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PERMITTEE

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

Air Permit No. 0330045-041-AC
Minor Air Construction Permit Revision
Crist Electric Generating Plant

MATS Compliance
Escambia County, Florida

Authorized Representative:
Mr. Michael Burroughs
Vice President, Power Generation

PROJECT

This is the final air construction permit, which revises permit Nos. AC17-234016, 0330045-005-AC, 0330045-023-AC, 0330045-029-AC, 0330045-032-AC and 0330045-036-AC to incorporate required changes due to EPA's authorization of an alternative testing and monitoring methods for Mercury and Air Toxics Standards (MATS) compliance at Plant Crist. In addition, the permittee is requesting revision to several related Title V permit specific conditions. The proposed work will be conducted at the existing Crist Electric Generating Plant, which is a Power Plant categorized under Standard Industrial Classification No 4911. The existing facility is located in Escambia County on Pate Road, off of 10 Mile Road on Governors Bayou, North of Pensacola, Florida. UTM Coordinates are: Zone 16; 478.5 Kilometer (km) East, 3381.44 km North. Latitude is: 30° 34' 0.6552" North; and, Longitude is: 87° 13' 35.1261" West.

This final permit is organized into the following sections: Section 1 (General Information) and Section 2 (Permit Revisions).

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

For:

Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

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 the date indicated below to the following persons.

Mr. Michael Burroughs, Vice President, Gulf Power Company: mlburrou@southernco.com

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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.

SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

The existing facility consists of four predominantly coal-fired fossil fuel fired steam generators (boilers) and two fly ash silos. Boilers 4 and 5 were Acid Rain Phase I substitution Units. Boilers 6 and 7 were Acid Rain Phase I Units. All four boilers are subject to the Acid Rain Phase II and CAIR requirements. In addition, all the boilers are subject to 40 CFR 63, Subpart UUUUU, National Emission Standards for Hazardous Air Pollutants Coal-and Oil-Fired Electric Utility Steam Generating Units which is also referred to as the Mercury and Air Toxics Standards (MATS). Pulverized coal is the primary fuel for boilers 4, 5, 6 and 7. Natural gas, fuel oil and on-specification used oil are used as supplemental fuels in all four of the boilers. Pulverized coal is the primary fuel for boilers 4, 5, 6 and 7. Natural gas, fuel oil and on-specification used oil are used as supplemental fuels in all four of the boilers.

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 62-213, F.A.C.
- The facility operates units subject to the Clean Air Interstate Rule (CAIR).
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

PROPOSED PROJECT

1. On December 9, 2015, EPA approved an alternative MATS test method for natural gas scrubber bypass operations for the Crist Electric Generating Plant (Plant Crist) located in Pensacola, Florida. Gulf Power believes the conditions authorized in EPA's approval letter should be incorporated by reference only into the Crist Title V permit under Specific Condition A.70 Subpart UUUUUU Requirements. The detailed conditions (default values) will change pursuant to future test results, thus the authorization letter should be included as an appendix to the Crist Title V permit. For MATS compliance, Plant Crist will report SO₂, mercury and particulate mass emissions from bypass stack operation using representative values as submitted and approved by EPA in the Crist MATS bypass petition.
2. Gulf Power requests to utilize the Crist Common FGD (stack) Particulate CEMS installed and certified for MATS as the compliance method for the Florida PM SIP standards as outlined in Specific Condition **A.18**. Particulate Matter (PM) and **A.19**. Particulate Matter – Soot Blowing and Load Change in the facility's Title V air operation permit.
 - a. Gulf Power requests Specific Condition **A.18**. Particulate Matter be revised as follows: As determined by CEMS, PM emissions shall not exceed 0.03 lb/MMBtu on a heat weighted 30-day rolling average in the common FGD stack for normal operations.
 - b. Gulf Power requests Specific Condition **A.19**. Particulate Matter – Soot Blowing and Load Change be revised as follows: As determined by CEMS, PM emissions shall not exceed 0.3 lb/MMBtu based on a 3-hour average during any 24-hour period of excess emissions allowed for boiler cleaning (soot blowing) and load change.
 - c. Gulf Power requests Specific Condition **A.13**. Visible Emissions a. & b. and **A.14**. Visible Emissions (VE) Soot Blowing and Load Change be deleted as being no longer applicable and replaced with the 20% opacity standard of for normal FGD operations. An annual VE test on the common FGD stack will be addressed in our request to A.36. Annual Compliance Tests Required. In addition, Gulf Power requests no VE tests be required for bypass operations for natural gas operations as approved by the EPA MATS petition noted in Item 1. above.

