 operational days. [Application No. 0330045-029-AC and Rule 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

2. Sulfuric Acid Mist (SAM) Emissions Cap: Total SAM emissions from Units 4 – 7 (combined) shall not exceed 165.5 tons during any consecutive 12 months including periods of start up, shutdown, malfunctions

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. EU 004, 005, 006 and 007

and bypass operations. Compliance with this emissions cap shall be demonstrated by performance testing, record keeping and reporting requirements specified in this permit. The SAM emissions cap is effective beginning 30 days after the plant receives the test report on SAM emissions. [Application No. 0330045-028-AC and Rule 62-212.400(12), F.A.C.]

3. **FGD Bypass Operation:** The permittee may bypass with authorized fuels the FGD system in accordance with the requirements of previously issued air construction permits. When operating in FGD bypass mode, combined SO₂ emissions from all four units combined shall not exceed 25,840 lb/hour (equivalent to 2.1 lb SO₂/MMBtu) based on 3-hour block CEMS averages (or a fuel-based calculation if the CEMS is down). [Application No. 330045-029-AC and Rule 62-7.070(3), F.A.C.]

TESTING REQUIREMENTS

4. **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.]
5. **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, the permittee may use: EPA Method 8; conditional test methods CTM-013, CTM-013A or CTM-013B, as appropriate; or other test methods approved by the Department. 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]

TESTING REQUIREMENTS

6. **SAM Performance Stack Tests:** The permittee shall conduct performance tests at the stack (or in ductwork after the FGD system) to determine SAM emissions within the following load ranges: 40% to 50%; 50% to 60%; 70% to 80%; 80% - 90%; and greater than 90%. Within each range, the permittee shall conduct at least two test runs to determine SAM emissions. One test run shall be with the HLI system "on" and one test run shall be conducted with the HLI system "off". For each load range, multiple tests may be conducted at varying HLI rates. Such tests shall be conducted within 90 days of first firing the higher sulfur coal. [Rule 62-4.070(3), F.A.C.]
7. **SAM Performance Component Tests:** If technically feasible, the permittee shall conduct sampling to determine the following: increase in SAM emissions caused by the Units 6 and 7 SCR catalysts; control efficiency of the HLI system; and control efficiency of the FGD system. The permittee shall conduct at least two test runs to determine SAM emissions. Such tests shall be conducted at greater than 80% of the combined maximum heat input rates for the four units and with unit 6 and 7 in operation. This information will be used to determine the approximate generation of SAM emissions throughout the systems, verify the estimated control efficiencies and refine the equation used to monitor SAM emissions. Such tests shall be conducted within 90 days of first firing the higher sulfur coal. Data from the tests conducted in accordance with Condition 6 may be used to satisfy some of these requirements. Previous data from tests conducted on Unit 7 may be used to satisfy the requirement for determining the SAM emission increase caused by the Unit

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. EU 004, 005, 006 and 007

7 SCR catalyst. *{Permitting Note: The permittee estimates a control efficiency of 66.7% for the HLI system and an additional 25% from the FGD system.}* [Rule 62-4.070(3), F.A.C.]

8. **Data Collected for SAM Performance Tests:** The operator shall use best efforts to maintain the designated heat input rate throughout each SAM performance test run. During each test run, the following information shall be recorded: fuel firing rate of each unit; heat input rate of each unit; hydrated lime injection rate; controlled SO₂ emission rate based on CEMS; opacity based on COMS; uncontrolled SO₂ emission rate in lb/MMBtu based on the process CEMS at the inlet to the FGD system (or a fuel-based calculation if the CEMS is down); ammonia injection rates for SCR on Units 6 and 7; and ammonia injection rates for SNCR on Units 4 and 5. [Rule 62-4.070(3), F.A.C.]
9. **SAM Performance Test Protocol:** At least 60 days before conducting the SAM performance tests, the permittee shall submit a draft protocol for conducting each set of SAM performance tests (Stack Tests and Component Tests) to the Bureau of Air Regulation for approval. Each draft protocol shall address: the preliminary schedule for conducting the tests; the proposed test methods and a description of the sampling and analysis; the points to be tested; the proposed operating rates for testing; the proposed HLI rates; the ammonia injection rates for NO_x controls (SCR and SNCR); the proposed sulfur content of the coal fuel blend; identification of critical operating parameters; identification of potential interferences; and identification of potential physical problems with sampling. [Rule 62-4.070(3), F.A.C.]
10. **Increase in Coal Blend Sulfur Specification:** If the actual coal blend sulfur specification increases by 0.30 lb SO₂/MMBtu or more based on a 10-day average above the current maximum tested coal blend sulfur specification, the permittee shall conduct new "SAM Performance Stack Tests" pursuant to Condition 6 of this subsection. The tests shall be conducted within 45 days of determining that the actual coal blend sulfur specification increased by 0.30 lb SO₂/MMBtu or more based on a 10-day average. The actual coal blend sulfur specification shall be monitored by the process CEMS at the inlet to the FGD system content and shall not exceed 3.30 lb/MMBtu (or by a fuel-based calculation if the CEMS is down). [Rule 62-4.070(3), F.A.C.]

MONITORING REQUIREMENTS

11. **SAM Monitoring:** The permittee shall demonstrate compliance with the SAM emissions cap by conducting the required performance tests and using the SAM emission equation based on research conducted by the Electric Power Research Institute (EPRI). The applicant shall refine this equation when new site-specific emissions data is available. [Rule 62-4.070(3), F.A.C.]
12. **Bypass Monitoring:** The permittee shall monitor the exhaust flow after the bypass dampers to ensure that bypass dampers are effectively sealed. [Rule 62-4.070(3), F.A.C.]

RECORDS AND REPORTS

13. **SAM Test Reports:** The permittee shall prepare and submit reports with the Compliance Authority as soon as practical but no later than 45 days after the last sampling run of each test is completed. Test reports shall be submitted 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 fuel firing rate of each unit; heat input rate of each unit; hydrated lime injection rate; controlled SO₂ emission rate based on CEMS; uncontrolled SO₂ emission rate in lb/MMBtu based on the process CEMS at the inlet to the FGD system (or a fuel-based calculation if the CEMS is down); opacity based on COMS; ammonia injection rates for SCR (Units 6 and 7); and ammonia injection rates for SNCR (Units 4 and 5). [Rule 62-297.310(8), F.A.C.]
14. **SAM Summary Report:** A summary report shall be submitted to the Bureau of Air Regulation and the Compliance Authority for each set of SAM performance tests (Stack Tests and Component Tests). Each report shall: summarize the emissions, monitoring and operational data collected; evaluate the SAM

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. EU 004, 005, 006 and 007

emissions for the given conditions; identify the impacts of the control equipment; and provide a discussion for refining the SAM equation. [Rule 62-4.070(3), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. Unit 6 (EU 006)

This section of the permit addresses the following emissions units.

