

Final Determination

Cedar Bay Cogeneration, Inc.
Duval County, Florida

Construction Permit No.
PSD-FL-137A

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

November 16, 1993

Final Determination

Cedar Bay Cogeneration, Inc.

PSD-FL-137A

Air permit PSD-FL-137 was issued to the Cedar Bay Cogeneration Project (the Project) of AES/Cedar Bay, Inc. on March 28, 1991, following review by the Division of Air Resources Management of the permit application (part of the Power Plant Siting application) and following certification by the Governor and Cabinet siting as the Siting Board under the Power Plant Siting Act. That permit was issued based on a demonstration by the applicant that the Project would satisfy the requirements of all applicable air regulations.

After questions were raised about the applicant's intention to construct and operate the Project in conformance with the conditions of certification (and air permit PSD-FL-137) and appropriate findings were made, the Siting Board instituted proceedings under the Power Plant Siting Act to modify the conditions of certification for the Project. AES Cedar Bay, Inc., and Seminole Kraft Corporation v. State of Florida Department of Environmental Regulation, DOAH Case No. 88-5740. Those proceedings culminated in the execution of a Settlement Stipulation on April 13, 1993, by the Parties in the modification proceedings which included the Florida Department of Environmental Protection (Department). In that Settlement Stipulation, the Parties agreed to recommend to the Siting Board that it modify the Conditions of Certification for the Project to include, among other things, more stringent emission limitations. On May 11, 1993, the Siting Board followed that recommendation and adopted an order modifying the conditions of certification.

Paragraph 23 of that Settlement Stipulation calls for an amendment of the original air permit (PSD-FL-137) for the Project to reflect the modifications that are applicable to the Project's air permit. Consistent with the terms of the Settlement Stipulation and in response to a request by the permittee, the CBC, Inc. (the new corporate name for the permittee), the Department has determined that the original air permit should be revised to reflect the changes noted in the Settlement Stipulation. On September 24, 1993, the Department sent a proposed revised air permit (PSD-FL-137A) to EPA, recommending that it officially revise the original air permit to incorporate these changes. Since EPA granted the Department full delegation of PSD permitting authority for Power Plants by letter dated October 26, 1993, EPA's response to the Department dated November 3, 1993, recommended that the Department issue the revised air permit.

The key technical changes to the original air permit, which will result in substantial emission reductions from the Project, are as follows:

- A. Lower the limitations applicable to the emissions from the circulating fluidized bed boilers (CFBs) of SO₂, NO_x, CO, PM, PM-10, H₂SO₄, fluorides, lead, mercury, and beryllium consistent with the Conditions of Certification.
1. The restrictions on the sulfur content of the coal fired in the CFBs have been tightened, and the CBC will make operational changes in the limestone injection system to comply with the lower emission limitations for SO₂ and other acid gases.
 2. SNCR will be added to the CBCP to augment the low NO_x performance of the CFBs, and an emission limitation for ammonia has been added.
 3. Enhanced combustion management will achieve lower CO emissions.
 4. Operational changes have been incorporated for the flue gas fabric filters to achieve lower PM emission limitations.
 5. Lower emission limitations are now possible for trace elements with this improved baghouse performance and revised emission factors.
 6. New technologies will be tested for additional mercury removal.
- B. Provide for compliance with the CFBs' opacity requirements and emission limitations for SO₂, CO, and NO_x to be determined using Continuous Emission Monitors as well as stack tests.
- C. Include permission for --
1. Two of the CFBs to burn short fiber recycle rejects from Seminole Kraft Corporation (SKC).
 2. The CFBs to operate at a furnace heat load below 70%.
 3. An increase in the use of fuel oil during the CFBs' start-ups from 0.16 million gals/yr to 1.9 million gals/yr.
 4. Reduce the allowable sulfur content of the fuel oil used in the CFBs during start-up to 0.05%, by weight.
- D. For the limestone dryers --
1. Decrease their allowable hours of operation.
 2. Reduce the allowable sulfur content of the fuel oil used in them to 0.05%, by weight.
- E. For other sources in the material handling and treatment area --
1. Reduce the allowable grain loadings by a factor of 10 for the point sources controlled with baghouses and by a factor of 3 for the point sources controlled with wet control systems.
 2. Rely on compliance tests based on visible emissions and grain loadings.

