

Appendix H-1, Permit History/ID Number Changes

Tampa Electric Company
Polk Power Station

[DRAFT/PROPOSED/FINAL]Permit No.: 1050233-001-AV
Facility ID No.: 1050233

Permit History (for tracking purposes):

E.U.

<u>ID No</u>	<u>Description</u>	<u>Permit No.</u>	<u>Issue Date</u>	<u>Expiration Date</u>	<u>Extended Date</u>	<u>Revised Date(s)</u>
-001	260 MW Coal Gasification Combined Cycle CT	PSD-FL-194 PA 92-32	02/28/94 1/27/94	6/1/96		2/22/95
-001	260 MW Coal Gasification Combined Cycle CT	PSD-FL- 194(A)	2/28/95	6/30/00		

(if applicable) ID Number Changes (for tracking purposes):

From: **Facility ID No.:** 40TPA050233

To: **Facility ID No.:** 1050233

Notes:

- 1 - AO permit(s) automatic extension(s) in Rule 62-210.300(2)(a)3.a., F.A.C., effective 03/21/96.
 - 2 - AC permit(s) automatic extension(s) in Rule 62-213.420(1)(a)4., F.A.C., effective 03/20/96.
- {Rule 62-213.420(1)(b)2., F.A.C., effective 03/20/96, allows Title V Sources to operate

STATE OF FLORIDA, DEP, BUREAU OF AIR REGULATION, TITLE V SECTION
TELEPHONE CONVERSATION RECORD

FUT.

Bryle EA

TO: Kilr

FROM: SCOTT SHEPLAK

DATE: 07/09/97 TIME: ~4pm

WITH: Ms. Janice Taylor

REPRESENTING: TEC - Polk Power Partners

TELEPHONE NO.: 813/641-5039

SUBJECT: _____

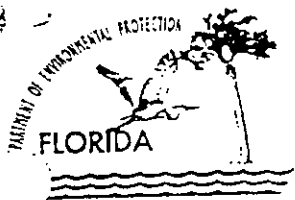
TEC - Polk Power Partners

DRAFT Title V Permit No. : 10S0233-001-AV

SUMMARY: TEC - Polk Power Partners is considering whether or not they will submit a 90 day waiver for the subject permit.

The company's deadline to submit the Phase II acid rain application is 12/31/97. The subject facility was required to submit their Title V application because they are a 'new' Title V source. If we were to issue the DRAFT Title V permit now the applicant would have to submit a revision later in the year for the Phase II acid rain part.

Day 90 is August 3, 1997. The company plans to change the conditions of certification. The company plans to inform us of their decision by July 15.



TECU Polk Power Station

Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

February 28, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. G. F. Anderson
Tampa Electric Company
P. O. Box 111
Tampa, Florida 33601-0111

Dear Mr. Anderson:

RE: Amendment for a Modification to the Auxiliary Boiler
and Expiration Date Extension
PSD-FL-194(A)

The Department received your requests of May 12 and June 9, 1994, to modify the auxiliary boiler by increasing the heat input rate, which will require changing some existing specific conditions, and to extend the expiration date of the PSD permit referenced below. The permit is amended as shown:

Permit No. PA-92-32, PSD-FL-194, Tampa Electric Company.

Current Expiration Date: June 1, 1996

New Expiration Date: June 30, 2000

The Department is also modifying the specific conditions as follows:

E. Auxiliary Boiler

The maximum heat input to the auxiliary boiler shall not exceed ~~49.5~~ 120.0 MMBtu/hr when firing No. 2 fuel oil with 0.05 percent maximum sulfur content by weight. All fuel consumption must be continuously measured and recorded for the auxiliary boiler.

