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BUREAU OF AIR REGULATION

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March 26, 2004

Mr. Michael Halpin, P.E.
Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Cedar Bay Title V Permit Renewal Request for Additional Information
File No. 0310337-007-AV

Dear Mr. Halpin:

Pursuant to your letter dated March 2, 2004 and in order to continue processing Cedar Bay's Title V permit renewal, Cedar Bay submits the following documents:

- A revised CAM Plan
- A revised CAM Non-Applicability Determination for Material Handling Units

CAM Plan for Boilers A, B, and C (EU 001, 002 & 003)

Cedar Bay's CAM plan has been revised after a review and additional analyses of COM data and after a review of other CAM plans. Specifically, Table CAM-2. Monitoring Approach Indicator Range and Data Representativeness and Table CAM-3. Corrective Action Procedures Summary, Corrective Action have been modified. The revised CAM plan was e-mailed to the Department on March 25, 2004.

Material Handling Units with Baghouses

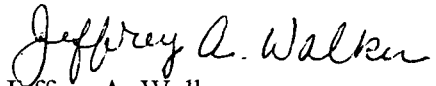
Pursuant to the Department's request, the CAM non-applicability determination for Cedar Bay's Material Handling Emission Units were recalculated using applicable AP-42 emission factors. The revised non-applicability determination was e-mailed to the Department on March 24, 2004.

If there are any questions or if any additional information is needed, please do not hesitate to contact me via phone or e-mail.

March 26, 2004

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Sincerely,

A handwritten signature in cursive script that reads "Jeffrey A. Walker".

Jeffrey A. Walker

Environmental Manager, Cedar Bay Plant

Martin Kreft, Cedar Bay
AJ Jablonowski, Earthtech
Tom Fromm, Bethesda

From 40 CFR 64, a facility is subject to Compliance Assurance monitoring conditions if the following two conditions are met:

1. Emissions unit uses a control device to achieve compliance
and
2. Potential precontrol emissions of applicable pollutant are at least 100 percent of the major source amount.

This spreadsheet documents which sources/pollutants are subject to the CAM rule at Cedar Bay. Calculations are performed two ways - based on EPA AP-42 factors for particulate generation, and based on airflow and permit limits for particulate emission rate.

Emission Source	Potential Emiss. pre-control tpy	Calc. Type	Major Source Threshold, tpy	Subject to CAM?	Notes	EU No.
Coal Crusher Dust Collector	28.8	AP-42 Drop & Crush	100	No	Conservatively assume crushing emissions from both collectors	6
Coal Silo Area Dust Collector	28.8	AP-42 Drop & Crush	100	No		7
Pulverized Limestone Feeder 1A1	0.18	AP-42 Drop	100	No		31
Pulverized Limestone Feeder 1A2	0.18	AP-42 Drop	100	No		31
Pulverized Limestone Feeder 1B1	0.18	AP-42 Drop	100	No		31
Pulverized Limestone Feeder 1B2	0.18	AP-42 Drop	100	No		31
Pulverized Limestone Feeder 1C1	0.18	AP-42 Drop	100	No		31
Pulverized Limestone Feeder 1C2	0.18	AP-42 Drop	100	No		31
ADS Storage Bin - 1	0.71	AP-42 Drop	100	No	AP-42 calculated emissions (0.6 tpy) less than PTE after control	9
ADS Storage Bin - 2	0.75	AP-42 Drop	100	No	AP-42 calculated emissions (0.6 tpy) less than PTE after control	25
Bed Ash Hopper	0.14	AP-42 Drop	100	No		10
Dry Ash Rail Car Load Out	1.85	AP-42 Drop	100	No		30
Fly Ash Silo Bin Vent	1.85	AP-42 Drop	100	No		33
Bed Ash Silo Bin Vent	0.46	AP-42 Drop	100	No	AP-42 calculated emissions (0.41 tpy) less than PTE after control	32
Bed Ash Separator/Collector	0.14	AP-42 Drop	100	No		11
Fly Ash Separator/Collector-1	1.85	AP-42 Drop	100	No		12
Fly Ash Separator/Collector-2	1.85	AP-42 Drop	100	No		26

* for sources where the calculated potential emission rate before control is lower than the permit limit after control, the permit limit after control is used as the estimate for the potential emission rate before control.

