

Indiantown Cogeneration, L.P.

RECEIVED

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**Bureau of
Air Regulation**

August 2, 1994

Mr. Claire H. Fancy
Chief, Bureau of Air Regulations
Department of Environmental Protection
2400 Blair Stone Road
Tallahassee, Florida 32399-2400

Mr. Winston A. Smith
Air, Pesticides and Toxics Management Division
U.S. EPA Region IV
345 Courtland Street, NE
Atlanta, Georgia 30365

Re: Application for Alternative Monitoring Requirements

Dear Messrs. Fancy and Smith:

Pursuant to 40 CFR § 60.13(i), Indiantown Cogeneration, L.P. (ICL) respectfully requests approval of the alternative monitoring requirements to those in 40 CFR Part 60, Subpart Da, specifically to those at 40 CFR §60.47a(b)(1) and (3) pertaining to the monitoring of sulfur dioxide at the inlet to the sulfur dioxide control devices at Indiantown. The Indiantown Generating Facility is located in Indiantown, Martin County, Florida and consists of one pulverized coal boiler equipped with state-of-the-art spray dryer absorber units for sulfur dioxide control.

This project and other projects of ours across the country have set new standards for Best Available Control Technology. Recent approval of the alternative monitoring requirements for the Chambers Cogeneration Limited Partnership, another U.S. Generating Company affiliate, was the first step in establishing reliable and cost effective monitoring to determine compliance. through approval of the alternative monitoring requirements for this facility, we will continue to establish reliable and cost effective monitoring for determining compliance.

The basis for granting the alternative monitoring requirements is that the Indiantown Generating Facility's pulverized coal boiler and sulfur dioxide control devices meet the "unusual circumstances" and "procedures that are consistent with...current practices" conditions of the preamble to the Section 60.13(i) since Indiantown, under the federally enforceable Prevention of Significant Deterioration (PSD) permit, must meet a more stringent SO₂ emission limitation than is required by Subpart Da.



August 2, 1994

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As discussed in the enclosed application for Alternative Monitoring Requirements, the sulfur dioxide emission limitation in the PSD permit is significantly less in both magnitude and averaging time than the sulfur dioxide emission standard in subpart Da. Never the less, monitoring to determine compliance with the Subpart Da standards is required since waiving or granting alternative emission standards is not practical.

The alternative monitoring requirements will result in an accurate determination of compliance with the Subpart Da sulfur dioxide percent reduction requirements, reduce paperwork and personnel effort while maintaining the same level of enforceability required by your Agencies.

If you or your staff have any questions or require additional information, please contact Paul Reinermann at (301) 718-6963 or me at (301) 718-6973.

Yours truly,


Michelle Griffin
Environmental Specialist

PR/mm

Enclosures

cc: w/encl.
John Rasnic, U.S. EPA
~~Preston, Lewis, FDEP~~
Stephen Sorrentino, ICL



**Application for Alternative Monitoring Requirements
to Determine Sulfur Dioxide Emissions at the Inlet
to the Sulfur Dioxide Control Device**

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INDIANTOWN COGENERATION, L.P.

INDIANTOWN, FLORIDA

APPLICATION FOR
ALTERNATIVE MONITORING REQUIREMENTS
TO DETERMINE
SULFUR DIOXIDE EMISSIONS
AT THE INLET TO
THE SULFUR DIOXIDE CONTROL DEVICE

Submitted to

Winston A. Smith, Director
Air, Pesticides and Toxics Management Division
U.S. EPA, Region IV

and

Clair H. Fancy, Chief
Bureau of Air Regulation,
Florida Department of Environmental Protection

Prepared by

Paul Reinermann, III, Environmental Specialist
Indiantown Cogeneration, L.P.

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Section I	Background and Description
Section II	PSD Permit
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BACKGROUND

The Indiantown Cogeneration, L.P. is constructing in Indiantown, Florida, a pulverized coal boiler rated at a net 330 MW while providing up to 175,000 lbs per hour of steam to a neighboring industrial complex. The boiler is equipped with a selective catalytic reduction (SCR) unit for nitrogen oxides control, spray dryer absorbers (SDA) for sulfur dioxide control and a baghouse for particulate matter control. Construction of the facility began in October 21, 1992 and initial coal firing is scheduled for May 1995.

The boiler is subject to a federally enforceable Prevention of Significant Deterioration (PSD) permit (Florida Permit No. PSD-FL-168) and to 40 CFR Part 60, Subpart Da - Standards of Performance for Electrical Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978. The sulfur dioxide (SO₂) emission limitation in the PSD permit (see excerpt in Section II) is based upon achieving 0.170 lbs SO₂ per mmBTU on a 24 hour basis which is significantly more stringent than the Subpart Da standard of 0.60 lbs SO₂ per mmBTU on a 30 day rolling average. In addition, the SDAs are designed to reduce SO₂ by up to 95% compared to the Subpart Da standard of 70% reduction.

Since the SDA were designed to reduce SO₂ by significantly more than the Subpart Da standard and since the anticipated sulfur content of the coal to be fired will require the SO₂ percent reduction to be greater than 80% at all times, alternative monitoring requirements as allowed by § 60.13(i) to those at 60.47a(b) pertaining to inlet SO₂ monitoring are requested. The Indiantown Cogeneration, L.P. pulverized coal boiler meets the "unusual circumstances" and "procedures that are consistent with current practices" conditions of the preamble to the § 60.13(i) since Indiantown, under the federally enforceable PSD permit, must meet a more stringent SO₂ emission limitation than is required by Subpart Da. This is consistent with the determination made by U.S. EPA for the Chambers Cogeneration Facility on April 21, 1994 (see Section V).

COAL QUALITY AGREEMENT, FORECAST AND HANDLING

The purchase agreement with Costain Coal Inc. (Section III) is for 30 years with an option for additional years. The coal is anticipated to originate from the Appalachian coal region and must be analyzed for the sulfur content prior to shipment in accordance with the American Society of Testing and Materials (ASTM) procedures. These ASTM procedures are specified in Method 19 of 40 CFR Part 60, Appendix A which is referenced in Subpart Da for inlet SO₂ emission monitoring. According to the purchase agreement, the maximum monthly weighted average of the coal to be burned at Indiantown will have a SO₂ monthly weighted average of 1.6 lbs per mmBTU.