G. Fugitive Dust

Fugitive dust emissions during the construction period shall be minimized by covering or watering dust generation areas. Particulate matter emissions from the coal handling equipment be controlled by enclosing all coal storage, conveyors and

Florida Department of Environmental Protection, Tallahassee, Florida

Mr. G. F. Anderson
 February 28, 1995
 Page 2 of 4

~~transfer points (except those directly associated with the coal stacker/reclaimer for which an enclosure is operationally infeasible). Fugitive emissions shall be tested as specified in Condition No. J. Inactive coal storage shall be shaped, compacted, and oriented to minimize wind erosion. Water sprays or chemical wetting agents and stabilizers shall be applied to uncovered storage piles, roads, handling equipment, etc. during dry periods and, as necessary, to all facilities to maintain an opacity of less than or equal to five percent. When adding, moving or removing coal from the coal pile, an opacity of 20 percent is allowed.~~

H. Emission Limits

1. The maximum allowable emissions from the IGCC combustion turbine, when firing syngas and low sulfur fuel oil, in accordance with the BACT determination, shall not exceed the following:

<u>Pollutant</u>	<u>Fuel</u>	<u>Basis</u>	<u>Emissions Limitations</u> 7F CT Postdemonstration	
			<u>Period</u> <u>lb/hr</u>	<u>tpy</u>
Ox	Oil	42 ppmvd	311	N/A
	Syngas	25 ppmvd	222.5	27044
			220.25	1,032.9

Auxiliary Boiler Operation

operation of the auxiliary boiler shall be limited to a ~~of 17000~~ 3,000 hours per year ~~and only during periods of~~ and shutdown of the IGCC unit, or when steam from the IGCC ~~and shutdown of the IGCC unit, or when steam from the IGCC~~ recovery steam generator is unavailable. The auxiliary ~~and shutdown of the IGCC unit, or when steam from the IGCC~~ operate continuously (i.e. 8,760 hrs/yr) in the standby following emission limitations shall apply:

emissions shall not exceed ~~0.26~~ 0.10 lbs/MMBtu for oil

ing.
 fur dioxide emissions shall be limited by firing low sulfur oil with a maximum sulfur content of 0.05 percent

eight.
 le emissions shall not exceed 20 percent opacity (minute average) (except for one six-minute period per minute during which opacity shall not exceed 27 percent), burning low sulfur fuel oil.

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L. Monitoring Requirements

1. IGCC Combustion Turbine

A continuous emission monitoring system (CEMS) shall be installed, operated and maintained in accordance with 40 CFR 60, Appendix F, for the combined cycle unit to monitor nitrogen oxides and a diluent gas (CO₂ or O₂). The applicant shall request that this condition of certification be amended to reflect the Federal Acid Rain Program requirements of 40 CFR 75, if applicable, when those requirements become effective within the state.

1- a Each CEMS shall meet the performance specifications of 40 CFR 60, Appendix B.

2- b CEMS data shall be recorded and reported in accordance with Rule Chapter 62-297.500, F.A.C.; 40 CFR 60; and 40 CFR 75, if applicable. The record shall include periods of startup, shutdown, and malfunction.

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

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

5- e For purposes of the reports required under this permit, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Condition No. H.4 herein, which exceeds the applicable emission limits in Condition No. H.1.

2. Auxiliary Boiler

A CEMS shall be installed, operated and maintained in accordance with 40 CFR 60, Appendix F, for the auxiliary boiler to monitor nitrogen oxides emissions and in accordance with 40 CFR 60.13 to monitor opacity.

a. The CEMS shall meet the performance specifications of 40 CFR 60, Appendix B.

Mr. G. F. Anderson
February 28, 1995
Page 4 of 4

b. CEMS data shall be recorded and reported in accordance with Rule 62-297.500, F.A.C., and 40 CFR 60. The record shall include periods of startup, shutdown and malfunction.

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

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

N. Applicable Requirements

The project shall comply with all the applicable requirements of Chapters 62-212 and 62-4, F.A.C., and 40 CFR 60, Subparts A, Db and GG.

A copy of this letter shall be attached to the above mentioned permit, No. PSD-FL-194(A), and shall become a part of the permit.

Sincerely,



Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/sa/b

cc: B. Thomas, SWD
J. Harper, EPA
J. Bunyak, NPS
H. Oven, PPS
T. Davis, P.E., ECT



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

February 28, 1995

*Do you get the
idea I'm not
sure what is
to SDP for PSD's
KFW*

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. G. F. Anderson
Tampa Electric Company
P. O. Box 111
Tampa, Florida 33601-0111

Dear Mr. Anderson:

RE: Amendment for a Modification to the Auxiliary Boiler
and Expiration Date Extension
PSD-FL-194 (A)

The Department received your requests of May 12 and June 9, 1994, to modify the auxiliary boiler by increasing the heat input rate, which will require changing some existing specific conditions, and to extend the expiration date of the PSD permit referenced below. The permit is amended as shown:

Permit No. PA-92-32, PSD-FL-194, Tampa Electric Company.