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

EQUIPMENT

1. Unit 6 Steam Turbine: As described in the application, the permittee is authorized to upgrade Unit 6 steam turbine from a Model No. BB43 design to a reconfigured Model No. BB43PA design. The original Model No. BB43 design consists of a combined high-pressure and split-flow intermediate-pressure arrangement. By providing a new outer cylinder design, the Model No. BB43PA can be re-configured as a combined high-pressure and straight-flow intermediate-pressure element. The new configuration is intended to provide significant performance benefits by removing the multiple leakage paths and losses associated with the split-flow design and allowing unconstrained design of the high-pressure and intermediate-pressure blade paths. The greater available axial and radial space of the new design allows for optimal blade heights and higher stage counts to be utilized and results in highly efficient high-pressure and intermediate-pressure blade paths. The project will improve efficiency and produce approximately 8.9 MW of additional generation while firing the same amount of fuel to produce the same amount of steam flow.

NOTIFICATION

2. Completion of Construction: The preliminary schedule is to install the Crist Unit 6 steam turbine upgrade in spring of 2012. Within 30 days of returning the Unit 6 steam turbine to service, the permittee shall notify the Compliance Authority that construction is complete and the approximate increase in generation achieved. [Application No. 0330045-029-AC]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

C. Unit 7 (EU 007)

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
004	Unit 4 - 1,096.7 MMBtu/hour (Substitution Acid Rain Phase I and CAIR Unit)
005	Unit 5 - 1,096.7 MMBtu/hour (Substitution for Acid Rain Phase I and CAIR Unit)
006	Unit 6 - 3,704.8 MMBtu/hour (Acid Rain and CAIR Unit)
007	Unit 7 - 6,406.4 MMBtu/hour (Acid Rain and CAIR Unit)

Project Description

The project will evaluate targeted in-furnace injection (TIFI) technology using two new boiler additives manufactured by Fuel Tech: TIFI MG (magnesium hydroxide) and TIFIXP (aluminum hydroxide). The permittee will use computational fluid dynamic (CFD) modeling to determine problem areas of the boiler, the appropriate injection points and the trajectory and droplet size of the chemical additive needed to ensure complete coverage of the area. The boiler additives will be delivered by truck in slurry form and transferred to separate 5000 gallon tanks. When used, the chemicals will be mixed with water and pumped to the injection port determined by the CFD modeling and then atomized with air according to the droplet size needed. Through crystal morphology, slag formation is inhibited and the slag that does form is made more easily controlled through normal boiler cleaning operations such as soot-blowing. Particulate matter remains controlled by the ESP and FGD system.

MATERIAL

1. Authorization of New Boiler Additives: The permittee is authorized to use the new Fuel Tech boiler additives (TIFI MG and TIFI XP) in Units 4 – 7 contingent on a satisfactory trial of the additives in Unit 7 showing:
 - a. Negligible emissions increases related to the use of the boiler additives based on COMS data for opacity and CEMS data for NO_x and SO₂ emissions;
 - b. Negligible increase in particulate matter emissions related to the use of the boiler additives based on a stack test conducted within 60 days of initial injection of the new additives; and
 - c. Impacts of additives on SAM emissions based on performance testing.

The additives may be used separately or in combination. [Application No. 0330045-029-AC]

PERFORMANCE RESTRICTIONS

2. Projected Capacity: The expected maximum injection rates are 12 gallons per hour of TIFI MG and 22 gallons per hour of TIFI XP. [Application No. 0330045-029-AC and Rule 62-210.200(PTE), F.A.C.]
3. Restricted Operation: The hours of operation are not limited (8760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

TESTING REQUIREMENTS

4. PM Compliance Test: Unit 7 shall be tested to demonstrate compliance with the current PM emissions standards in the Title V air operation permit. The test shall be conducted within 60 days of initial injection of each boiler additive. Each test shall consist of three test runs. If both additives are being injected, only one PM test is required. [Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]
5. SAM Performance Tests: The permittee shall conduct sufficient SAM emissions testing once Unit 7 has been conditioned with the TIFI boiler additive and during injection of the additive to determine the effect of

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C. Unit 7 (EU 007)

the boiler additives on SAM emissions. The EPRI equation used to estimate SAM emissions shall be revised as necessary based on the test results to adjust estimated SAM emissions accordingly. [Rule 62-297.310(7)(a)4, F.A.C.]

6. **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.]
7. **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
5 or 17	Method for Determining Particulate Matter Emissions
8*	Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources

* To demonstrate compliance with the SAM limit specified in this permit, the permittee may use: EPA Method 8; conditional test methods CTM-013, CTM-013A or CTM-013B, as appropriate; or other test methods approved by the Department. 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]

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

8. **Boiler Additive Injection Rates:** The permittee shall monitor and document the injection rates of boiler additives during all SAM performance tests required by this permit if the boiler additives are in use. [Rule 624.070(3), F.A.C.]

RECORDS AND REPORTS

9. **Test Reports:** The permittee shall prepare and submit reports with the Compliance Authority as soon as practical, but no later than 45 days after the last sampling run of each test is completed. All required tests shall be prepared and submitted 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 boiler additives in use, the injection points, the injection rates at each point, the opacity (COMS), NO_x emissions (CEMS) and SO₂ emissions (CEMS) at the inlet to and outlet from the FGD system. The report shall discuss any PM emissions increases and the impacts of the boiler additives on SAM emissions. Based on the test data, the boiler additives are authorized for use in Units 4 – 7 provided the criteria in Condition 1 of this subsection are met. [Rule 62-297.310(8), F.A.C.]
10. **Summary Report – Boiler Effects:** The permittee shall report the effects on Unit 7 of injecting the boiler additives including the advantages and disadvantages (e.g. efficiency improvements, prevention of slag formation, prevention of SCR catalyst fouling, etc.). Since some of the effects can only be determined during an outage, the permittee shall report this information with the Annual Operating Report to be submitted after the first Unit 7 outage following the boiler additive testing. [Rule 62-4.070(3), F.A.C.]

SECTION 4. APPENDICES

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- 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

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

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

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 of 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 then 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.

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General Conditions

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. 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 (applicable for small boiler BACT/not applicable);
 - b. Determination of Prevention of Significant Deterioration (not applicable); and
 - c. Compliance with New Source Performance Standards (applicable/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

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

SECTION 4. APPENDIX C

Common Conditions

with this rule. This rule is not intended to establish methodologies for determining compliance with the emission 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 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

SECTION 4. APPENDIX C

Common Conditions

- 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 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.

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Common Conditions

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

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

- (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.]

SECTION 4. APPENDIX D
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.**

SECTION 4. APPENDIX D
Common Testing Requirements

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

SECTION 4. APPENDIX D
Common Testing Requirements

- (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 sampling run of each test is completed.

SECTION 4. APPENDIX D
Common Testing Requirements

- 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.]

