

# Indiantown Cogeneration, L.P.

RECEIVED

JUL 15 1994

Bureau of  
Air Regulation

July 8, 1994

Preston Lewis  
Permitting and Standards Section  
Florida Department of Environmental Protection  
Twin Towers Office Bldg.  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

RE: SCR Engineering Details

Dear Mr. Lewis:

As we discussed, the SCR (Selective Catalytic Reduction) system information provided previously was very detailed. Enclosed please find simplified schematics from the Foster Wheeler brochure in response to your request.

If you have any questions or require additional information please call me at (301) 718-6973.

Sincerely,

  
Michelle Griffin  
Environmental Compliance Specialist

Enclosures

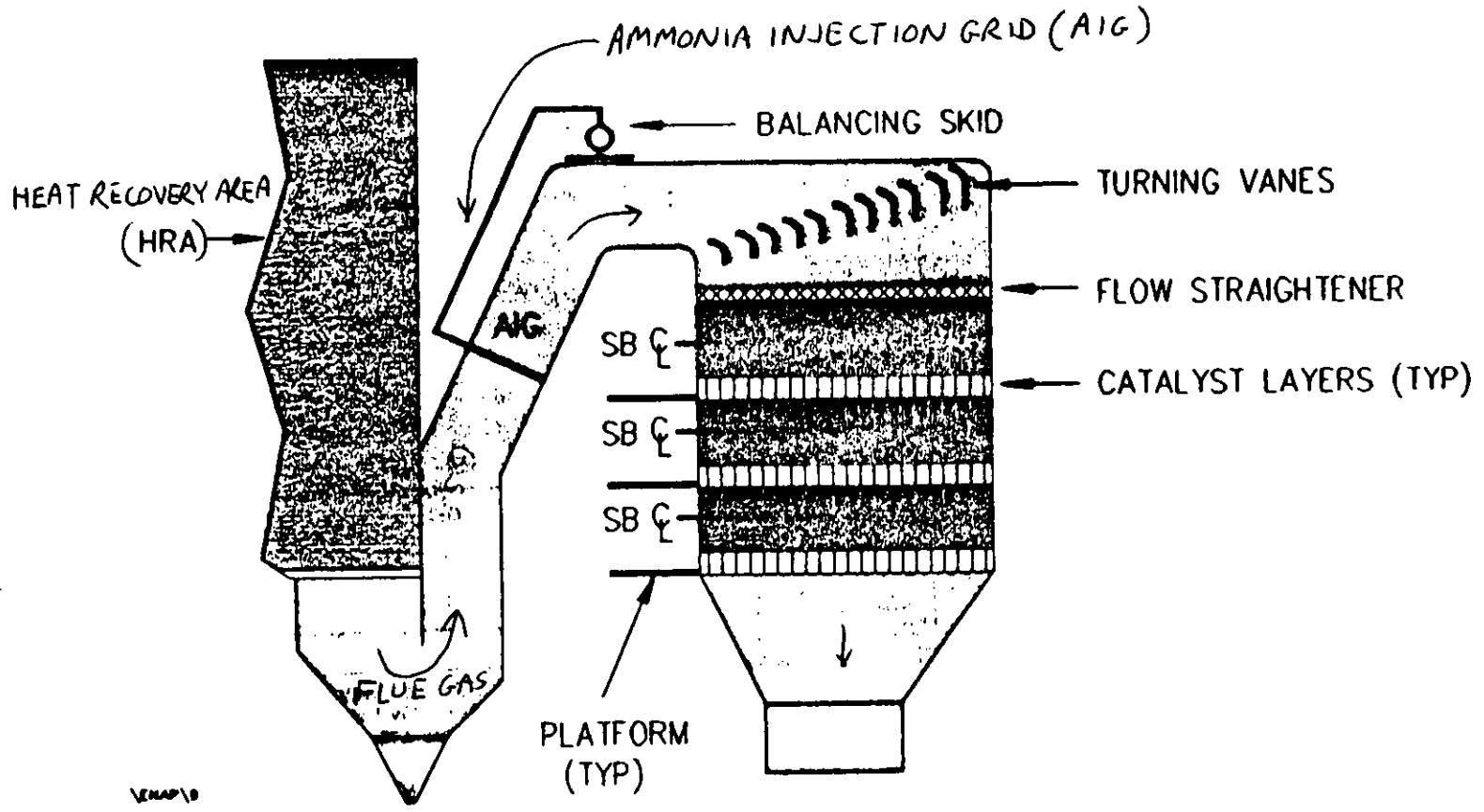
cc: (with enclosure)  
H. S. Oven, Jr. FDEP





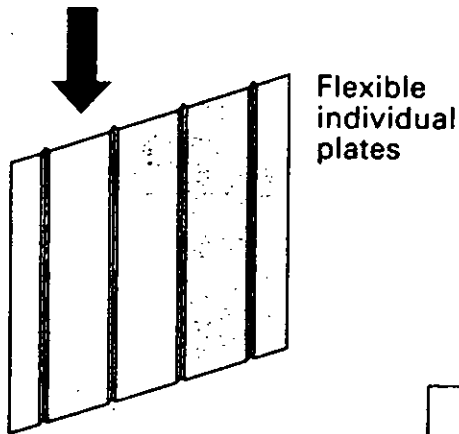
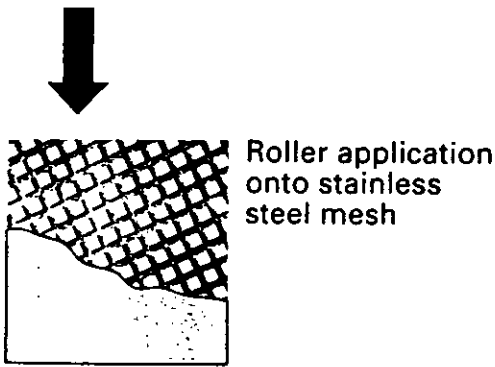
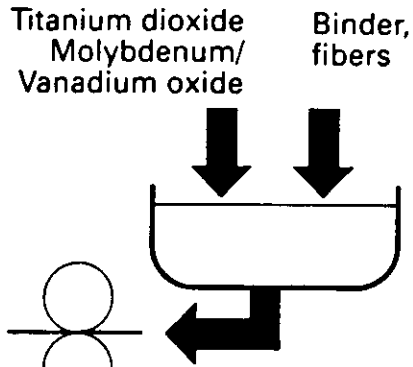
POSTER WHEELER ENERGY CORPORATION

# SCR FOR COAL FIRED BOILER

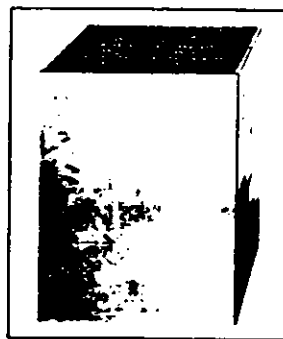


VENAP/8

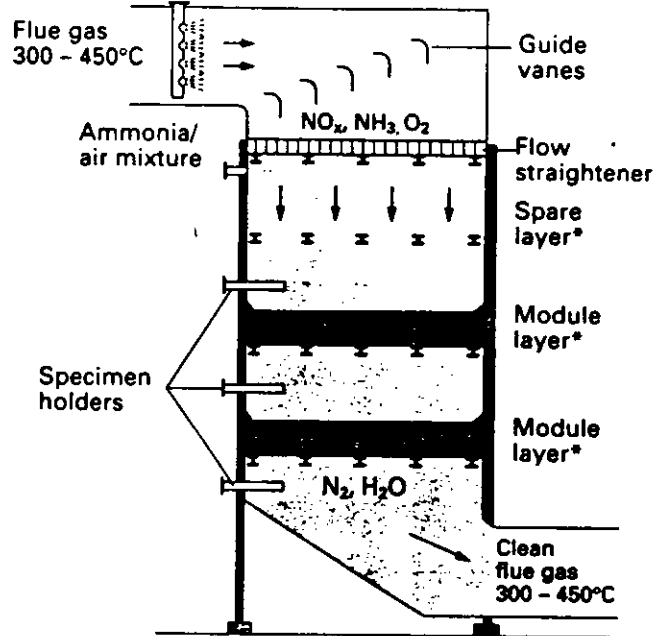
# Fabrication Process and Installation



Shaping and cutting  
to length, calcining (6 - 8 h)

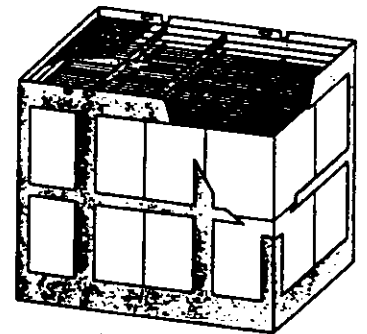


Installation  
in module  
frame

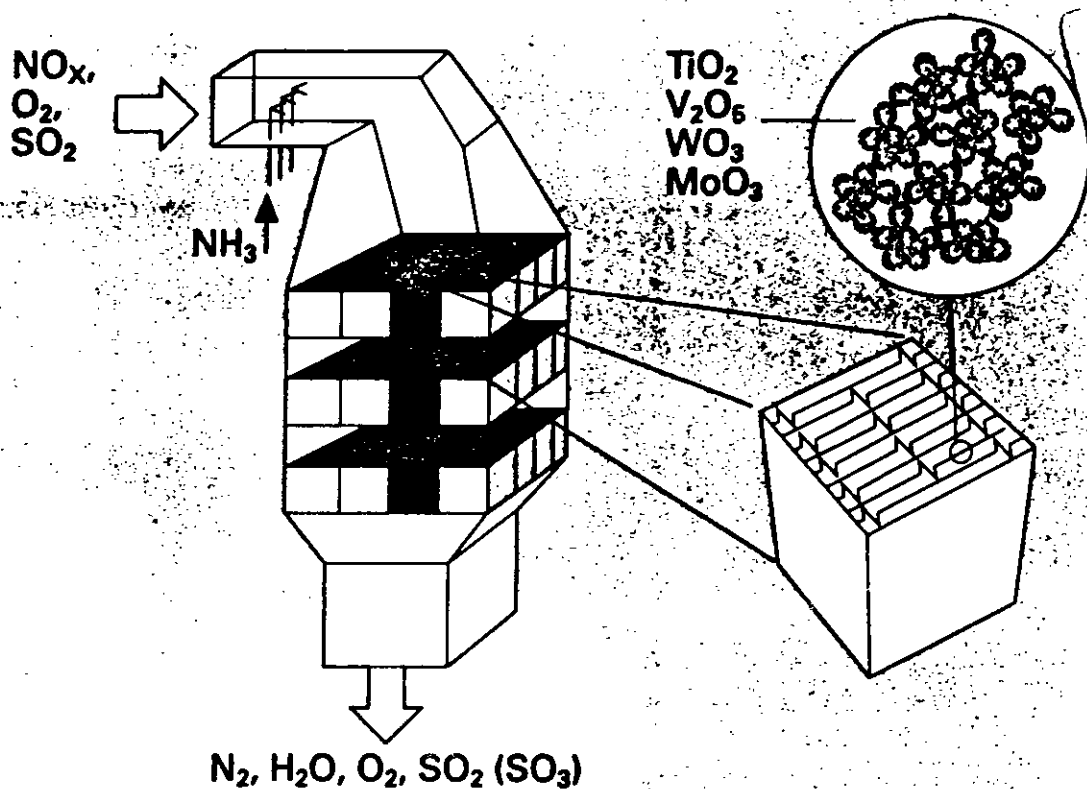


\* Number of module  
layers dependent  
on required NO<sub>x</sub>-  
reduction efficiency

Installation  
in DENOX reactor



# No<sub>x</sub> Abatement with SCR Process



**Selective**  
 undesired *minimized*  
 $2 \text{NH}_3 + 1/2 \text{O}_2 \rightarrow \text{N}_2 + 3\text{H}_2\text{O}$   
 $(\text{SO}_2 + 1/2 \text{O}_2 \rightarrow \text{SO}_3)$

**Catalytic**  
 $\text{TiO}_2/\text{V}_2\text{O}_5/\text{WO}_3/\text{MoO}_3$   
 Fe/Cr-Oxide  
 Zeolite

**Reduction**  
 $\text{NO}_x$  with  $\text{NH}_3 \rightarrow \text{N}_2, \text{H}_2\text{O}$

## Advantages of SCR Process

- High efficiency (up to > 90%)
- Final products  $\text{N}_2$  and  $\text{H}_2\text{O}$
- Compatible with FGD
- Simple process
- Simple construction

*Patty file*

**Indiantown Cogeneration, L.P.**

RECEIVED

MAY 10 1994

Bureau of  
Air Regulation

Control #:  
Reference Code: ICLDEP  
File: 6.3

May 5, 1994

Mr. Hamilton S. Oven, Jr.  
Administrator, Office of Siting Coordination  
Department of Environmental Protection  
3900 Commonwealth Blvd., MS 48  
Tallahassee, FL 32399-3000

Dear Mr. Oven:

As required by Condition of Certification II (1.)A.2(c), this letter transmits the eighth quarterly report for the Indiantown Cogeneration Project for the period ending March 31, 1994. I have enclosed a color photo copy of an aerial photo of the site illustrating progress as of March 21, 1994. In addition, I am enclosing information required by Condition of Certification II 1.A.2. Operations and maintenance manuals for the main boiler and auxiliary boilers and flue gas cleaning systems included are as follows:

- |                           |  |
|---------------------------|--|
| Auxiliary Boilers:        | Operation and Instruction Manuals (Nebraska Boilers)   |
| Main Boiler:              | Instructions for the Care and Operation of Natural Circulation Reheat Steam Generator and Auxiliaries (Foster Wheeler) |
| Flue Gas Cleaning System: | Operation and Maintenance Manual (ABB Environmental Systems)   |

During the first quarter of 1994, construction was focused on erection of the boiler, air preheater and baghouse building structural steel as well as the installation of the mechanical and electrical bulk commodities in the boiler and turbine buildings. Installation of the raw water piping was essentially completed with the exception of the above grade crossings at streams and other obstructions. Major underground structures for the makeup water pumphouse at Taylor Creek/Nubbin Slough have been completed. Installation of the intake screens should take place during the next quarter. Other construction accomplishments during this period include; installation of the coal silos, completion of the brick stack liner, and the installation of water treatment equipment and associated buildings.



Doing business in Florida as Indiantown Cogeneration, L.P. Limited Partnership



May 5, 1994

Page 2

The sanitary system permit process continued through the first quarter with the necessary public notices. The permit was issued on March 25, 1994. Review and approval of the ambient air monitoring locations by DEP was completed and installation of the monitors initiated. The monitors will be activated during the second quarter. The Visitor's Center permit applications have been revised to reflect a new location. Approval has been granted by SFWMD and is expected from Martin County and DEP-WPB during the second quarter.

Engineering efforts are now centered on electrical and instrumentation design. Electrical engineering is continuing with design activities related to conduit placement, cable and raceway routing, electrical connection diagrams and the preparation of electrical schematics. Instrumentation work was focused around Distributed Control System (DCS) programming activities related to preparation of control logics, input/output lists and review of vendor technical submittals. Civil work is essentially complete and the mechanical engineering efforts were to review vendor data and start the preparation of plant system operation specifications.

Major vendors continue to provide regular, on schedule shipments of materials to the site. Foster Wheeler continues to supply boiler pressure parts to support erection activities by Bechtel Construction. General Electric continues shop fabrication of turbine-generator components in support of a third quarter 1994 shipment commitment. ABB Flakt continues to supply steel to support construction fabrication of the baghouse and the commencement of FGD reactor erection activities.

As of March 31, 1994, 73 non-manual employees and 638 direct hire craftsmen are employed at the site. We continue to provide environmental awareness training to all on-site personnel as they join the project.

You are welcome to come visit the site to review progress first hand. If you would like to schedule a visit or if you have any questions, please call me at 301/718-6973.