The majority of the initial coal shipments will be used to build the 90,000 ton (30 day) inactive storage pile. The active coal pile will be established in a building capable of storing approximately 32,000 tons (10 days). Each shipment of coal will be placed into the building and reclaimed to the coal storage silos prior to combustion in the boiler. An inventory log of the shipments placed into both the active and inactive piles will be maintained.

ALTERNATIVE MONITORING REQUIREMENTS

In lieu of performing SO₂ monitoring at the inlet to the spray dryers according to § 60.47a(b), the alternative monitoring requirements for the Indiantown Cogeneration, L.P. Subpart Da boiler will utilize the coal sampling and analysis performed by the coal vendor on a shipment basis and verified quarterly by an independent analysis. The alternative monitoring requirements will result in an accurate determination of SO₂ percent reduction since the calculation of SO₂ percent reduction will be based upon the blended average sulfur content of the coal received during the most recent shipment for the active coal storage pile, and the average sulfur content for all coal placed in the inactive coal storage pile. Sampling and analytical procedures will adhere to the ASTM procedures referenced in Method 19.

As allowed by §60.13(i), the Indiantown Cogeneration, L.P., is applying for the following alternative monitoring requirements to those in §60.47a(b) pertaining to inlet SO₂ monitoring for the Subpart Da boiler being built by the Indiantown Cogeneration, L.P.:

1. Conduct the Subpart Da 30-day initial performance test by using one of the following methods:

Daily as-fired coal sampling and analysis according to Part 60, Appendix A, Method 19

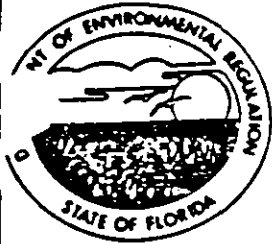
Part 60, Appendix A, Method 6B
2. Report in the initial performance test report, the daily inlet SO₂ emissions for each day of the 30-day period
3. Determine the daily inlet SO₂ emissions after the 30-day initial performance test by one of the following methods:

For coal from the active coal pile, utilize the average sulfur in coal content of the coal in the active coal pile based upon coal supplier analysis of the coal deposited into the storage building and actual usage rates

For coal from the inactive pile, utilize the average sulfur in coal content analysis provided by the coal supplier of the all coal placed into the inactive pile.

4. Calculate, record and report the spray dryer reduction efficiency every boiler operating day to determine every 30-day rolling period.
5. Semiannually, quality assure the coal supplier analysis by analyzing, in accordance with the procedures of Method 19, a coal sample from the coal supplier which was obtained in accordance with the procedures of Method 19.
6. If the percent reduction for any 30-day rolling period is determined to be less than 80%, compliance with all Subpart Da monitoring requirements will be initiated.

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Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

July 16, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Stephen A. Sorrentino
Indiantown Cogeneration, L.P.
7475 Wisconsin Avenue
Bethesda, MD 20814-3422

Re: Martin County - A.P.
Indiantown Cogeneration, L.P.
PSD-FL-168; Permit Modification

Dear Mr. Sorrentino:

The Department has received a request from Mr. Douglas Roberts on May 28, 1992, for minor modifications to the recently issued permit for the above referenced project. The Department concurs with your request and will allow you to split the auxiliary boiler into two boilers, use propane fuel, and change the lead (Pb) standards.

The Department grants the following amendments to the above referenced permit:

Project Description, 3rd Paragraph, Page 1 of 13

FROM:

The proposed facility includes one main boiler and one steam generator, and an auxiliary boiler operated during lightoff and startup of the main boiler or if the main boiler is down and process steam is required for Caulkins Citrus Processing. The primary source of air emissions will be the main boiler, firing coal. Secondary air emission sources include the auxiliary boiler firing natural gas or No. 2 fuel oil, and the material handling systems. The operation of these units will result in significant net emissions increases of regulated air pollutants over the current emissions levels and thus, is subject to review by the Department under the prevention of significant deterioration (PSD) regulations (Rule 17-2.500, Florida Administration Code).

TO:

The proposed facility includes one main boiler and one steam generator, and one or two 50% capacity auxiliary boilers operated during lightoff and startup of the main boiler or if the main

Mr. Stephen A. Sorrentino
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Amendment to PSD-FL-168

boiler is down and process steam is required for Caulkins Citrus Processing. The primary source of air emissions will be the main boiler, firing coal. Secondary air emission sources include the auxiliary boilers firing natural gas, propane or No. 2 fuel oil, and the material handling systems. The operation of these units will result in significant net emissions increases of regulated air pollutants over the current emissions levels and thus, is subject to review by the Department under the prevention of significant deterioration (PSD) regulations (Rule 17-2.500, Florida Administration Code).

Specific Condition No. 2:

FROM: Only coal, natural gas or No. 2 fuel oil shall be fired in the pulverized coal (PC) boiler and auxiliary boiler.

TO: Only coal, natural gas, propane or No. 2 fuel oil shall be fired in the pulverized coal (PC) boiler and auxiliary boilers.

Specific Condition No. 3:

FROM: The maximum heat input to the PC boiler shall not exceed 3422 MMBtu/hr while firing coal. The auxiliary boiler shall not exceed 342 MMBtu/hr while firing No. 2 fuel oil and 358 MMBtu/hr firing natural gas or propane.

TO: The maximum heat input to the PC boiler shall not exceed 3422 MMBtu/hr while firing coal. The one or two auxiliary boilers shall not exceed a combined total of 342 MMBtu/hr while firing No. 2 fuel oil and a combined total of 358 MMBtu/hr firing natural gas or propane.

Specific Condition No. 4:

FROM: The PC boiler shall be allowed to operate continuously (8760 hrs/yr). The auxiliary boiler shall operate a maximum of 5000 hrs with up to 1000 hrs/yr on No. 2 fuel oil with 0.05% sulfur, by weight, and the balance on natural gas or propane. Fuel consumption must be continuously measured and recorded by fuel type (coal, natural gas or No. 2 fuel oil) for both the PC boiler and auxiliary boiler.

TO: The PC boiler shall be allowed to operate continuously (8760 hrs/yr). The auxiliary boiler or boilers shall operate a maximum of 5000 hrs at the combined total heat input rates with up to 1000 hrs/yr on No. 2 fuel oil with 0.05% sulfur, by weight, and the balance on natural gas or propane. Fuel consumption must be

Mr. Stephen A. Sorrentino
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 Amendment to PSD-FL-168

continuously measured and recorded by fuel type (coal, natural gas, propane or No. 2 fuel oil) for both the PC boiler and auxiliary boilers.