This recommendation is also based on the Department's findings that these emission reductions will in turn reduce the air quality impacts from the Project. In February of this year, ENSR submitted to the Department its "CBCP Air Quality Analysis;" and in March of this year, a number of replacement pages for this report were filed with the Department. ENSR's work shows (1) regional improvements in air quality with respect to the CBCP as originally certified and with respect to SKC's existing power and bark boilers and (2) some increment expansions in the CBCP's significant impact area. These comparisons hold even when SKC's new package boilers are added to the impacts of the CBCP.

Accordingly, and as the Department reported in its March 25, 1993 staff report on the Project, the Project complies with all air quality requirements. Specifically, the CBCP will continue to comply with applicable PSD requirements: (1) the control technology planned for the CBCP will satisfy BACT requirements for all pollutants subject to new source review; (2) the emissions from the CBCP will not cause or contribute to a violation of the ambient standards or the PSD increments; (3) the CBCP will not have an adverse impact on the air quality related values of any class I area; (4) the CBCP will not adversely affect visibility, soils, or vegetation having significant commercial or recreational value; and, (5) analyses show that any growth associated with the CBCP will not have significant air quality impacts.

Similarly, ENSR's Report indicates that the Project clearly continues to comply with applicable ozone nonattainment requirements: (1) the Project will satisfy the LAER requirement for VOCs; (2) the Project's VOC emissions will be more than offset by the shutdown of SKC's bark and power boilers; and, (3) these offsets will result in a net air quality benefit. Finally, CBC, Inc. does not have any sources in Florida that are out of compliance with their air quality requirements; and Florida has an effective SIP for ozone.

That the Project satisfies all applicable requirements is also reflected in paragraph 2 of the Settlement Stipulation and in the final action taken by the Siting Board on the Conditions of Certification for the CBCP on May 11, 1993.

Under EPA's guidance on permit modifications, changes that do not involve increases in source emissions or in air quality impacts may be considered permit "amendments," which may be accomplished through simple administrative action without further public review or proceedings. (United States Environmental Protection Agency, Office of Air Quality Planning and Standards, Revised Draft Policy on Permit Modifications and Extensions (July 5, 1985) at p. 11.) No increases in emissions or air quality impacts will occur for the Project. Accordingly, the Department finds that there is no need for public notice or comment prior to revising the original air permit PSD-FL-137 (PSD-FL-137A) consistent with the final determination.

Because EPA Method 29 is not a Department approved test method for mercury and was not an approved test method in the previously issued construction permit PSD-FL-137, the test method has been deleted from Specific Condition No. II.A.8.e.(15). If the method is the desired method for testing for mercury over the approved EPA Method 101A, the method may be requested pursuant to Rule 17-297.620, Florida Administrative Code, Exceptions and Approval of Alternate Procedures and Requirements.

Since all pending controversies and hearings have been resolved and the modification of Certification has been finalized, it is recommended that this proposed final permit revision, No. PSD-FL-137A, be approved and signed.



Lawton Chiles
Governor

Florida Department of Environmental Protection

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

Virginia R. Wetherell
Secretary

PERMITTEE:
Cedar Bay Cogeneration, Inc.
7475 Wisconsin Avenue
Bethesda, Maryland 20814-3422

Permit Number: PSD-FL-137A
County: Duval
Latitude/Longitude: 30°25'21"N
81°36'23"W
Project: Cedar Bay Cogeneration
Project

This air permit is issued for the Cedar Bay Cogeneration Project (CBCP) under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 17-210 through 297 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department of Environmental Protection (Department) and specifically described as follows:

This air permit is for the installation of the CBCP, an integrated cogeneration power plant complex at the existing Seminole Kraft Corporation (SKC) facility located in Jacksonville, Florida. The power complex will be owned by Cedar Bay Cogeneration, Inc., and consist of: three circulating fluidized bed (CFB) boilers, whose principal fuel will be coal; the associated coal, ash, and other material handling equipment; a cooling tower; and, two limestone dryers.

The three CFB boilers, each rated at a maximum of 3,189 MMBtu/hr heat input, will fire fuel made up largely or exclusively of coal, with the possibility that two CFBs will fire some short fiber recycle rejects from the SKC facility. The boilers will generate steam to produce power from a turbine generator set. The cogeneration facility will generate electricity for sale to Florida Power & Light as well as process steam for the SKC facility.