Sincerely,

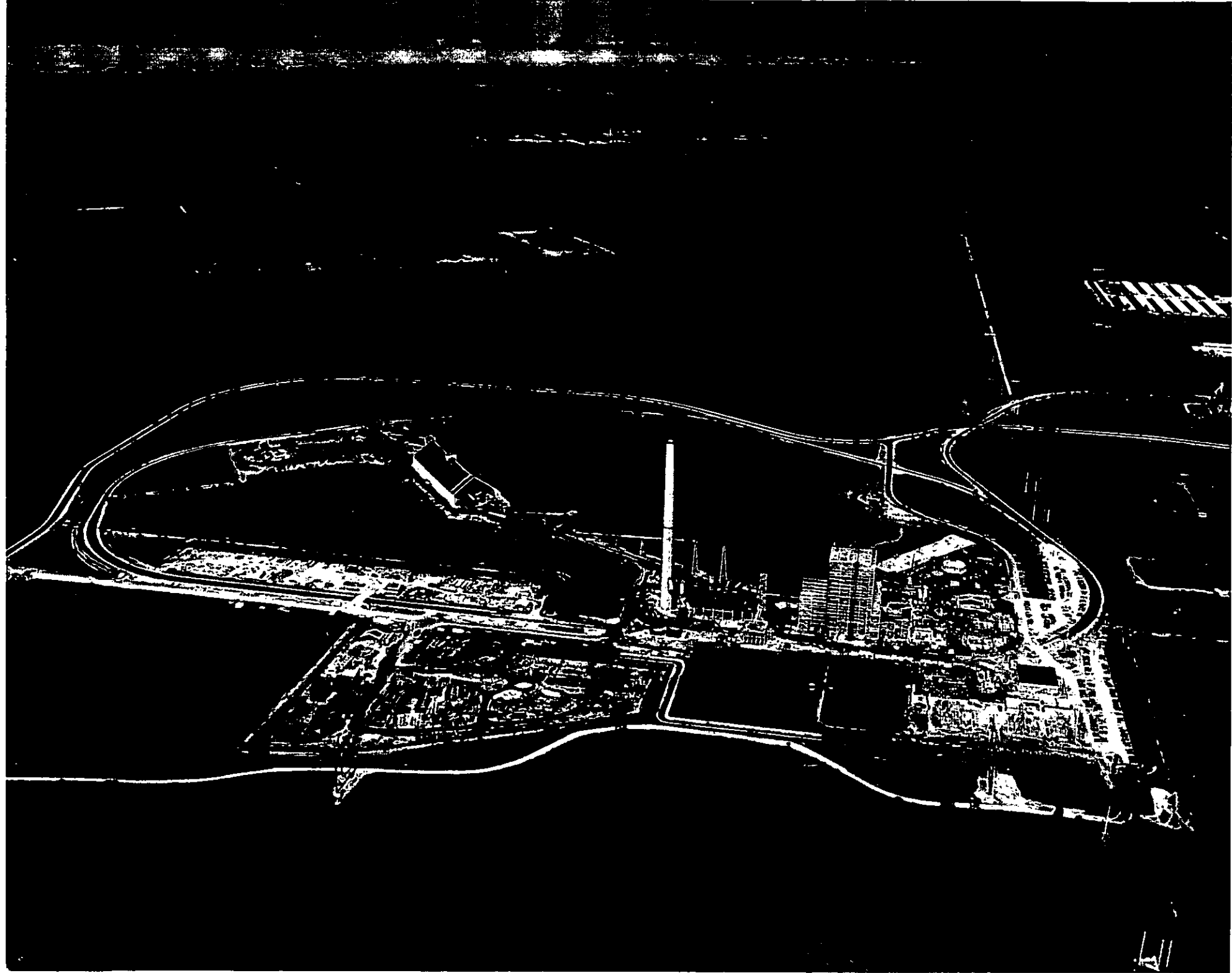


Michelle Griffin  
Environmental Compliance Specialist

Enclosure: 1 photo, 4 copies of 3 manuals

cc: Preston Lewis, w/photo  
Richard Donelan, w/photo  
Susan Coughanour, w/photo







Lawton Chiles  
Governor

# Florida Department of Environmental Protection

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

Virginia B. Wetherell  
Secretary

April 11, 1994

Mr. Paul Reineremann  
Environmental Specialist  
Indiantown Cogeneration, L.P.  
7500 Old Georgetown Road  
Bethesda, Maryland 20814-6161

Dear Mr. Reineremann,

We have received the Hard Copy Information Reports you submitted April 1 for the PSD monitoring sites required under the Power Plant Siting Conditions of Certification for the Indiantown Cogeneration Project permit. The two sites meet siting requirements and are acceptable for PSD monitoring.

SAROAD numbers were issued for these sites. The monitoring site at Caulking Indiantown Citrus Company, labeled "Site #1 - Caulking Plant Site," is SAROAD #10-1930-003-J02. The monitoring site on State Road 710, labeled "Site #2 - FL Martin Site," about five miles northwest of Indiantown, is SAROAD #10-1930-001-J02.

Thank you for your prompt and thorough response. If you need further information or assistance, please call Ms. Tammy Eagan at 904/488-6140.

Sincerely,

Dotty Diltz, Chief  
Bureau of Air Monitoring  
and Mobile Sources

DD/te

cc: Micheal D. Mazaika  
Tammy Eagan  
Clair Fancy



STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ROUTING AND TRANSMITTAL SLIP

TO: (NAME, OFFICE, LOCATION)

1. *Clair Tracy*

2. *[Signature]*

3. *[Signature]*

RECEIVED

4. *Patty Adams - file*

APR 12 1994

*[Signature]*  
Bureau of  
Air Regulation

FROM:

*Jenny Kagan*

DATE

*4/13/94*

PHONE /

# Indiantown Cogeneration, L.P.

April 1, 1994

Doc. Ctrl. 2657  
Ref. No. ICLDEP  
File No. 6.3.1.2

Ms. Tammy Eagan  
Florida Dept. of Environmental Protection  
Division of Air Resources Management  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

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APR 04 1994

Bureau of Air Monitoring  
& Mobile Sources

Subject: ICP Air Quality Monitoring Program -  
SAROAD Hard Copy Information Reports

Dear Ms. Eagan:

This letter documents transmittal of one (1) copy each of the completed Hard Copy Information Reports (HCIRs) requested by your agency to support the evaluation of site acceptability and the issuance of SAROAD identification codes for the two ambient air quality monitoring stations required to be operated under the Conditions of Certification and Prevention of Significant Deterioration (PSD) permit issued for the Indiantown Cogeneration Project (ICP).

Input to these reports is based primarily on information contained in the Site Certification Application (SCA), the PSD air quality impact analysis report, the air quality monitor siting impact analysis (see the letter from M. Mazaika of Bechtel Power Corporation (BPC) to you, dated January 24, 1994), the summary report on proposed monitoring site locations (see the letter from M. Mazaika (BPC) to you, dated February 10, 1994), and subsequent telephone conversations between Mr. Mazaika and you regarding identification of the two candidate sites and clarification of the guidance on completing the HCIRs.

As a result of those discussions, taking into account regulatory, modeling and logistical considerations, you agreed that Site #1 will be located on property owned by the Caulkins citrus processing facility, the steam host for this project, just north of the ICP site. This station will be equipped for making automated, continuous SO<sub>2</sub> and NO<sub>2</sub> measurements, as well as integrated 24-hour PM-10 sampling. Two PM-10 samplers (primary and collocated) will be operated at this site for data reporting and quality assurance purposes, respectively. A meteorological tower will also be installed to measure wind speed and wind direction at a height of 10 meters above ground.

Site #2 will be located about 4.4 km west-northwest of the Indiantown plant on property owned by the Florida Power & Light Company (FPL) as part of the Martin power plant site. Ambient SO<sub>2</sub> and PM-10 measurements will be made at this station.

Doing business in Florida as Indiantown Cogeneration, L.P. Limited Partnership



7500 Old Georgetown Road • Bethesda, Maryland 20814-6161 • 301-718-6800 • Fax 301-718-6900

An affiliate of U.S. Generating Company

*Printed on 100% recycled paper*

*Status report  
on construction*

*Charles  
Please review  
and comment on  
any design or  
brief notes  
Dexter*

*Orig. Copy for Patsy  
Adams for  
file  
Please do*

**Indiantown Cogeneration, L.P.**

January 26, 1994

Control #: 1750

Reference Code: ICLDEP

File: 6.3

**RECEIVED**

FEB 02 1994

bureau of  
Air Regulation

Mr. Hamilton S. Oven, Jr.  
Administrator, Office of Siting Coordination  
Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, FL

Dear Mr. Oven:

As required by Condition of Certification II (1.)A.2(c), this letter transmits the eighth quarterly report for the Indiantown Cogeneration Project for the period ending December 31, 1993. I have enclosed a color photo copy of an aerial photo of the site illustrating progress as of December 17, 1993. In addition, I am enclosing information required by Conditions of Certification III.A.2 and III.B.2.c(vi). The data sheets are provided for the Flue Gas Cleaning System Lime Silo Vent Filter, the Softener System Lime Silo Vent Filter and the Softener System Soda Ash Silo Vent Filter.

During the fourth quarter of 1993, construction was focused on erection of the boiler, turbine building structural steel and the installation of the mechanical and electrical bulk commodities in the boiler and turbine buildings. Significant accomplishments this period include the placement of the condenser and several of the baghouse hopper sections, installation of the first boiler pressure parts, assembly of the coal pulverizers and the commencement of the installation of the brick liner by the stack subcontractor.

Sanitary system review continued through the fourth quarter. We expect Department of Environmental Protection in West Palm Beach (DEP-WPB) to issue a permit during January. Approval of a minor modification to the basin liner design was requested and approved. Work has been initiated on the ambient air monitoring program. Enviroplan has been selected to provided the equipment and services necessary to implement the program, which we expect to be operational early in the second quarter. The review of the Visitor Center permit applications continued. We expect to receive approvals from Martin County, SFWMD and DEP-WPB by the end of the first quarter. FAA approved aircraft warning devices have been installed on the stack and are operational.

Engineering efforts during the fourth quarter continue to be concentrated on detail design aspects of the project. Major civil engineering efforts have been completed. Design of the Taylor Creek intake structure/pump house foundations and the intake screen supports commenced. Additional work related to the design of sleeper foundations for the export steam lines and condensate return system was initiated. Electrical design efforts continue to focus on conduit design for the boiler



January 26, 1994

Page - 2

and turbine buildings. Cable routing and cable termination design were active during the quarter. Instrument and control engineering issued for bids the continuous emission monitoring (CEM) system, flue gas analyzers on the main control panels. Logic diagrams for the auxiliary boiler control system, flue gas cleaning system and the distributed control system (DCS) were issued for final review. Preparation of instrument installation details is under way as well as the location of instrumentation and electrical raceway drawings. Mechanical and plant design engineering completed hanger design efforts for various plant systems including the condensate and feedwater. Stress analysis and pipe support design for the export steam piping have commenced.

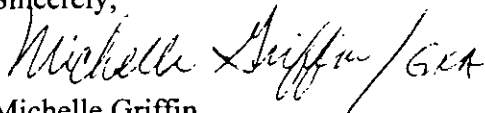
Construction has completed initial civil activities related to the installation of the make-up water pump house at Taylor Creek/Nubbin Slough. Make-up water pipeline fabrication activities are continuing and approximately 80% of the pipe has been fabricated. Installation of the raw water pipeline has commenced along the CSX right-of-way.

All major vendors continue to submit engineering details related to their areas of responsibility. Foster Wheeler (FW) continues to ship boiler pressure parts to the site with emphasis on boiler support tubes and headers. General Electric (GE) continues to fabricate turbine components at their shop sites. Scheduled ship dates are May 13, 1994, for the turbine and July 8, 1994, for the generator. ABB Flakt continues shipments of baghouse structural components to the site. It is anticipated that the reactor vessels will be received during the next quarter.

On-site procurement of minor equipment and supplies to support construction activities continues to grow to support site activities. As of December 31, 1993, 63 non-manual employees and 554 direct hire craftsmen are employed at the site. We continue to provide environmental awareness training to all on-site personnel as they join the project.

You are welcome to come visit the site to review progress first hand. If you would like to schedule a visit or if you have any questions, please call me at 301/718-6973.

Sincerely,



Michelle Griffin  
Environmental Compliance Specialist

Enclosure

cc: ~~Preston Lewis, W/encl.~~  
Richard Donelan, W/encl.  
Susan Coughanour, W/encl.



EQUIPMENT IDENTIFICATION DATA SHEET

DEPT. OF ENVIR. REG. CONDITIONS OF CERTIFICATION, PART II

EQUIPMENT NAME: Flue Gas Cleaning System Lime Silo Vent Filter

EQUIPMENT MODEL NUMBER: DCE, Inc. Model # UMA 250H-G5

FLOW RATES: 1,200 CFM at 6" WG

OTHER DESCRIPTIVE INFORMATION 0.01 grains/actual cubic ft.,  
opacity less than 5%, 250 sq. ft. woven poly cloth

**EQUIPMENT IDENTIFICATION DATA SHEET**

**DEPT. OF ENVIR. REG. CONDITIONS OF CERTIFICATION, PART II**

EQUIPMENT NAME: Softener System Lime Silo Vent Filter

EQUIPMENT MODEL NUMBER: Research-Cotrell Flex Kleen 84-BVB5-16

FLOW RATES: 750 cfm

OTHER DESCRIPTIVE INFORMATION: 0.01 grains/actual cubic ft.,  
opacity less than 5%, 170 sq.  
ft. polyester cloth

**EQUIPMENT IDENTIFICATION DATA SHEET**

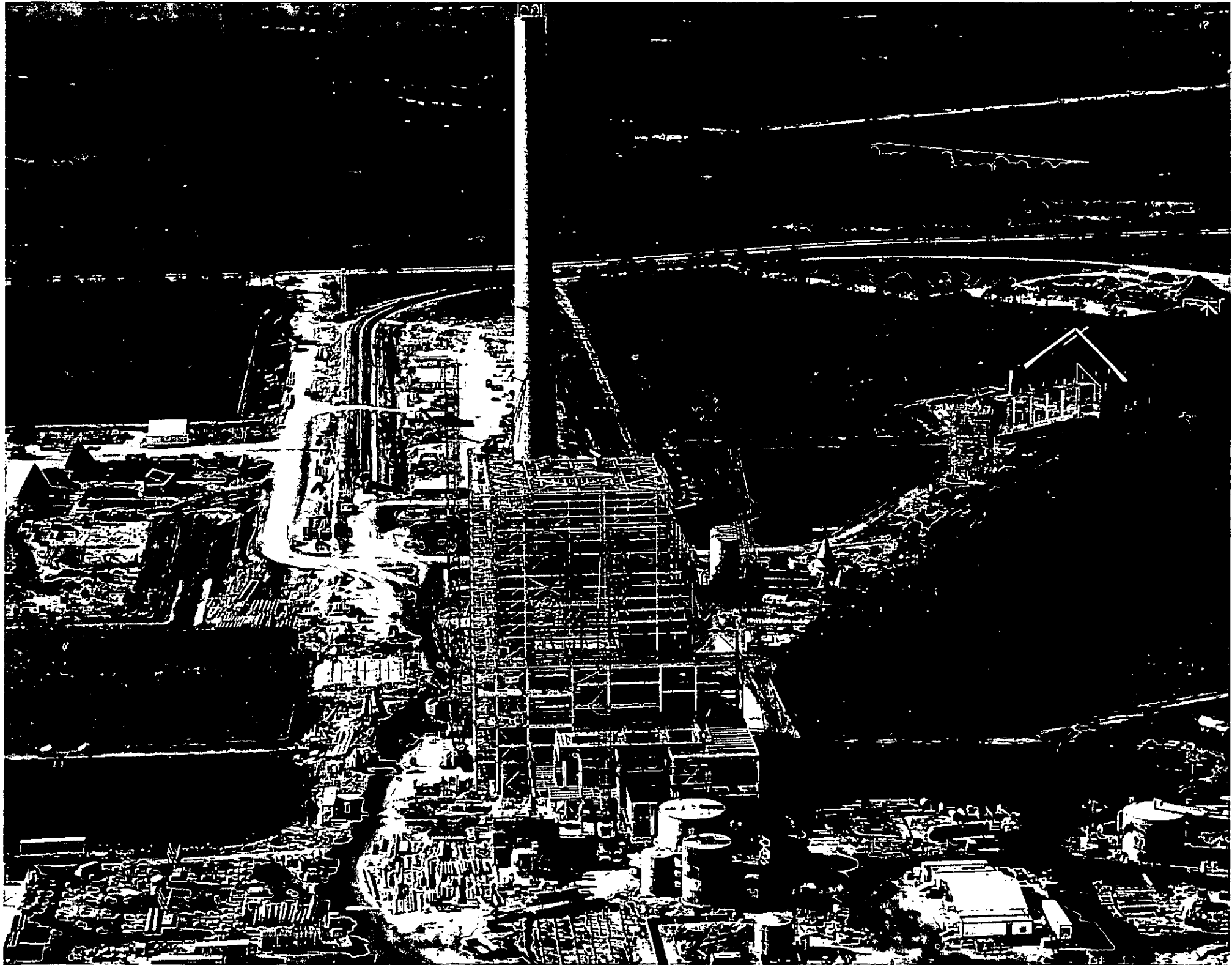
**DEPT. OF ENVIR. REG. CONDITIONS OF CERTIFICATION, PART II**

EQUIPMENT NAME: Softener System Soda Ash Silo Vent Filter

EQUIPMENT MODEL NUMBER: Research-Cotrell Flex Kleen 84-BVB5-16

FLOW RATES: 750 cfm

OTHER DESCRIPTIVE INFORMATION: 0.01 grains/actual cubic ft.,  
opacity less than 5%, 170 sq.  
ft. polyester cloth







INDIANTOWN 11/30/93



*Patly file*

**Indiantown Cogeneration, L.P.**

November 22 1993

Control #: 1599  
Reference Code: ICLDEP  
File: 6.3

Mr. Hamilton S. Oven, Jr.  
Administrator, Office of Siting Coordination  
Department of Environmental Protection  
2600 Blair Stone Road  
Tallahassee, FL

Dear Mr. Oven:

As required by Condition of Certification II (1.)A. 2(c), this letter transmits the seventh quarterly report for the Indiantown Cogeneration Project for the period ending September 30, 1993. I have also enclosed a color photo copy of an aerial photo of the site illustrating progress as of September 30, 1993.