Specific Condition No. 5:

FROM: Based on a permitted heat input of 3422 MMBtu/hr, the stack emissions from the main boiler shall not exceed any of the following limitations:

Pollutant	Basis lb/MMBtu	Emission Limitation	
		lb/hr	TPY
SO ₂	0.170*	582*	2549
NOx	0.170*	582*	2549
PM	0.018	61.6	270
PM ₁₀	0.018	61.6	270
CO	0.110	376*	1649
VOC	0.0036	12.32	54.0
H ₂ SO ₄	0.0004	1.45	6.51
Beryllium	0.0000027	0.0094	0.041
Mercury	0.0000114	0.039	0.17
Lead	0.00001	0.034	0.15
Fluorides	0.0015	5.08	22.3
Arsenic	0.000051	0.18	0.77

*24 hour daily block average (midnight to midnight)

TO: Based on a permitted heat input of 3422 MMBtu/hr, the stack emissions from the main boiler shall not exceed any of the following limitations:

Pollutant	Basis lb/MMBtu	Emission Limitation	
		lb/hr	TPY
SO ₂	0.170*	582*	2549
NOx	0.170*	582*	2549

Mr. Stephen A. Sorrentino
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 Amendment to PSD-FL-168

PM	0.018	61.6	270
PM ₁₀	0.018	61.6	270
CO	0.110	376*	1649
VOC	0.0036	12.32	54.0
H ₂ SO ₄	0.0004	1.45	6.51
Beryllium	0.0000027	0.0094	0.041
Mercury	0.0000114	0.039	0.17
Lead	0.0000187	0.064	0.280
Fluorides	0.0015	5.08	22.3
Arsenic	0.000051	0.18	0.77

*24 hour daily block average (midnight to midnight)

Specific Condition No. 9

FROM: The auxiliary boiler, rated at up to 358 MMBtu/hr (Natural Gas and propane) and 342 MMBtu/hr (No. 2 fuel oil), shall be limited to a maximum of 5000 hours/year with up to 1000 hrs/yr firing No. 2 fuel oil with 0.05% sulfur, by weight, and the balance firing natural gas or propane. The maximum annual emissions will be as follows when firing No. 2 fuel oil for 1000 hrs/yr:

EMISSION LIMITATION

<u>Pollutant</u>	<u>lbs/hr</u>	<u>tons/year</u>
NO _x	68.0	34
SO ₂	18.0	9
PM	1.4	0.70
PM ₁₀	1.4	0.70
CO	48.0	24
VOC	0.620	0.31
Be	4.0 x 10 ⁻⁵	2.0 x 10 ⁻⁵
Hg	5.2 x 10 ⁻⁴	2.6 x 10 ⁻⁴
Pb	3.6 x 10 ⁻²	1.8 x 10 ⁻²
As	6.8 x 10 ⁻³	3.4 x 10 ⁻³

TO: The auxiliary boiler or auxiliary boilers rated at a combined total of up to 358 MMBtu/hr (Natural gas and propane) and 342

Mr. Stephen A. Sorrentino
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Amendment to PSD-FL-168

MMBtu/hr (No. 2 fuel oil), shall be limited to a maximum of 5000 hours/year at the combined total heat input rates with up to 1000 hrs/yr firing No. 2 fuel oil with 0.05% sulfur, by weight, and the balance firing natural gas or propane. The maximum total annual emissions from the auxiliary boiler or boilers will be as follows when firing No. 2 fuel oil for 1000 hrs/yr:

EMISSION LIMITATION

<u>Pollutant</u>	<u>lbs/hr</u>	<u>tons/year</u>
NO _x	68.0	34
SO ₂	18.0	9
PM	1.4	0.70
PM ₁₀	1.4	0.70
CO	48.0	24
VOC	0.620	0.31
Be	4.0 x 10 ⁻⁵	2.0 x 10 ⁻⁵
Hg	5.2 x 10 ⁻⁴	2.6 x 10 ⁻⁴
Pb	3.6 x 10 ⁻²	1.8 x 10 ⁻²
As	6.8 x 10 ⁻³	3.4 x 10 ⁻³

All other conditions remain as issued. This letter must be attached to the PSD-FL-168 permit and shall become a part of the permit.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File

Mr. Stephen A. Sorrentino
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- Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
 - (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
 - (d) A statement of the material facts disputed by Petitioner, if any;
 - (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
 - (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
 - (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Sincerely,


Carol M. Browner
Secretary

CMB/MB/plm

cc: Jewell A. Harper, EPA
Isidore Goldman, SED
James W. Coleman, Jr.; NPS
Steve Jelinek, ENSR

received

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

In the matter of an
Application for Permit by:

DER File No. PSD-FL-168
Martin County

Mr. Stephen A. Sorrentino
Indiantown Cogeneration, L.P.
7475 Wisconsin Ave.
Bethesda, MD 20814-3422

Enclosed is Permit Number PSD-FL-168 to construct a cogeneration project,
issued pursuant to Section(s) 403, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the
permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of
Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the
Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road,
Tallahassee, Florida 32399-2400; 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 of Appeal must be filed within 30 days from the date this
Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Barry D. Fancy
C. H. Fancy, P.E., Chief
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400
904-488-1344

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this
NOTICE OF PERMIT and all copies were mailed before the close of business on
3/26/92 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED,
on this date, pursuant to
§120.52(11), Florida Statutes,
with the designated Department
Clerk, receipt of which is hereby
acknowledged.

Kevin J. Ober
(Clerk)

3/26/92
(Date)

Copies furnished to:
Jewell A. Harper, EPA
Isidore Goldman, SED
James W. Coleman, Jr., NPS
Steve Jelinek, ENSR

Final Determination

The Indiantown Cogeneration, L.P. (ICL) PSD permit application (part of the Power Plant Siting application) has been reviewed by the Division of Air Resources Management. Comments received from EPA Region IV dated February 25, 1992 (see attachment 1) and United States Department of the Interior, National Park Service (NPS), Southeast Regional Office dated February 21, 1992 (see attachment 2) are addressed below.

Best Available Control Technology (BACT): The EPA agreed that FDER's BACT was consistent with the most recent determinations for pulverized coal (PC) boilers for particulate, SO₂, and NO_x. However, EPA recommended that the permit include a new specific condition to follow in the event that the selective noncatalytic reduction (SNCR) system was incapable of achieving the 0.17 lb/MMBtu (24-hour avg.) NO_x level. FDER has written Specific Condition No. 6 addressing EPA's concern. We are also requesting an opportunity to review the plans and specifications to assure that an appropriate design basis exists.