One Energy Place
Pensacola, Florida 32520

Tel 850.444.6111

RECEIVED

APR 26 2010

BUREAU OF
AIR REGULATION



Certified Mail
7009 1680 0001 3470 3676

April 21, 2010

Ms. Christy DeVore
Florida Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road
Mail Station #5505
Tallahassee, Florida 32399-2400

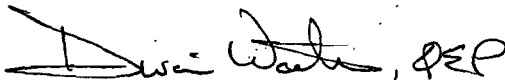
Dear Ms. DeVore:

RE: CRIST ELECTRIC GENERATING PLANT
PROPOSED CRIST HIGHER SULFUR COAL PROJECT
AIR PERMIT NO. 0330045-029-AC
PUBLIC NOTICE AFFIDAVIT

Please find enclosed Gulf Power's "Proof of Publication" for the above referenced permit to authorize higher sulfur coal and upgrade the Crist 6 Steam Turbine at the Crist Electric Generating Plant. An electronic copy of the affidavit was routed to you on earlier today.

Please call me at (850) 444 - 6527 regarding any questions or concerns.

Sincerely,



G. Dwain Waters, Q.E.P.
Special Projects and Environmental Assets Coordinator

cc: w/att: Greg Terry, Gulf Power
John Dominey, Gulf Power
Terry Wright, Gulf Power

Published Daily-Pensacola, Escambia County, FL

RECEIVED

PROOF OF PUBLICATION

APR 26 2010

State of Florida

**BUREAU OF
 AIR REGULATION**

County of Escambia:

Before the undersigned authority personally appeared **ANNA HAMMES** who on oath, says that she is a personal representative of the Pensacola News Journal, a daily newspaper published in Escambia County, Florida; that the attached copy of advertisement, being a Legal in the matter of:

Public Notice of Intent to Issue Air Permit

Was published in said newspaper in the issue(s) of:

April 15, 2010

Affiant further says that the said Pensacola News Journal is a newspaper published in said Escambia County, Florida, and that the said newspaper has heretofore been published in said Escambia County, Florida, and has been entered as second class matter at the Post Office in said Escambia County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn to and subscribed before me this 15th Day of April 2010, by **ANNA HAMMES** who is personally known to me.

Anna Hammes

Affiant

Nikki E. Nichols

Notary Public

NIKKI E. NICHOLS
 Notary Public-State of FL
 Comm. Exp. Aug. 01, 2012
 Comm. No. DD 789478

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. 0330045-029-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 Vick, Environmental Affairs Director, Gulf Power Company, Crist Electric Generating Plant, One Energy Plaza, BIN 0328, Pensacola, Florida 32520.
Facility Location: Gulf Power Company operates the existing Crist Electric Generating Plant, which is located in Escambia County at 11999 Pate Street in Pensacola, Florida.

Project: The applicant requests authority for use a higher sulfur coal blend for Units 4, 5, 6 and 7; upgrade the existing Unit 6 steam turbine; and use additional boiler additives for Units 4, 5, 6 and 7 contingent on successful use and testing of Unit 7. The increase in sulfur has the potential to increase emissions of sulfur dioxide, sulfuric acid mist (SAM), and particulate matter. However, the plant recently commenced commercial operation of a new flue gas desulfurization system which will substantially reduce emissions from all four units. In addition, the plant is installing a permanent hydrated lime injection system to further reduce SAM emissions. The applicant requested a SAM emissions cap on the four units to ensure that the project is not subject to reconstruction review for the Prevention of Significant Deterioration (PSD) of Air Quality.

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 62-244, 62-210 and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from all 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 14, Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Black Stone Road, MS 49500, Tallahassee, Florida 32309-2400. The Permitting Authority's telephone number is 850/488-6111.

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 Evaluator 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/apcs/default.asp>.

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air construction permit for 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 62-244, 62-210, 62-212, 62-296 and 62-299, 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 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 390C Commonwealth Boulevard, Mail Station #350, Tallahassee, Florida 32399-3000 (Telephone: 850/244-2247). Petitions filed by any persons other than those entitled to written notice under Section 120.40(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 rights will be affected by the agency determination; (c) A statement of when and how the 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 petitioner must so state; (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 effect

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.

Legal No. 1459901 1T April 15, 2010

DeVore, Christy

From: Waters, G. Dwain [GDWATERS@southernco.com]
Sent: Thursday, March 04, 2010 1:10 PM
To: DeVore, Christy
Subject: RE: Crist Revised SAM Cap

Below is the summary for each unit the for baseline calculation for SAM.

**Baseline Actual Acid Mist Worksheet for Construction Application
 (CristEmissionsBaseline(16).xls)**

	High CEM SO2 lb/MBTU Jan07-Dec08	High 4,5,6,7 CEM MBTU/yr * Jan07-Dec08	SO2 lbs/yr	Acid Mist Combustion lb/yr	Acid Mist Combustion lb/yr	Acid Mist Manufacturer by SCR lb/yr	Acid Mist Released by lb/yr
Baseline	1.25	5037090.00	6272400	76849.4448	11624.47757 5.812238784		0
Baseline	1.22	5013105.50	6138800	75212.5776	11376.88013 5.688440063		0
Baseline	1.23	18821176.50	23076900	282738.1788	67885.43673 33.94271836		0
Baseline with SCR	1.22	36230625.50	44040200	539580.5304	129553.2853 64.77664267	505856.7 252.9	966 48
Unit 4-7 Baseline Mist =							
Proposed Baseline with PSD Incrementt (7 tons)=							

G. Dwain Waters, Q.E.P.
 Special Projects and Environmental Assets Coordinator
 Gulf Power Company
 One Energy Place
 Pensacola, Florida 32520-0328
 Phone: (850) 444-6080
 Cell: (850) 336-6527

DeVore, Christy

From: Waters, G. Dwain [GDWATERS@southernco.com]
Sent: Tuesday, February 23, 2010 10:41 AM
To: DeVore, Christy
Subject: RE: Crist RAI

I think this will answer your question. Page 2 of the RAI represents both (higher coal and turbine) and page 4 only represents the higher coal since your table requested was titled "projected actual emissions with HSC (3.35 lb/mmbtu). The "Business 2009 As Normal" case projects emissions with just higher sulfur coal is 165.6 tons of SAM. The future change case with higher sulfur coal plus the Cr 6 Turbine projects 167.6 tons. The table below is also located in the Turbine application as a worksheet. Hope this helps. If not, please call me since this is so confusing since we had two applications. Thanks, Dwain

Case	Baseline	Future 2009 Business Normal Case BC	Future High Change Case I CC	Emissions Change from Baseline to Future Base Case Business As Normal	Emissions Change to Future High Ch With HP Turbine I
Pollutant	Crist Unit 6	Base Case 2013	with HP Turb 2013	TonsYr	TonsYr
SO2	11,937.3	4,633.5	4,788.0	-7,303.7	
NOx	2875.86	1,391.6	1,437.9	-1,484.3	
H2SO4 ***	38.8	59.0	61.0	20.2	
H2SO4 Cr4-7Cap	169.0	165.6	167.6		
PM	116.3	47.8	49.4	-68.5	
CO *	211	232	240	20.8	
VOC*	25.0	27.4	28.3	2.5	
Heat Input**	21,145,062.7	23,227,353.0	24,001,541.0	2,082,290.3	