During the third quarter of 1993, construction commenced on the conveyor galleries for the coal handling systems. Construction of the coal unloading building continued with installation of interior columns and foundations. Rail construction continued with loop track installation south of the power block area. The coal storage building erection commenced with siding and roof panel installation as the main activities in this area.

Post certification review of the raw water intake structure and 19 mile pipeline took place during the third quarter. SFWMD's approval was issued early in the fourth quarter. FDOT approved temporary access roads for pipeline construction as well as the permanent access road to the intake structure. Applications for potable water and sanitary systems were filed with DEP in West Palm Beach (DEP-WPB). Approval for the potable system has been issued. Applications for the Visitor Center were filed with Martin County, SFWMD and DEP-WPB.

Engineering efforts by Bechtel have peaked and the remaining efforts will be concentrated in detailed designs of the electrical and plant instrumentation systems. Cable tray design has commenced for the upper elevations of the boiler building, turbine building, and water treatment areas. Cable and conduit routing are presently active areas of design. Instrumentation and controls commenced software development of the distributed control system as well as inter-related sub-systems. Specifications for procurement of control valves, flow transmitters, level indicators, etc., continue to support engineering schedules. The mechanical design effort has continued in piping design and layout. Secondary system designs for auxiliary steam, closed cycle cooling water, potable water, and sanitary systems remain active. Large bore piping design has been essentially completed and released for fabrication from vendor sub-suppliers. Civil engineering efforts have been primarily focused on final site grading details and hanger support structures within the facility.



November 22, 1993

Page - 2

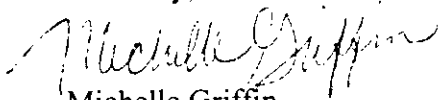
Construction has mobilized and commenced civil activities for the installation of the make-up water pumphouse at Taylor Creek/Nubbin Slough. Pile installation and underground excavation of the pumphouse are the primary focus of these efforts. Make-up water pipe continuous to be received at the site and staged at various fabrication areas along the pipeline route. Installation of the pipeline is scheduled to start during the fourth quarter of this year.

All major vendors continue to submit engineering details related to their areas of responsibility. Foster Wheeler (FW) has commenced shipment of boiler pressure parts to the site. Of significance was the delivery and installation of the boiler steam drum in September. Fabrication of these shipping modules has started on-site to support construction boiler erection schedule. General Electric (GE) continues to fabricate turbine components at their shop sites. Delivery of the first turbine parts is anticipated in the third quarter of 1994. ABB Flakt has started shipments of baghouse structural components. Steel erection has commenced for the baghouse at the site.

Procurement efforts have been focused on orders for electrical cable and equipment and instrumentation. Expediting of all vendors to insure compliance with delivery dates and equipment quality are major focuses at this time. Delivery and installation of the main transformer and start-up transformer took place in September. On site procurement of minor equipment and supplies to support construction activities continuous to grow to support site manpower that presently exceeds 500 craft personnel. We presently anticipate a site work force of approximately 800 people during the first quarter of 1994.

You are welcome to come visit the site to review progress first hand. If you would like to schedule a visit or if you have any questions, please call me at 301/718-6973.

Sincerely,



Michelle Griffin

Environmental Compliance Specialist

Enclosure

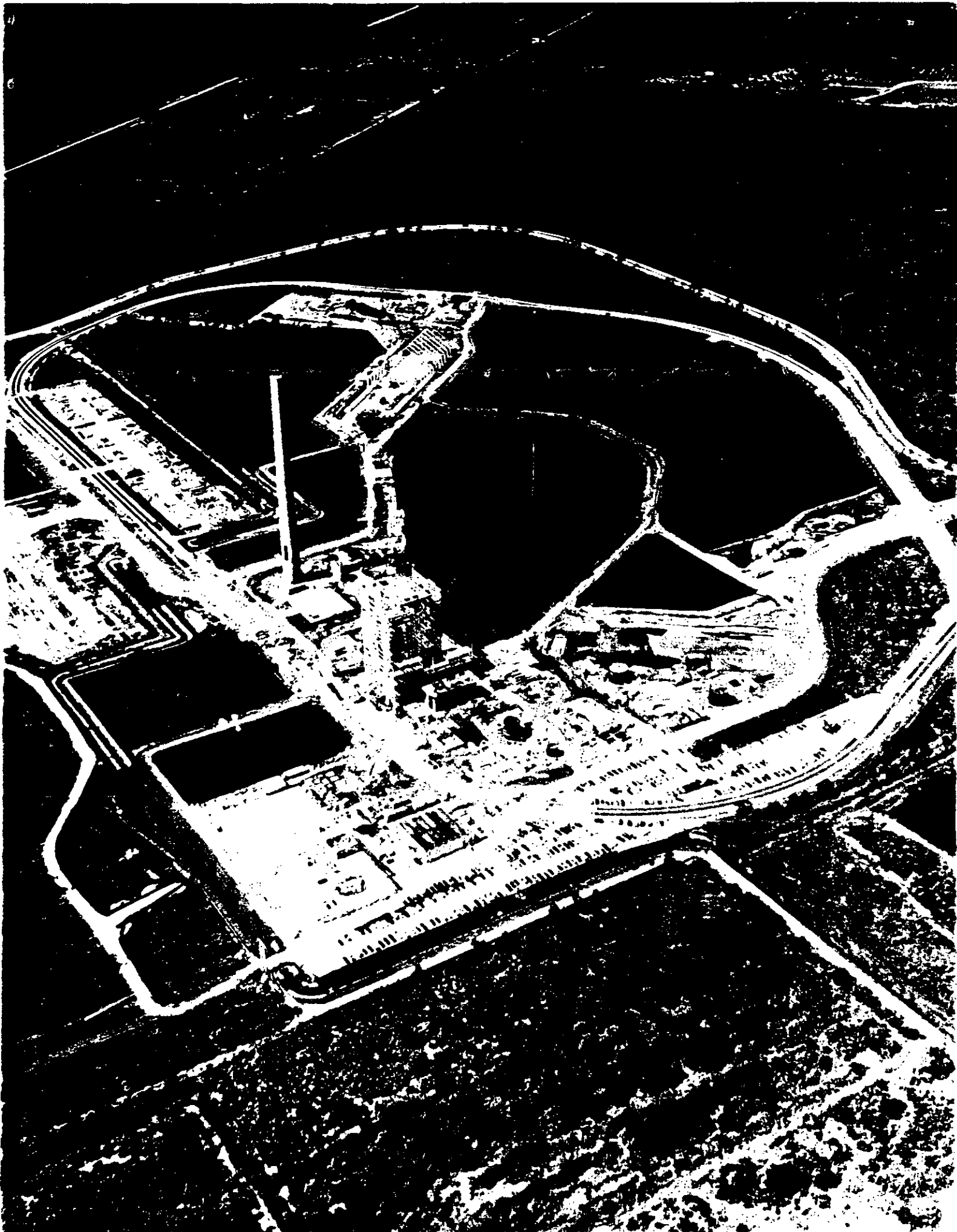
cc: Preston Lewis, W/encl.  
Richard Donelan, W/encl.  
Susan Coughanour, W/encl.















**Indiantown Cogeneration, L.P.**  
**RECEIVED**

August 16, 1993

*File*

AUG 26 1993

Control #: 0975

Reference Code:

Division of Air  
Resources Management

File #: 6.3.3.2

Mr. Hamilton S. Oven, Jr.  
Administrator, Office of Siting Coordinator  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Dear Mr. Oven:

As required by Condition of Certification III.A.2(c), this letter transmits the sixth quarterly report for the Indiantown Cogeneration Project for the period ending June 30, 1993.

During the second quarter of 1993, construction activities continued to emphasize foundation construction and installation of underground piping and duct banks. Work continued on the turbine foundation and installation commenced on the turbine pedestal legs. First structural steel delivery and erection for the boiler building occurred on May 13, 1993. Installation of boiler structural steel continues in preparation for the commencement of boiler erection in the third quarter of 1993. Installation of the stack shell has continued this quarter and is approximately 75% complete. Installation of piling and dewatering for the coal unloading building and the circulatory water pumphouse has commenced. The liner for the 35 acre cooling water storage pond was completed during this period and installation of the sand cover is currently underway. Work on the coal pile runoff basin liner was initiated during this quarter.

The railroad bridge over the hydrologic connection between wetland #5 and the offsite wetland has been completed. The wetland vegetation of the connection has been restored. The sheet piling at the railroad spur near Tampa Farms Road was also completed. Work has commenced on the railroad track with installation of ties and ballast. Makeup water pipeline material delivery has been initiated and we continue to pursue post-certification approvals with the South Florida Water Management District.

Bechtel Engineering continued detailed design efforts on the 19-mile makeup water pipeline and Taylor Creek Intake Structure. Design efforts are proceeding on piping layouts for the boiler and turbine buildings. The first piping isometrics for the mainsteam, cold reheat and hot reheat systems were issued for construction. Electrical design for underground conduit continues as well as cable tray design for the upper elevations of the boiler building and turbine building. Structural design for this period was focused on foundation design for the coal unloading areas,

Doing business in Florida as Indiantown Cogeneration, L.P. Limited Partnership



7475 Wisconsin Avenue • Bethesda, Maryland 20814 • 301-718-6800 • Fax 301-718-6910

An affiliate of U.S. Generating Company

*Printed on recycled paper*

*Patty*

*INDIAN TOWN*  
**U.S. Generating Company**

*is pleased to announce that effective*

*August 30, 1993*

*USGen will relocate its headquarters office to*

*7500 Old Georgetown Road  
Bethesda, Maryland 20814-6161*

*The main phone number remains*

*301-718-6800*

*The main fax number will be*

*301-718-6900*



August 16, 1993

Page 2

the circulating water system, and the water treatment areas. The Bechtel control systems group has started the preparation of the system logic diagrams that detail the control schemes for the various plant systems. Initial efforts have been on the major plant systems such as mainsteam and feedwater systems.

Major equipment purchased during this period included the plant severe service control valves, plant sewage lift stations, 480 volt metal clad switchgear, 230 KV circuit breakers, shop fabricated tanks, switchyard steel structures, protective relay panels, the plant distributed control system and various horizontal centrifugal pumps.

The boiler supplier, Foster Wheeler, has continued to supply drawings, data and schedules in support of Bechtel engineering activities. Critical delivery of the first key boiler components such as the steam drum are scheduled during the next quarter. General Electric (GE) has also continued to supply design data. Delivery of major turbine generator components is presently scheduled for April, 1994. ABB Flakt, the flue gas cleaning vendor has begun supplying design information related to their scope of work.

Enclosed for your review are the first set of equipment data sheets related to components that have been purchased for the Indiantown facility. Additional information to support the Conditions of Certification will be forthcoming in subsequent quarterly reports. Responses to questions and additional drawing details have been submitted to DER on the plant stack design. Post-certification submittals to various agencies have continued in accordance with the requirements of the Conditions of Certification.

Please call me at 301/718-6973 if you have any questions.

Sincerely,

*Michelle Griffin (bmu)*

Michelle Griffin  
Environmental Compliance Specialist

MG/mm

Enclosures: Two (2) Copies

cc: Mr. Preston Lewis, w/out encl.  
Mr. Richard Donelan, w/out encl.  
Ms. Susan Coughanour, w/out encl.



*Patty*

# INDIANTOWN COGENERATION, L.P.

May 12, 1993

Mr. Hamilton S. Oven, Jr.  
Administrator, Office of Siting Coordination  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Control #: 0773  
Ref. Code: ICLFDER  
File #: 6.3.3.2

Dear Mr. Oven:

As required by Condition of Certification (COC) II.1.A.2(c), this letter transmits the fifth quarterly report for the Indiantown Cogeneration Project for the period ending March 31, 1993.

During the first quarter of 1993, site preparation activities shifted from the initial site preparation to foundation construction and installation of underground piping and duct work. The boiler foundation concrete placement was completed during this period. Work continues on the turbine building foundation. The stack foundation was completed and slip form of the outer shell was initiated. Grading for the lined cooling water storage pond and coal pile runoff basin was completed in preparation for liner installation in the second quarter of 1993.

Foster Wheeler, the selected boiler vendor, continues to supply detailed engineering design for the steam generator and related systems. Based on the current schedule of submittals by Foster Wheeler, these details will be provided in our next quarterly report.

Our negotiations were completed and a letter of intent issued to ABB Flakt for the design and supply of the FGD dry scrubbing system. We continue to expect to submit data sheets and additional design details for this system during the second quarter.

The bottom ash and fly ash handling systems bids were evaluated and a purchase order has been awarded to RV Industries. Specification have been developed for the supply and installation of geosynthetic basin liners, railroad track work and the auxiliary boilers.

Bechtel Engineering has issued for construction the Piping and Instrument Diagrams (P&IDs) for the condensate, feedwater and process steam systems. Other related systems, including the main turbine, circulating water, raw water, fire protection, instrument and service air and wastewater systems, continue to be developed. Civil engineering continues to develop structural steel design for the boiler and turbine buildings as well as for the foundations for the fly ash silo and FGD system. Initial engineering has commenced on the 19 mile makeup water pipeline from Taylor Creek to the Indiantown site.



May 12, 1993

Page 2

Post-certification submittals to various agencies have continued in accordance with the requirements set forth in the Conditions of Certification. Stack drawings were submitted for DER review on January 7, 1993. We requested approval from several agencies for a design modification of the rail spur to eliminate an unsightly structure.

Please call me at 301/718-6973 if you have any questions.