SECTION 1. GENERAL INFORMATION

- d. Gulf Power requests Specific Condition A. 23. CAM Plan be revised as no longer applicable for Units 4-7 PM and the associated Appendix CAM revised accordingly. The PM CEMS will be utilized for compliance.
 - e. Gulf Power requests Specific Condition A.39. Visible Emissions delete reference to the permittee's election to utilize a transmissometer (opacity meter) for demonstrating compliance with the visible emissions limit and relative calibration, maintenance and operation of the meter.
 - f. Gulf Power requests Specific Condition A.36 Annual Compliance Tests Required, be updated to reflect calendar year (January 1st to December 31st) and applicable only to an annual VE test for the normal Unit 4-7 scrubber mode of operation in the common FGD stack. In addition, Gulf Power requests the annual test for ammonia for Unit 7 be deleted as no longer applicable; identical to the more recent permit condition regarding the operation of the Unit 6 SCR (See Specific Condition A.6e.) Specific Condition A. 44 should be deleted pursuant to the requested change to A.36.
 - g. Gulf Power requests Specific Condition A. 53. Quarterly Reports. a. & b, be deleted as no longer applicable pursuant to Item 2. above and also the need for future Gas Sampling Grid (GSG) analyses (Revision to A.6.f. also requested)
3. Gulf Power requests Specific Condition A.43. Nitrogen Oxides Compliance Tests, be deleted as no longer applicable; identical to the more recent permit condition regarding the operation of the Unit 6 SCR.
4. Gulf Power requests Specific Condition A.48. Additional SAM Compliance Tests, be revised to change the "...coal blend sulfur specification increases by 0.30 lb SO₂/MMBtu or more based on a 10-day average" to a "30-day average" based on a fuel-based calculation. The additional averaging time is needed to allow for adequate time for receipt of the fuel analysis from the lab. Gulf Power also requests the use of the inlet SO₂ monitor be deleted in A.48 (b) due to common duct flue gas load stratification issues that impact the inlet SO₂ monitor's accuracy.
5. Gulf Power requests Specific Condition A.3.e. Boiler Additives, be revised to clearly authorize the maximum injection rates for the additives as "per unit" as originally outlined in its air construction permit application (0330045-029-AC) and test report dated May 5, 2011.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance 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 Office at: 160 W. Government Street, Suite 308, Pensacola, Florida 32502.f
3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); and Appendix D (Common Testing Requirements); Appendix E (EPA Approval of MATS Alternate Sampling Procedure dated December 9, 2015)
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Construction and Expiration. The expiration date shown on the first page of this permit provides time to complete the physical construction activities authorized by this permit, complete any necessary compliance testing, and obtain an operation permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that a permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires. [Rules 62-4.070(3) & (4), 62-4.080 & 62-210.300(1), F.A.C.]

SECTION 2. ADMINISTRATIVE REQUIREMENTS

This section of the permit addresses the following emissions units.

EU No.	Brief Description
004	Boiler Number 4 - 1,096.7 MMBtu/hour (Substitution Acid Rain Phase I & CAIR Unit)
005	Boiler Number 5 - 1,096.7 MMBtu/hour (Substitution for Acid Rain Phase I & CAIR Unit)
006	Boiler Number 6 - 3,704.8 MMBtu/hour (Acid Rain & CAIR Unit)
007	Boiler Number 7 - 6,406.4 MMBtu/hour (Acid Rain & CAIR Unit)

Emissions unit number 004 is a tangentially fired, dry bottom boiler designated as “Boiler Number 4” manufactured by Combustion Engineering. It is rated at a maximum heat input of 1,096.7 MMBtu/hour when firing pulverized coal, natural gas, No. 2 fuel oil, or on-specification used oil. Emissions unit number 005 is a tangentially fired, dry bottom boiler designated as “Boiler Number 5” manufactured by Combustion Engineering. It is rated at a maximum heat input of 1,096.7 MMBtu/hour when firing pulverized coal, natural gas, No. 2 fuel oil, or on-specification used oil. Units 004 and 005 can burn Biomass up to 40.2 MMBtu/hour. Units 004 and 005 were Phase I substitution units and are Phase II Acid Rain units. Gulf Power operates a temporary mercury research center using a slipstream of flu gas from unit 005 (Permit No. 0330045-011-AC) for evaluating mercury (Hg) emission reduction techniques.