* AP-42 Emission Factors used for CO and VOC

** Heat Input Increase between Baseline and BC is attributed to Demand Growth

*** Emissions Change without any reduction for Demand Growth

G. Dwain Waters, Q.E.P.
Special Projects and Environmental Assets Coordinator
Gulf Power Company
One Energy Place
Pensacola, Florida 32520-0328
Phone: (850) 444-6080
Cell: (850) 336-6527
Fax: (850) 444-6217
gdwaters@southernco.com

From: DeVore, Christy [mailto:Christy.DeVore@dep.state.fl.us]
Sent: Tuesday, February 23, 2010 8:28 AM
To: Waters, G. Dwain
Subject: RE: Crist RAI

On page 2 of the RAI response in the table SAM Cr 4-7 Cap future projected is 167.6 tpy. On page 4 it is 165.62 tpy in the table. Which one is correct? Thanks.

Christy DeVore, P.E.
Bureau of Air Regulation
New Source Review
Telephone (850) 921-8968

From: Waters, G. Dwain [mailto:GDWATERS@southernco.com]
Sent: Monday, February 22, 2010 5:26 PM
To: DeVore, Christy
Subject: RE: Crist RAI

For Cr 6 Turbine Baseline dates

SO2 Oct 06 - Sep 08
NOx Dec 05 - Nov 07
PM Jun 06 - May 08 (Heat input Jun06-May 08 * 5 yr avg PM test rate)
CO June 06 - May 08 (Heat input June06- May 08 * AP42 factor)
VOC June 06 - May 08 (Heat input June06-May 08 * Ap-42 factor)

G. Dwain Waters, Q.E.P.
Special Projects and Environmental Assets Coordinator
Gulf Power Company
One Energy Place
Pensacola, Florida 32520-0328
Phone: (850) 444-6080
Cell: (850) 336-6527
Fax: (850) 444-6217
gdwaters@southernco.com

From: DeVore, Christy [mailto:Christy.DeVore@dep.state.fl.us]
Sent: Monday, February 22, 2010 2:45 PM
To: Waters, G. Dwain
Subject: Crist RAI

Where is the information showing the 2-year period used for the pollutants other than SAM? Jeff remembers you mentioning it and I'm looking for it. Thanks.

Christy DeVore, P.E.
Professional Engineer II
Division of Air Resource Management
Bureau of Air Regulation
New Source Review
2600 Blair Stone Road, MS#5505
Tallahassee, FL 32399-2400
Telephone (850) 921-8968
FAX (850) 921-9533

DeVore, Christy

From: Waters, G. Dwain [GDWATERS@southernco.com]
Sent: Friday, March 26, 2010 6:30 PM
To: DeVore, Christy
Subject: Re: Crist Fuel Sulfur

We currently purchase fuel up to about 1.6 percent. The 3.3 rate equals about 2.1percent S.

Dwain Waters, QEP

From: DeVore, Christy <Christy.DeVore@dep.state.fl.us>
To: Waters, G. Dwain
Sent: Fri Mar 26 15:50:53 2010
Subject: Crist Fuel Sulfur

Dwain,
What % sulfur is in the fuel now and where does it say the % of sulfur for the 3.30 lb/MMBtu? Thanks.
Christy

Christy DeVore, P.E.
Professional Engineer II
Division of Air Resource Management
Bureau of Air Regulation
New Source Review
2600 Blair Stone Road, MS#5505
Tallahassee, FL 32399-2400
Telephone (850) 921-8968
FAX (850) 921-9533

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.



CERTIFIED MAIL
77009 1680 0001 7427 5386

February 15, 2010

Ms. Trina Vielhauer
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Mail Station #5510
Tallahassee, Florida 32399-2400

RECEIVED
FEB 22 2010
BUREAU OF AIR REGULATION

RE: TIFI Boiler Additive Construction Permit
Plant Crist, Pensacola
AIRS ID: 0330045

Ms. Vielhauer:

Gulf Power, hereby requests an air construction permit authorizing the use of Targeted In-Furnace Injection Technology (TIFI) and two new boiler additives for slag and boiler tube corrosion control at Plant Crist. Although the new technology will be initially installed on Crist Unit 7, we request the authorization on all four Crist units.

Plant Crist is currently permitted to inject GAM 60 as a slag control additive, per Specific Conditions B.3b. and C.3.b.3. of the current Title V permit. TIFI is anticipated to be a better slag control technology than GAM 60, in some operational scenarios. Unlike GAM 60, TIFI utilizes computational fluid dynamic modeling to determine the problem areas of the boiler and the appropriate injection points and trajectory of chemical additive needed to ensure complete coverage of each area. This approach provides targeted slag control, which in turn will result in less chemical usage. There are two TIFI additives that have been proposed for Plant Crist, Magnesium Hydroxide and Aluminum Hydroxide (see attached MSDS). These additives will arrive onsite, via truck, as slurry and will be transferred to separate 5,000 gallons storage tank (Unit 7 tank size). The chemicals will be, mixed with additional water, pumped to the modeled injection ports, and atomized with air, in accordance with the droplet sizes needed to reach the problem areas of the boiler. The appropriate atomization or droplet size distribution is determined by the previously mentioned modeling. Through crystal morphology, slag is made more

easily controlled through normal boiler cleaning operations (soot blowing). Both additives are currently anticipated to be injected as needed into the boiler with a maximum anticipated injection rate of 22 gallons per hour of Aluminum Hydroxide and 12 gallons per hour of Magnesium Hydroxide, respectively. Additional information on the TIFI process is available at the following website: www://ftek.com.

Due to the composition and characteristics of the two additives, Gulf Power does not anticipate an increase in air emission from this TIFI boiler additive process. However, due to no specific TIFI additive emissions data being available and to follow the approach of the currently approved Plant Crist additives, Gulf Power will conduct particulate matter testing on Crist Unit 7 within 60 days of initial injection to provide compliance assurance with the particulate emissions limitations of the existing Title V permit. If proven to be a viable slag control method and within the requirements of the existing permit, Gulf Power will request incorporation of the TIFI boiler additive process into the facility's Title V operations permit as a new mode of operation, for all four Crist Units (4, 5, 6, and 7).

Discussions with your staff indicated the Department is open to an abbreviated air construction permit application for this request. In order to comply with the minimal requirements of 62-4-050, F.A.C, included with this submission are PE and Authorized Representative certifying statements regarding this request.

If you have any questions, please contact me at 850-444-6537.