Nitrogen oxides will be controlled by selective non-catalytic reduction and good combustion characteristics, which are an inherent part of the CFB technology. Sulfur dioxide will be controlled by limiting the average annual sulfur content of coal to 1.2%, by weight, and the inherent scrubbing provided by the CFB technology; also, the No. 2 fuel oil, which will be fired by the CFB auxiliary fuel burners (normally only for startup) and by other process equipment, will be limited to a maximum sulfur content of 0.05%, by weight. Particulate matter will be controlled with fabric filters.

The existing SKC facility is located at 9469 East Port Road, Jacksonville, Duval County, Florida. UTM coordinates of the site are: Zone 17, 441.8 km E and 3,365.6 km N.

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The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Power Plant Site Certification package PA 88-24 and its associated attachments dated January 19, 1990.
2. Letter from EPA dated March 27, 1991.
3. DER's Final Determination dated March 28, 1991.
4. Settlement Stipulation dated April 13, 1993, in re: Power Plant Site Certification of Cedar Bay Cogeneration Project, PA-88-24, DOAH Case No. 88-5740, OGC Case No. 88-1089.
5. Final Order approving Modification of Certification dated May 11, 1993, in re: Power Plant Site Certification of Cedar Bay Cogeneration Project, PA-88-24, DOAH Case No. 88-5740, OGC Case No. 88-1089.
6. Mr. Patrick Tobin's letter dated October 26, 1993.
7. Ms. Jewell A. Harper's letter dated November 3, 1993.
8. DEP's Final Determination dated November 16, 1993.

I. GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, 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 403.087(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 the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

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GENERAL CONDITIONS cont.:

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 F.S. and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and,
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. A description of and cause of non-compliance; and,
- b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

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

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GENERAL CONDITIONS cont.:

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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 F.S. or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

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

11. This permit is transferable only upon Department approval in accordance with Rules 17-4.120 and 17-730.300, 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:

- (x) Determination of Best Available Control Technology (BACT)
- (x) Determination of Prevention of Significant Deterioration and Nonattainment Areas NSR
- (x) Compliance with New Source Performance Standards (NSPS; Subpart Da)

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.

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c. Records of monitoring information shall include:

- The date, exact place, and time of sampling or measurements;
- The person responsible for performing the sampling or measurements;
- The dates analyses were performed;
- The person responsible for performing the analyses;
- The analytical techniques or methods used; and,
- 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.

II. SPECIFIC CONDITIONS:

General: The construction and operation of Cedar Bay Cogeneration Project (CBCP) shall be in accordance with all applicable provisions of Chapters 17-210 through 17-297, F.A.C. In addition to the foregoing, CBCP shall comply with the following conditions as indicated, which reflect the conditions of the Modification of Certification dated May 11, 1993:

A. Emission Limitations for CBCP Boilers

1. Fluidized Bed Coal Fired Boilers (CFB)

a. The maximum coal charging rate of each CFB shall neither exceed 104,000 lbs/hr., 39,000 tons per month (30 consecutive days), nor 390,000 tons per year (TPY). This reflects a combined total of 312,000 lbs/hr., 117,000 tons per month, and 1,170,000 TPY for all three CFBs.

b. The maximum charging rate to each of two CFBs of short fiber recycle rejects from the Seminole Kraft Corporation (SKC) recycling process shall not exceed 210 yd³/day wet and 69,588 yd³/yr wet. This reflects a combined total of 420 yd³/day wet and 139,176 yd³/yr wet for the two CFBs that fire recycle rejects. The third CFB will not utilize recycle rejects, nor will it be equipped with handling and firing equipment for recycle rejects.

c. The maximum heat input to each CFB shall not exceed 1063 MMBtu/hr. This reflects a combined total of 3189 MMBtu/hr. for all three units.

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SPECIFIC CONDITIONS cont.:

d. The sulfur content of the coal shall not exceed 1.2%, by weight, on an annual basis. The sulfur content shall not exceed 1.7%, by weight, on a shipment (train load) basis.

e. Auxiliary fuel burners shall be fueled only with No. 2 fuel oil with a maximum sulfur content of 0.05%, by weight. The fuel oil shall normally only be used for startups. During the commercial operation, the maximum annual oil usage shall not exceed 1,900,000 gals./year. The maximum heat input from the fuel oil shall not exceed 380 MMBtu/hr. for each of the CFBs.

f. The CFBs shall be fueled only with the fuels permitted in Conditions Nos. II.A.1.a., 1.b. and 1.e. Other fuels or wastes shall not be burned without prior specific written approval of the Secretary of the Department of Environmental Protection pursuant to Specific Condition No. II.E., Modification of Conditions.