Sincerely,



Michelle Griffin  
Environmental Compliance Specialist

MAG/mm

cc: Mr. Preston Lewis  
Mr. Richard Donelan  
Ms. Susan Coughanour  
*Chuck Collins, Chief*  
*Juwel Harper, EPA*



HOPPING BOYD GREEN & SAMS

ATTORNEYS AND COUNSELORS

123 SOUTH CALHOUN STREET

POST OFFICE BOX 6526

TALLAHASSEE, FLORIDA 32314

(904) 222-7500

FAX (904) 224-8551

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KRISTIN C. RUBIN  
CECELIA C. SMITH  
OF COUNSEL  
W. ROBERT FOXES

September 15, 1992

Preston Lewis  
Division of Air Resources Management  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, FL 32399

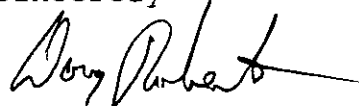
RE: Indiantown Cogeneration Project, PSD Permit PSD-FL-168

Dear Preston:

A newspaper notice of the recent amendment to the above-referenced PSD permit has been published in the Stuart News. A copy of the proof of publication of that notice is enclosed for your reference and files. This proof of publication is submitted pursuant to Rule 17-103.150(5), FAC.

No further action by the Department is required at this time. Should you have any questions, please do not hesitate to call be.

Sincerely



Douglas S. Roberts

cc: Buck Oven  
Jean Hopkins  
Sandy Hartman  
Steve Sorrentino

RECEIVED  
SEP 15 1992  
Division of Air  
Resources Management  
RECEIVED  
SEP 15 1992  
Division of Air  
Resources Management



# The Stuart News and The Port St. Lucie News

(an edition of The Stuart News)

STATE OF FLORIDA  
COUNTY OF MARTIN: COUNTY OF ST. LUCIE:


Before the undersigned authority appeared KATHLEEN N. PRITCHARD who on oath says that he/she ACCOUNTS REC  
MANAGER of The Stuart News, and The Port St. Lucie News,  
a daily newspaper Published at Stuart in Martin County, Florida,  
that the attached copy of advertisement, being a \_\_\_\_\_  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
INDIANTOWN COGENERATION PROJECT  
In the matter of NOTICE OF AMENDMENT OF PSD PERMIT

in the \_\_\_\_\_ Court, was Published in The  
Stuart News and The Port St. Lucie News in the issues of \_\_\_\_\_  
SEPT. 3, 1992

Affiant further says that the said The Stuart News and The Port St. Lucie News is a newspaper published at Stuart, in said Martin County, Florida with offices and paid circulation in Martin County, Florida, and St. Lucie County, Florida and that the said newspapers have heretofore been continuously published in said Martin County, Florida and distributed in Martin County, Florida and St. Lucie County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper. The Stuart News has been entered as second class matter at the post office in Stuart, Martin County, Florida, and Ft. Pierce, St. Lucie County, Florida and has been for a period of one year next preceding the first publication of the attached copy of advertisement.

*Kathleen Pritchard*

Sworn to and subscribed before me  
this 9th day of September

A.D. 1992  
*Catherine Hudson*  
(Seal)  CATHERINE HUDSON  
Notary Public, State of Fla.  
My Comm. Exp. April 19, 1996  
Commission # 184498

INDIANTOWN COGENERATION PROJECT  
NOTICE OF AMENDMENT  
OF PSD PERMIT  
DER NO. PSD-FL-168

The Department of Environmental Regulation gives notice of its amendment of a prevention of significant deterioration (PSD) permit to Indiantown Cogeneration L.P. (ICL), U.S. Generating Company, 7475 Wisconsin Avenue, Bethesda, MD 20814. The Department previously issued a PSD permit for the operation of the Indiantown Cogeneration Project to be located near Indiantown, Florida. The amended PSD permit will allow ICL to construct and operate two fifty percent capacity auxiliary boilers in the place of the original single auxiliary boiler, to use propane as a fuel and to conform the emission standards for the plant to the standards contained in the recent site certification for the Project.

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, F.S. 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, within 14 days of publication of this notice. The Petitioner shall mail a copy of the petition to the applicant, ICL c/o Douglas S. Robert at Hopping Boyd Green & Sams, P.A., Post Office Box 6526, Tallahassee, Florida 32314, 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 (hearing) under Section 120.57.

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's permit file 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; (c) A statement of how each petitioner's substantial interests are affected by the Department's 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; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's 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.

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 petition taken by it in this Notice. 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 the publication of this notice 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.

The application for amendment of the permit is available for public inspection during normal business hours, 8:00 AM to 5:00 PM, Monday through Friday, except legal holidays at



HOPPING BOYD GREEN & SAMS

*P Jly*

ATTORNEYS AND COUNSELORS  
123 SOUTH CALHOUN STREET  
POST OFFICE BOX 6526  
TALLAHASSEE, FLORIDA 32314  
(904) 222-7500  
FAX (904) 224-8551

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CECELIA C. SMITH  
  
OF COUNSEL  
W. ROBERT FOXES

M E M O R A N D U M

TO: Preston Lewis  
Stephanie Brooks  
  
FROM: Doug Roberts *DR*  
  
RE: Notice of Indiantown PSD Permit  
  
DATE: September 3, 1992

=====  
The attached text of the newspaper notice for the recent amendment of the PSD permit for the Indiantown Cogeneration Project was omitted from the package of material I sent you yesterday. Please include with yesterday's letter.

We have confirmed the notice was published today.

**DEPARTMENT OF ENVIRONMENTAL REGULATION  
INDIANTOWN COGENERATION PROJECT  
NOTICE OF AMENDMENT OF PSD PERMIT  
DER NO. PSD-FL-168**

The Department of Environmental Regulation gives notice of its amendment of a prevention of significant deterioration (PSD) permit to Indiantown Cogeneration L.P. (ICL), U.S. Generating Company, 7475 Wisconsin Avenue, Bethesda, MD 34956. The Department previously issued a PSD permit for the operation of the Indiantown Cogeneration Project to be located near Indiantown, Florida. The amended PSD permit will allow ICL to construct and operate two fifty percent capacity auxiliary boilers in the place of the original single auxiliary boiler, to use propane as a fuel and to conform the emission standards for the plant to the standards contained in the recent site certification for the Project.

A person whose substantial interests are affected by the Department's permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, F.S. 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 within 14 days of publication of this notice. The Petitioner shall mail a copy of the petition to the applicant, ICL c/o Douglas S. Roberts at Hopping Boyd Green & Sams, P.A., Post Office Box 6526, Tallahassee, Florida 32314, 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 hearing under Section 120.57, F.S.

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's permit file 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; (c) A statement of how each petitioner's substantial interests are affected by the Department's 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; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's 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.

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

Notice. 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 the publication of this notice 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 pursuant to Rule 28-5.207, F.A.C.

The application for amendment of the permit is available for public inspection during normal business hours, 8:00 AM to 5:00 PM, Monday through Friday, except legal holidays at

Department of Environmental Regulation  
Division of Air Resource  
2600 Blair Stone Road  
Tallahassee, FL 32399-2600  
G. Preston Lewis

Department of Environmental Regulation  
Southeast Division, Air Section  
1900 S. Congress Avenue  
Suite A  
West Palm Beach, FL 33406  
Stephanie Brooks

HOPPING BOYD GREEN & SAMS

ATTORNEYS AND COUNSELORS

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JULIE B. ROME  
KRISTIN C. RUBIN  
CECELIA C. SMITH  
OF COUNSEL  
W. ROBERT FOKES

September 2, 1992

RECEIVED

SEP 2 1992

Division of Air  
Resources Management

**BY HAND DELIVERY**

Preston Lewis  
Division of Air Resources Management  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, FL 32399-2600

RE: Newspaper Notice of ICL PSD Permit Modification

Dear Preston,

As we discussed on the telephone, Indiantown Cogeneration, L.P., intends to publish a newspaper notice of the Department's recent amendment of the PSD permit for the Indiantown Cogeneration Project. This notice is being published pursuant to Rule 17-103.150(5)(a), F.A.C. to insure finality of the permitting decision. A copy of the notice is attached for your reference.

The notice indicates the permit amendment material is available for public inspection in your offices and in the offices of Stephanie Brooks in the DER Southeast District office, as you suggested. By copy of this letter, I am sending Ms. Brooks copies of the PSD permit, the amendment request and the DER's permit amendment.

The notice should be published on September 3rd and provides a 14 day period for filing challenges to the DER's decision. However, I do not expect any such challenges.

Your cooperation in this matter is appreciated.

Sincerely



Douglas S. Roberts

cc: Stephanie Brooks, DER SE. District (w/encls)  
Richard T. Donelan (w/out encls)  
Hamilton S. Oven (w/out encls)

# NOTICE OF CERTIFICATION HEARING ON AN APPLICATION TO CONSTRUCT AND OPERATE A COAL-FIRED COGENERATION FACILITY TO BE LOCATED NEAR INDIANTOWN, FLORIDA

1. Application number PA 90-81 for certification to authorize construction and operation of a coal-fired cogeneration facility northwest of Indiantown, Florida, is now pending before the State of Florida, Department of Environmental Regulation pursuant to the Florida Electrical Power Plant Siting Act, Chapter 403, Part I, Florida Statutes.

2. The project is known as the Indiantown Cogeneration Project. The proposed 220 acre project site is located in the western portion of Martin County, approximately 3 miles northwest of Indiantown, Florida. The site is located 9 miles east of Lake Okeechobee. The site lies to the southwest of State Road 710 and the CSX Railroad and adjacent to the California Citrus Processing Facility.

3. The Project consists of a cogeneration facility which will use low-sulfur pulverized coal as its fuel. The facility will produce process steam for use in the adjacent citrus processing plant and will generate up to 350 MW of electricity for sale to Florida Power & Light Co.

4. The facility consists of a single, pulverized coal-fired, natural-circulation type boiler and an extraction-condensing turbine generator. The Project will connect to an existing FPL transmission line adjacent to the Project site; no off-site electrical transmission facilities will be required as part of the Project. The site also will contain a cooling water storage pond, covered coal storage areas, cooling towers and on-site rail facilities. Coal and lime will be delivered by rail. Ash from coal combustion will be removed from the site by rail for disposal at the coal Creek-Nubbins Slough in Okeechobee County and will be pumped to the Project site via a 18-mile long water pipeline to provide cooling and process water for the Project. This pipeline will be located within the existing CSX Railroad right-of-way paralleling State Road 710. During extreme drought conditions, cooling water will be obtained from the brackish water Jordan aquifer when cooling water is not available from Taylor Creek/Nubbins Slough. The Project will treat and recycle its wastewater internally and will not discharge wastewater.

5. The Department of Environmental Regulation and other state, regional and local agencies are evaluating the application for the proposed power plant cogeneration plant. The Department of Environmental Regulation is preparing a report on the project. This report is expected to be available after September 8, 1991 at the location listed below. Certification of the Plant by the Governor and Cabinet sitting as the Power Plant Siting Board should follow the construction and operation subject to the Conditions of Certification set forth in the final certification order. The application is available for public inspection at the addresses listed below:

- STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION  
Office of Siting Coordination  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32302-5100  
(904) 488-1544
- STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION  
Southeast District Office  
1900 S. Congress Avenue, Suite A  
West Palm Beach, Florida 33408
- MARTIN COUNTY PUBLIC LIBRARY  
701 E. Ocean Boulevard  
Blair, Florida 34901
- INDIANTOWN TELEPHONE SYSTEM  
15025 S.W. Warfield Blvd.  
Indiantown, Florida 34956  
Attn: Mary Ann Holt
- BECHTEL CORP.  
North Corp. Center  
3050 PCA Boulevard, Suite 6001  
Palm Beach Gardens, Florida 33401  
Attn: Tom Haberman  
(407) 894-8400
- OKEECHOBEE COUNTY LIBRARY  
S.E. 2nd Avenue  
Okeechobee, Florida 34874

The business address of the applicant for the project is:  
Indiantown Cogeneration L.P.  
Attn: Stephen A. Sorrentino  
PG&E/Bechtel Generating Company  
7475 Wisconsin Avenue  
Bethesda, MD 20814-3422

6. Pursuant to Section 403.508, Florida Statutes, the certification hearing will be held by the Division of Administrative Hearings beginning on October 21, 1991, at 12:00 noon, at the Family Worship Center, 15285 Indian Mound Drive, Indiantown, Florida in order to take written and oral testimony and other evidence on the effects of the proposed coal-fired cogeneration facility or any other matter appropriate to the consideration of the site. Need for the facility has been predetermined by the Florida Public Service Commission at a separate hearing.

7. Members of the public may offer comments on the Project during the hearing beginning at 9:00 p.m. on October 21, 1991 at the Family Worship Center.

8. Pursuant to Section 403.508(4), Florida Statutes,

- (a) Parties to the proceeding shall include: the applicant; the Public Service Commission; the Department of Community Affairs; the Department of Natural Resources; the Game and Fresh Water Fish Commission; the water management district as defined in Chapter 373, in the jurisdiction of which the proposed coal-fired cogeneration facility is to be located; the Department; the regional planning council; and the local government.
- (b) Any party listed in paragraph (a) other than the department or the applicant may waive its right to participate in these proceedings. If such listed party fails to file a notice of its intent to be a party on or before the 90th day prior to the certification hearing, such party shall be deemed to have waived its right to be a party.
- (c) Upon the filing with the hearing officer of a notice of intent to be a party at least 15 days prior to the date set for the final use hearing, the following shall also be parties to the proceeding:

- 1. Any agency not listed in paragraph (a) as to matters within its jurisdiction.
- 2. Any persons non-profit corporation or association formed in whole or in part to promote conservation or natural beauty; to protect the environment, personal health, or other biological values; to preserve historical sites; to promote consumer interests; to represent labor, commercial or industrial groups; or to promote comprehensive planning or orderly development of the area in which the proposed electrical power plant is to be located.
- 3. Howsoever paragraph (a), failure of an agency described in subparagraph (c)1. to file a notice of intent to be a party within the time provided herein shall constitute a waiver of the right of the agency to participate as a party in the proceeding.
- 4. Other parties may include any person, including those persons enumerated in paragraph (c) who have failed to timely file a notice of intent to be a party, whose substantial interests are affected and being determined by the proceeding and who timely file a motion to intervene pursuant to Chapter 120 and applicable rules. Intervention pursuant to this paragraph may be granted at the discretion of the designated hearing officer and upon such conditions as she may prescribe any time prior to 30 days before the commencement of the certification hearing.
- 5. Any agency, including those whose properties or works are being affected pursuant to s. 403.508(4), shall be made a party upon the request of the department or the applicant.
- 6. When appropriate, any person may be given an opportunity to present oral or written communications to the designated hearing officer, if the designated hearing officer proposes to consider such communication, than all parties shall be given an opportunity to cross-examine or rebut such communications. Those wishing to intervene in these proceedings must be presented by an attorney of other person who can be determined.
- 7. Notices or petitions made prior to the hearing should be made in writing to:

Ms. Diane K. Keeling  
Hearing Officer  
Division of Administrative Hearings  
The DeSoto Building  
1220 Apalachee Parkway  
Tallahassee, Florida 32300-1650

Copies of such submissions should be forwarded by mail to existing parties, including the Department of Environmental Regulation, The Division of Administrative Hearings, Case No. 1-90-8072-EPP.

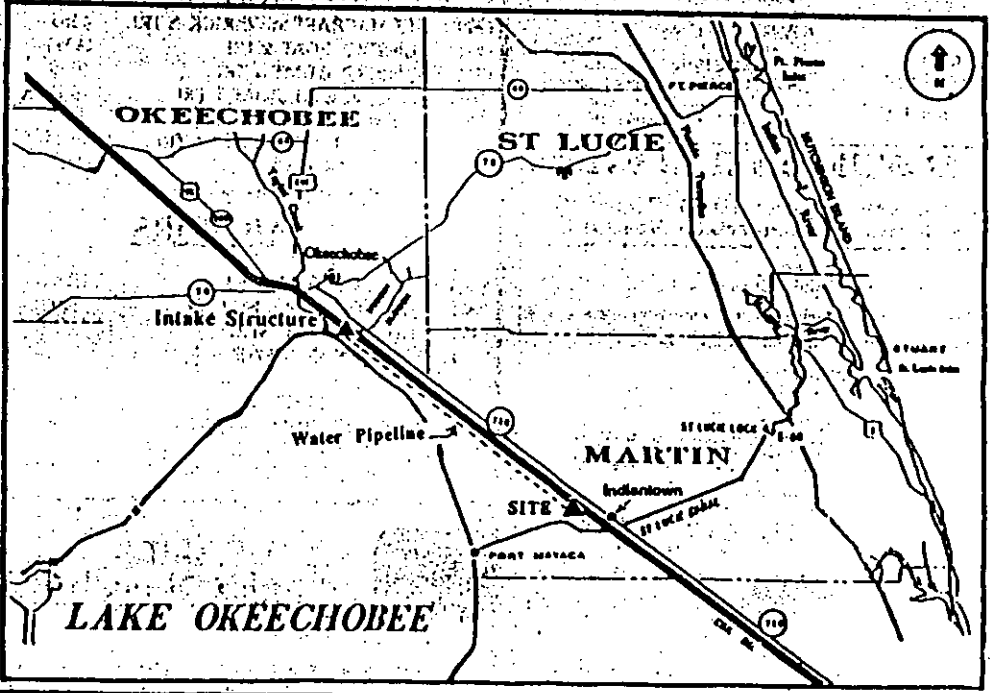
10. This public notice is also provided in compliance with the federal Coastal Zone Management Act, as specified in 15 CFR Part 830, Subpart D. Public comments on the applicant's federal consistency certification should be directed to the Federal Consistency Coordinator, Division of Environmental Planning, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32302-2400.