Sincerely,



Kevin M. White. P.E.
Environmental Engineer

Enclosures

cc: Rick Bradburn, FDEP Northwest District
Melvin Young, Gulf Power Company
John Dominey, Gulf Power Company

APPLICATION FOR AIR PERMIT - NON-TITLE V SOURCE

See Instructions for Form No. 62-210.900(3)

I. APPLICATION INFORMATION

Identification of Facility

1. Facility Owner/Company Name: Gulf Power Company	
2. Site Name: Plant Crist Electric Generating Plant	
3. Facility Identification Number: [] Unknown 0330045	
4. Facility Location: On Pace Road, off 10 Mile Road on Governors Bayou Street Address or Other Locator: City: Pensacola County: Escambia Zip Code:	
5. Relocatable Facility? [] Yes [X] No	6. Existing Permitted Facility? [X] Yes [] No

Application Contact

1. Name and Title of Application Contact: Kevin M. White, Engineer	
2. Application Contact Mailing Address: Organization/Firm: Gulf Power Company, Environmental Affairs Street Address: One Energy Place City: Pensacola State: Florida Zip Code: 32520	
3. Application Contact Telephone Numbers: Telephone: (850) 444 - 6537 Fax: (850) 444 - 6080	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- Initial non-Title V air operation permit for one or more existing, but previously unpermitted, emissions units.
- Initial non-Title V air operation permit for one or more newly constructed or modified emissions units.

Current construction permit number: _____

- Non-Title V air operation permit revision to address one or more newly constructed or modified emissions units.

Current construction permit number: _____

Operation permit number to be revised: _____

- Initial non-Title V air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s):

- Non-Title V air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit number to be revised: _____

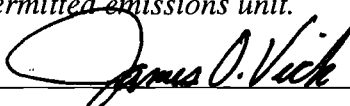

Reason for revision: _____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- Air construction permit to construct or modify one or more emissions units.
- Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.
- Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative

1. Name and Title of Owner/Authorized Representative: James O. Vick, Director
2. Owner/Authorized Representative Mailing Address: Organization/Firm: Gulf Power Company, Environmental Affairs Street Address: One Energy Place City: Pensacola State: Florida Zip Code: 32520
3. Owner/Authorized Representative Telephone Numbers: Telephone: (850) 444 - 6311 Fax: (850) 444 - 6080
4. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative* of the facility addressed in this application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>  _____ Signature  _____ Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: Kevin M. White Registration Number: 57754
2. Professional Engineer Mailing Address: Organization/Firm: Gulf Power Company, Environmental Affairs Street Address: One Energy Place City: Pensacola State: Florida Zip Code: 32520
3. Professional Engineer Telephone Numbers: Telephone: (850) 444 - 6537 Fax: (850) 444 - 6080

4. Professional Engineer Statement:

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

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

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

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature

Date

(seal)

*Attach any exception to certification statement.



MATERIAL SAFETY DATA SHEET
PRODUCT: TIFI® MG

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

SECTION 1 - PRODUCT IDENTIFICATION

Trade Name: TIFI® MG

Application: Fireside Additive

MSDS Date of Preparation/Revision: January 1, 2010

NFPA 704M/HMIS Rating:

Health - 2/2	Flammability - 0/0	Reactivity - 0/0	Other - 0/0
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0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 - COMPOSITION / INGREDIENT INFORMATION

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 15 for the nature of the hazard(s).

Ingredient(s)	CAS #	Approx. % (w/w)
Magnesium Hydroxide	01309-42-8	50.0 - 80.0

SECTION 3 - HAZARD IDENTIFICATION

Emergency Overview: **Warning!** Irritating to eyes. Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Wear suitable protective clothing.

Primary Routes of Exposure: Eye, Skin

Human Health Hazards: Acute

Eye Contact: Can cause moderate irritation.

Skin Contact: May cause irritation with prolonged contact.

Ingestion: Not a likely route of exposure. No adverse effects expected.

Inhalation: Not a likely route of exposure. No adverse effects expected.

Symptoms of Exposure: Acute - A review of available data does not identify any symptoms from exposure not previously mentioned. Chronic - A review of available data does not identify any symptoms from exposure not previously mentioned.

Human Health Hazards - Chronic: No adverse effects expected other than those mentioned above.

SECTION 4 - FIRST AID INFORMATION

Eye Contact: Immediately flush eye with water for at least 15 minutes while holding eyelids open. If symptoms develop, seek medical advice.

Skin: Flush affected area with water. If symptoms develop, seek medical advice.

Ingestion: Get medical attention. Do not induce vomiting without medical advice. If conscious, wash out mouth and give water to drink. If reflexive vomiting occurs, rinse mouth and repeat administration of water.

Inhalation: Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

Note to Physician: Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

SECTION 5 - FIRE FIGHTING

Flash Point: None

Extinguishing Media: Not expected to burn. Use extinguishing media appropriate for surrounding fire.

Fire and Explosion Hazard: Not flammable or combustible.

Special Protective Equipment for Fire Fighting: In case of fire, wear a full face positive-pressure self-contained breathing apparatus and protective suit.



MATERIAL SAFETY DATA SHEET
PRODUCT: TIFI[®] MG

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

SECTION 6 - ACCIDENTAL RELEASE MEASURES

In case of transportation accidents, call the following 24-hour telephone number: 1.800.424.9300 (CHEMTREC).

Personal Precautions: Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.

Spill Control and Recovery: Small Liquid Spills: Soak up spill with absorbent material. Place residues in a suitable, properly labeled container. Wash affected area. Large Liquid Spills: Contain large spills using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal.

Environmental Precautions: Do not contaminate surface water.

SECTION 7 - HANDLING AND STORAGE

Handling: Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled.

Storage: Store in suitable labeled containers. Store the containers tightly closed.

Sensitivity to Static Discharge: Not expected to be sensitive to static discharge.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: This product does not contain any substance that has an established exposure limit.

Engineering Measures: General ventilation is recommended.

General Advice: The use and choice of personal protection equipment is related to the hazard of the product, the workplace and the way the product is handled. In general, we recommend as a minimum precaution that safety glasses with side-shields and workclothes protecting arms, legs, and body be used. In addition, any person visiting an area where this product is handled should at least wear safety glasses with side-shields.

Respiratory Protection: Where concentrations in air may exceed the limits given in this section, the use of a half face filter mask or air supplied breathing apparatus is recommended. A suitable filter material depends on the amount and type of chemicals being handled. Consider the use of filter type: Particulate filter - HEPA (purple). If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance, and inspection.

Hand Protection: When handling this product, the use of chemical gauntlets is recommended. The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from PVC. Gloves should be replaced immediately if signs of degradation are observed. Breakthrough time not determined as preparation, consult PPE manufacturers.

Skin Protection: Wear standard protective clothing.

Eye Protection: Wear chemical splash goggles.

Hygiene Recommendations: Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never, eat, drink, or smoke.