CEDAR BAY
PARTICULATE EMISSIONS FROM DROP OPERATIONS

DROP OPERATION EMISSIONS					
Coal Crusher Dust Collector					
			PM-30	PM-10	
particle size multiplier	k		0.74	0.35	
mean wind speed	U	miles/hour	5	5	(indoors)
material moisture content	M	%	7.26	7.26	
Emission factor		E lb/ton/drop	0.0004	0.0002	
Amount dropped		ton/yr	1,135,600	1,135,600	
Number of times dropped			2	2	
Emissions		pounds/year	885	418	
		tons/year	0.44	0.21	
Coal Silo Area Dust Collector					
			PM-30	PM-10	
particle size multiplier	k		0.74	0.35	
mean wind speed	U	miles/hour	5	5	(indoors)
material moisture content	M	%	7.26	7.26	
Emission factor		E lb/ton/drop	0.0004	0.0002	
Amount dropped		ton/yr	1,135,600	1,135,600	
Number of times dropped			2	2	
Emissions		pounds/year	885	418	
		tons/year	0.44	0.21	
Pulverized Limestone Feeders, typical of 6					
			PM-30	PM-10	
particle size multiplier	k		0.74	0.35	
mean wind speed	U	miles/hour	12	12	(outdoors)
material moisture content	M	%	2	2	
Emission factor		E lb/ton/drop	0.0074	0.0035	
Amount dropped		ton/yr	24,605	24,605	
Number of times dropped			2	2	
Emissions		pounds/year	364	172	
		tons/year	0.18	0.09	
ADS Storage Bin, typical of 2					
			PM-30	PM-10	

CEDAR BAY
PARTICULATE EMISSIONS FROM DROP OPERATIONS

particle size multiplier	k		0.74	0.35	
mean wind speed	U	miles/hour	12	12	(outdoors)
material moisture content	M	%	2	2	
Emission factor		E lb/ton/drop	0.0074	0.0035	
Amount dropped		ton/yr	73,814	73,814	
Number of times dropped			2	2	
Emissions		pounds/year	1091	516	
		tons/year	0.55	0.26	
Bed Ash Hopper					
			PM-30	PM-10	
particle size multiplier	k		0.74	0.35	
mean wind speed	U	miles/hour	12	12	(outdoors)
material moisture content	M	%	3	3	
Emission factor		E lb/ton/drop	0.0042	0.0020	
Amount dropped		ton/yr	34,068	34,068	
Number of times dropped			2	2	
Emissions		pounds/year	285	135	
		tons/year	0.14	0.07	
Dry Ash Rail Car Load Out					
			PM-30	PM-10	
particle size multiplier	k		0.74	0.35	
mean wind speed	U	miles/hour	12	12	(outdoors)
material moisture content	M	%	2	2	
Emission factor		E lb/ton/drop	0.0074	0.0035	
Amount dropped		ton/yr	249,832	249,832	
Number of times dropped			2	2	
Emissions		pounds/year	3693	1747	
		tons/year	1.85	0.87	
Fly Ash Silo Bin Vent					
			PM-30	PM-10	
particle size multiplier	k		0.74	0.35	
mean wind speed	U	miles/hour	12	12	(outdoors)
material moisture content	M	%	2	2	
Emission factor		E lb/ton/drop	0.0074	0.0035	
Amount dropped		ton/yr	249,832	249,832	
Number of times dropped			2	2	
Emissions		pounds/year	3693	1747	
		tons/year	1.85	0.87	
Bed Ash Silo Bin Vent					
			PM-30	PM-10	
particle size multiplier	k		0.74	0.35	
mean wind speed	U	miles/hour	12	12	(outdoors)
material moisture content	M	%	3	3	
Emission factor		E lb/ton/drop	0.0042	0.0020	
Amount dropped		ton/yr	34,068	34,068	
Number of times dropped			2	2	
Emissions		pounds/year	285	135	
		tons/year	0.14	0.07	