g. The CFBs may operate continuously, i.e., 8760 hrs/yr, but shall not exceed 25.98×10^6 MMBtu/yr total annual heat input.

h. To the extent that it is consistent with Specific Condition No. II.A.1.b. and the following, CBCP shall burn all of the short fiber rejects generated by SKC in processing recycled paper. No less than ninety (90) days prior to completion of construction, CBCP shall submit a plan to the Department for conducting a 30-day test burn within one year after initial compliance testing. That test burn shall be designed to ascertain whether the CFBs can burn the rejects as supplemental fuel without exceeding any of the limitations on emissions and fuel usage contained in Specific Condition No. II.A. and without causing any operational problems which would affect the reliable operation (with customary maintenance) of the CFBs and without violating any other environmental requirements. CBCP shall notify the Department and the Regulatory and Environmental Services Department (RESD) at least thirty (30) days prior to initiation of the test burn. The results of the test burn and CBCP's analysis shall be reported to the Department and to the RESD within forty-five (45) days of completion of the test burn. The Department shall notify CBCP within thirty (30) days thereafter of its approval or disapproval of any conclusion by CBCP that the test burn demonstrated that the rejects can be burned in compliance with this condition.

2. Coal Fired Boiler Controls

The emissions from each CFB shall be controlled using the following systems:

a. Limestone injection and fuel sulfur limitations, for control of sulfur dioxide and acid gases.

b. Baghouse, for control of particulate matter.

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SPECIFIC CONDITIONS cont.:

c. CBCP shall conduct a test to determine whether substantial additional removal of mercury can be obtained through a carbon injection system for mercury removal, as described in Exhibit 74 of the administrative record for the Lee County Resource Recovery Facility, which feeds carbon reagent into the CFB exhaust stream prior to the baghouse. Within one hundred eighty (180) days after initial compliance testing, CBCP shall conduct a test on one CFB to compare mercury emissions to the atmosphere with and without carbon injection. The test program will include the testing of carbon injection between the boiler and the fabric filter. Carbon forms to be tested may include activated carbon with or without additives and pulverized coal with or without additives. After consultation with the Department, RESD and EPRI, CBC shall submit a mercury control test protocol to the Department for approval by December 1, 1993. Results of the test shall be submitted to the Department within 90 days of completion.

d. Selective Non-catalytic Reduction (SNCR), for control of NOx.

e. Good combustion characteristics, which are an inherent part of the CFB technology, for control of carbon monoxide and volatile organic compounds.

3. Flue gas emissions from each CFB shall not exceed the following:

<u>Pollutant</u>	<u>lbs/MMBtu</u>	<u>Emission Limitations</u>		
		<u>lbs/hr.</u>	<u>TPY</u>	<u>TPY for 3 CFBs</u>
CO	0.175 ¹	186 ¹	758	2273
NOx	0.17 ²	180.7 ²	736.1	2208
SO ₂	0.24 ³	255.1 ³	--	--
	0.20 ⁴	--	866	2598
VOC	0.015	16.0	65	195
PM	0.018	19.1	78	234
PM ₁₀	0.018	19.1	78	234
H ₂ SO ₄ mist	4.66 x 10 ⁻⁴	0.50	2.0	6.1
Fluorides	7.44 x 10 ⁻⁴	0.79	3.2	9.7
Lead	6.03 x 10 ⁻⁵	0.06	0.26	0.78
Mercury	2.89 x 10 ⁻⁵	0.03	0.13	0.38
Beryllium	8.70 x 10 ⁻⁶	0.01	0.04	0.11

[Note: TPY represents a 93% capacity factor.]

- 1 Eight-hour rolling average, except for initial and annual compliance tests and the CEM certification, when the 1-hour applies.
- 2 Thirty-day rolling average.
- 3 Three-hour rolling average.
- 4 Twelve-Month rolling average.

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SPECIFIC CONDITIONS cont.:

4. Ammonia (NH₃) slip from exhaust gases shall not exceed 10 ppmvd when burning coal at 100% capacity and 30 ppmvd when burning oil.

5. Visible emissions (VE) shall not exceed 20% opacity (6 minute average), except for one 6 minute period per hour when VE shall not exceed 27% opacity pursuant to 40 CFR 60.42a.