Emissions unit number 006 is a front wall fired, dry bottom boiler designated as “Boiler Number 6” manufactured by Foster Wheeler. It is rated at a maximum heat input of 3,704.8 MMBtu/hour when firing pulverized coal or natural gas, and 714.8 MMBtu/hr when firing No. 2 fuel oil or on-specification used oil. Emissions unit number 007 is a front and rear wall fired, dry bottom boiler designated as “Boiler Number 7” manufactured by Foster Wheeler. It is rated at a maximum heat input of 6,406.4 MMBtu/hour when firing pulverized coal or natural gas, and 1,282 MMBtu/hour when firing No. 2 fuel oil or on-specification used oil. Fuel oil is used as a back-up fuel in both units and for periods of start-up and flame stabilization.

These emissions units are regulated under Acid Rain, Phase II and they are subject to the standards and requirements contained in the Acid Rain Part of this permit (see Section IV). These emissions units pre-date Prevention of Significant Deterioration (PSD) regulations and are regulated under Rule 62-296.405, F.A.C., Fossil Fuel Fired Steam Generators with more than 250 million Btu per Hour Heat Input.

{Permitting Notes: PM emissions from emissions units 004 and 005 are controlled by hot side electrostatic precipitators (ESP) manufactured by Buell, updated with GE ENERGY ESP-3 plates with RDE-1 rigid discharge electrodes, and cold side ESP manufactured by Buell, Model 1.1x48k33-1p. Nitrogen Oxides (NO_x) emissions from units 004 and 005 are controlled by low-NO_x burner tips and selective non-catalytic reduction (SNCR). The SNCR system is designed for a target NO_x reduction of 25% as measured across the SNCR unit inlet and outlet. The designed target ammonia slip level is 5 parts per million per volume (ppmv) corrected to 3% oxygen (O₂) based on a 24-hour average. Unit 004 began commercial operation on July 1, 1959. Unit 005 began commercial operation on June 1, 1961. The generator nameplate rating for unit 004 is 93 MW. The generator nameplate rating for unit 005 is 93 MW. PM emissions from unit 006 are controlled by a cold side electrostatic precipitator (Wheelabrator Model # HaRDE). PM emissions from unit 007 are controlled by cold side electrostatic precipitators designed by Alstom Power Inc. NO_x emissions from units 006 and 007 are controlled by Foster Wheeler Low NO_x Burners and by a Selective Catalytic Reduction (SCR) system designed to achieve no less than an 85% reduction in NO_x emissions as measured across the SCR unit inlet and outlet. The designed target ammonia slip level is 5 ppmv based on a 24-hour average. Unit 006 began commercial operation on May 1, 1970. Unit 007 began commercial operation on August 1, 1973. The permittee operates a wet Flue Gas Desulfurization (FGD) system to control SO₂ emissions from Units 4 - 7. Units 4 - 7 share a common stack under normal conditions with the wet FGD system in operation. Sulfuric Acid Mist emissions are controlled by

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

hydrated lime injection on the common duct to all four units just prior to the inlet of the FGD system. Boiler additives are injected in Units 4 - 7 to reduce slag in the boilers. Common stack height = 490 feet, exit diameter = 35 feet, exit temperature = 131° F; actual volumetric flow rate = 3,282,000 acfm. The two existing stacks for Units 4, 5 and Units 6, 7 will remain as bypass stacks for: periods of startup and shutdown of Units 4 - 7; malfunction of Units 4 - 7 (any or all) or the wet FGD system; or, repair or scheduled maintenance of the wet FGD system. Under normal operating conditions, the existing stack for Units 4/5 will be used to provide makeup air to the system. Units 004 and 005 common bypass stack height = 450 feet, exit diameter = 18.0 feet, exit temperature = 290 °F, actual volumetric flow rate = 596,012 actual cubic feet per minute (acfm). Units 006 and 007 common bypass stack height = 450 feet, exit diameter = 23.2 feet, exit temperature = 320 °F, actual volumetric flow rate = 2,975,540 acfm. }

SCOPE OF PERMIT

1. Existing Permits. This permit does not authorize any new construction or increases in allowable operating limitations or emissions limits. This permit supplements all existing valid air permits. Except as specified below, the permittee shall continue to comply with all applicable conditions from valid air construction and operation permits. [Rule 62-4.070(3), F.A.C.]