CEDAR BAY
PARTICULATE EMISSIONS FROM DROP OPERATIONS

Bed Ash Separator/Collector			PM-30	PM-10		
particle size multiplier	k		0.74	0.35		
mean wind speed	U	miles/hour	12	12	(outdoors)	
material moisture content	M	%	3	3		
Emission factor	E	lb/ton/drop	0.0042	0.0020		
Amount dropped		ton/yr	34,068	34,068		
Number of times dropped			2	2		
Emissions		pounds/year	285	135		
		tons/year	0.14	0.07		

CEDAR BAY
PARTICULATE EMISSIONS FROM DROP OPERATIONS

Fly Ash Separator/Collector (typical of 2)					
			PM-30	PM-10	
particle size multiplier	k		0.74	0.35	
mean wind speed	U	miles/hour	12	12	(outdoors)
material moisture content	M	%	2	2	
Emission factor	E	lb/ton/drop	0.0074	0.0035	
Amount dropped		ton/yr	249,832	249,832	
Number of times dropped			2	2	
Emissions		pounds/year	3693	1747	
		tons/year	1.85	0.87	

CEDAR BAY
PARTICULATE EMISSIONS FROM CRUSHING OPERATIONS

MAXIMUM POTENTIAL MATERIAL QUANTITIES	
3189	MMBTU/HR MAXIMUM FIRING RATE
27,935,640	MMBTU/YR MAXIMUM FIRING RATE
12,300	BTU/LB average coal heat rate from 2003 as-fired coal analyses
1,135,595	TON/YR ESTIMATED MAXIMUM SOLID FUEL FIRING RATE
<i>Round To:</i>	
1,135,600	TON/YR TOTAL ESTIMATED MAXIMUM SOLID FUEL FIRING RATE
0.13	LB LIMESTONE/LB SOLID FUEL FIRED, ESTIMATED MAXIMUM
147,628	TON/YR TOTAL ESTIMATED MAXIMUM LIMESTONE USE RATE
12%	OF SOLID FUEL BECOMES ASH
100%	OF LIMESTONE BECOMES ASH
283,900	TONS/YEAR ESTIMATED MAXIMUM ASH
88%	OF ASH IS FLYASH
249,832	TONS/YEAR ESTIMATED MAXIMUM FLYASH
34,068	TONS/YEAR ESTIMATED MAXIMUM BED ASH

Compliance Assurance Monitoring Plan for CFB Boilers at the Cedar Bay Generating Plant FDEP Facility ID 0310337

Prepared for:



Cedar Bay Generating Co., L.P.
P.O. Box 26324
Jacksonville Florida 32226

Facility Location:

9640 Eastport Road
Jacksonville Florida 32226

Prepared By:

Earth Tech
196 Baker Avenue
Concord, Massachusetts 01742

January 2004

Earth Tech Project No. 66645

COMPLIANCE ASSURANCE MONITORING REQUIREMENTS

This CAM Plan addresses the Compliance Assurance Monitoring (CAM) requirements of 40 CFR 64, as they apply to the Circulating Fluidized Bed (CFB) boilers at the Cedar Bay Generating Plant. The Title V Renewal Application Text (separate document, *Cedar Bay Title V.doc*) addresses a source-by-source CAM applicability review, and documentation of potential emissions calculations. .

1 CAM Submittal Guidance and Approach

For the CFB boilers, the existing Continuous Opacity Monitoring System (COMS) will be used to demonstrate compliance. Cedar Bay has prepared a review of available data under normal operation to determine the representative stack opacity of each unit. The results of this review indicate that 10% opacity during non-startup or shutdown periods is atypical and may indicate a potential problem with the baghouse.