The NPS also expressed agreement with FDER's determination for particulate and SO₂ emission limitations and the method of control. However, they recommended that the source be required to install selective catalytic reduction (SCR) for NO_x control since it is being required for similar projects in New Jersey and Virginia. In the case of New Jersey, it is our understanding that the facilities are in ozone nonattainment areas. However, the ICL project is in an attainment area for all pollutants. Over the past two years FDER has required sources to achieve lower and lower NO_x levels as the technology advances. The NO_x level required for the Indiantown Cogeneration facility meets FDER's goals and time table. As indicated above, the source will be required to achieve the specified NO_x limit using whatever technologies are necessary.

Modeling: The NPS expressed concern about the impact of SO₂, NO_x, and VOC emissions on Class I areas. FDER is also concerned about the emissions of these pollutants even though the source is more than 100 km from any national park. However, the EPA ISCST model run for the ICL project indicated that the emissions were well below levels of concern for Class I areas.

The final action of the Department will be to issue construction permit PSD-FL-168 as proposed in the Technical Evaluation and Preliminary Determination.

PERMITTEE:
Indiantown Cogeneration, L. P.

Permit Number: PSD-FL-168
Project: Indiantown
Cogeneration Project

Attachments are listed below:

1. Power Plant Site Certification Package PA 90-31 and its associated attachments, dated September 6, 1991.
2. DER's Technical Evaluation and Preliminary Determination dated December 26, 1991.
3. Letter from National Park Service dated February 20, 1992.
4. Letter from EPA dated February 25, 1992.

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, Florida Statutes. 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), Florida Statutes, 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.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Indiantown Cogeneration, L. P.

Permit Number: PSD-FL-168
Project: Indiantown
Cogeneration Project

GENERAL CONDITIONS:

as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

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

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, 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 (PSD)
- (x) Compliance with New Source Performance Standards (NSPS)

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,

PERMITTEE:
Indiantown Cogeneration, L. P.

Permit Number: PSD-FL-168
Project: Indiantown
Cogeneration Project

SPECIFIC CONDITIONS:

weight, and the balance on natural gas or propane. Fuel consumption must be continuously measured and recorded by fuel type (coal, natural gas or No. 2 fuel oil) for both the PC boiler and auxiliary boiler.

5. Based on a permitted heat input of 3422 MMBtu/hr, the stack emissions from the main boiler shall not exceed any of the following limitations:

Pollutant	Basis lb/MMBtu	Emission Limitation	
		lb/hr	TPY
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Beryllium	0.0000027	0.0094	0.041
Mercury	0.0000114	0.039	0.17
Lead	0.00001	0.034	0.15
Fluorides	0.0015	5.08	22.3
Arsenic	0.000051	0.18	0.77

*24 hour daily block average (midnight to midnight)

6. The 0.170 lb/MMBtu NO_x emission rate is the basis for the above maximum emission limitation. The permittee is allowed to use any technology (e.g. SNCR, SCR, or combustion controls) to achieve the NO_x limitation. Should a technology be chosen which does not meet the specified NO_x limits, the permittee must apply whatever technologies deemed necessary to ensure that the NO_x limitation is met. Plans and specifications must be submitted to DER's Bureau of Air Regulation in Tallahassee for review within 90 days after they become available.

PERMITTEE:
Indiantown Cogeneration, L. P.

Permit Number: PSD-FL-168
Project: Indiantown
Cogeneration Project

SPECIFIC CONDITIONS:

be totally enclosed and vented (including pneumatic system exhaust) through fabric filters.

Submit for approval to the Department, Bureau of Air Regulation in Tallahassee within thirty (30) days after it becomes available, copies of technical data pertaining to the selected particulate emissions control for the coal, and lime handling facilities. These data shall 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 shall issue a response within 30 days of receipt of the technical data.

11. Particulate emissions from bag filter exhausts from the coal, lime and flyash handling systems shall be limited to 0.010 gr/acf. A visible emission reading of 5% opacity or less may be used to establish compliance with this emission limit. A visible emission reading greater than 5% opacity will not create a presumption that the 0.010 gr/acf emission limit is being violated. However, a visible emission reading greater than 5% opacity will require the permittee to perform a stack test. Verification and recording of the above requirements for particulate emissions shall be done at least annually.

12. Emissions shall not be visible more than 2 minutes in any 15 minute period. Compliance with fugitive emissions limitations from all transfer points will be determined by EPA/DER referenced Method 22 and opacity Method 9 (Appendix A, 40 CFR 60).

13. Coal shall not be burned in the unit unless the spray dryer scrubber, fabric filter baghouse and other air pollution control devices are operating properly except as provided under 40 CFR Part 60, Subpart Da. Any malfunctions of these air pollution control devices are to be recorded; including duration, cause, and description of repair.

14. The fuel oil to be fired in the PC boiler and the auxiliary boiler shall be "new oil" which means an oil which has been refined from crude oil and has not been used. The quality of the No. 2 fuel oil used by the auxiliary boiler shall not contain more than 0.05% sulfur, by weight, based on each shipment analysis report.

15. No fraction of flue gas shall be allowed to bypass the air pollution control devices (PCD) system to reheat the gases exiting from the PCD system, if the bypass will cause emissions above the limits specified. The percentage and amount of flue gas bypassing

PERMITTEE:
Indiantown Cogeneration, L. P.

Permit Number: PSD-FL-168
Project: Indiantown
Cogeneration Project

SPECIFIC CONDITIONS:

- | | |
|--------------|--|
| 5 | Particulate matter concentration and mass emissions. |
| 201 or 201A | PM ₁₀ emissions. |
| 6, 6C, or 19 | Sulfur dioxide emissions from stationary sources. |
| 7, 7C, or 19 | Nitrogen oxide emissions from stationary sources. |
| 8 | Sulfuric acid mist from stationary source. |
| 9 | Visible emission determination of opacity. <ul style="list-style-type: none">- At least three one hour runs to be conducted simultaneously with particulate testing for the emissions from dry scrubber/baghouse, and ash handling building baghouse.- At least one lime vehicle unloading into the lime silo (from start to finish). |
| 22 | Fugitive emissions from transfer points. |
| 10 | Carbon monoxide emissions from stationary sources. |
| 12 or 101A | Lead concentration from stationary sources. |
| 13A or 13B | Fluoride emissions from stationary sources. |
| 18 or 25, | Volatile organic compounds concentration. |
| 101A or 108 | Mercury emissions. |
| 104 | Beryllium emission rate and associated moisture content. |

NOTE: Use EPA draft method or other methods approved by Department to test for ammonia.