MATERIAL SAFETY DATA SHEET
PRODUCT: TIFI[®] MG

Emergency Telephone Number
 CHEMTREC - 1.800.424.9300 (24 hours)

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Slurry
Color/Appearance:	Milky White
Odor:	None
Density:	12.3 to 13.5
Specific Gravity:	1.48 to 1.62
Flash Point:	None
Boiling Point:	212°F / 100°C
Solubility in Water:	Partial
pH (100%)	10
Note: These physical properties are typical values for this product and are subject to change.	

SECTION 10 - STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions.

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition Products: Under fire conditions - oxides of carbon.

Conditions to Avoid: None known.

Materials to Avoid: Strong acids. Contact with strong acids (e.g., sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering, or boiling and toxic vapors.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity Studies: No toxicity studies have been conducted on this product.

Sensitization: This product is not expected to be a sensitizer.

Carcinogenicity: None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of governmental Industrial hygienists (ACGIH).

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicological Effects:

Acute Fish Results:				
<u>Species</u>	<u>Exposure</u>	<u>LC50</u>	<u>Test Substance</u>	
Fathead Minnow	96 hours	3194 mg/L	Product	
Acute Invertebrate Results:				
<u>Species</u>	<u>Exposure</u>	<u>LC50</u>	<u>EC50</u>	<u>Test Substance</u>
Ceriodaphnia dubia	48 hours	1458 mg/L		Product

Mobility and Bioaccumulation Potential: The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite™, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water, and soil/sediment in the approximate respective percentages: <5%; 30 - 50%, 50-70%. The portion in water is expected to be soluble or dispersible.

This preparation or material is not expected to bioaccumulate.



MATERIAL SAFETY DATA SHEET
PRODUCT: TIFI[®] MG

Emergency Telephone Number
 CHEMTREC - 1.800.424.9300 (24 hours)

If released into the environment, see CERCLÉ/SUPERFUND in Section 15.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal: If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment, or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal, or recycling facility.

SECTION 14 - TRANSPORTATION INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the property Shipping Name/Hazard Class may vary by packaging, properties, and mode of transportation. Typical proper shipping names for this product are:

Land Transport:	Proper Shipping Name:	Product is not regulated during transportation
Air Transport (ICAO/IATA):	Proper Shipping Name:	Product is not regulated during transportation
Marine Transport (IMDG/IMO):	Proper Shipping Name:	Product is not regulated during transportation

SECTION 15 - REGULATORY INFORMATION

FEDERAL REGULATIONS:

OSHA Hazard Communication Rule, 29 CFR 1910.1200:

Based on our hazard evaluation, the following substances in this product are hazardous and the reasons are shown below.

Inorganic Base:	Eye Irritant
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CERCLA/Superfund, 40 CFR 117, 302:

Notification of spills of this product is not required.

SARA/Superfund Amendments and Reauthorization Act of 1986 (Title III) - Sections 302, 311, 312 and 313:

Section 302 - Extremely Hazardous Substances (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

Sections 311 and 312 - Material Safety Data Sheet Requirements (40 CFR 370):

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

XX	Immediate (acute) health hazard
--	Delayed (chronic) health hazard
--	Fire hazard
--	Sudden release of pressure hazard
--	Reactive hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.



MATERIAL SAFETY DATA SHEET
PRODUCT: TIFI[®] MG

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

Section 313 - List of Toxic Chemicals (40 CFR 372):

This product does not contain substances on the List of Toxic Chemicals.

Federal Water Pollution Control Act, Clean Water Act, 40 CFR 401.15 (Formerly Sec. 307), 40 CFR 116 (Formerly Sec. 311):

None of the substances are specifically listed in the regulation.

Clean Air Act, Sec. 111 (40 CFR 60), Sec. 112 (40 CFR 61, 1990 Amendments), Sec. 611 (40 CFR 82, Class I and II Ozone Depleting Substances):

None of the substances are specifically listed in the regulation.

STATE REGULATIONS:

California Proposition 65:

This products does not contain substances which require warning under California Proposition 65.

Michigan Critical Materials:

None of the substances are specifically listed in the regulation.

State Right To Know Laws:

None of the substances are specifically listed in the regulation.

NATIONAL REGULATIONS, CANADA

Workplace Hazardous Materials Information System (WHMIS): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Classification: D2B - Materials Causing Other Toxic Effects - Toxic Material

EC CLASSIFICATION

Hazard Symbols: Irritant / Xi

Risk Phrases:	R36	Irritating to eyes.
Safety Phrases:	S24/25	Avoid contact with skin and eyes.
	S37/39	Wear suitable gloves and eye/face protection.

INTERNATIONAL CHEMICAL CONTROL LAWS

Toxic Substances Control Act (TSCA): The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710).

Canadian Environmental Protection Act (CEPA): The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

Europe: The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

Australia: All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS) and are listed on the Australian Inventory of Chemical Substances (AICS).

Japan: All substances in this product comply with the Law Regulating the Manufacture and Importation of Chemical Substances and are listed on the Ministry of International Trade & Industry List (MITI).

Korea: All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL).

The Philippines: All substances in this product comply with the Republic Act 6969 (RA6969) and are listed on the Philippine Inventory of Chemicals & Chemical Substances (PICCS).



MATERIAL SAFETY DATA SHEET
PRODUCT TIFI[®] MG

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

SECTION 16 - RISK CHARACTERIZATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

Fuel Tech, Inc. provides the above information in good faith. Fuel Tech, Inc. provides the above information "AS IS" and makes no representations or warranties of any kind, express or implied, by fact or by law. **FUEL TECH, INC. SPECIFICALLY DISCLAIMS ALL WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

SECTION 17 - REFERENCES

- 2004 Guide to Occupational Exposure Values, American Conference of Governmental Industrial Hygienists, Cincinnati, OH
- Hazardous Substances Data Bank, National Library of Medicine, Bethesda, MD
- IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.
- Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C
- Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.
- ChemIDPlus, National Library of Medicine, Bethesda, MD
- Safety and Health, Hamilton, ON, Canada
- Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(R) of the Clean Air Act, U.s. Environmental Protection Agency, Washington, D.C.
- Quick Selection Guide to Chemical Protective Clothing, Second Edition, Mansdorf & Associates, Stow, OH
- SafeMix[®] 2000, Safeware Quasar Ltd., Nottingham, England
- Table 1 - Register of Critical Materials, Department of Environmental Quality, Official State of Michigan Website.
- California Proposition 65 List, California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA), Chemicals Listed Effective June 11, 2004.



MATERIAL SAFETY DATA SHEET
Product: TIFI® XP

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

SECTION 1 - PRODUCT IDENTIFICATION

Trade Name: TIFI® XP

Application: Fireside Additive

MSDS Date of Preparation/Revision: January 1, 2010

NFPA 704M/HMIS Rating: 1/1 Health 0/0 Flammability 0/0 Instability 0/0 Other

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 - COMPOSITION / INGREDIENT INFORMATION

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 15 for the nature of the hazard(s).