APPROVED REVISIONS AND CHANGES

The following specific conditions of previous permits are revised as indicated below. ~~Strikethrough~~ is used to denote the deletion of text. Double-underlines are used to denote the addition of text. All changes are emphasized with yellow highlight.

2. Revisions to AC17-234016:

5. The manner, nature, volume and frequency of permitted emissions, applicable emissions limiting standards, if any, and allowable emissions are listed as per FAC Rule 17-210.300(2)(a):

Airborne Contaminant Emitted	FAC Rule	Allowable Emissions (T/yr)
<u>PM</u>	<u>17-296.405(1)(b)</u>	<u>1475¹</u>
SO ₂	17-296.405(1)(c)2c	87035 ²
Objectionable Odors	17-296.320(2)	None allowed off plant property
<u>VE</u>	<u>17-296.405(1)(a)</u>	<u>40% opacity³</u>

¹Based on steady-state operating parameters, application to construct and rule: PM emissions shall not exceed 0.1 pounds per million Btu heat input.

²Based on steady-state operating parameters, application to construct and rule: SO₂ emissions shall not exceed 5.90 pounds per million Btu heat input.

³Department order dated May 12, 1988.

6. Excess emissions as stated in FAC Rule 17-210.700 shall be allowed. The steady state hourly emission rate allowable for PM listed in Specific Condition #5 shall not apply during soot blowing or load changes. However, As determined by CEMS, particulate matter emissions shall not exceed an average of 0.3 lb/MMBtu heat input, (equivalent to 1011 lb/hr allowable emissions steady state) during the 3-hours in any 24-hour period allowed by 17-210.700 of excess emissions allowed for during boiler cleaning (soot blowing) and load change. (ref. FAC rule 17-210.700(3))

12. Emissions tests are required to show compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted in accordance with the table below. Such tests shall be scheduled within 30 days after construction is completed. The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing.

<u>Pollutant</u>	<u>Test Method</u>
<u>PM</u>	<u>DEP method 1, 2, 3, and 17</u>
<u>VE</u>	<u>DEP Method 9</u>

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

The VE test shall be conducted during one of the PM test runs. Test reports shall comply with F.A.C. Rule 17-297.570, Test Reports. The Department can require special compliance tests in accordance with F.A.C. Rule 17-297.340(2). Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing.

13. Immediately upon notification of a particulate test report that fails to demonstrate compliance with the particulate emission limit of 0.1 pounds per million Btu heat input, the permittee shall take necessary steps to determine the cause of the test failure and arrange a meeting with the Department within 72 hours to discuss a settlement of the violation and a schedule for retesting when the cause of the test failure has been determined and corrected.

15. Continuous SO₂ emission monitoring 24-hour averages are required to demonstrate compliance with the standard of the Department (specific condition 5). A valid 24 hour average shall consist of no less than 18 hours of valid data capture per calendar day. In the event that valid data capture is not available, the permittee shall initiate as-fired fuel sampling to demonstrate compliance with the SO₂ emission standard. The as-fired fuel sampling shall be initiated no later than 36 hours after the permittee has verified the problem or no later than 36 hours after the end of the affected calendar day. Fuel sampling shall continue until such time as the valid data capture is restored. In lieu of as-fired fuel sampling the permittee may elect to demonstrate SO₂ emission compliance by the temporary use of a spare SO₂ emission monitor. The spare SO₂ emission monitor must be installed and collecting data in the same timeframe as required above for as-fired fuel sampling.

3. Revisions to Permit No. 0330045-005-AC:

6. Stack Opacity: The flue gas opacity from Unit 7 shall not exceed 20% based on a 6 minute block average, except for one 6 minute block per hour that shall not exceed 27%. Compliance shall be determined by data collected from the certified continuous opacity monitor or EPA Method 9, which is incorporated by reference in Chapter 62-297, F.A.C. This standard is effective on the date of the initial compliance test for particulate matter and thereafter. [Design; and 62-4.070(3), F.A.C.]