20. Performance tests shall be conducted under such conditions as the Department shall specify based on representative performance of the facility. The permittee shall make available to the Department

PERMITTEE:
Indiantown Cogeneration, L. P.

Permit Number: PSD-FL-168
Project: Indiantown
Cogeneration Project

SPECIFIC CONDITIONS:

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.

28. Stack monitoring, fuel usage and fuel analysis data shall be reported to the Department's Southeast District Office on a quarterly basis commencing with the start of commercial operation in accordance with 40 CFR, Part 60, Section 60.7, and 60.49a and in accordance with Section 17-2.08, FAC.

29. Utilizing the Aerometric Information and Retrieval System (AIRS) or other format approved in writing by the Department, ambient air monitoring data shall be reported to the Bureau of Air Monitoring and Assessment of the Department quarterly. Upon commencement of ambient air monitoring, such reports shall be due within 45 days of the end of the quarterly reporting period. Reporting and monitoring shall be in conformance with 40 CFR Parts 53 and 58.

30. Beginning one month after certification, the permittee shall submit to the Department a quarterly status report briefly outlining progress made on engineering design and purchase of major pieces of air pollution control equipment. All reports and information required to be submitted under this condition shall be submitted to the Siting Coordination Office, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida, 32301.

31. In the event of a prolonged (thirty days or more) equipment malfunction or shutdown of air pollution control equipment, operation shall be allowed to resume and continue to take place under appropriate Department order, provided that the Permittee demonstrates such operation will be in compliance with all applicable ambient air quality standards and PSD increments. During such malfunction or shutdown, operation of the facility shall comply with all other requirements of this permit and all applicable state and federal emission standards not affected by the malfunction or shutdown which is the subject of the Order. Operational stoppages exceeding two hours for air pollution control systems are to be reported to the Southeast District office. Operational malfunctions which do not stop operation but may prevent compliance with emission limitations must also be reported to the Southeast District office.

Attachment 1

Attachment 2

As you know, EPA-Region 4 recently revised the PSD permit for Orlando Utilities Stanton Unit 2. The permit now requires Orlando Utilities to install a Selective Catalytic Reduction (SCR) system on Unit 2 to reduce NO_x emissions. The SCR system is to be designed to achieve a NO_x emission rate of less than 0.10 lb/MMBtu. Similarly, in December 1990, the New Jersey Department of Environmental Protection granted a permit to Chambers Cogeneration that requires a SCR system designed to meet a 0.10 lb/MMBtu limit. Finally, the Virginia Department of Air Pollution Control recently issued draft permits for two coal-fired cogeneration facilities that require SCR to control NO_x emissions (Hadson Power and Cogentrix-Dinwiddie). Given the recent developments in the SCR technology and the fact that other permitting authorities are now requiring SCR for coal-fired boilers, we ask that you require Indiantown to reconsider SCR for their proposed boiler as well.

Indiantown used the EPA ISCST model for the cumulative Class I increment analysis and included a total of 23 increment-consuming sources. The results of this analysis show that once in 1983 and once again in 1984, the 3-hour and 24-hour Class I SO₂ increments were exceeded (highest concentrations of 30.5 micrograms per cubic meter (ug/m³) and 6.0 ug/m³, respectively). However, the high second-high concentrations during these episodes were below the allowable increment. Therefore, the class I increments for both the 3-hour and 24-hour averaging periods are exceeded, but not yet violated. The high second-high concentration for 1983 data was 4.8 ug/m³, which is 96 percent of the class I increment of 5 ug/m³. As you may know, if a proposed source will cause or contribute to a Class I increment violation, the applicant will need to ask us to certify that there will be no adverse impacts to Class I area resources before the project can be permitted.

Indiantown only reported the high and high-second-high concentrations per year for our review. In the future, if the applicant is modeling with the ISCST model, we ask that they provide us with the "Max 50" table so that we can know more about the location and magnitude of impacts at other receptors in the park. In addition, Indiantown's total ambient analysis was overly conservative because they modeled all PSD and existing sources, and then added those concentrations to monitored ambient background levels. A more realistic total ambient impacts analysis for Class I areas is performed by modeling the proposed source and any newly permitted, but not yet operating, source and adding these impacts to the ambient background concentrations.

Indiantown performed a visibility analysis using the EPA model VISCREEN. The proposed project passed the Level I VISCREEN test, indicating that the proposed emissions would have low potential for visibility impairment due to plume impacts in Everglades NP.

determine if current ozone levels in Everglades NP induce the same degree of growth reductions as were observed in the chambers.

Lichens and bryophytes are common in the park, and due to their unique morphology, are particularly sensitive to air pollutants such as sulfur dioxide. The nitrates in acid rain may also be harmful to bryophytes, particularly to tank bryophytes which accumulate rainwater in a cup-shaped basin formed by overlapping leaves. Two species of epiphytes found in the park, Tillandsia flexuosa, a bromeliad, and Epidendrum nocturnum, an orchid, are considered threatened under the Preservation of Native Flora of Florida Act. The sensitivity of these two threatened species to air pollutants is not known at this time.

Nitrogen oxide and sulfur dioxide emissions may lead to the acidification of the huge wetland system that comprises much of the park. Acidification leads to changes in the flora and fauna of an aquatic ecosystem.

Finally, we are concerned about the high levels of mercury that have been found in the federally endangered Florida panther and other animals in the park. It is not known at this time what the source of the mercury is, but we encourage you to limit mercury emissions in the vicinity of the park until the source can be identified and remedial action taken.

If you have any questions regarding this matter, please contact Dee Morse of our Air Quality Division in Denver at 303-969-2071.