6. Compliance with the emission limits shall be determined by EPA reference method tests included in the July 1, 1992 version of 40 CFR 60 and 61, Chapter 17-297, F.A.C., and listed in Specific Condition No. II.A.8. of this permit or by equivalent methods after obtaining prior written Department approval. In addition, compliance with the emission limitations in Specific Condition No. II.A.3. for CO, NO_x and SO₂, and with the opacity requirements in Specific Condition No. II.A.5., shall be determined with the continuous emission monitoring systems (CEMS) identified in Specific Condition No. II.A.9.

7. The CFBs are subject to 40 CFR 60, Subparts A and Da; except that where requirements within this permit are more restrictive, the requirements of this permit shall apply.

8. Compliance Tests for each CFB

a. Initial and subsequent compliance tests for PM/PM₁₀, SO₂, NO_x, CO, VOC, lead, fluorides, ammonia, mercury, beryllium and H₂SO₄ mist, shall be conducted in accordance with 40 CFR 60.8 (a), (b), (c), (d), (e) and (f).

b. Annual compliance tests shall be performed for PM, CO, SO₂ and NO_x, commencing no later than 12 months from the initial test.

c. Initial and annual visible emissions compliance tests shall be determined in accordance with 40 CFR 60.11(b) and (e).

d. The compliance tests shall be conducted between 90-100% of the maximum licensed capacity and firing rate for each permitted fuel.

e. The following test methods and procedures pursuant to Chapter 17-297, F.A.C., and 40 CFR 60 and 61, or by equivalent methods after obtaining prior written Department approval, shall be used for compliance testing:

- (1) Method 1 for selection of sample site and sample traverses.
- (2) Method 2 for determining stack gas flow rate.
- (3) Method 3 or 3A for gas analysis for calculation of percent O₂ and CO₂.

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- (4) Method 4 for determining stack gas moisture content to convert the flow rate from actual standard cubic feet to dry standard cubic feet.
- (5) Method 5 or Method 17 for particulate matter.
- (6) Method 6, 6C, or 8 for SO₂.
- (7) Method 7, 7A, 7B, 7C, 7D, or 7E for nitrogen oxides.
- (8) Method 8 for sulfuric acid mist.
- (9) Method 9 for visible emissions, in accordance with 40 CFR 60.11 and Appendix A.
- (10) Method 10 for CO.
- (11) Method 12 for lead.
- (12) Method 13A or 13B for fluorides.
- (13) Method 19 for sulphur dioxide removal efficiency pursuant to 40 CFR 60.48a.
- (14) Method 18 or 25 for VOCs.
- (15) Method 101A for mercury.
- (16) Method 104 for beryllium.
- (17) Method 201 or 201A for PM₁₀ emissions.
- (18) Ammonia (NH₃) method to be determined by the Department.

9. Continuous Emission Monitoring for each CFB

CBCP shall install, certify, calibrate, operate, and maintain CEMS for opacity, SO₂, NO_x, CO, and O₂ or CO₂, pursuant to all applicable requirements of Rule 17-296.800, F.A.C.; Chapter 17-297, F.A.C.; 40 CFR 60, Subpart A; 40 CFR 60, Subpart Da; 40 CFR 60, Appendix B; and, 40 CFR 60, Appendix F. These CEMS shall be used to determine compliance with the emission limitations in Specific Condition No. II.A.3. for CO, NO_x, and SO₂, and with the opacity requirements in Specific Condition No. II.A.5. The permittee may elect to install, certify, calibrate, operate, and maintain multiple span CEMS for sulfur dioxide and nitrogen oxides providing certification tests and calibrations are performed for each span. Each of the CEMS for sulfur dioxide and nitrogen oxides shall continuously record data on a span that satisfies the requirements of 40 CFR 60.47a. Any exception to the above must be specifically authorized by the

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SPECIFIC CONDITIONS cont.:

exception to the above must be specifically authorized by the Department, in writing, and in accordance with state and federal regulations.

a. CEMS data shall be recorded and reported in accordance with Chapter 17-297, F.A.C., and 40 CFR 60.49a and 60.7. A record shall be kept for periods of startup, shutdown and malfunction.

b. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown, shall not be considered malfunctions.

c. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of all CEMS.

d. Opacity monitoring system data shall be reduced to 6-minute averages, based on 36 or more data points, and gaseous CEMS data shall be reduced to 1-hour averages, based on 4 or more data points, in accordance with 40 CFR 60.13(h).

e. For purposes of reports required under this permit, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Specific Condition No. II.A.11., herein, which exceeds the applicable emission limit in Specific Condition No. II.A.3.

f. The permittee is subject to all applicable provisions of Rule 17-4.130, F.A.C., Plant Operation-Problems.