Current Expiration Date: June 1, 1996

New Expiration Date: June 30, 2000

The Department is also modifying the specific conditions as follows:

E. Auxiliary Boiler

The maximum heat input to the auxiliary boiler shall not exceed 49-5 120.0 MMBtu/hr when firing No. 2 fuel oil with 0.05 percent maximum sulfur content by weight. All fuel consumption must be continuously measured and recorded for the auxiliary boiler.

G. Fugitive Dust

Fugitive dust emissions during the construction period shall be minimized by covering or watering dust generation areas. Particulate matter emissions from the coal handling equipment shall be controlled by enclosing all coal storage, conveyors and conveyor

4. If you want delivery restricted to the addressee, or to an authorized agent of the addressee, you must attach it to the front of the article by means of the number ends of your permits. Otherwise, affix to back of article. Enclose front of article. RETURN RECEIPT REQUESTED adjacent to the number.

transfer points (except those directly associated with the coal stacker/reclaimer for which an enclosure is operationally infeasible). Fugitive emissions shall be tested as specified in Condition No. J. Inactive coal storage shall be shaped, compacted, and oriented to minimize wind erosion. Water sprays or chemical wetting agents and stabilizers shall be applied to uncovered storage piles, roads, handling equipment, etc. during dry periods and, as necessary, to all facilities to maintain an opacity of less than or equal to five percent. When adding, moving or removing coal from the coal pile, an opacity of 20 percent is allowed.

H. Emission Limits

1. The maximum allowable emissions from the IGCC combustion turbine, when firing syngas and low sulfur fuel oil, in accordance with the BACT determination, shall not exceed the following:

<u>Pollutant</u>	<u>Fuel</u>	<u>Basis</u>	<u>Emissions Limitations</u> 7F CT Postdemonstration	
			<u>Period</u> lb/hr	<u>tpy</u>
NO _x	Oil	42 ppmvd	311	N/A
	Syngas	25 ppmvd	222.5	±7044
			<u>220.25</u>	<u>1,032.9</u>

I. Auxiliary Boiler Operation

Normal operation of the auxiliary boiler shall be limited to a maximum of ±7000 3,000 hours per year and only during periods of startup and shutdown of the IGCC unit, or when steam from the IGCC unit's heat recovery steam generator is unavailable. The auxiliary boiler may operate continuously (i.e. 8,760 hrs/yr) in the standby mode. The following emission limitations shall apply:

1. NO_x emissions shall not exceed 0.16 0.10 lbs/MMBtu for oil firing.
2. Sulfur dioxide emissions shall be limited by firing low sulfur oil with a maximum sulfur content of 0.05 percent by weight.
3. Visible emissions shall not exceed 20 percent opacity (6-minute average) (except for one six-minute period per hour during which opacity shall not exceed 27 percent), while burning low sulfur fuel oil.

L. Monitoring Requirements

1. IGCC Combustion Turbine

A continuous emission monitoring system (CEMS) shall be installed, operated and maintained in accordance with 40 CFR 60, Appendix F, for the combined cycle unit to monitor nitrogen oxides and a diluent gas (CO₂ or O₂). The applicant shall request that this condition of certification be amended to reflect the Federal Acid Rain Program requirements of 40 CFR 75, if applicable, when those requirements become effective within the state.

1- a Each CEMS shall meet the performance specifications of 40 CFR 60, Appendix B.

2- b CEMS data shall be recorded and reported in accordance with Rule Chapter 62-297.500, F.A.C.; 40 CFR 60; and 40 CFR 75, if applicable. The record shall include periods of startup, shutdown, and malfunction.

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

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

5- e For purposes of the reports required under this permit, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Condition No. H.4 herein, which exceeds the applicable emission limits in Condition No. H.1.

2. Auxiliary Boiler

A CEMS shall be installed, operated and maintained in accordance with 40 CFR 60, Appendix F, for the auxiliary boiler to monitor nitrogen oxides emissions and in accordance with 40 CFR 60.13 to monitor opacity.

a. The CEMS shall meet the performance specifications of 40 CFR 60, Appendix B.