Sincerely,

J. W. Oyle

FOR

James W. Coleman, Jr.
Regional Director
Southeast Region

- B. Anderson*
- W. Bennett*
- S. Cooper*
- J. Goldmann, SE Dist.*
- L. Hartington, PG+E/2001/2002*
- E. G. ...*

5

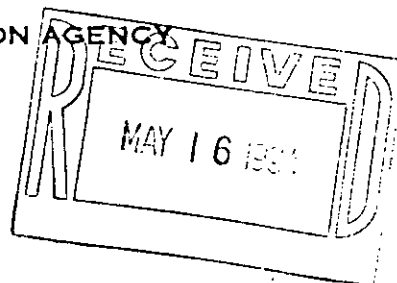


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II

JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, NEW YORK 10278-0012

MAY 12 1994



Paul Reinermann, III
Environmental Specialist
Chambers Cogeneration Limited Partnership
7500 Old Georgetown Road
Bethesda, Maryland 20814-6161

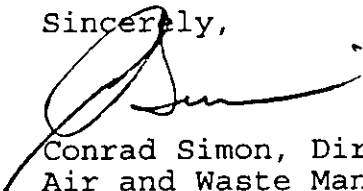
Re: Chambers Cogeneration Alternative Monitoring Plan Proposal

Dear Mr. Reinermann:

The U.S. Environmental Protection Agency (EPA), has carefully reviewed Chambers Cogeneration Limited Partnership's (CCLP) request for approval of an alternative monitoring plan (AMP) at the Chambers Cogeneration Facility, located in Carneys Point, New Jersey. The proposed alternative method would utilize coal sampling and analysis performed by the coal vendor to monitor SO₂ at the inlet of the SO₂ control device. The AMP is proposed as an alternative to utilizing a continuous emission monitoring system (CEMS) or by "as fired" coal sampling and analysis at the inlet of the SO₂ control device (Subpart Da at §60.47a(b)). As reflected in the attached April 21, 1994 memorandum from John Rasnic to me, the agency has concluded that the CCLP proposed AMP is acceptable and is hereby approved in accordance with the conditions set forth in the enclosed memorandum.

If you should have any questions concerning the approval of the AMP please contact Aarti Reddy of my staff at (212) 264-6715.

Sincerely,


Conrad Simon, Director
Air and Waste Management
Division

Enclosures

cc: Dr. Iclal Atay
New Jersey Department of
Environmental Protection and Energy

Donald Patterson
New Jersey Department of
Environmental Protection and Energy



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 21 1994

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Chambers Cogeneration Facility - Alternative
Monitoring Method Request

FROM: John B. Rasnic, Director *John B Rasnic*
Stationary Source Compliance Division
Office of Air Quality Planning and Standards

TO: Conrad Simon, Director
Air and Waste Management Division
Region II

In response to your request of March 15, 1994, for approval of the alternative monitoring method proposed by Chambers Cogeneration Limited Partnership (Chambers), SSCD has determined that the proposed plan must be upgraded prior to approval.

Chambers operates the Chamber Cogeneration Facility located in Carneys Point, New Jersey. The facility consists of two pulverized coal-fired boilers rated at 224 MWe while providing 550,000 lb/hr of steam. The boilers are equipped with spray dryers for sulfur dioxide (SO₂) control. Both boilers started operations in the end of 1993.

The boilers are subject to a federally enforceable Prevention of Significant Deterioration (PSD) permit and to 40 CFR Part 60, Subpart Da Standards of Performance for Electrical Utility Steam Generating Units for which Construction is Commenced after September 18, 1978. The PSD permit requires Chambers to comply with the SO₂ emission limitation of 0.22 lb/mmBtu on a 1-hour average while Subpart Da requires compliance with 0.6 lb/mmBtu on a 30-day rolling average. Subpart Da, § 60.47a(b), also requires that SO₂ be monitored at the inlet and outlet of the SO₂ control device to demonstrate a 70 percent SO₂ reduction rate. To meet the PSD emission limitation of 0.22 lb/mmBtu, Chambers must reduce SO₂ concentrations by more than 89 percent (from the presently lowest SO₂ uncontrolled emission rate of 2.02 lb/mmBtu to 0.22 lb/mmBtu). This reduction rate is 19 percent higher than the required 70 percent NSPS rate.

According to Subpart Da, to monitor the uncontrolled SO₂ at the inlet, the facility can use either an SO₂ continuous emission

monitoring system (CEMS) or daily as-fired coal sampling and analysis (CSA). The PSD permit requires only SO₂ monitoring, using an SO₂ CEMS at the outlet and does not have any emission reduction requirement.

Chambers has asked EPA to approve an alternative monitoring method at the inlet of the spray dryer. In lieu of either installing a CEMS or performing the as-fired CSA, Chambers proposed using the lowest ever coal sulfur content determined by the coal supplier in the as-delivered coal as a basis for calculating the emission rate of uncontrolled SO₂ at the spray dryer inlet. This proposed alternative monitoring method, although an interesting concept, is not satisfactory since the as-delivered CSA may not provide adequate information and may result in enforcement problems. We cannot verify the coal supplier's CSA approach and we do not know the variability of coal sulfur. However, U.S. EPA could approve the proposed concept if Chambers meets the following additional conditions:

- Conduct the Subpart Da 30-day initial performance test using the SO₂ CEMS to determine the outlet emission rate and using one of the following methods to determine the inlet SO₂ emission rate:
 - daily as-fired CSA according to Part 60, Appendix A, Method 19 (lot size defined as the amount of coal burned on one day)
 - SO₂ CEMS per Subpart Da
 - Part 60, Appendix A, Method 6B to determine daily SO₂ inlet emissions
- Report the daily SO₂ emissions for the inlet and outlet during the test period as well as the 30-day average.
- Upon a successful demonstration of compliance, determine the daily inlet SO₂ emission rate (using the same method as during the 30-day compliance test) on the first operating day of each month.
- Calculate and record the spray dryer reduction efficiency every day to determine the 30-day rolling average.
- For calculating the reduction efficiency, use the daily average outlet SO₂ emission rate indicated by the SO₂ CEMS and the lowest inlet SO₂ emission rate ever recorded (including the daily analyses during the 30-day performance test, the first operating day analyses, and coal shipment analyses performed by the coal supplier).

- Demonstrate a minimum SO₂ reduction efficiency of 80 percent on a 30-day rolling average.
- Upon a violation of the 80 percent reduction efficiency condition, consider this alternative monitoring procedure revoked and immediately comply with all requirements of Subpart Da and continue complying with Subpart Da as long as the facility operates.

This narrow determination applies only to Chambers and cannot be used for any other regulated facility without EPA's prior approval. We believe that Chambers meets the "unusual circumstances" and "procedures that are consistent with...[the operator's] current practices" conditions of the preamble to Part 60.13(i) since Chambers, under the federally enforceable PSD permit, must meet a more stringent emission limitation than is required by the NSPS Subpart Da. To violate the 80 percent SO₂ reduction requirement of this approval while complying with the 0.22 lb/mmBtu PSD rate, Chambers would have to fire coal with sulfur content resulting in uncontrolled SO₂ emissions (at the dryer inlet) lower than 1.1 lb/mmBtu while the presently predicted lowest SO₂ emission would not be less than 2.02 lb/mmBtu.