10. Operations Monitoring for each CFB

a. Devices shall be installed to continuously monitor and record steam production and flue gas temperature at the exit of the control equipment.

b. All coal and No. 2 fuel oil usage shall be recorded on a 24-hr (daily) basis for each CFB. Recycle rejects usage on a volumetric basis shall be estimated and recorded for each 24-hour period in which rejects are burned.

11. Reporting for each CFB

a. A minimum of thirty (30) days prior written notification of compliance testing shall be given to the Department's N.E. District office and to the RESD office, in accordance with 40 CFR 60.8.

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SPECIFIC CONDITIONS cont.:

b. In accordance with Rule 17-297.570, F.A.C., the results of the compliance test shall be submitted to the RESD office within 45 days after completion of the last test run.

c. The owner or operator shall submit excess emission reports to the RESD office, in accordance with Rule 17-210.700, F.A.C., and 40 CFR 60.7(c) and (d). The reports shall include the following:

(1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factors used, and the date and time of commencement and completion of each period of excess emissions (40 CFR 60.7(c)(1)).

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the furnace boiler system. The nature and cause of any malfunction (if known) and the corrective action taken or preventive measures adopted (40 CFR 60.7(c)(2)).

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs or adjustments (40 CFR 60.7(c)(3)).

(4) When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report (40 CFR 60.7(c)(4)).

(5) The owner or operator shall maintain a file of all measurements, including continuous monitoring systems, monitoring devices, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous systems or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and, all other information required by this permit recorded in a permanent form suitable for inspection (40 CFR 60.7(e)).

d. Annual and quarterly reports shall be submitted to the RESD office as per Rule 297.500, F.A.C.

12. Any change in the method of operation, fuels utilized, equipment, or operating hours or any other changes pursuant to Rule 17-212.200, F.A.C., defining modification, shall be submitted for approval to the Department's Bureau of Air Regulation (BAR).

13. All records of documentation shall be kept on file for a minimum of 3 years pursuant to Rule 17-4.160(4), F.A.C.

14. The permittee is subject to all applicable provisions of Rule 17-210.700, F.A.C., Excess Emissions.

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15. The permittee is subject to all applicable provisions of Rule 17-210.650, F.A.C., Circumvention.

16. The permittee is subject to all applicable provisions of Rule 17-4.160, F.A.C., Permit Conditions.

B. CBCP - Material Handling and Treatment

1. The material handling and treatment operations, including coal and limestone unloading buildings, coal and limestone reclaim hoppers, coal crusher house, limestone dryers, fly and bed ash silos, ash pelletizer, pellet curing silo, coal and limestone day silos, conveyors, storage areas and related equipment, may be operated continuously, i.e. 8760 hrs/yr, except that the limestone crushers/dryers may be operated for a maximum of 11 hours per day (maximum of 2920 hrs/yr) at maximum capacity.

2. The material handling/usage rates for coal, limestone, fly ash, and bed ash shall not exceed the following:

<u>Material</u>	<u>Handling/Usage Rate</u>	
	<u>TPM</u>	<u>TPY</u>
Coal	117,000	1,170,000
Limestone	27,000	320,000
Fly Ash	28,000	336,000
Bed Ash	8,000	88,000

Note: TPM is tons per month based on 30 consecutive days; and, TPY is tons per year.

3. The VOC emissions, from the maximum No. 2 fuel oil utilization rate of 240 gals/hr. and 700,800 gals/year for the limestone dryers and 8000 gals/hr. and 1,900,000 gals/year for the three boilers, are not expected to be significant. 4¹/₅

4. Material handling sources shall be regulated as follows:

a. The material handling and treatment area sources with either fabric filter or baghouse controls are as follows:

Coal Crusher Building - 6	Bed Ash Bin - 13
Coal Silo Conveyor - 7	Fly Ash Bin - 14
Limestone Pulverizer/Conveyor - 8	Pellet Vibratory Screen - 15
Limestone Storage Bin - 9	Pelletizing Ash Recycle Tank - 16
Bed Ash Hopper - 10	Pelletizing Recycle Hopper - 17
Bed Ash Silo - 11	Cured Pellet Recycle Conveyor - 18
Fly Ash Silo - 12	Pellet Recycle Conveyor - 19