11. On December 21, 1990, PG&E/Bechtel Generating Company applied to the DER to construct the aforementioned coal-fired cogeneration facility. The application is also subject to U.S. Environmental Protection Agency (EPA) regulations for Prevention of Significant Deterioration of air quality (PSD), codified at 40 CFR 52.21, and Florida Administrative Code Chapter 17-2.04. These regulations require that, before construction on a source of air pollution subject to PSD may begin, a permit must be obtained from DER. Such permit can only be issued if the new construction has been determined by DER to comply with the requirements of the PSD regulations, which are described in 40 CFR 52.21 and 17-2.04, F.A.C. These requirements include a restriction on incremental increases in air quality due to the new source and application of best available control technology (BACT).

The DER has been granted a delegation by EPA to carry out the PSD review of this source. Acting under that delegation, the DER is preparing a draft permit which will be included in the DER's draft analysis report. That draft permit will contain a preliminary determination of whether the proposed construction will comply with all applicable PSD regulations. The degree of Class I increment consumption expected to result from the construction is:

Pollutant	Annual Average	24-Hr. Average	3-Mo. Average
Particulates	1%	9%	-
Sulfur Dioxide	>1%	>1%	9%
Nitrogen Dioxide	10%	-	-
*Determined not to be significant.			

The source is located approximately 145 kilometers from the nearest Class I area. Persons wishing to comment on this issue may do so at the hearing or by submitting comments in writing within 30 days of this notice.





# NOTICE OF CERTIFICATION HEARING ON AN APPLICATION TO CONSTRUCT AND OPERATE A COAL-FIRED COGENERATION FACILITY TO BE LOCATED NEAR INDIANTOWN, FLORIDA

1. Application number PA 90-31 for certification to authorize construction and operation of a coal-fired cogeneration facility northwest of Indiantown, Florida, is now pending before the State of Florida, Department of Environmental Regulation pursuant to the Florida Electrical Power Plant Siting Act, Chapter 403, Part II, Florida Statutes.

2. The project is known as the Indiantown Cogeneration Project. The proposed 220 acre project site is located in the western portion of Martin County, approximately 3 miles northwest of Indiantown, Florida. The site is located 8 miles east of Lake Okechobee. The site lies to the southwest of State Road 710 and the CSX Railroad and adjacent to the Citrus Citrus Processing Facility.

The Project consists of a cogeneration facility which will use low-sulfur pulverized coal as its fuel. The facility will produce steam for use in the adjacent citrus processing plant and will generate up to 330 Mw of electricity for sale to Florida Power & Light Co.

3. The facility consists of a single, pulverized coal-fired, natural-circulation type boiler and an extraction-condensing turbine electrical generator. The Project will connect to an existing FPL transmission line adjacent to the Project site; no off-site electrical transmission facilities will be required as part of the Project. The site also will contain a cooling water storage pond, covered coal storage areas, cooling towers and on-site rail facilities. Coal and lime will be delivered by rail. Ash from coal combustion will be removed from the site by rail for disposal at the coal mines or other acceptable disposal locations. Water will be withdrawn from Taylor Creek/Hubbins Slough in Okeechobee County and will be pumped to the Project site via a 10-mile long water pipeline to provide cooling and process water for the Project. This pipeline will be located within the existing CSX Railroad right-of-way paralleling State Road 710. During extreme drought conditions, cooling water will be obtained from the brackish lower Floridan aquifer when cooling water is not available from Taylor Creek/Hubbins Slough. The Project will treat and recycle its wastewater internally and will not discharge wastewater.

4. The Department of Environmental Regulation and other state, regional and local agencies are evaluating the application for the proposed cogeneration project. The Department of Environmental Regulation is preparing a report on the project. That report is expected to be available after

September 8, 1991 at the locations listed below. Certification of the plant by the Governor and Cabinet sitting as the Power Plant Siting Board would allow its construction and operation subject to the Conditions of Certification set forth in the final certification order. The application is available for public inspection at the address listed below:

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION  
Office of Siting Coordination  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32309-2400  
(904) 488-1344

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION  
Southeast District Office  
1900 South Congress Avenue, Suite A  
West Palm Beach, Florida 33408  
MARTIN COUNTY PUBLIC LIBRARY  
701 E. Ocean Boulevard  
Stuart, Florida 34994

INDIANTOWN TELEPHONE SYSTEM  
15925 S.W. Warfield Blvd.  
Indiantown, Florida 34958  
Attn: Mary Ann Holt

BECHTEL CORP.  
North Corp. Center  
3650 RCA Boulevard  
Suite 5001  
Palm Beach Gardens, Florida 33401  
Attn: Tom Habermas  
(407) 894-8400

OKEECHOBEE COUNTY LIBRARY  
S.E. 2nd Avenue  
Okeechobee, Florida 34974

The business address of the applicant for the project is:

Indiantown Cogeneration L.P.  
Attn: Stephen A. Sorrentino  
PG&E/Bechtel Generating Company  
7475 Wisconsin Avenue  
Bethesda, MD 20814-3422

5. Pursuant to Section 403.506, Florida Statutes, the certification hearing will be held by the Division of Administrative Hearings beginning on October 21, 1991, at 12:00 noon, at the Family Worship Center, 15285 Indian Mound Drive, Indiantown, Florida, in order to take written and oral testimony and other evidence on the effects of the proposed coal-fired cogeneration facility or any other matter appropriate to the consideration of the site. Need for the facility has been predetermined by the Florida Public Service Commission at a separate hearing.

6. Members of the public may offer comments on the Project during the hearing beginning at 6:00 p.m. on October 21, 1991 at the Family Worship Center.

7. Pursuant to 403.509(4), F.S.: (a) Parties to the proceeding shall include: the applicant; the Public Service Commission; the Department of Community Affairs; the Department of Natural Resources; the Game and Fresh Water Fish Commission; the water management district as defined in Chapter 373, in the jurisdiction of which the proposed coal-fired cogeneration facility is to be located; the Department; the regional planning council; and the local government.

(b) Any party listed in paragraph (a) other than the department or the applicant may waive its right to participate in these proceedings. If such listed party fails to file a notice of its intent to be a party on or before the 90th day prior to the certification hearing, such party shall be deemed to have waived its right to be a party.

(c) Upon the filing with the hearing officer of a notice of intent to be a party at least 15 days prior to the date of the land use hearing, the following shall also be parties to the proceeding:

1. Any agency not listed in paragraph (a) as to matters within its jurisdiction.
2. Any domestic non-profit corporation or association formed in whole or in part, to promote conservation or natural beauty; to protect the environment, personal health, or other biological values; to preserve historical sites; to promote consumer interests; to represent labor, commercial or industrial groups; or to promote comprehensive planning or orderly development of the area in which the proposed cogeneration facility is to be located.

(d) Notwithstanding paragraph (e), failure of an agency described in subparagraph (c) to file a notice of intent to be a party within the time provided herein shall constitute a waiver of the right of that agency to participate as a party in the proceeding.

(e) Other parties may include any person, including those persons enumerated in paragraph (c) who have failed to timely file a notice of intent to be party, whose substantial interests are affected and being determined by the proceeding and who timely file a motion to intervene pursuant to Chapter 120 and applicable rules. Intervention pursuant to this subparagraph may be granted at the discretion of the designated hearing officer and upon such conditions as she may prescribe any time prior to 30 days before the commencement of the certification hearing.

(f) Any agency, including those whose properties or works are being affected pursuant to s. 403.509(4), shall be made a party upon the request of the department or the applicant.

8. When appropriate, any person may be given an opportunity to present oral or written communication to the designated hearing officer. If the designated hearing officer proposes to consider such communication, then all parties shall be given an opportunity to cross-examine or challenge or rebut such communications. Those wishing to intervene in these proceedings must be represented by an attorney or other person who must be determined to be qualified to appear in administrative proceedings pursuant to Chapter 120, Florida Statutes, or Section 17-103.020, Florida Administrative Code.

9. Notices or petitions made prior to the hearing should be made in writing to: Ms. Diane K. Keesling  
Hearing Officer

Division of Administrative Hearings  
The DeSoto Building  
1230 Apalachee Parkway  
Tallahassee, Florida 32309-1550

Copies of such submittals should be forwarded by mail to existing parties, including the Department of Environmental Regulation. The Division of Administrative Hearings case number is 90-8072-EPP.

10. This public notice is also provided in compliance with the federal Coastal Zone Management Act, as specified in 15 CFR Part 830, Subpart D. Public comments on the applicant's federal consistency certification should be directed to the Federal Consistency Coordinator, Division of Environmental Permitting, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32309-2400.

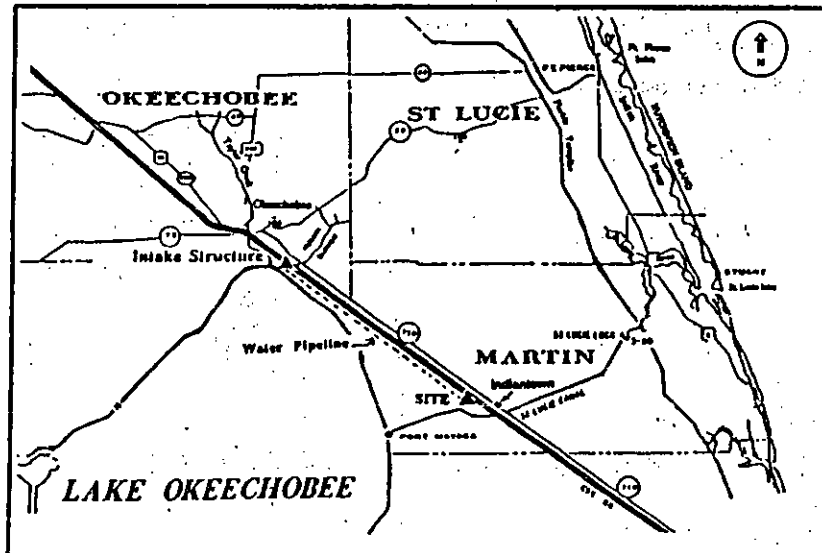
11. On December 21, 1990, PG&E/Bechtel Generating Company applied to the DER to construct the aforementioned coal-fired cogeneration facility. The applicant is also subject to U.S. Environmental Protection Agency (EPA) regulations for Prevention of Significant Deterioration of air quality (PSD), codified at 40 CFR 52.21, and Florida Administrative Code Chapter 17-2.04. These regulations require that, before construction on a source of air pollution subject to PSD may begin, a permit must be obtained from DER. Such permit can

only be issued if the new construction has been determined by DER to comply with the requirements of the PSD regulations, which are described in 40 CFR 52.21 and 17-2.04, F. A. C. These requirements include a restriction on incremental increases in air quality due to the new source and application of best available control technology (BACT).

The DER has been granted a delegation by EPA to carry out the PSD review of this source. Acting under that delegation, the DER is preparing a draft permit which will be included in the DER's staff analysis report. That draft permit will contain a preliminary determination of whether the proposed construction will comply with all applicable PSD regulations. The degree of Class II increment consumption expected to result from the construction is:

Pollutant	Annual Average	24-Hr. Average	3-Mo. Average
Particulate Matter	75	85	85
Sulfur Dioxide	75	75	75
Nitrogen Dioxide	100		

\* Determined not to be significant.  
The source is located approximately 145 kilometers from the nearest Class I area. Persons wishing to comment on this issue may do so at the hearing or by submitting comments in writing within 30 days of this notice.



7475 Wisconsin Avenue  
Bethesda, Maryland 20814  
301-718-6800  
Fax 301-718-6910

**U.S. Generating Company**

**RECEIVED**

AUG 10 1992

Division of Air  
Resources Management

August 3, 1992

Mr. Hamilton S. Oven, Jr.  
Administrator, Office of Siting Coordination  
Department of Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

Dear Buck,

This letter transmits the second quarterly report for the Indiantown Cogeneration Project, responding to Conditions of Certification II.1.C.2(c), as well as equipment identification information requested in COC II.1.A.2. Financial closing is currently scheduled for August 31, with construction activities slated to commence immediately thereafter. Enclosed is a copy of our milestone construction schedule, illustrating timelines for major project activities.

An Engineering, Procurement and Construction (EPC) contract was signed between Indiantown Cogeneration, L.P. and Bechtel Power Corporation in July. Foster Wheeler has been selected as the boiler supplier responsible for the design and fabrication of the PC boiler system, including the NO<sub>x</sub> control system. This consists of low NO<sub>x</sub> burners to reduce NO<sub>x</sub> formation in the combustion zone, and the SCR system for removal of NO<sub>x</sub> from the flue gas. Negotiations are continuing with both Joy and Flakt for the design and supply of the FGD dry scrubbing system. We expect final selection of the vendor will be made by October 1.

Since the boiler system, the NO<sub>x</sub> controls and FGD system are being custom-designed for the Indiantown plant, no make and model numbers are available. In the absence of this information, I have enclosed copies of technical data sheets for your review.

Bechtel has issued design and supply specifications of the material handling system for bidding, along with the main electrical transformers for the plant's internal electrical system. Bid analysis will occur within the next quarter with final vendor selection targeted for September 30.



*A New Name For PG&E-Bechtel Generating Company*

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August 3, 1992

Page 2

Hamilton S. Oven, Jr.

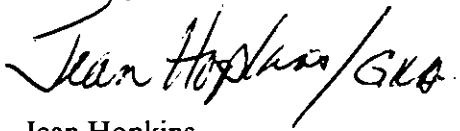
August 3, 1992

Page Two

We are continuing to make post-certification submittals to various agencies, in compliance with the Conditions of Certification. Dialogue continues with the agencies to insure that all concerns are addressed.

Please don't hesitate to contact me if you require any additional information.