12. Nitrogen Oxides, Compliance Tests: Within 60 days after completing construction of the SCR system and bringing Unit 7 on line, the permittee shall conduct tests to demonstrate compliance with the design specification to achieve no less than an 85% reduction in the nitrogen oxide emission rate. The permittee shall concurrently test the SCR inlet and SCR outlet in accordance with EPA Method 7E as adopted by reference in Rule 62-204.800, F.A.C. Data collected during the annual NO_x RATA testing may be used to represent NO_x emissions at the SCR outlet. Alternatively, the permittee may submit data collected from the NO_x rate process monitors at the SCR inlet and SCR outlet, which are part of the ammonia injection system. The data shall be collected for at least three consecutive hours. Subsequent tests shall be conducted during each federal fiscal year (October 1st to September 30th). [Rules 62-4.070(3) and 62-297.310(7), F.A.C.]

13. Ammonia Slip, Performance Tests: Within 60 days after completing construction of the SCR system and bringing Unit 7 on line, the permittee shall conduct tests to determine the ammonia slip rate in accordance with EPA Method CTM-027 or other methods approved by EPA. Subsequent tests shall be conducted during each federal fiscal year. If tests show ammonia slip emissions are greater than the design target level specified in Condition No. 3 of this subsection, the permittee shall take corrective actions such as repair, addition of catalyst, replacement of catalyst, etc. [Rules 62-4.070(3) and 62-297.310(7), F.A.C.]

14. COMS: The permittee shall install, calibrate, operate and maintain a continuous opacity monitoring system (COMS) to demonstrate compliance with the stack opacity standard. The COMS shall monitor and record data during all periods of Unit 7 operation including startup, shutdown, malfunction or emergency conditions, but not including continuous monitoring system breakdowns, repairs, or calibration checks. *(Permitting Note: The existing COMS required by the Acid Rain program satisfies this requirement.)* [Rule 62-4.070(3), F.A.C.]

17. Quarterly Report

- a. NO_x Summary: For each calendar day during the reporting quarter, the permittee shall report the following information related to the NO_x CEMS for Unit 7:

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

- Hours of operation for Unit 7;
- Daily average NO_x emission rate, lb/MMBtu;
- 30 day average NO_x emission rate, lb/MMBtu; and
- Whether or not the day included a startup, shutdown, malfunction or bypass of the SCR.

Identify the “F” factor used for any calculations, the method of determination, and type of fuel combusted. For each day that CEMS data was not obtained for at least 18 hours of Unit 7 operation, provide a justification for not obtaining sufficient data and describe the corrective actions taken to prevent this in the future. Identify any emissions data excluded from the calculation of emission rates due to startup, shutdown, or malfunction.

- b. *Opacity Summary*: For each calendar day during the reporting quarter, the permittee shall report each 6 minute period in excess of the opacity standard.
- c. *Gas Sampling Grid (GSG)*: The permittee shall summarize any tests using the GSG that were conducted during the calendar quarter.

Each quarterly report is due within 30 days of the calendar quarter being reported.

[Rule 62 4.070(3), F.A.C.]

4. Revisions to Permit No. 0330045-023-AC:

8. Plant-Wide SO₂ Limit: The SO₂ emissions from the combined operation of Units 4, 5, 6, and 7 shall not exceed 886.0 tons during any 30-day rolling total of FGD scrubber operational days.