The emissions from the above listed sources are subject to the PM emission limitation requirement of 0.003 gr/dscf (applicant

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SPECIFIC CONDITIONS cont.:

requested limitation which is more stringent than what is allowed by Rule 17.296.711, F.A.C.). Since these sources are RACT standard type, then a one-time verification test on each source shall be required for PM mass emissions to demonstrate that the baghouse control systems can achieve the 0.003 gr/dscf. The performance tests shall be conducted using EPA Method 5 pursuant to Rule 17-297, F.A.C., and 40 CFR 60, Appendix A (July, 1992 version).

b. The PM emissions from the following process and/or equipment, in the material handling and treatment area sources, shall be controlled using wet suppression/removal techniques:

Coal Car Unloading -20
Ash Pellet Hydrator -21
Ash Pellet Curing Silo -22
Ash Pelletizing Pan -23

The above listed sources are subject to a VE and a PM emissions limitation requirement of 5% opacity and 0.01 gr/dscf (applicant requested limitation, which is more stringent than what is allowed by rule), respectively, in accordance with Rule 17-296.711, F.A.C. Initial and subsequent compliance tests shall be conducted for VE and PM emissions using EPA Methods 9 and 5, respectively, in accordance with Chapter 17-297, F.A.C., and 40 CFR 60, Appendix A (July, 1992 version).

5. VE shall not exceed 5% opacity from any source in the material handling and treatment area listed in Specific Condition No. II.B.4., in accordance with Rule 17-296.711(2)(a), F.A.C. After the one-time PM mass emissions verification compliance tests have been performed, neither the Department nor the RESD will require a PM mass emissions test in accordance with EPA Method 5 unless the VE limit of 5% opacity is exceeded for a given source, or unless the Department or the RESD, based on other information, has reason to believe that the PM emission limits are being violated in accordance with Rule 17-297.620(4), F.A.C.

6. All sources subject to VE and PM mass emissions performance tests shall conduct them concurrently, except where inclement weather interferes.

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7. The maximum emissions from each of the limestone dryers, while using oil, shall not exceed the following (based on AP-42 factors, Table 1, 3-1, Industrial Distillate, 10/86):

Pollutant	lbs/hr.	TPY	TPY for 2 dryers
PM/PM ₁₀	0.24	0.32	0.64
SO ₂	0.85	1.15	2.3
CO	0.60	0.81	1.62
NOx	2.40	3.25	6.5
VOC	0.05	0.06	0.12

VE from the dryers shall not exceed 5% opacity.

8. The maximum sulfur content of No. 2 fuel oil shall not exceed 0.05%, by weight. The maximum firing rate of No. 2 fuel oil for each limestone dryer shall not exceed 120 gals/hr., or 350,400 gals/year. This reflects a combined total fuel oil firing rate of 240 gals/hr., and 700,800 gals/year, for the two dryers.

9. Initial and annual PM emissions and VE compliance tests for all the emission points in the material handling and treatment area, including but not limited to the sources specified in this permit, shall be conducted in accordance with the July 1, 1992 version of 40 CFR 60, Appendix A, using EPA Methods 5 and 9, respectively.

10. Compliance test reports shall be submitted to the RESD within 45 days of test completion in accordance with Rule 17-297.570, F.A.C.

11. Any changes in the method of operation, raw materials processed, equipment, or operating hours or any other changes pursuant to Rule 17-212.200, F.A.C., defining modification, shall be submitted for approval to the Department's BAR.

C. Requirements For the Permittees

1. Beginning one month after certification, CBCP shall submit to the RESD and the Department's BAR, a quarterly status report briefly outlining progress made on engineering design and purchase of major equipment, including copies of technical data pertaining to the selected emission control devices. These data should include, but not be limited to, guaranteed efficiency and emission rates, and major design parameters such as air/cloth ratio and flow rate. The Department may, upon review of these data, disapprove the use of any such device. Such disapproval shall be issued within 30 days of receipt of the technical data.

2. CBCP shall report any delays in construction and completion of the project which would delay commercial operation by more than 90 days to the RESD office.

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3. Reasonable precautions to prevent fugitive PM emissions during construction, such as coating of roads and construction sites used by contractors, regrassing or watering areas of disturbed soils, will be taken by CBCP. CBCP is subject to all applicable provisions of Rule 17-296.310(3), F.A.C., Unconfined Emissions of Particulate Matter.