Mr. G. F. Anderson
February 28, 1995
Page 4 of 4

b. CEMS data shall be recorded and reported in accordance with Rule 62-297.500, F.A.C., and 40 CFR 60. The record shall include periods of startup, shutdown and malfunction.

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

N. Applicable Requirements

The project shall comply with all the applicable requirements of Chapters 62-212 and 62-4, F.A.C., and 40 CFR 60, Subparts A, Db and GG.

A copy of this letter shall be attached to the above mentioned permit, No. PSD-FL-194(A), and shall become a part of the permit.

Sincerely,



Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/sa/b

cc: B. Thomas, SWD
J. Harper, EPA
J. Bunyak, NPS
H. Oven, PPS
T. Davis, P.E., ECT

Final Determination

The permit amendment to reflect modifications and extension of the expiration date for Tampa Electric Company's 260 MW integrated coal gasification combined cycle source, located in Polk county, Florida, was distributed on November 16, 1994. The Notice of Intent to Issue was published in the Lakeland Ledger on December 3, 1994. Copies of the amendment were available for public inspection at the Department offices in Tampa and Tallahassee.

No comments were submitted by the National Park Service, U.S. Environmental Protection Agency or the applicant.

The final action of the Department will be to issue the permit amendment as proposed.

Florida Department of
Environmental Protection

Memorandum

TO: Howard L. Rhodes
FROM: Al Linero *Al Linero 3/2*
DATE: March 2, 1995
SUBJECT: Modifications and Extension to TECO Polk Power
Station (PA92-32A)

Attached for your review and approval is an amendment modifying the subject PSD permit. A final order modifying the certification conditions for the TECO Polk Power Station was signed by the Secretary's office on February 20, 1995. Through the attached, we are modifying the PSD permit to reflect those changes.

The changes consist of a date extension to the year 2000, a larger auxiliary boiler, replacement of coal piles with silos, and slightly lower NOx emissions.

This project involves construction/operation of a 260 MW combined cycle power plant which is phase 1 on an ultimate 1150 MW integrated coal gasification combined cycle facility.

AL/t

Attachments

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In Re: TAMPA ELECTRIC COMPANY)
POLK POWER STATION)
MODIFICATION OF CONDITIONS)
OF CERTIFICATION PA 92-32) DEP CASE NO. PA 92-32A
POLK COUNTY, FLORIDA) OGC CASE NO. 92-1399

FINAL ORDER MODIFYING CONDITIONS
OF CERTIFICATION

On January 26, 1994, the Governor and Cabinet, acting as the Siting Board, issued a final order approving certification for the Tampa Electric Company (TEC) Polk Power Station Project. That certification order approved the construction and operation of a 260 MW (net) first phase of an ultimate 1150 MW capacity, integrated coal gasification combined cycle (IGCC) facility and associated facilities to be located in Polk County, Florida.

On May 12, 1994 and September 9, 1994, TEC filed requests to modify the conditions of certification pursuant to section 403.516(1)(b), Florida Statutes (F.S.). TEC requested that the conditions be modified to approve changes to the plant design, layout, and operating conditions. The changes include increases in size and operating parameters for the auxiliary boiler, replacement of uncovered coal piles with coal silos, decreased NOx emission limits for the IGCC combustion turbine, revised monitoring requirements for the auxiliary boiler, and updating of applicable regulatory requirements.

Copies of TEC's request were distributed to all parties to the certification proceeding and made available for public review. On December 23, 1994, a Notice of Proposed Modification of Power Plant Certification regarding the proposed modifications was published in the Florida Administrative Weekly. TEC published notice of the proposed modification in the Tampa Tribune and Lakeland Ledger on December 3, 1994. The notice specified that a hearing would be held if requested on or before 45 days from receipt of the proposed modification by the parties or within 30 days of publication of the notice. No written objection to the proposed modification was received by the Department.

Accordingly, in the absence of any timely objection,

IT IS ORDERED:

The proposed changes to the TEC Polk Power Station, described in the May 12, and September 9, 1994 requests for modification, are **APPROVED**. Pursuant to Section 403.516(1)(b), F.S. the Department hereby **MODIFIES** the conditions of certification for the Polk Power Station as follows:

XIII. AIR

E. Auxiliary Boiler

The maximum heat input to the auxiliary boiler shall not exceed ~~48.5~~ 120.0 MMBtu/hr when firing No. 2 fuel oil with 0.05 percent maximum sulfur content by weight. All fuel consumption must be continuously measured and recorded for the auxiliary boiler.