3. □ Documentation of Regulatory Compliance

This CAM Plan meets the requirements of 40 CFR 64.4. Each regulatory requirement is repeated below, along with a description of how the CAM Plan meets the requirement.

Table CAM-1: Compliance with 40 CFR 64.4

<u>Requirement</u>	<u>Compliance Description</u>
<p>64.4 (a) The owner or operator shall submit to the permitting authority monitoring that satisfies the design requirements in § 64.3. The submission shall include the following information:</p> <p style="padding-left: 20px;">3. □ The indicators to be monitored to satisfy §§ 64.3(a)(1)-(2);</p> <p>(2) The ranges or designated conditions for such indicators, or the process by which such indicator ranges or designated conditions shall be established;</p> <p>(3) The performance criteria for the monitoring to satisfy § 64.3(b); and</p> <p>(4) If applicable, the indicator ranges and performance criteria for a CEMS, COMS or PEMS pursuant to § 64.3(d).</p>	<p><i>Indicators for the CFB Boilers are: opacity. Ranges and performance criteria are listed in Section 3. The CFB Boilers have an associated COMS; the indicator range and performance criteria are listed in Section 3..</i></p>
<p>64.4 (b) As part of the information submitted, the owner or operator shall submit a justification for the proposed elements of the monitoring. If the performance specifications proposed to satisfy § 64.3(b)(2) or (3) include differences from manufacturer recommendations, the owner or operator shall explain the reasons for the differences between the requirements proposed by the owner or operator and the manufacturer's recommendations or requirements.</p>	<p><i>The proposed elements of monitoring are justified because they use the COMS. There are no differences between the requirements proposed and the manufacturers' recommendations and/or requirements.</i></p>

Requirement	Compliance Description
<p>64.4 (b) (cont'd) The owner or operator also shall submit any data supporting the justification, and may refer to generally available sources of information used to support the justification (such as generally available air pollution engineering manuals, or EPA or permitting authority publications on appropriate monitoring for various types of control devices or capture systems).</p>	<p><i>Cedar Bay supplies summaries of opacity readings as part of the quarterly COMS/Emission reporting, and has provided annual particulate matter stack test reports.</i></p>
<p>64.4 (b) (cont'd) To justify the appropriateness of the monitoring elements proposed, the owner or operator may rely in part on existing applicable requirements that establish the monitoring for the applicable pollutant-specific emissions unit or a similar unit.</p>	<p><i>The CAM Plan relies in part on the approved CAM plan for JEA Northside & St. Johns River Power Park (0310045.011AV.Appendix.CAM.SJRPP.NGS.doc) and Lakeland McIntosh (1050004.016.AV.F.zip), available through www.dep.state.fl.us/air/permitting/airpermits/AirSearch_ltd.asp.</i></p>
<p>64.4 (b) (cont'd) If an owner or operator relies on presumptively acceptable monitoring, no further justification for the appropriateness of that monitoring should be necessary other than an explanation of the applicability of such monitoring to the unit in question, unless data or information is brought forward to rebut the assumption. Presumptively acceptable monitoring includes:</p> <p>3. <input type="checkbox"/> Presumptively acceptable or required monitoring approaches, established by the permitting authority in a rule that constitutes part of the applicable implementation plan required pursuant to title I of the Act, that are designed to achieve compliance with this part for particular pollutant-specific emissions units;</p> <p>(2) Continuous emission, opacity or predictive emission monitoring systems that satisfy applicable monitoring requirements and performance specifications as specified in § 64.3(d);</p> <p>(3) Excepted or alternative monitoring methods allowed or approved pursuant to Part 75 of this chapter;</p> <p>(4) Monitoring included for standards exempt from this part pursuant to § 64.2(b)(1)(i) or (vi) to the extent such monitoring is applicable to the performance of the control device (and associated capture system) for the pollutant-specific emissions unit; and</p> <p>(5) Presumptively acceptable monitoring identified in guidance by EPA. Such guidance will address the requirements under § 64.4(a), (b), and (c) to the extent practicable.</p>	<p><i>To be conservative, the CAM plan includes justification that the monitoring is acceptable.</i></p>
<p>64.4 (c) (1) Except as provided in paragraph (d) of this section, the owner or operator shall submit control</p>	<p><i>The most recent compliance test results for the CFB Boilers were submitted to the Department</i></p>