4. Fuel shall not be burned in any CBCP unit unless the control devices are operating properly, pursuant to 40 CFR 60, Subpart Da.

5. The maximum sulfur content of the No. 2 fuel oil utilized in the CFBs and the two unit limestone dryers shall not exceed 0.05%, by weight. Samples shall be taken of each fuel oil shipment received and shall be analyzed for sulfur content and heating value. Records of the analyses shall be kept a minimum of three years to be available for the Department and RESD inspection.

6. Coal fired in the CFBs shall have a sulfur content not to exceed 1.7%, by weight, on a shipment (train load) basis. Coal sulfur content shall be determined and recorded in accordance with 40 CFR 60.47a.

7. CBC shall maintain a daily log of the amounts and types of fuel used and copies of fuel analyses containing information on sulfur content and heating values.

8. CBCP shall provide stack sampling facilities as required by Rule 17-297.345, F.A.C.

9. Prior to commercial operation of each source, the permittee shall submit to the Department's BAR a standardized plan or procedure that will allow the permittee to monitor emission control equipment efficiency and enable the permittee to return malfunctioning equipment to proper operation as expeditiously as possible.

10. All CBCP records of documentation shall be kept on file for a minimum of three years pursuant to Rule 17-4.160(14), F.A.C.

D. Contemporaneous Emission Reductions

The following SKC sources shall be permanently shut down and made incapable of operation, and shall turn in their operation permits to the Department's BAR, within 30 days of written confirmation by the Department of the successful completion of the initial compliance tests on the CBCP boilers: the No. 1 PB (power boiler), the No. 2 PB, the No. 3 PB, the No. 1 BB (bark boiler), and the No. 2 BB. The RESD office shall be specifically informed in writing within thirty days after each individual shut down of the above referenced equipment. This requirement shall operate as a joint and individual

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SPECIFIC CONDITIONS cont.:

requirement to assure common control for purpose of ensuring that all commitments relied on are in fact fulfilled.

E. Modification of Specific Conditions

The Specific Conditions of this permit may be modified in the following manner:

1. Through the May 11, 1993 Modification of Certification, the Board, which means the Governor and Cabinet, delegated to the Secretary of Department of Environmental Protection the authority to modify, after notice and opportunity for hearing, any conditions pertaining to consumptive use of water, reclaimed water, monitoring, sampling, ground water, surface water, mixing zones, or variances to water quality standards, zones of discharge, leachate control programs, effluent limitations, air emission limitations, fuel, or solid waste disposal, right of entry, railroad spur transmission line, access road, pipelines, or designation of agents for the purpose of enforcing the conditions of this permit.

2. All other modifications shall be made in accordance with Section 403.516, F.S.

Issued this 19th day
of November, 1993

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Virginia B. Wetherell
Virginia B. Wetherell, Secretary

Memorandum

Florida Department of
Environmental Protection

TO: Virginia B. Wetherell
FROM: Howard L. Rhodes *HLR*
DATE: November 16, 1993
SUBJECT: Approval of Revised/Amended Air Construction Permit
PSD-FL-137A
Cedar Bay Cogeneration, Inc.

Attached for your approval and signature is a revised/amended air construction permit (PSD-FL-137A), which is the result of a modification of a previously issued Power Plant Site Certification and air permit (PSD-FL-137). The proposed revision was prepared by the Bureau of Air Regulation, since EPA granted full delegation of PSD permitting authority of Power Plants on October 26, 1993.

The facility, consisting of three new coal-fired boilers, was originally certified pursuant to the Florida Power Plant Siting Act in March of 1991. In the summer of 1992, a proceeding was initiated to revise the State's requirements for the project. That proceeding culminated in a Stipulation of Settlement, entered into by all parties and approved by the Siting Board on May 11, 1993. The Siting Board's Order calls for significant reductions to both the Cedar Bay Cogeneration Project's (Project) air emissions and its air quality impacts. To establish federally enforceable conditions, Paragraph 23 of that Settlement Stipulation calls for an amendment of the original air permit (PSD-FL-137) for the Project to reflect the modifications that are applicable to the Project's air permit.

The facility will be located in Jacksonville, Duval County, Florida. All pending controversies and hearings have been resolved and the modification of Certification has been finalized.

I recommend your approval and signature.

HLR/BM/rbm