If you have any question, please call either me at 703-308-8600 or Zofia Kosim of my staff at 703-308-8733.

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Memo from



COSTAIN COAL INC.

BOX 170 TOLLAGE CREEK ROAD ■ PIKEVILLE, KY 41501
TELEPHONE: 606/432-0307

Date October 28, 1991

From Mike Francisco

To Peter Schmidt

Subject East Kentucky
Quality Control Lab

Attached is the information that was requested during our visit from John Smith and Gary Weidinger representing Bechtel on Thursday, October 17.

Please let me know if there is any additional information which is necessary.

files1\bechtel.mem

COSTAIN COAL INC.
TRANSCONTINENTAL COAL PROCESSING, INC.
QUALITY CONTROL SUMMARY

SAMPLING PROCEDURES

All of the (2 x 0) coals which are loaded into rail cars at the Transcontinental Coal Processing facility for shipment to customers is presently sampled by means of a two-stage Hebden-Schilbe-Smith automatic mechanical sampler. The sampler is adjusted to the proper lot sizes according to ASTM guidelines. The sampler is inspected each morning prior to startup by designated personnel using a predetermined set of criteria developed by the Supervisor of Sampling and Analysis for the East Kentucky Operations. This facility has been bias tested under the supervision of Commercial Testing, Inc. The results of this bias test are available if requested.

COAL LABORATORY

All analysis of both incoming coal and shipments are performed by Costain Coal's East Kentucky Laboratory. This lab is fully equipped to perform the required daily analysis and is staffed by four qualified personnel. All laboratory analyses are performed in strict compliance with ASTM guidelines and procedures.

Upon completion of the loading of a particular order, an 8 mesh save sample is obtained from the mechanical sampler. This 8 mesh sample is weighed, riffled, and then reduced to a 60 mesh product for analytical lab testing. Reserve samples are kept for all coals for a period of 60 days after the date of testing. The laboratory performs short proximate analysis, (moisture, ash, BTU and sulfur), on most all samples.

The procedure followed in a normal testing routine is to take approximately 2,000 grams of the 8 mesh coal sample, and to air dry it for approximately 8 hours in a Despatch oven. After this period, the sample is weighed to obtain the total moisture values. The sample is then subjected to the 4 hour ashing procedure utilizing Lindberg furnaces and controllers. BTU evaluations are conducted on a Parr 1261 isoperibol bomb calorimeter. These are performed in the dynamic mode with a run time of approximately 4 - 5 minutes per sample. Sulfur contents are obtained by utilizing a Leco SC132 machine, with a run time of 90 seconds per sample.

Calibrations and maintenance are performed on all equipment on a routine basis, according to manufacturers specifications or ASTM guidelines.

To ensure that the East Kentucky Laboratory results remain at a level of excellence, the Laboratory participates in a "round-robin" testing program, managed by Commercial Testing Company, Inc. Results have always placed the Costain Laboratory at the top of this program. Attached are the results of this year's program.

Further detail and/or site visits are available and can be arranged if necessary to view first-hand the practices and procedures in place and ongoing at the Costain East Kentucky Laboratory.

January 1991

COMMERCIAL TESTING & ENGINEERING CO.



PROX DRY VALUES

ROUND ROBIN REPORT - TABLE II - STATISTICAL SUMMARY

OTHER PARAMETERS

8-Mesh Proximate Analysis

RR #: 831 - LAB #: 032825

NO. OF RESULTS	MEAN VALUE	LAB		DIFF.	STANDARD DEVIATION	QUALITY SCORE	REPRODUCIBILITY	
		VALUE	VALUE				ACTUAL	ASTM
TOTAL MOISTURE	78	3.61	3.54	-0.07	0.1622	43	0.46	0.50
RY ASH	79	9.44	9.43	-0.01	0.1829	6	0.52	0.40
RY VOLATILE	55	37.18	*****	*****	0.5225	*****	1.48	1.40
RY SULFUR	77	1.34	1.33	-0.01	0.0389	26	0.11	0.13
S RECEIVED BTU	76	12959	12980	21	49.9617	42	141	100
RY BTU	77	13445	13456	11	46.9574	23	133	100
AF BTU	77	14846	14857	11	32.6058	34	92	100
2 MOISTURE A20	7	3.65	*****	*****	0.2128	*****	0.60	2.00

***** - VALUES NOT REPORTED

----- - PARAMETERS NOT TESTED

March 19.91



PROX DRY VALUES

COMMERCIAL TESTING & ENGINEERING CO.

ROUND ROBIN REPORT - TABLE II - STATISTICAL SUMMARY

OTHER PARAMETERS

8-Mesh Proximate Analysis

RR #: 839 - LAB #: 032825

NO. OF RESULTS	MEAN VALUE	LAB		STANDARD DEVIATION	QUALITY SCORE	REPRODUCIBILITY	
		VALUE	DIFF.			ACTUAL	ASTM
TOTAL MOISTURE	70	5.22	5.11	-0.11	69	0.45	0.50
DRY ASH	70	8.18	8.12	-0.06	51	0.33	0.40
DRY VOLATILE	47	19.04	*****	*****	*****	0.92	1.40
DRY SULFUR	69	0.52	0.52	0.00	0	0.08	0.08
AS RECEIVED BTU	69	13543	13555	12	46.2745	26	131
DRY BTU	69	14286	14285	-1	40.1683	3	114
MAF BTU	69	15557	15547	-10	39.9566	25	113
EQ MOISTURE	5	2.06	*****	*****	0.0435	*****	0.12
NA2O							

***** - VALUES NOT REPORTED

----- - PARAMETERS NOT TESTED

APRIL 91

COMMERCIAL TESTING & ENGINEERING CO.