<u>Requirement</u>	<u>Compliance Description</u>
<p>device (and process and capture system, if applicable) operating parameter data obtained during the conduct of the applicable compliance or performance test conducted under conditions specified by the applicable rule. If the applicable rule does not specify testing conditions or only partially specifies test conditions, the performance test generally shall be conducted under conditions representative of maximum emissions potential under anticipated operating conditions at the pollutant-specific emissions unit. Such data may be supplemented, if desired, by engineering assessments and manufacturer's recommendations to justify the indicator ranges (or, if applicable, the procedures for establishing such indicator ranges). Emission testing is not required to be conducted over the entire indicator range or range of potential emissions.</p>	<p><i>on April 17, 2003.</i></p>
<p>(2) The owner or operator must document that no changes to the pollutant specific emissions unit, including the control device and capture system, have taken place that could result in a significant change in the control system performance or the selected ranges or designated conditions for the indicators to be monitored since the performance or compliance tests were conducted.</p>	<p><i>Cedar Bay hereby documents that no changes to the CFB Boilers, have taken place that could result in a significant change in the control system performance or the selected ranges or designated conditions for the indicators to be monitored since the performance or compliance tests were conducted.</i></p>
<p>64.4 (d) If existing data from unit-specific compliance or performance testing specified in paragraph (c) of this section are not available, the owner or operator:</p> <p>3. <input type="checkbox"/> Shall submit a test plan and schedule for obtaining such data in accordance with paragraph (e) of this section; or</p> <p>(2) May submit indicator ranges (or procedures for establishing indicator ranges) that rely on engineering assessments and other data, provided that the owner or operator demonstrates that factors specific to the type of monitoring, control device, or pollutant-specific emissions unit make compliance or performance testing unnecessary to establish indicator ranges at levels that satisfy the criteria in § 64.3(a).</p>	<p><i>Not applicable.</i></p>
<p>64.4 (e) If the monitoring submitted by the owner or operator requires installation, testing, or other necessary activities prior to use of the monitoring for purposes of this part, the owner or operator shall include an implementation plan and schedule for installing, testing and performing any other appropriate activities prior to use of the monitoring. The implementation plan and schedule shall provide for use of the monitoring as expeditiously as practicable after approval of the</p>	<p><i>The COM systems are functional and in use. Initial COM Certifications submitted.</i></p>

<u>Requirement</u>	<u>Compliance Description</u>
monitoring in the part 70 or 71 permit pursuant to § 64.6, but in no case shall the schedule for completing installation and beginning operation of the monitoring exceed 180 days after approval of the permit.	
64.4 (f) If a control device is common to more than one pollutant-specific emissions unit, the owner or operator may submit monitoring for the control device and identify the pollutant-specific emissions units affected and any process or associated capture device conditions that must be maintained or monitored in accordance with § 64.3(a) rather than submit separate monitoring for each pollutant-specific emissions unit.	<i>The affected control devices are not common to more than one pollutant-specific emissions unit. Therefore, this paragraph does not apply.</i>
64.4 (g) If a single pollutant-specific emissions unit is controlled by more than one control device similar in design and operation, the owner or operator may submit monitoring that applies to all the control devices and identify the control devices affected and any process or associated capture device conditions that must be maintained or monitored in accordance with § 64.3(a) rather than submit a separate description of monitoring for each control device.	<i>The affected pollutant-specific emissions units do not have multiple control devices. Therefore, this paragraph does not apply.</i>

3. Proposed CAM Text

The following tables include proposed language for inclusion into the renewed Title V permit.