- a. A “FGD scrubber operational day” shall be defined as a calendar day during which one or more of the boilers operated for at least 18 hours and the FGD scrubber was operational or only being bypassed for purposes of short-term maintenance as described below.
- b. For normal operations, SO₂ emissions shall be determined by CEMS emissions data. The SO₂ mass emissions rates shall be calculated in terms of “pounds per day” for each calendar day of operation by summing the hourly mass emissions rates (lb/hour) determined from the actual heat input rates (MMBtu/hour) and the monitored emissions levels (lb/MMBtu). Initially, the actual heat input rates will be determined by fuel firing rates and heating values. The permittee shall conduct a study to determine the accuracy of the stack flow monitors and provide a written report to the Bureau of Air Regulation and the Compliance Authority. Based on the results of the study, the permittee may use the stack flow monitors to determine the actual heat input rates after providing written notification of this decision to the Bureau of Air Regulation and the Compliance Authority. Thereafter, the permittee shall use the fuel-based method as a backup method for determining the actual heat input rates.
- c. For FGD scrubber bypass operation, SO₂ emissions shall be monitored and determined in accordance with the “Crist Alternative Monitoring Plan” (File No. 07-D-AP) and Appendix E. The permittee is authorized to bypass the FGD scrubber in accordance with the following conditions.
 - 1) *Startup and Shutdown*: The permittee is authorized to bypass the FGD scrubber during the startup and shutdown of each emissions unit. The permittee may exclude SO₂ emissions collected during startup and shutdown from 30-day rolling compliance total. Although not limited, such periods of bypass are estimated to be less than 96 hours per year per unit. In addition, during startup, the permittee shall use clean fuels (natural gas and/or No. 2 fuel oil) for ignition, and shall use clean fuels to the maximum extent possible throughout the startup period. If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the clean fuels and must be used to the maximum extent possible, in accordance with 40 CFR 63, Subpart UUUUU.
 - 2) *Short-Term Maintenance*: The permittee is authorized to bypass the FGD scrubber to conduct short-

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term maintenance to correct problems with limestone-gypsum management and operational problems with the FGD system. During such periods, the permittee shall include representative SO₂ emissions rates in the 30-day rolling compliance total. Such short-term maintenance periods are not considered part of long-term maintenance (annual routine maintenance, periodic pre-planned maintenance or repair for force majeure scrubber outages).

- 3) *Long-Term Maintenance*: The permittee is authorized to bypass the FGD scrubber to conduct annual routine maintenance of the FGD scrubber system. For such periods, the permittee may exclude up to 360 hours per calendar year from the 30-day rolling compliance total. The permittee is authorized to bypass the FGD scrubber to conduct periodic pre-planned scrubber maintenance (based on best practices) and scrubber repairs due to force majeure outages. For such periods, the permittee may exclude up to an additional 360 hours per calendar year from the 30-day rolling compliance total. In addition, the permittee shall burn clean fuels to the maximum extent possible during long-term maintenance bypass operations, and shall convert to firing clean fuels as soon as practicable during force majeure outages.

The permittee shall use the protocol in 40 CFR 75 to calculate the initial representative SO₂ emissions for bypass operations. If this initial conservative estimate indicates a compliance issue, the permittee ~~shall~~ may recalculate and determine compliance using the representative SO₂ emissions based on the actual fuel sulfur content and fuel firing rate. During a FGD scrubber bypass, each unit shall remain in compliance with all other valid SO₂ emissions standards. [Rule 62-4.080(1), F.A.C.]; 40 CFR 63, Subpart UUUUU; Application No. 0330045-023-AC and Permit No. 0330045-041-AC; and Rule 62-4.080(1), F.A.C.]

12. Continuous Monitoring: Existing Units 4 - 7 are subject to the federal Acid Rain monitoring requirements for ~~opacity~~, stack gas flow rates, and emissions of CO₂, NO_x and SO₂. The permittee shall install, calibrate, operate and maintain continuous emissions monitoring systems in the new common stack to monitor and record the stack gas flow rate and emissions of CO₂, NO_x and SO₂. The new equipment shall be certified within 60 days of startup of the new wet FGD system. If the continuous opacity monitoring systems (COMS) located in the ductwork of each unit are able to record opacity during periods of normal and bypass operation, the COMS may be retained; otherwise, a new COMS shall be installed in the common scrubber stack. Unless or until an alternate sampling procedure is approved by the Department, the existing monitoring systems shall be maintained and used to demonstrate compliance with all existing emissions standards when operating in the bypass mode. [Application No. 0330045-~~015~~ 041-AC; Design; Rules 62-4.070, F.A.C. and 62-214, F.A.C.]

5. Revisions to Permit No. 0330045-029-AC:

A.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.]

A.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~~ 30-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~~ 30-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.]

A.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

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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.]

C.2. Projected Capacity: The expected maximum injection rates are 12 gallons per hour per unit of TIFI MG and 22 gallons per hour per unit of TIFI XP. [Application No. 0330045-029-AC and Rule 62-210.200(PTE), F.A.C.]