Sincerely,

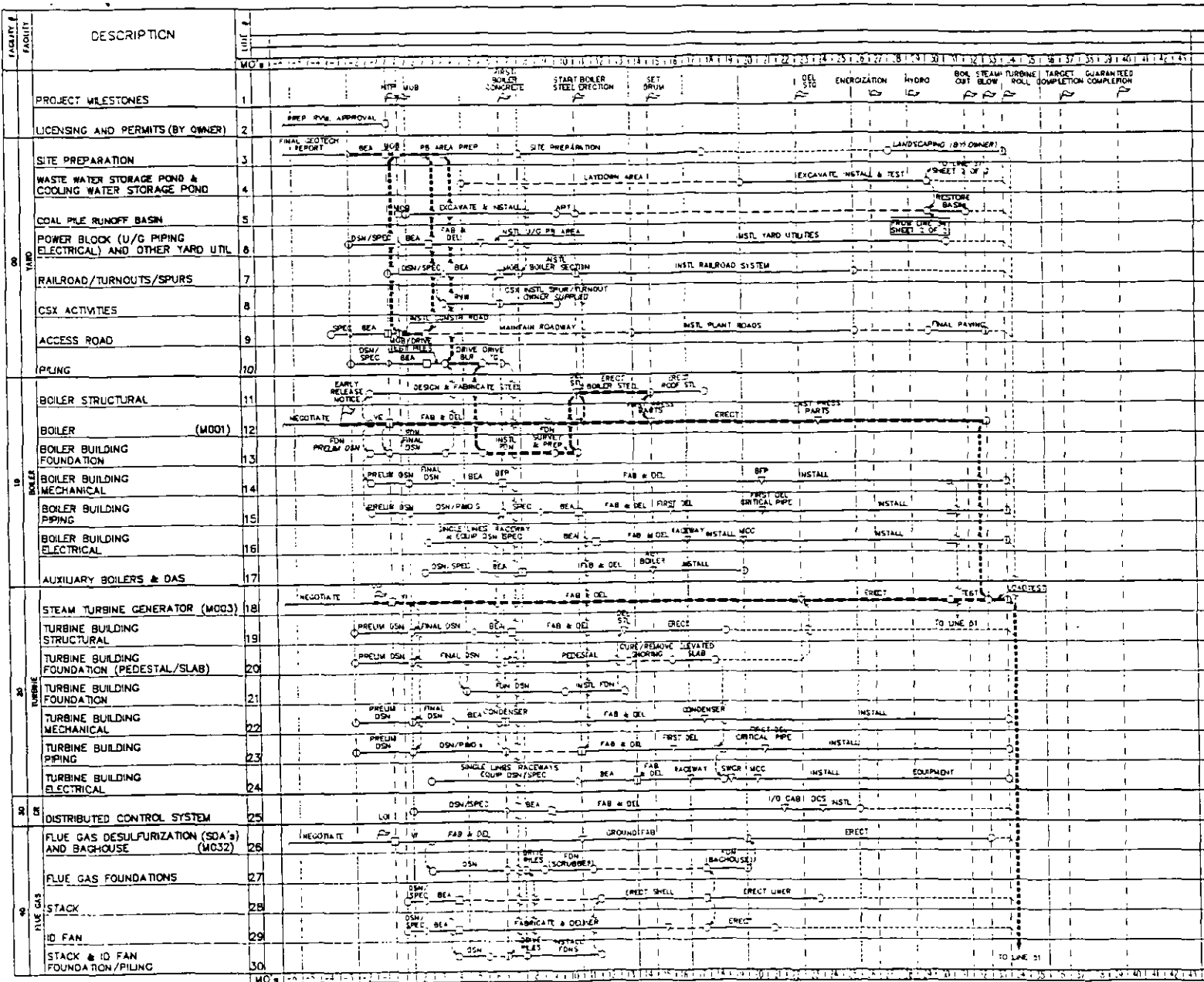
A handwritten signature in cursive script that reads "Jean Hopkins/GMS".

Jean Hopkins  
Manager, Environmental Permitting

cc: Preston Lewis  
Richard Donelan  
Susan Coughanour







**LEGEND:**

- MILESTONE
- ▬ START OR FINISH ACTIVITY
- ▬ AWARD P.O./SUBCONTRACT
- ▬ ISSUE FOR BID
- ▬ SITE DELIVERY
- ▬ ACTIVITY
- ▬ RESTRAINT
- ▬ CRITICAL PATH
- ▬ UPDATE
- ▬ LINE
- ▬ UPDATE (ACTUAL/FORECAST)

**ABBREVIATIONS:**

- A/P ACQUIRED PUMP TEST
- AUX AUXILIARY
- BID EVALUATE & AWARD
- BACKUP BACKUP
- BFP BOILER FEED PUMP
- BLDG BUILDING
- CIRC CIRCULATING
- CONSTR CONSTRUCTION
- CR CONTROL ROOM
- DCS DISTRIBUTED CONTROL SYSTEM
- DEL DELIVER
- DESIGN DESIGN
- EVALUATE & AWARD EVALUATE & AWARD
- EQUIP EQUIPMENT
- EXC EXCAVATE
- FAB FABRICATE
- FO FOUNDATION
- FORM FORMING
- REBAR REBAR
- F/W HTR FLOWWATER HEATER
- INSTL INSTALL
- I/O CAB INPUT/OUTPUT CABINETS
- LOC LETTER OF INTENT
- MCC MOTOR CONTROL CENTER
- MCC MOTOR CONTROL CENTER
- MOB MOBILIZATION
- NOTICE TO PROCEED NOTICE TO PROCEED
- POWER BLOCK POWER BLOCK
- PLANNING & INSTRUMENT DIAGRAMS PLANNING & INSTRUMENT DIAGRAMS
- P/O PURCHASE ORDER
- P/O PURCHASE ORDER
- PRELIM PRELIMINARY
- PREP PREPARATION
- PRESS PRESSURE
- REVIEW REVIEW
- S/C SUBCONTRACT
- SELECTIVE CATALYTIC REDUCTION SELECTIVE CATALYTIC REDUCTION
- SPEC SPECIFICATION
- STC STEAM TURBINE GENERATOR
- STL STEEL
- STL STEEL
- SWGR SWITCHGEAR
- SWGR SWITCHGEAR
- UTIL UTILITIES
- VEHIC VEHICULAR
- INFORM INFORMATION
- TRANSFORMER TRANSFORMER

REVISED: 06/25/92

BECHTEL  
INDIAN TOWN COGENERATION

PULVERIZED COAL UNIT  
CONTRACT MILESTONE  
SUMMARY SCHEDULE  
SHEET 1 OF 2

20524 G15-002 1



# FOSTER WHEELER ENERGY CORPORATION

PERRYVILLE CORPORATE PARK • CLINTON, NEW JERSEY 08809-4000 • PHONE 201-730-4000

April 3, 1992

Bechtel Power Corporation  
9801 Washingtonian Boulevard  
Gaithersburg, MD 20878-5356

Attention: Mr. Frank Parks

Subject: Indiantown Project  
330 MWe P.C. Fired Steam Generator  
FWEC Proposal No. 0-2-79478

REF: Bechtel Job No. 20524  
Bid Request 20524-M-001  
File: M-001

Gentlemen:

As required by Bechtel FWEC submits two (2) set of Appendix E of specification M-001.1 pages E-1 through E-36 of Technical forms of Proposal. These pages reflect the changes or revisions made to the steam generator and the auxiliaries as of March 27, 1992.

Also transmitted FWEC proposal drawings nos. PD-915-267 Rev. F and PD-915-268 Rev. F. These drawings are revised to show the hoist ways, additional platforms, the terminal points relocated as required by Bechtel.

We hope these will meet your requirements.

Very truly yours,

*JG Foster / SMA*

Jack G. Foster  
Vice President Regional Sales

JGF/kjn

TECHNICAL FORMS OF PROPOSAL

Bidder Foster Wheeler Energy Corporation  
Proposal No. 0-2-79478  
October 7, 1991

1.0 PERFORMANCE DATA

The Seller shall complete the following items for the indicated operating loads and submit with his proposal for performance fuel as listed in Appendix A of Specification 20524-M-001.1:

	Minimum Load (Without Supplementary Fuel Firing) %	Temp. Control Load (70%)	100% MCR Load	100% MCR Load
Number of Pulverizers Operating			4	3
Superheater outlet flow, M lb/hr			2500	2500
Blowdown, M lb/hr			0	0
Soot blowing steam flow, M lb/hr			0	0
Total feed flow, M lb/hr			2250	2250
Superheater spray water flow, M lb/hr			250	250
Temperature at superheater outlet, °F			1005	1005
Temperature at primary superheater outlet (before spray), °F			764	764
Temperature at secondary superheater inlet (after spray), °F			724	724
Temperature at secondary superheater outlet (before spray), °F			850	850
Temperature at tertiary superheater inlet (after spray), °F			825	825

	Minimum Load (With- out Supple- mentary Fuel Firing) %	Temp. Control Load (70%)	100% MCR Load
Pressure at superheater outlet terminal point, psig	2,520	2,520	2,520
Pressure at primary super heater outlet, psig			2630
Drum pressure, psig			2735
Total superheater pressure drop excluding valves, psi			215
Reheater outlet flow, M lb/hr			2300
Reheater inlet temp., °F			635
Reheater inlet pressure, psig			592
Reheater outlet temp., °F			1005
Reheater outlet pressure, psig			561
Reheater attemperator spray water flow, M lb/hr			0
Reheater pressure drop, psi			31
Feedwater temp., °F			486
Feedwater temp. leaving economizer, °F			536
Economizer pressure drop, friction only, psi			40
Total pressure drop including valves from feedwater inlet terminal point to superheater outlet terminal point, friction only, psi			265
Ambient air temp., °F			80

REVISED: NOVEMBER 22, 1991

Revised: MARCH 13, 1992

Revised: March 27, 1992

Revised November 1, 1991  
Specification 20524-M-001.1  
Appendix E

Foster Wheeler Energy Corporation  
Proposal No. 0-2-79478  
October 7, 1991

	Minimum Load (Without Supplementary Fuel Firing) &	Temp. Control Load (70%)	100% MCR Load	100% MCR Load
<u>Number of Pulverizers Operating</u>			4	3
Air temp. entering primary air steam coil air heater, °F	NOT APPLICABLE			
Air temp. entering secondary air steam coil air heater, °F			85	85
Air temp. entering primary air heater, °F	NOT APPLICABLE			
Air temp. entering secondary air heater, °F			85	85
Air temp. leaving primary air heater, °F	NOT APPLICABLE			
Air temp. leaving secondary air heater, °F			596	588
Primary air at pulverizer inlet, °F			305	340
Temperature at pulverizer outlet, °F			150	150
<u>Airflows (x 1,000 lb/hr)</u>				
Forced draft fan outlet			3153	3146
Air preheater, in			2818	2910
Air preheater, out			2658	2750
Air leakage to flue gas side			160	160
Tempering air to primary air fan			335	236
Total primary air			584	481
Maximum guaranteed air preheater leakage			177	177

REVISED - NOVEMBER 22, 1991

REVISED: MARCH 13, 1992

Revised: March 27, 1992

Specification 20524-M-001.1

Appendix E

Foster Wheeler Energy Corporation

Proposal NO. 0-2-79478

October 7, 1991

	<u>Minimum Load (With- out Supple- mentary Fuel Firing) %</u>	<u>Temp. Control Load (70%)</u>	<u>100% MCR Load</u>	<u>100% MCR Load</u>
<u>No. of Pulverizers Operating</u>			4	3
<u>Excess air at economizer outlet, percent weight</u>			20	20
<u>Gas Flows (x 1,000 lb/hr)</u>				
Economizer outlet			3231	3228
Air heater outlet (Uncorrected)			3237	3234
Air heater outlet (Corrected)			3397	3394
<u>Gas Temperature (°F)</u>				
Furnace exit			2101	Same
Superheater in			2101	AS
Superheater out			879	IN
Reheater in			1744	(4) Mill
Reheater out			825	OPERATION
Economizer in			879	
Economizer out			690	
Air preheater in			690	
Air preheater out				
Uncorrected			297	288
Corrected			288	280
Gas volume at air preheater outlet, acfm (corrected temperature)			1,041,200	1,029,000
CO <sub>2</sub> in gases leaving economizer, % volume (Dry)			15.40	15.40



REVISED - NOVEMBER 22, 1991

REVISED: MARCH 13, 1992

Revised November 1, 1991  
 Specification 20524-M-001.1  
 Appendix E

Foster Wheeler Energy Corporation  
 Proposal No. 0-2-79478  
 October 7, 1991

<u>No. of Pulverizers Operating</u>	<u>Minimum Load (Without Supplementary Fuel Firing) %</u>	<u>Temp. Control Load (70%)</u>	<u>100% MCR Load</u>	<u>100% MCR Load</u>
<u>Gas Velocities (ft/sec)</u>			<u>4</u>	<u>3</u>
Furnace exit			<u>37</u>	<u>SAME</u>
Superheater			<u>50</u>	<u>AS</u>
Reheater			<u>49</u>	<u>IN</u>
Economizer			<u>49</u>	<u>(4) MILL</u>
				<u>OPERATION</u>
<u>Gas Path Resistance (in. w.g.)</u>				
Furnace			<u>0.10</u>	<u>0.10</u>
Superheater			<u>2.75</u>	<u>2.75</u>
Reheater			<u>incl.</u>	<u>incl.</u>
Economizer			<u>incl.</u>	<u>incl.</u>
Air heater			<u>5.45</u>	<u>5.40</u>
Ducts and dampers			<u>2.50</u>	<u>2.50</u>
SCR			<u>3.20</u>	<u>3.20</u>
Total resistance			<u>14.00</u>	<u>13.95</u>
<u>Air Path Resistance (in. w.g.)</u>				
Steam coil air heater			<u>1.00</u>	<u>1.00</u>
Air preheater			<u>3.05</u>	<u>3.20</u>
Ducts and dampers			<u>3.35</u>	<u>3.50</u>
Measuring device			<u>1.00</u>	<u>1.10</u>
Windbox and burner			<u>4.00</u>	<u>6.00</u>
Inlet Silencer			<u>0.70</u>	<u>0.70</u>
Total resistance			<u>13.05</u>	<u>15.55</u>

REVISED - NOVEMBER 22, 1991

REVISED: MARCH 13, 1992

Revised: March 27, 1992

Specification 20524-H-001.1

Appendix E

Foster Wheeler Energy Corporation

Proposal No. 0-2-79478

October 7, 1991

<u>No. of Pulverizers Operating</u>	<u>Minimum Load (Without Supplementary Fuel Firing) %</u>	<u>Temp. Control Load (70%)</u>	<u>100% MCR Load</u>	<u>100% MCR Load</u>
<u>Primary Path Resistance (in. w.g.)</u>			<u>4.0</u>	<u>3</u>
Primary air fan to pulverizer				
Ducts and dampers			<u>2.50</u>	<u>1.82</u>
Pulverizer			<u>21.50</u>	<u>26.00</u>
Measuring device			<u>1.00</u>	<u>0.70</u>
Pulverizer to burner			<u>13.80</u>	<u>16.63</u>
Total resistance			<u>38.90</u>	<u>45.25</u>
<u>Heat Loss (percent)</u>				
Dry gas			<u>4.75</u>	<u>4.55</u>
H <sub>2</sub> O in air			<u>0.12</u>	<u>0.11</u> ←
H <sub>2</sub> O in fuel			<u>4.24</u>	<u>4.23</u>
H <sub>2</sub> O from H <sub>2</sub> in fuel			<u>included above</u>	
Unburnt carbon			<u>0.85</u>	<u>0.55</u>
Radiation loss			<u>0.18</u>	<u>0.18</u>
Unaccounted loss			<u>0.50</u>	<u>0.50</u>
Manufacturer's margin			<u>0.50</u>	<u>0.50</u> ←
Total losses			<u>10.84</u>	<u>10.62</u>
Gross thermal efficiency of the steam generator			<u>89.16</u>	<u>89.38</u>
Fuel fired, lb/hr			<u>264,685</u>	<u>264,033</u>

	<u>Minimum Load (Without Supplementary Fuel Firing) %</u>	<u>Temp. Control Load (70%)</u>	<u>100% MCR Load</u>
Steam quality, percent dry			99.9
Total dissolved solids, ppm			<0.1 Excluding Silica
Silica, ppm			<0.02
<u>Emissions at Air Heater Outlet (lb/MM Btu)</u>			
NO <sub>x</sub>			0.30
CO			0.11
VOC			0.0036
Particulates			6.41
<u>Ash Distribution (percent of total)</u>			
Bottom ash			10
Economizer hopper			3
Air heater hopper			2
Air heater outlet			85
<u>Expected dust particle size at air heater outlet, percent total</u>			
<5 microns			24.5
>5 - <10 microns			18.5
>10 - <20 microns			21.0
>20 - <44 microns			19.0
>44 microns			17.0

REVISED: MARCH 13, 1992  
 REVISED: MARCH 27, 1992

Specification 20524-M-001.1  
 Appendix E  
 Foster Wheeler Energy Corporation  
 Proposal No. 0-2-79478  
 October 7, 1991