<u>Ingredient(s)</u>	<u>CAS #</u>	<u>Approx. %</u>	<u>EU Classification (67/548/EEC)</u>
Aluminum hydroxide	21645-51-2/244-492-7	50-70	Not Applicable
Proprietary Ingredients	Proprietary	1-12	Not Applicable

SECTION 3 - HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

Caution! Irritating to eyes and skin. Do not get in eyes, on skin, on clothing. Do not take internally.

In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes and seek medical advice. After contact with skin, wash immediately with plenty of water. Wear suitable protective clothing, gloves and eye/face protection. Not flammable or combustible.

Primary Route(s) of Exposure: Eye, Skin

Eye Contact: Can cause moderate irritation.

Skin Contact: May cause irritation or dermatitis.

Ingestion: Not a likely route of exposure. Swallowing may cause gastrointestinal irritation with nausea and diarrhea. Large amounts may cause obstruction of the bowel.

Inhalation: Not a likely route of exposure. Aerosols or product mist may irritate the upper respiratory tract.

Chronic: Prolonged overexposure to dust or mist may result in lung changes.

Aggravation of Existing Conditions: May aggravate pre-existing skin and respiratory diseases.

SECTION 4 - FIRST AID INFORMATION

Eyes: Immediately flush for at least 15 minutes while holding eyelids open. If irritation persists, repeat flushing. Get immediate medical attention.

Skin: Immediately flush with plenty of water, then wash thoroughly with soap and water. If symptoms persist, call a physician.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. If conscious, wash out mouth and give water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

Inhalation: Remove to fresh air, treat symptomatically. Get medical attention.

Note to Physician: Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.



MATERIAL SAFETY DATA SHEET
Product: TIFI XP

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

SECTION 5 - FIRE FIGHTING

Flash Point: None

Extinguishing Media: This product is not combustible. Keep containers cool by spraying with water. Use extinguishing media appropriate for surrounding fire.

Fire and Explosion Hazard: Not flammable or combustible.

Special Protective Equipment for Fire Fighting: In case of fire, wear a full face positive-pressure self-contained breathing apparatus and protective suit.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ventilate spill area if possible. Do not touch spilled material. Stop or reduce any leaks if it is safe to do so. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.

SPILL CONTROL AND RECOVERY:

Small Spills: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. **Large Spills:** Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Wash site of spillage thoroughly with water. Contact an approved waste hauler for disposal of contaminated material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS:

Do not contaminate surface water.

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Do not take internally. Avoid breathing mists or dusts from dried material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled. Keep the containers closed when not in use. Use with adequate ventilation.

Storage Conditions: Keep containers tightly closed. Store in suitable labeled containers.

Do not reuse containers. Empty containers retain product residues can be hazardous. Follow all MSDS precautions when handling empty containers.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

Aluminum hydroxide	15 mg/m ³ (total dust) OSHA PEL-TWA 5 mg/m ³ (respirable dust) OSHA PEL-TWA 1 mg/m ³ (respirable dust) ACGIH TLV-TWA
Proprietary Ingredients	None Established

Engineering Measures: General ventilation is recommended.

Respiratory Protection: Respiratory protection is not normally needed. In operations where concentrations are elevated, a NIOSH approved respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice.

Hand Protection: Impervious gloves such as rubber recommended.



MATERIAL SAFETY DATA SHEET
Product: TIFI® XP

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

Skin Protection: Wear standard protective clothing.

Eye Protection: Wear chemical splash goggles.

Hygiene Recommendations: If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. A safety shower and eyewash should be available in the work area.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Opaque White
Odor:	None
Specific Gravity:	1.4 - 1.7
Density:	11.7 - 14.2 lbs/gal.
Solubility In Water:	Dispersible
pH (100%):	6 - 9.5
Viscosity:	No data
Freeze Point:	No data
Vapor Pressure:	Same as Water
VOC Content:	No data
Note: These physical properties are typical values for this product and are subject to change.	

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: Heating above 200°C will result in a sudden release of water vapor (steam). Precautions must be taken to dissipate the vapor and any pressure that may be generated. A sudden release in pressure could cause damage or explosion in enclosed equipment.

Materials to Avoid: Contact with strong acids (e.g., sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling.

Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, steam.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity Studies: No toxicity data is available.

Carcinogenicity: None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), the Occupational Safety and Health Administration (OSHA), the American Conference of Governmental Industrial Hygienists (ACGIH) or the EU Directive on the Classification and Labeling of Substances.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicological Effects: Aluminum Hydroxide: EC50 pinephales promelas (fathead minnow) >50 g/L; EC50 ceriodaphnia dubia (crustacean) >40 mg/L.

If released into the environment, see CERCLE/SUPERFUND in Section 15.



MATERIAL SAFETY DATA SHEET
Product: TIFE[®] XP

Emergency Telephone Number
 CHEMTREC - 1.800.424.9300 (24 hours)

SECTION 13 - DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous liquid waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment, or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal, or recycling facility.

SECTION 14 - TRANSPORTATION INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. please note that the proper shipping name/hazard class may vary by packaging, properties, and mode of transportation. Typical proper shipping names for this product are as follows.

The presence of an RQ component (Reportable Quantity for U.S. EPA and DOT) in this product causes it to be regulated with an additional description of RQ for road, or as a class 9 for road and air, ONLY when the net weight is the package exceeds the calculated RQ for the product.

LAND TRANSPORT:	
Proper Shipping Name:	Not Regulated
Technical Name(s):	
UN/ID No:	None
Hazard Class - Primary:	None
Packing Group:	Not Applicable
Flash Point:	None
DOT Reportable Quantity (per package):	None
DOT RQ Component:	None
AIR TRANSPORT (ICAO/IATA):	
Proper Shipping Name:	Not Regulated
Technical Name(s):	
UN/ID No:	None
Hazard Class - Primary:	None
Packing Group:	Not Applicable
IATA Cargo Packing Instructions:	Not Applicable
IATA Cargo Aircraft Limit:	Not Applicable
MARINE TRANSPORT (IMDG/IMO):	
Proper Shipping Name:	Not Regulated
Technical Name(s):	
UN/ID No:	None
Hazard Class - Primary:	None
Packing Group:	Not Applicable
Flash Point:	None
DOT Reportable Quantity (per package):	None
DOT RQ Component:	None



MATERIAL SAFETY DATA SHEET
Product - TFI® XP

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

SECTION 15 - REGULATORY INFORMATION

NATIONAL REGULATIONS, USA:

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, the following substance in this product is hazardous and the reason is shown below.

Aluminum hydroxide - Assigned an occupational exposure limit

CERCLA/SUPERFUND, 40 CFR 117, 302:

If a reportable quantity of product is released, it requires notification to the National Response Center, Washington, D.C. (1.800.424.8802). This product contains the following Reportable Quantity (RQ) Substance. Also listed is the RQ for the product.