6. Revisions to Permit No. 0330045-032-AC:

2. Opacity Standards: After completing construction of the rebuilt ESP and satisfactorily conducting the initial particulate matter test, the stack opacity shall not exceed 20% based on a six-minute average except for one six-minute average per hour of not more than 27% opacity during normal operation, as determined at the common FGD stack. [Rule 62-296.405(1)(a) 62-4.070(3), F.A.C.]

6. CAM Plan: Unit 6 is subject to the Compliance Assurance Monitoring (CAM) requirements. Emissions monitoring and analysis procedures or test methods specified by applicable requirements including 40 CFR 64, Compliance Assurance Monitoring, adopted and incorporated by reference at subsection 62-204.800, F.A.C. The permittee shall update the current CAM plan as necessary when the Title V is revised.

7. COMS: The permittee shall continue to operate and maintain the existing continuous opacity monitoring system (COMS) to demonstrate compliance with the stack opacity standard for Unit 6.

7. Revisions to Permit No. 0330045-036-AC:

3. A plant wide NO_x limit was established through an agreement between Gulf Power and the Department on August 28, 2002. This limit was established as an enforceable restriction in Specific Condition 3.B.2. of permit No. 0310045-005-AC. This requirement was later revised by Specific Condition 3. of permit No. 0330045-017-AC to provide clarification of when emissions related to Unit 7 SCR bypass operations could be excluded for the compliance averages. To clarify that the limit is changing to no longer allow data exclusions for Unit 7 SCR bypass operations and to reflect the installation of an SCR on Unit 6, Specific Condition 3. of permit No. 0310045-017-AC is revised as follows:

Plant Wide NO_x Limit: Emissions of nitrogen oxides (NO_x) from the combined operation of Units 4, 5, 6, and 7 shall not exceed 0.2 lb/MMBtu heat input based on a 30-day rolling average. This limit shall apply when either Unit 6 or 7 is on line. The plant wide daily NO_x emission rate shall be determined by the following equation:

$$\text{Plant Wide Daily MMBtu Weighted NO}_x \text{ Emission Rate} = \frac{\sum_{\text{Units 4, 5, 6, 7}} [(\text{Unit \# daily MMBtu}) \times (\text{Unit \# daily NO}_x \text{ CEMS Rate})]}{\sum_{\text{Units 4, 5, 6, 7}} (\text{Unit \# daily MMBtu})}$$

The "Unit # daily MMBtu" shall be determined by the daily as burned fuel analysis and the fuel fired for each unit. The "Unit # daily NO_x CEMS Rate" shall be determined by the daily average of NO_x CEMS data for each unit and reported in terms of "lb/MMBtu heat input". The plant wide daily NO_x emissions rate shall be determined each day regardless of the operating status for Units 6 or 7. The plant wide 30-day rolling NO_x average shall be determined for each 30 sequential Unit 6 or 7 operating days, which need not be consecutive. A Unit 6 or 7 operating day means any calendar day that either Unit 6 or 7 operates a minimum of 18 hours. The Unit 6 or 7 daily NO_x CEMS rate may consist of less than 18 hours of data if this is due to: CEMS malfunction or invalid CEMS data. The plant wide NO_x emission standard shall be achieved by utilizing the SCR systems for Units 6 and 7 and the SNCR systems for Units 4 and 5.

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[Paragraphs 2, 3 and Exhibit B of the Agreement; Permit Nos. 0330045-005 AC & 0330045-017 AC; and, Application No. 0330045-036 AC]

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 ~~either 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.]
8. MATS Sulfur Dioxide (SO₂) Limit. Except for excess emissions due to malfunctions, SO₂ emissions for Units 4-7 shall not exceed 0.20 pounds per million Btu heat input, or 1.5 pounds per megawatt-hour, based on a 30-boiler operating day rolling average. [40 CFR 63, Subpart UUUUU and Application No. 0330045-041-AC]
9. Natural Gas Bypass Operations: In order to establish alternative monitoring and reporting requirements to 40 CFR 63, Subpart UUUUU (MATS) during bypass events when firing natural gas, EPA's approval of an Alternate Sampling Procedure dated December 9, 2015 is hereby incorporated as Appendix E to this permit. [40 CFR 63.8(b) and EPA Alternative Sampling Procedure Approval Letter to Gulf Power Company dated December 9, 2015]