	Minimum Load (With- out Supple- mentary Fuel Firing) %	Temp. Control Load (70%)	100% MCR Load
<b>Flue Gas Analysis (Wet)</b> (percent volume)			
H <sub>2</sub> O			8.40
CO <sub>2</sub>			14.02
CO			Traces
O <sub>2</sub>			3.27
N <sub>2</sub>			74.24
SO <sub>2</sub>			0.07
Heat release rate in furnace, effective projected radiant surface, Btu/hr/ft <sup>2</sup>			103,465
Heat release rate in furnace, Btu/hr/ft <sup>3</sup>			15,945
Heat release rate in furnace in burner strip area, Btu/hr/ft <sup>2</sup>			390,055
Heat release rate in furnace plan area, Btu/hr/ft <sup>2</sup>			1,811,000
Number of burners in use			16/12
<b>Pulverizers</b>			
Number in use			3/4
Coal rate per pulverizer, lb/hr			88,011/66,170
Total power, kW			945/1064

	<u>Minimum Load (Without Supplementary Fuel Firing) %</u>	<u>Temp. Control Load (70%)</u>	<u>100% MCR Load</u>
<u>Primary Air Fans</u>			
Number in use			3/4
Total power, kW			1236/1535
Total power for FD fan, kW			2064/1944
Total power for all (Mill, Fans, auxiliaries, kW (AH, Feeders))			4413/4710

2.0 EQUIPMENT DATA

2.1 STEAM DRUM AND WATER DRUM

a. Design pressure, psig	2875 / -
b. Inside diameter, inches	66 / -
c. Drum material	BA516 Gr 70 /
d. Drum thickness, inches	Shell: 9363 Head: 5.744 /
e. Drum length, feet	53.33 /
f. Normal water level (ref drum centerline), inches	3" Below
g. Maximum water level (ref drum centerline), inches	Alarm @ 2" above Trip @ 7" above
h. Minimum water level (ref drum centerline), inches	Alarm @ 11" below Trip @ 14" below

2.2 FURNACE

a. Furnace design pressure on a continuous basis, inches H <sub>2</sub> O (internal/external)	± 35 @ 0.9 Yield
b. Furnace design pressure on a transient basis, inches H <sub>2</sub> O (internal/external) @ 0.9 yield	± 52



- e. Tube wall thickness, in. 178C /
- f. Tube material 5.625 /
- g. Side to side spacing, in. 3.25, 3.00
- h. Front to back spacing, in. 106C /
- i. Header material

2.5 SUPERHEATER/REHEATER

2.5.1 SUPERHEATER

- a. Type Radiant & Convective
- b. Design pressure, psig 2875
- c. Number of steam passes As Required
- d. List superheater sections and include tube size, wall thickness, tube spacing [side to side (S1), and front to back (S2)], tube material, maximum gas temperature (T<sub>g</sub>) entering section, and maximum outside diameter tube metal temperature (T<sub>t</sub>) for each section at maximum continuous load when burning the performance fuel. All dimensions in inches.

	<u>Section Name</u>	<u>T<sub>g</sub></u>	<u>T<sub>t</sub></u>	<u>S1</u>	<u>S2</u>	<u>Size</u>	<u>Thickness</u>	<u>Material</u>
1.	Partial Walls	2350	1030	88	2 1/4	2	0.40	T22, TP 304 H
2.	Finishing	2065	1120	183/42	1 1/2	2 7/8	.36, .46	T11
3.	"				2 1/4	2 5/8	.40, .28	T22, TP304H
4.	Primary	1420	830	5 5/8	3	2 1/4	.27, .23	210A, T2
5.								
6.								

- e. Heating surface, square feet (full circumference)
  - Finishing superheater 23249
  - Upper Partial Walls & Roof 11720 Projected Surface)
  - Primary superheater 60563
  - HRA Enclosure 21077
- f. Number and size of outlets One / 15.2" ID
- g. Number and size of desuperheaters Two / As Required
- h. Header material SA 335 - P22  
Outlet Header





R1 - NOVEMBER 15, 1991  
 R2 - NOVEMBER 22, 1991  
 R3 - MARCH 13, 1992

Proposal No. 0-2-79478  
 October 7, 1991  
 Specification 20524-M-001.1  
 Appendix E

REVISED: MARCH 27, 1992

- |  |                  |
|--|------------------|
| f. Minimum load, all burners in service, 1,000 lb steam/hr                   | <u>1,000,000</u> |
| g. Velocity of coal/air mixture leaving burner at minimum mill capacity, fps | <u>85</u>        |
| h. Velocity of coal/air mixture in coal pipe at minimum mill capacity, fps   | <u>65</u>        |

2.7 IGNITERS (GAS)

- |   |                              |
|---|------------------------------|
| a. Number of igniters                                     | <u>16</u>                    |
| b. Igniter manufacturer                                   | <u>Forney or Equal</u>       |
| c. Igniter rating, 10 <sup>6</sup> Btu/hr                 | <u>65</u>                    |
| d. Gas flow rate with all igniters in service, scfm       | <u>17500</u>                 |
| e. Gas pressure required at Seller's terminal point, psig | <u>25 Psig</u>               |
| f. Are igniters retractable?                              | <u>Yes</u>                   |
| g. Total quantity of gas required per cold startup, cu ft | <u>1.24 x 10<sup>6</sup></u> |
| h. Total operating time, hr                               | <u>5 Hrs.</u>                |

Flame Detection System

- |              |                        |
|--------------|------------------------|
| Manufacturer | <u>Forney or Equal</u> |
| Model number | <u>IDD-II</u>          |

2.8 FAN

- |                    | <u>Primary<br/>air<br/>fan</u>      | <u>Forced<br/>draft<br/>fan</u> |
|--------------------|-------------------------------------|---------------------------------|
| a. Number proposed | <u>4</u>                            | <u>2</u>                        |
| Fan manufacturer   | <u>Howden-Sirocco Inc. or Equal</u> |                                 |
| Model number       | <u>L1</u>                           | <u>26</u>                       |
| Type/arrangement   | <u>SWSI / H3</u>                    | <u>DWDI/ 3</u>                  |

- b. Place in proposal where descriptions of inlet vanes, outlet dampers, linkage, bearings, seals, and lubrication system are given

1.13 and Section 7

- c. Proposal page where fan vibration detection system is described and type of vibration monitors included is given

Section 7 of Proposal

	<u>Primary air fan</u>	<u>Forced draft fan</u>
d. Housings		
Size, inlet eye diameter, inches	<u>43.3</u>	<u>54.89</u>
Inlet area (both boxes), (Only square feet                      1 box)	<u>14.58</u>	<u>122.50</u>
e. Rotor		
Material	<u>A242</u>	<u>A514 GR.A</u>
Diameter of rotor, inches	<u>104.4</u>	<u>90.5</u>
Width of wheel, inches	<u>7.35</u>	<u>38.38</u>
Thickness of blades	<u>.1875</u>	<u>.1875</u>
Operating tip speed, fpm	<u>32246</u>	<u>21123</u>
Design tip speed, fpm	<u>32246</u>	<u>21123</u>
Maximum safe tip speed, fpm	<u>33857</u>	<u>22179</u>
Shop balancing speed, rpm	<u>300</u>	<u>300</u>
Critical speed, rpm	<u>1593</u>	<u>1202</u>
f. Shaft		
Overall length, inches	<u>110</u>	<u>243</u>
Shaft deflection, inches	<u>Later</u>	<u>Later</u>
Span between bearings, inches	<u>71</u>	<u>202</u>

	<u>Primary air fan</u>	<u>Forced draft fan</u>
Diameter at hub	<u>6.5</u>	<u>17.3</u>
Diameter at the bearings	<u>5</u>	<u>6</u>
<b>g. Bearings</b>	<b>H.S.I or Equal</b>	<b>H.S.I Or Equal</b>
Manufacturer and type	<u>/ Sleeve</u>	<u>/ Sleeve</u>
Babbitt material, type	<u>Tin &amp; Lead</u>	<u>Tin &amp; Lead</u>
RTDs	<u>Yes</u>	<u>Yes</u>
<b>h. Inlet vanes and outlet dampers</b>		
Rod material, vanes	<u>1018</u>	<u>1018</u>
Rod material, dampers	<u>1018</u>	<u>1018</u>
Span, vanes	<u>12</u>	<u>12</u>
Span, dampers	<u>16</u>	<u>108</u>
<b>i. Damper operators</b>		
Manufacturer	<u>Bailey Or Equal</u>	<u>Bailey or Equal</u>
Model number	<u>Up403(Vanes)up303(U.L.D)Up503(Vanes)Up403(U.L.D.)</u>	
Control signal type	<u>4-20 Madc</u>	<u>4-20Madc</u>
<b>j. Material</b>		
Housing	<u>A36</u>	<u>A36</u>
Hub	<u>A568 ch.c</u>	<u>A568ch.c</u>
Shaft	<u>Ab68 ch.c</u>	<u>Ab68ch.c</u>
Blades	<u>A242</u>	<u>A514 GRA</u>

R1 - NOVEMBER 15, 1991

R2 - NOVEMBER 22, 1991

R3 - MARCH 13, 1992

R4 - MARCH 27, 1992

October 7, 1991

Specification 20524-M-001.1

Appendix E

	<u>Primary air fan</u>	<u>Forced draft fan</u>
<b>k. Couplings</b>		
Manufacturer	<u>Falk or Equal</u>	<u>Falk or Equal</u>
Model No.	<u>C20</u>	<u>C20</u>
<b>l. Blades</b>		
Type	<u>Single thickness airfoil</u>	<u>Hollow airfoil</u>
Wear material	<u>N.A.</u>	<u>N.A.</u>
<b>m. Shaft seals</b>		
Type	<u>Rubbing</u>	<u>Rubbing</u>
Material	<u>Carbon Ring</u>	<u>Garlock</u>
<b>n. Baseplate or soleplate</b>		
Mount	<u>Yes</u>	<u>Yes</u>
<b>o. Lubrication</b>		
Type for simple radial bearing	<u>Oil</u>	<u>Oil</u>
Type for radial and thrust bearing	<u>Oil</u>	<u>Oil</u>
Ring lubed or pressure lubed	<u>Disk lubed</u>	<u>Disk lubed</u>
<b>p. Test block sizing conditions</b>		
Fuel utilized for sizing	<u>Worst Coal</u>	<u>Worst Coal</u>
Flow, pounds/hour	<u>179930</u>	<u>1891000</u>
Flow, acfm	<u>66350</u>	<u>457000</u>
Temperature, °F	<u>400</u>	<u>105</u>
Dev. head, inches w.g.	<u>54.0</u>	<u>20.5</u>
Bhp	<u>656</u>	<u>1689</u>

R1 - NOVEMBER 15, 1991  
 R2 - MARCH 13, 1992  
 R3 - MARCH 27, 1992

proposal no. U-2-19410  
 October 7, 1991  
 Specification 20524-M-001.1  
 Appendix E

	<u>Primary air fan</u>	<u>Forced draft fan</u>
Fan efficiency, %	<u>85.9</u>	<u>87.3</u>
Motor size, rated horsepower	<u>700</u>	<u>1750</u>
Speed, rpm	<u>1200</u>	<u>890</u>

q. At MCR load, for the fuel utilized in sizing the fans, list the following: 3 Mills worst coal

	<u>Primary air fan</u>	<u>Forced draft fan</u>
Flow, pounds/hour	<u>163570</u>	<u>1576500</u>
Flow, acfm	<u>58000</u>	<u>365000</u>
Temperature, °F	<u>369</u>	<u>80</u>
Dev. head, in. w.g.	<u>41.00</u>	<u>15.60</u>
Speed, rpm	<u>1180</u>	<u>890</u>
Fan efficiency, percent	<u>73.6</u>	<u>71.7</u>
Bhp	<u>508</u>	<u>1250</u>

r. Place in proposal where primary air and forced draft curves are given showing dev. head, cfm, efficiency, and bhp.

Section 1 of Proposal

s. Proposal page where sound power levels are given for the forced draft and primary air fans

Section 1 of Proposal

## 2.9 AUXILIARY FANS

Proposal page where name of fans, number proposed, motor size, and fan curves are given.

Page 1.10 of Section 1

**2.10 AIR PREHEATER**

	<u>Primary air</u>	<u>Secondary air</u>
	Not Rev'd.	
a. Type and manufacturer		<u>ABB-Air Preheater</u>
b. Number proposed per unit and diameter, ft		<u>One (1) 32.5-V1-68 49ft dia.</u>
c. Speed, rpm		<u>1.03</u>
d. Depth, in.		<u>68 (80" casing)</u>
e. Heating surface, sq ft		<u>363608</u>
f. Hot end, height and material spec.		<u>22" open hearth steel</u>
g. Intermediate section, height and material spec.		<u>34" Low alloy steel</u>
h. Cold end, height and material spec.		<u>12" Low alloy steel</u>
i. Weight, lb		<u>1,125,230</u>
j. Water washing equipment, cold end/hot end		
Capacity of water required, gpm		<u>2220</u>
Maximum pressure of water required		<u>75 psig</u>
k. Size of electric drive, hp		<u>40</u>
l. Air motor requirements, scfm and psig		<u>160 at 90</u>
m. Recommended cold-end average temperature control set point for specified variations of coals fired, °F		<u>165 /</u>
n. Bearing cooling water flow, gpm		<u>Specification requires air cooler</u>
o. Steam sootblowing equipment		<u>Two retractable sootblowers one at gas inlet, one at gas outlet</u>

2.11 MODULATING CONTROL DAMPERS

	<u>Primary fan inlet vane control</u>	<u>FD fan inlet vane control</u>
a. Manufacturer	<u>Bailey or Equal</u>	<u>Bailey or Equal</u>
b. Model number	<u>Later</u>	<u>Later</u>
c. Control signal type	<u>4-20 Made</u>	<u>4-20 Made</u>

2.12 PULVERIZERS

a. Type and manufacturer	<u>MBF22.5 - Foster Wheeler</u>
b. Number	<u>4</u>
c. Number of burners served per pulverizer	<u>4</u>
d. Rpm of pulverizer	<u>24.7</u>
e. Rotation	<u>Clockwise when viewed from top</u>
f. Capacity each, tph	<u>44.0 for perf. coal</u> <u>46.82 for worst coal</u>
g. Bhp at rated capacity	<u>393 for perf. coal</u> <u>409 for worst coal</u>
h. Recommended motor, hp/rpm	<u>500 / 870</u>
i. Pulverizer turndown ratio	<u>2.5 to 1</u>
j. Percent through 200 mesh	<u>70</u>
k. Percent through 50 mesh	<u>98.5</u>
l. Recommended coal size to pulverizer without decreasing capacity, in.	<u>1 1/4" x 0</u>
m. Maximum coal size, in.	<u>2"</u>
n. Maximum temperature of preheated air to pulverizer, °F	<u>369 for worst coal</u>
o. Weight of pulverizer, lb	<u></u>

- p. Thickness and material of coal piping to burners, in. 0.5" carbon steel
- q. Expected grinding element life, tons of coal
  - Rolls 68500
  - Thrust ring (if applicable) -
  - Grinding ring -
- r. Expected maintenance cost of grinding elements, \$/ton of coal 0.06
- s. Cooling water flow, gpm 35
  - Maximum temperature and pressure
- t. Required head of coal to seal silos from hot air from pulverizers, ft 12
- u. Place in proposal where pulverizer power consumption versus grindability curve is included for the pulverizer size proposal. The power consumption shall be given per ton of coal pulverized Later
- v. Pulverizer inerting/firefighting system See Section #13

2.13 FEEDERS (FUEL)

- a. Type and manufacturer Gravimetric / Stock or Equal
- b. Number 4
- c. Maximum capacity rating, lb/hr 55 tons/hr
- d. Feeder accuracy, percent ± 0.5



e. Loss of fuel detection system  
 (located on raw fuel pipe to feeder)

Manufacturer Stock or Equal  
 Model number 8D-Model w/countdown  
 f. Height of coal to seal inlet, in. 12 Feet  
 g. Weight, lb 4280 Each

2.14 SOOTBLOWERS

a. Manufacturer Diamond Power or Equal

b. Area served, number, type,  
 and number of wallboxes for  
 future blowers

		Wall blower	
1. Furnace	20		40
2. Furnace	16	Full Ret.	6
3. HRA	12	Full Ret.	-
4. HRA	18	Half Ret	-
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

c. Length of steam blowing cycle,  
 minutes Approx. 335 Min.