RQ Substance: None

RQ: Not Applicable

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (Title III) - SECTIONS 302, 311, 312 and 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product does not contain ingredients listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

- XX Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product does not contain ingredients on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA):

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory List (40 CFR 710).

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (Formerly Sec. 307), 40 CFR 116 (Formerly Sec. 311):

None of the ingredients are specifically listed in this regulation.

CLEAN AIR ACT, SEC. 111 (40 CFR 60, Volatile Organic Compounds), SEC. 112 (40 CFR 61, Hazardous Air Pollutants), SEC. 602 (40 CFR 82, Class I And II Ozone Depleting Substances):

None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65:

This product contains trace amounts of chemicals that are known to the State of California to cause cancer, birth defects or other reproductive harm.



MATERIAL SAFETY DATA SHEET
Product: TIFI® XP

Emergency Telephone Number
CHEMTREC - 1.800.424.9300 (24 hours)

MICHIGAN CRITICAL MATERIALS: None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS: None of the substances are specifically listed in the regulation.

NATIONAL REGULATIONS:

CANADA:

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION: D2B - Materials Causing Toxic Effects - Irritant

SECTION 16 - OTHER INFORMATION

Revision Summary: Added ecotoxicity data to Section 12.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

Fuel Tech, Inc. provides the above information in good faith. Fuel Tech, Inc. provides the above information "AS IS" and makes no representations or warranties of any kind, express or implied, by fact or by law. FUEL TECH, INC. SPECIFICALLY DISCLAIMS ALL WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

SECTION 17 - REFERENCES

- ◆ 2008 Guide to Occupational Exposure Values, American Conference of Governmental Industrial Hygienists, Cincinnati, OH
- ◆ Hazardous Substances Data Bank, National Library of Medicine, Bethesda, MD
- ◆ IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.
- ◆ Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C
- ◆ Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.
- ◆ ChemIDPlus, National Library of Medicine, Bethesda, MD
- ◆ Safety and Health, Hamilton, ON, Canada
- ◆ Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(R) of the Clean Air Act, U.S. Environmental Protection Agency, Washington, D.C.
- ◆ Quick Selection Guide to Chemical Protective Clothing, Second Edition, Mansdorf & Associates, Stow, OH
- ◆ Table 1 - Register of Critical Materials, Department of Environmental Quality, Official State of Michigan Website.
- ◆ California Proposition 65 List, California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA), Chemicals Listed.

Livingston, Sylvia

From: Livingston, Sylvia
Sent: Monday, May 03, 2010 2:38 PM
To: 'jovick@southernco.com'
Cc: 'gdwaters@southernco.com'; 'gnterry@southernco.com'; 'jmdominey@southernco.com'; 'kwhite@southernco.com'; Bradburn, Rick; Halpin, Mike; 'forney.kathleen@epa.gov'; 'oquendo.ana@epa.gov'; 'abrams.heather@epa.gov'; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
Subject: Gulf Power Company - CRIST ELECTRIC GENERATING PLANT; 0330045-029-AC
Attachments: 0330045-029-AC_Signatures.pdf

Dear Sir/ Madam:

Attached is the official **Notice of Final Permit** 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 documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0330045.029.AC.F_pdf.zip

Owner/Company Name: GULF POWER COMPANY
Facility Name: CRIST ELECTRIC GENERATING PLANT
Project Number: 0330045-029-AC
Permit Status: FINAL
Permit Activity: CONSTRUCTION
Facility County: ESCAMBIA
Processor: Christy DeVore

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Project documents that 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 problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Bureau of Air Regulation at (850)488-0114.

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

Livingston, Sylvia

From: Vick, James O. [JOVICK@southernco.com]
Sent: Monday, May 03, 2010 3:15 PM
To: Livingston, Sylvia
Subject: Re: Gulf Power Company - CRIST ELECTRIC GENERATING PLANT; 0330045-029-AC

We are in receipt.
Jim Vick
Gulf Power Company

From: Livingston, Sylvia <Sylvia.Livingston@dep.state.fl.us>
To: Vick, James O.
Cc: Waters, G. Dwain; Terry, Greg N.; 'jmdominey@southernco.com' <jmdominey@southernco.com>; White, Kevin; Bradburn, Rick <Rick.Bradburn@dep.state.fl.us>; Halpin, Mike <Mike.Halpin@dep.state.fl.us>; 'forney.kathleen@epa.gov' <forney.kathleen@epa.gov>; 'oquendo.ana@epa.gov' <oquendo.ana@epa.gov>; 'abrams.heather@epa.gov' <abrams.heather@epa.gov>; Gibson, Victoria <Victoria.Gibson@dep.state.fl.us>; DeVore, Christy <Christy.DeVore@dep.state.fl.us>; Koerner, Jeff <Jeff.Koerner@dep.state.fl.us>; Walker, Elizabeth (AIR) <Elizabeth.Walker@dep.state.fl.us>
Sent: Mon May 03 13:37:57 2010
Subject: Gulf Power Company - CRIST ELECTRIC GENERATING PLANT; 0330045-029-AC

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Project documents that 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 problems

Livingston, Sylvia

From: Waters, G. Dwain [GDWATERS@southernco.com]
Sent: Monday, May 03, 2010 3:08 PM
To: Livingston, Sylvia; Vick, James O.
Cc: Terry, Greg N.; 'jmdominey@southernco.com'; White, Kevin; Bradburn, Rick; Halpin, Mike; 'forney.kathleen@epa.gov'; 'oquendo.ana@epa.gov'; 'abrams.heather@epa.gov'; Gibson, Victoria; DeVore, Christy; Koerner, Jeff; Walker, Elizabeth (AIR)
Subject: Re: Gulf Power Company - CRIST ELECTRIC GENERATING PLANT; 0330045-029-AC

Gulf Power has received the Crist HSC final permit. Thanks, Dwain

Dwain Waters, QEP

From: Livingston, Sylvia <Sylvia.Livingston@dep.state.fl.us>
To: Vick, James O.
Cc: Waters, G. Dwain; Terry, Greg N.; 'jmdominey@southernco.com' <jmdominey@southernco.com>; White, Kevin; Bradburn, Rick <Rick.Bradburn@dep.state.fl.us>; Halpin, Mike <Mike.Halpin@dep.state.fl.us>; 'forney.kathleen@epa.gov' <forney.kathleen@epa.gov>; 'oquendo.ana@epa.gov' <oquendo.ana@epa.gov>; 'abrams.heather@epa.gov' <abrams.heather@epa.gov>; Gibson, Victoria <Victoria.Gibson@dep.state.fl.us>; DeVore, Christy <Christy.DeVore@dep.state.fl.us>; Koerner, Jeff <Jeff.Koerner@dep.state.fl.us>; Walker, Elizabeth (AIR) <Elizabeth.Walker@dep.state.fl.us>
Sent: Mon May 03 13:37:57 2010
Subject: Gulf Power Company - CRIST ELECTRIC GENERATING PLANT; 0330045-029-AC

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