PROX DRY VALUES

ROUND ROBIN REPORT - TABLE II - STATISTICAL SUMMARY

OTHER PARAMETERS

8-Mesh Proximate Analysis

RR #: 843 - LAB #: 032825

NO. OF RESULTS	MEAN	LAB	DIFF.	STANDARD	QUALITY	REPRODUCIBILITY		
	VALUE	VALUE		DEVIATION	SCORE	ACTUAL	ASTM	
TOTAL MOISTURE	83	15.18	15.27	0.09	0.2873	31	0.81	0.50
DRY ASH	86	10.13	10.37	0.24	0.1222	196	0.35	0.40
DRY VOLATILE	61	42.81	*****	*****	1.1145	*****	3.15	1.40
DRY SULFUR	85	4.33	4.30	-0.03	0.1105	27	0.31	0.31
AS RECEIVED BTU	81	10793	10781	-12	49.6379	24	140	100
DRY BTU	84	12722	12724	2	37.2876	5	105	100
MAF BTU	84	14157	14196	39	47.5673	82	135	100
EQ MOISTURE	7	13.87	*****	*****	0.1398	*****	0.40	2.00
NA2O			13.23					

***** - VALUES NOT REPORTED

----- - PARAMETERS NOT TESTED

MAY 1991



PROX DRY VALUES

COMMERCIAL TESTING & ENGINEERING CO.

ROUND ROBIN REPORT - TABLE II - STATISTICAL SUMMARY

OTHER PARAMETERS

8-Mesh Proximate Analysis

RR #: 847 - LAB #: 032825

NO. OF RESULTS	MEAN	LAB	DIFF.	STANDARD	QUALITY	REPRODUCIBILITY		
	VALUE	VALUE		DEVIATION	SCORE	ACTUAL	ASTM	
TOTAL MOISTURE	72	6.05	6.10	0.05	0.1824	27	0.52	0.50
DRY ASH	74	6.53	6.54	0.01	0.1132	9	0.32	0.40
DRY VOLATILE	51	35.66	*****	*****	0.6491	*****	1.84	1.40
DRY SULFUR	73	0.69	0.68	-0.01	0.0269	37	0.08	0.09
AS RECEIVED BTU	69	13331	13303	-28	37.6324	74	106	100
DRY BTU	71	14183	14167	-16	46.6577	34	132	100
MAF BTU	71	15176	15158	-18	46.1426	39	131	100
EQ MOISTURE	7	2.76	*****	*****	0.3791	*****	1.07	2.00

***** - VALUES NOT REPORTED

----- - PARAMETERS NOT TESTED

1971

COMMERCIAL TESTING & ENGINEERING CO.

PROX DRY VALUES

ROUND ROBIN REPORT - TABLE II - STATISTICAL SUMMARY

OTHER PARAMETERS

8-Mesh Proximate Analysis

RR #: 859 - LAB #: 032825

NO. OF RESULTS	MEAN	LAB	DIFF.	STANDARD DEVIATION	QUALITY SCORE	REPRODUCIBILITY		
	VALUE	VALUE				ACTUAL	ASTM	
TOTAL MOISTURE	70	7.57	7.52	-0.05	0.1979	25	0.56	0.50
RY ASH	70	6.14	6.24	0.10	0.0654	153	0.18	0.40
RY VOLATILE	52	36.39	*****	*****	0.9868	*****	2.79	1.40
RY SULFUR	69	1.50	1.52	0.02	0.0463	43	0.13	0.14
RECEIVED BTU	68	12686	12676	-10	49.0671	20	139	100
RY BTU	68	13724	13707	-17	38.4199	44	109	100
AF BTU	68	14621	14619	-2	41.7173	5	118	100
MOISTURE	4	8.23	*****	*****	0.5508	*****	1.56	2.00

***** - VALUES NOT REPORTED

----- - PARAMETERS NOT TESTED

Aug. 1991

PROX DRY VALUES

COMMERCIAL TESTING & ENGINEERING CO.

ROUND ROBIN REPORT - TABLE II - STATISTICAL SUMMARY

OTHER PARAMETERS

8-Mesh Proximate Analysis

RR #: 863 - LAB #: 032825

NO. OF RESULTS	MEAN	LAB	DIFF.	STANDARD	QUALITY	REPRODUCIBILITY		
	VALUE	VALUE		DEVIATION	SCORE	ACTUAL	ASTM	
TOTAL MOISTURE	70	8.06	8.17	0.11	0.2634	42	0.74	0.50
DRY ASH	70	7.76	7.55	-0.21	0.1982	106	0.56	0.40
DRY VOLATILE	51	45.43	*****	*****	0.6142	*****	1.74	1.40
DRY SULFUR	67	0.52	0.53	0.01	0.0247	40	0.07	0.08
AS RECEIVED BTU	68	11895	11881	-14	61.8961	23	175	100
DRY BTU	68	12937	12938	1	49.7373	2	141	100
MAF BTU	68	14031	13995	-36	45.5610	79	129	100
EQ MOISTURE	6	6.97	*****	*****	0.0499	*****	0.14	2.00
NA2O								

***** - VALUES NOT REPORTED

----- - PARAMETERS NOT TESTED

September 1991



PROX DRY VALUES

COMMERCIAL TESTING & ENGINEERING CO.

ROUND ROBIN REPORT - TABLE II - STATISTICAL SUMMARY

OTHER PARAMETERS

8-Mesh Proximate Analysis

RR #: 867 - LAB #: 032825

NO. OF RESULTS	MEAN	LAB	DIFF.	STANDARD	QUALITY	REPRODUCIBILITY		
	VALUE	VALUE		DEVIATION	SCORE	ACTUAL	ASTM	
TOTAL MOISTURE	85	8.24	8.32	0.08	0.2157	37	0.61	0.50
DRY ASH	85	8.38	8.17	-0.21	0.2353	89	0.67	0.40
DRY VOLATILE	63	45.13	*****	*****	0.8665	*****	2.45	1.40
DRY SULFUR	82	0.51	0.52	0.01	0.0197	51	0.06	0.08
AS RECEIVED BTU	83	11828	11828	0	50.6881	0	143	100
DRY BTU	83	12893	12901	8	48.4014	17	137	100
MAF BTU	83	14075	14049	-26	42.9704	61	122	100
EQ MOISTURE	6	6.77	*****	*****	0.2074	*****	0.59	2.00
NA2O								

***** - VALUES NOT REPORTED

----- - PARAMETERS NOT TESTED

5

COSTAIN

EXHIBIT 6.2

<u>Characteristic</u>	<u>Monthly Weighted Average</u>	<u>Rejection Limit Per Shipment</u>
Btus per lb.	12,500	12,000
Moisture (%)	8	9
Ash (%)	9	12
SO ₂ (lbs. per million Btus)	1.6	2.0
Volatile Matter	33-36	-----
Fixed Carbon	53	-----
Ash Fusion (ID-reducing) (degrees F)	2,600	-----
Grindability (HGI)	40	-----
Fines (minus 1/4 inch) (%)	50	-----