Table CAM-2. Monitoring Approach – CFB Boilers

	Compliance Indicator
I. Indicator	Duct opacity.
Measurement Approach	Continuous opacity monitoring system (COMS).
II. Indicator Range	An excursion is defined as 5 consecutive 6-minute averages of opacity greater than 10.0%. (other than startup and shutdown periods).
III. Performance Criteria	

	Compliance Indicator
A. Data Representativeness	Based on available data under normal operation, the representative stack opacity of each unit is in the range of 3 to 7%. A 50% average opacity above 7% during non-startup or shutdown periods is atypical and may indicate a potential problem with the baghouse.
B. Verification of Operational Status	Annual testing during normal operation is used to verify particulate mass loading. The COM system is audited quarterly.
C. QA/QC Practices and Criteria	Install and operate COMS according to 40 CFR Part 60 Appendix B, Performance Specification 1 and general provisions 60.13.
D. Monitoring Frequency	Continuous.
E. Data Collection Procedures	The COMS collects data that are reduced to 6-minute averages. Consecutive 6-minute averages are tracked through the Distributed Control System (DCS) and CEM software.
F. Averaging Period	Five consecutive 6-minute averages.

Table CAM-3. Corrective Action Procedures Summary – CFB Boilers

	Description
I. Initiation of Corrective	Corrective action shall be initiated with the discovery of 5

Action Procedures	consecutive 6-minute averages of opacity greater than 10% and that defines an excursion (as defined in Table CAM-2). The plant staff that made the discovery shall immediately notify the shift supervisor or responsible official. This action describes a corrective action trigger.
II. Time of Completion of Corrective Action Procedures	As soon as practically possible.
III. Corrective Action	<p>The shift supervisor or responsible official will implement the following as a corrective action.</p> <p>Procedures, as presented in the O&M Plan, include the following alternatives that will be initiated as necessary.</p> <ul style="list-style-type: none"> • Perform operational diagnostics to identify cause of the excursion. • If operational diagnostics indicate a malfunction of the baghouse, the reason for failure will be identified. • If isolation of the compartment can be accomplished to reduce opacity below the excursion level, such measures will be undertaken. • In the event of the need for the unit shutdown to bring opacity to below excursion levels, the task will be undertaken based on procedures described in the O&M Plan for the facility. <p>Regardless of the failure mechanism, baghouse operation will be restored such that the cause of excursion is identified and appropriate actions taken to ensure opacity below excursion levels.</p>

4. CAM Justification

1. Background

The pollutant-specific emission units are the Circulating Fluidized Bed (CFB) boilers, which fires coal (and oil and pet coke) to generate electricity and steam. It is controlled by a fabric filter baghouse, which filters approximately 300,000 dscfm of air from each CFB Boiler.

There are three CFB boilers. This CAM submission applies to all three boilers.

2. Rationale for Selection of Performance Indicators

The COMS was selected as the performance indicator because it is indicative of particulate emission rate. Although not a direct measurement of particulate emissions, opacity monitors have been used for some time to provide continuous assurance of good operation of particulate emission control systems. When the baghouse is operating properly, the opacity from the exhaust will be within the current permit limits. Any increase in visible emissions indicates reduced performance of a particulate control device, therefore, the presence of visible emissions is used as a performance indicator.

The COMS was also selected to provide consistency with the existing monitoring program as implemented through the PSD permit and the Title V permit.

3. Rationale for Selection of Indicator Ranges

The selected indicator range is an opacity reading greater than 10%, for five consecutive 6-minute averages. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. This indicator range was selected based on an excursion level 50% above the representative stack opacity based on available data under normal operation.

The plant environmental manager conducted a review of the opacity readings during January-December 2003, and checked representative data against operation and maintenance logs. The customary range of opacity for all three boilers is 3-7% opacity, with occasional 9% & 10% (and 11%) opacity values. These most likely happened after a compartment was returned to service after having been isolated and cleaned. The overall typical opacity range of 3-10% covers all methods of operation, including boiler load change, base loaded operation and periods of soot blow. As Cedar Bay normally operates base-loaded, this is the vast majority of the operational data.