d. Total steam required per cycle,  
 lb/cycle 46,925

e. Number of blowing cycles  
 per day at MCR with specified  
 fuel 3

f. Maximum instantaneous steam  
 flow rate, 1,000 lb/hr 20,880

g. Minimum pressure and temperature  
 required at steam source for boiler  
 sootblowers 600 Psig at 348°F

h. Minimum pressure and temperature  
 required at steam source for air  
 preheater sootblowers 600 psig /

- f. Maximum capacity of pressure-reducing station, lb/hr Approx. 34,540
- j. Place in proposal where drawing and criteria for blower locations are included PD-915-200
- k. Is boiler capable of withstanding the routine use of water-assisted wall blowers if installed after initial operations? \_\_\_\_\_
- l. Sootblower steam flow meter
  - Manufacturer Diamond Power or Equal
  - Model number Later
- m. Length of sootblower from boiler in pullout position Full Ret. - 24'-0"  
Half Ret. 12'-0"
- n. Is an auxiliary source of steam required for the air preheater for boiler startup? \_\_\_\_\_

2.15 NITROGEN BLANKETING

- a. SCF nitrogen required \_\_\_\_\_
- b. Recommended pressure, psig \_\_\_\_\_

2.16 THERMOPROBES

- a. Manufacturer Diamond Power or Equal
- b. Number supplied One (1)
- c. Model number TP-500

2.17 STEAM COILS

- a. Headers
  - Type Later
  - Material \_\_\_\_\_
  - Size/thickness, in. 1

Number of passes \_\_\_\_\_  
Plug design \_\_\_\_\_  
Plug material \_\_\_\_\_  
Gasket material \_\_\_\_\_  
Corrosion allowance, in. \_\_\_\_\_  
Size, inlet nozzle, in. \_\_\_\_\_  
Size, outlet nozzle, in. \_\_\_\_\_

b. Tubes

Material ASTM designation Stainless steel  
OD, in. \_\_\_\_\_  
Minimum thickness, in. \_\_\_\_\_  
Number per section \_\_\_\_\_  
Number of rows \_\_\_\_\_  
Length, in. \_\_\_\_\_  
Pitch, in. \_\_\_\_\_  
Tube joint type \_\_\_\_\_  
Maximum span between supports, ft \_\_\_\_\_

c. Fins

Material \_\_\_\_\_  
Type \_\_\_\_\_  
OD, in. \_\_\_\_\_  
Thickness, in. \_\_\_\_\_  
Number per inch \_\_\_\_\_

d. Performance

Surface, bare, ft<sup>2</sup> \_\_\_\_\_

Surface, finned, ft<sup>2</sup> \_\_\_\_\_

Heat transfer rate, Btu/hr \_\_\_\_\_

Total coefficient, Btu/hr-°F-ft<sup>2</sup> \_\_\_\_\_

LMTD (effective), °F \_\_\_\_\_

Fouling resistance (external and internal), hr-°F-ft<sup>2</sup>/Btu \_\_\_\_\_

Number of rows \_\_\_\_\_

e. Miscellaneous

Number of drawer-type sections per heater \_\_\_\_\_

Weight of each drawer-type section \_\_\_\_\_

3.0 VALVE DATA

3.1 SAFETY VALVES

a. Manufacturer Dresser or Equal

b. Page in proposal where quantity, size, expected noise levels, and figure number of valves supplied are given. Page 1.8 of Section 1

3.2 VENT AND DRAIN VALVES

a. Manufacturer Yarway or Equal

b. List quantity, sizes, and page in proposal where list is given. Page 1.8.1 of Section 1

3.3 CONTINUOUS BLOWDOWN REGULATING VALVE

a. Manufacturer Yarway

b. Size and figure number 1 1/2" / 5937

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3.4 ECONOMIZER INLET STOP AND CHECK VALVES

- a. Stop valve manufacturer Edwards or Equal
- b. Stop valve size and figure number (motorized) 14" / 3914 TY
- c. Stop valve velocity through valve seat, fps Later
- d. Stop valve body material WCB
- e. Check valve manufacturer Edwards or Equal
- f. Check valve size and figure number 14" / 3992TY
- g. Check valve velocity through valve seat, fps Later
- h. Check valve body material WCB

3.5 SUPERHEATER OUTLET ELECTROMATIC RELIEF VALVE

- a. Manufacturer Dresser or Equal
- b. Page in proposal where size, expected noise level, and figure number of valve supplied are given Page 1.8 of Section 1
- c. Silencer Dresser or Equal

3.6 ACID CLEANING AND INSPECTION VALVES

- a. Manufacturer Fittings Only
- b. Size and figure number - / -

3.7 SUPERHEATER OUTLET STOP VALVE

- a. Stop valve manufacturer Not applicable
- b. Stop valve size and figure number (motorized) - / -
- c. Stop valve body material -

3.8 REHEATER SAFETY VALVES

- a. Inlet, number and type 4 / Spring Loaded
- b. Outlet, number and type 1 / Spring Loaded

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3.9 ATTEMPERATOR VALVES

- a. Block valves (motorized)
- b. Control valves (power operated)
- c. Control valve bypass (power operated)
- d. Control valve isolating

(4) Superheat  
(1) Reheat  
 (4) Superheat  
(1) Reheat  
 None  
(8) Superheat  
(2) Reheat

4.0 INSTRUMENTATION DATA

4.1 THERMOCOUPLES

- a. Type of thermocouples

Chromel-Alumel

Manufacturer

Thermal Electric or Equal

Design

- b. Number supplied on

Boiler drum

9

Superheater

100

Reheater

50

4.2 GAUGE GLASSES

- a. Manufacturer
- b. Number supplied
- c. Model number
- d. Method of remote indication

Yarway or Equal

2

T4595F

Fiber Optic

4.3 REMOTE DRUM LEVEL INDICATORS

- a. Manufacturer
- b. Number supplied
- c. Model number
- d. Relay unit model number

Yarway or Equal Acquisition 3000

2

4460 PRC

-

4.4 WEIGHTS

a. Steam generator as specified	
Normal water level, tons	<u>265</u>
At flooded level, tons	<u>575</u>
b. Pulverized coal equipment, fuel piping, burners, and feeders, tons	<u>1469</u>
c. Refractories, insulation, lagging, tons	<u>464</u>
d. Other (list), tons	Press. parts - 2887    Gen. Acc-1400 S.S. & Platf.- 3402    Remainder-899 Flues & Ducts 732
e. Total net weight of complete unit as specified, tons	<u>11,262</u>

4.5 INFORMATION

a. What is the maximum normal load change rate increase and decrease that the boiler can achieve (% change/min)?	<u>5 % /Minute</u>
b. Indicate where the following information is provided in Seller's proposal:	
1. List of primary measurement points to include measurement ranges	<u>Figure 3-7</u>
2. Description of control equipment in accordance with Section 5.17 of 20524-M-001.1	<u>Section 7 and 13 of Proposal</u>
3. Description of services required	<u>Section 13 of Proposal</u>
4. For the full load plant acceptance test, the Seller shall provide the following information in order to measure the guarantee items listed in Section 5.22 of 20524-M-001.1	
a) List of instruments to be provided along with accuracy range.	<u>See Section 14 of Proposal</u>
b) Frequency of fuel samples to be taken and what items in each sample that will be analyzed.	<u>Every half hour prox. and ult. analysis HHV, Ash fusion temp. Ash Analysis</u>

c) Method to be used to confirm that the boiler can meet each guaranteed item.

As per Power Test Code

5. Description of method to be used for disposal of hydrostatic test water, boiler boilout and rinse water, and acid cleaning effluent.

On site  
Disposal by Owner

6. Proposal page where a description of margins that are applied for the equipment supplied is given.

Section 1 of Proposal

7. Give proposal page where a discussion is given concerning what design and material have been incorporated to maintain the boiler availability.

Section 1 of Proposal

In particular discuss superheater/reheater materials, arrangement, and lug materials and design.

Section 1 of Proposal

8. Provide with the Seller's proposal a complete fan proposal for the fans to be provided.

Section 1 and 7 of Proposal

9. Provide page where combustion control SAMA/ISA diagrams are listed.

After Award  
of Contract

**5.0 GUARANTEES**

See Page 1.5  
of Proposal

5.1 At MCR load, guaranteed power for all fans, pulverizers, and auxiliaries when firing the performance fuel given in Appendix A.

5.2 Proposal page where Seller's guarantee values in accordance with Section 5.22.

Page 1.5  
of Section 1

5.3 Will full-time Manager be provided in accordance with Section 3.2.11.

Yes

**6.0 WEIGHTS/ERECTION**

**6.1 TOTAL STEAM GENERATOR WEIGHT**

a. Dry tons

Later

b. At normal water level, tons





<b>c. Economizer</b>	
1. Number of lifts required for erection	<u>330</u>
2. Maximum weight of lift	<u>Later</u>
3. Total economizer weight	<u>Later</u>
4. Number of site welds	<u>1320</u>
<b>d. Convection pass enclosure walls</b>	
1. Number of enclosure panels	<u>25</u>
2. Maximum panel weight	<u>Later</u>
3. Total enclosure wall weight	<u>Later</u>
4. Number of site welds	<u>318</u>
<b>e. Reheater</b>	
1. Number of lifts required for erection	<u>4 / 0</u>
2. Maximum weight of lift	<u>Later</u>
3. Total reheater weight	<u>Later</u>
4. Number of site welds	<u>3060</u>
<b>e. Air heater</b>	
1. Number of lifts required for the primary air heater	<u>N/A</u>
2. Maximum weight for lift	<u>N/A</u>
3. Total weight of air heater	<u>N/A</u>
4. Number of lifts required for the secondary air heater	<u>Approx. 46 per heater</u>
5. Maximum weight for lift	<u>88,160 lbs.</u>
6. Total weight of secondary air heater	<u>1,125,230 lbs.</u>
f. Total weight of air ducts	<u>Later</u>



SERVICE AIR

<u>Component</u>					
Low Speed					
Air Htr. motor	160	SCFM @	90	Pressure, psig and	°F
High Speed					
Air Htr motor	320	SCFM @	90	Pressure, psig and	°F
Leakage Cont.					
Syst., Air Htr	50	SCFM @	5	Pressure, psig and	°F
Hot Spot Det.					
Syst. Air Htr	80	SCFM @	75	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F

INSTRUMENT AIR

<u>Component</u>					
Later	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F
_____	_____	SCFM @	_____	Pressure, psig and	°F

OTHER

Component

_____	_____	Flow @ _____	Pressure, psig and _____	°F
_____	_____	Flow @ _____	Pressure, psig and _____	°F
_____	_____	Flow @ _____	Pressure, psig and _____	°F
_____	_____	Flow @ _____	Pressure, psig and _____	°F
_____	_____	Flow @ _____	Pressure, psig and _____	°F
_____	_____	Flow @ _____	Pressure, psig and _____	°F
_____	_____	Flow @ _____	Pressure, psig and _____	°F
_____	_____	Flow @ _____	Pressure, psig and _____	°F
_____	_____	Flow @ _____	Pressure, psig and _____	°F

ELECTRICAL POWER

KVA @ 480 V Supply, Total \_\_\_\_\_

KVA @ 4160 V Supply, Total \_\_\_\_\_

B.0 PROPOSAL DRAWINGS, DESCRIPTION, AND MISCELLANEOUS DATA

B.1 Drawings submitted with the proposal shall show the location of components, including burners, fans, ducts, air heaters, air preheaters, access doors, turning vanes, observation ports, roof arrangement, and both initial and future soot blowers. Withdrawal clearances shall be indicated where necessary.

B.2 Drawing list shall be submitted with the proposal showing significant drawings to be submitted after contract award. Proposal page where a schedule for submittal of these drawings is given.

Section 13 of Proposal

B.3 Curves illustrating main steam temperature and reheat temperatures with and without desuperheater(s) in service shall be provided by the Seller. Curves shall be plotted with load as the abscissa. The above variables, plus excess air and quantities of spray water, shall be on the ordinate scale. Curves shall be shown from minimum load to maximum continuous load when firing the fuels listed in Appendix A of Specification 20524-M-001.1

Proposal Page Section 1 Proposal \_\_\_\_\_

8.4 A curve shall be included illustrating required temperature of air entering the air preheater for cold-end temperature protection from start-up to maximum continuous load. The curve shall be based on the worst fuel and shall include a curve illustrating the predicted air flow (pounds per hour) entering the air heater while using 0 °F air inlet temperature.

Proposal Page Later

8.5 Gas, metal, and steam temperatures throughout the unit shall be provided at maximum continuous load, while burning performance fuel.

Proposal Page Fill-in Data  
Sheets E-11, E-12

8.6 A drawing shall be provided that shows the air and gas velocities and pressures throughout the unit, including ducts and flues at maximum continuous load, while burning performance fuel.

Proposal Page Section 1 of Proposal

8.7 Proposal page where feedwater and boiler water quality limits of the steam generator are given.

Section 9 of Proposal

8.8 Proposal page where a boiler loading plan showing boiler column location plan for design of structural steel is given.

Later

8.9 Proposal page where schematic drawings showing process flow paths are given.

Section 1 of Proposal

8.10 The Seller shall submit a schedule for engineering, drawing submittal, manufacturing, and shipping for items included in this specification.

8.11 A curve showing steam air heater steam consumption versus load shall be submitted with the proposal.

8.12 Characteristic curves for all fans shall be provided showing head, brake horsepower, and efficiency versus flow from shutoff to test block flow.

8.13 The Seller shall include a description of heat insulation and lagging for the furnace, ducts, piping, and any other equipment requiring insulation.

8.14 The Seller shall state limitations when operating continuously at reduced loads.

8.15 The basis for sizing the pulverizers, provisions made to accommodate frozen coal, and means for obtaining early coal firing without oil stabilization shall be provided. The Seller shall state the percentage of wear margin allowed for in sizing the pulverizers.

8.16 Description of design features for emptying the feeders and the pulverizers prior to extended outages of the unit.

8.17 Design provisions incorporated to prevent pulverizer fires.

8.18 Design and construction features employed to avoid warping of dampers or registers used in high-temperature locations.

8.19 The Seller shall state any limitations that may exist in the capability, performance, and operation of auxiliary equipment when firing coals other than the performance coal listed in Appendix A and any limitations in equipment supplied by the Seller for operating continuously at reduced loads.

8.20 Quality control and inspection procedures for manufactured equipment and for purchased equipment, including shop performance test requirements.

8.21 Outline of the extent of equipment preassembly.

8.22 During the bid evaluation stage, the Seller shall be requested to provide the following:

- a. Definition of Seller's field inspection requirements and procedures such as hydrotesting, painting, pump and equipment alignment, valve stroke actuation, etc.
- b. Mounting details for all rotating equipment.
- c. Specific details on installation and replacement of insulation and refractory.
- d. Flue gas acid dew point and resultant corrosion protection measures.

8.23 Worst case flue gas flow for the range of fuels that the Buyer must report to the baghouse supplier for sizing. State the fuel used in determining this flue gas flow and the procedure used to calculate this flow.

8.24 Provide a complete list of similar size steam generators. Include for each unit:

- a. In-service date
- b. Customer

- c. Station and unit number
- d. Guaranteed maximum continuous main steam and reheat steam flow, temperature, and pressure
- e. Design fuel analysis
- f. Additional fuels fired at MCR load, i.e., gas, oils, or type of coals
- g. Maximum furnace heat release rate (Btu/hr-sq ft)
- h. Maximum plan area heat release rate in furnace (Btu/hr-cu ft)
- i. Maximum furnace volumetric heat release rate (Btu/hr-cu ft)
- j. Maximum furnace exit gas temperature, °F
- k. Maximum flue gas velocity in the convection pass, fps
- l. Number of forced outages and total downtime in hours directly due to problems with the boiler or associated equipment. Include equivalent outage hours for partial outages. Specify the source of these data.

#### 9.0 TRAINING PROGRAM

9.1 Proposal page where Seller describes his start-up training program which shall include the items given in Attachment 2 of Specification 20524-M-001.1.

Section 13 of Proposal

9.2 The number of months prior to boiler hydro when the training program will be submitted to the Buyer.

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