G. Fugitive Dust

Fugitive dust emission during the construction period shall be minimized by covering or watering dust generation areas. Particulate matter emissions from the coal handling equipment shall be controlled by enclosing all coal storage, conveyors and conveyor transfer points (~~except those directly associated with the coal stacker reclaimer for which an enclosure is operationally infeasible~~). Fugitive emissions shall be tested as specified in Condition No. XIII.J. ~~Inactive coal storage shall be shaped, compacted, and oriented to minimize wind erosion.~~ Water sprays or chemical wetting agents and stabilizers shall be applied to uncovered storage piles, roads, handling equipment, etc. during dry periods and, as necessary, to all facilities to maintain an opacity of less than or equal to five percent. ~~When adding, moving or removing coal from the coal pile, an opacity of 20 percent is allowed.~~

H. Emission Limits

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<u>Pollutant</u>	<u>Fuel</u>	<u>Basis</u>	<u>Emission Limitations</u>	
			<u>lb/hr</u>	<u>tpy</u>
NOx	Oil	42 ppmvd	311	N/A
	Syngas	25 ppmvd	222.5	1,044
			<u>220.25</u>	<u>1,032.9</u>

I. Auxiliary Boiler Operation

Normal operation of the auxiliary boiler shall be limited to a maximum of ~~4,000~~ 3,000 hours per year ~~and only during periods of startup and shutdown of the IGCC unit, or when steam from the IGCC unit's heat recovery steam generator is unavailable.~~ The auxiliary boiler may operate continuously (i.e. 8,760 hrs/yr) in the standby mode. The following emission limitations shall apply:

1. NOx emissions shall not exceed ~~0.16~~ 0.10 lbs/MMBtu for oil firing.
2. Sulfur dioxide emissions shall be limited by firing low sulfur oil with a maximum sulfur content of 0.05 percent by weight.
3. Visible emissions shall not exceed 20 percent opacity (6-minute average) (except for one six-minute period per hour during which opacity shall not exceed 27 percent), while burning low sulfur fuel oil.

L. Monitoring Requirements

1. IGCC Combustion Turbine

A continuous emission monitoring system (CEMS) shall be installed, operated and maintained in accordance with 40 CFR 60, Appendix F, for the combined cycle unit to monitor nitrogen oxides and a diluent gas (CO₂ or O₂). The applicant shall request that this condition of certification be amended to reflect the Federal Acid Rain Program requirements of 40 CFR 75, if applicable, when these requirements become effective within the state.

~~4~~ a. Each CEMS shall meet the performance specifications of 40 CFR 60, Appendix B.

~~2~~ b. CEMS data shall be recorded and reported in accordance with Chapter 62-297.500, F.A.C., 40 CFR 60 and 40 CFR 75, if applicable. The record shall include periods of startup, shutdown, and malfunction.

~~3~~ c. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

~~4~~ d. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of all CEMS.

~~5~~ e. For purposes of the reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Condition No. XIII.H.4 herein, which exceeds the applicable emission limits in Condition No. XIII.H.1.

2. Auxiliary Boiler

A CEM shall be installed, operated and maintained in accordance with 40 CFR 60, Appendix F, for the auxiliary boiler to monitor nitrogen oxides emissions and in accordance with 40 CFR 60.13 to monitor opacity.

CERTIFICATE OF SERVICE

I DO HEREBY certify that a true and correct copy of the foregoing has been sent by U.S. Mail to the following listed persons:

Lawrence N Curtin
Attorney at Law
Holland & Knight
P.O. Drawer 810
Tallahassee, FL 32302

John J. Dingfelder
Assistant County Attorney
Hillsborough County
P.O. Box 1110
Tampa, FL 33601-1110

Karen Brodeen
Assistant General Counsel
Dept. of Community Affairs ✓
2740 Centerview Drive
Tallahassee, FL 32399-0850

Mark Carpanini
Attorney at Law
Office of County Attorney ✓
P.O. Box 60
Bartow, FL 33830-0060

Michael Palecki, Chief
Bureau of Electric & Gas ✓
Florida Public Service Commission
101 East Gaines Street
Tallahassee, FL 32399-0850

Martin D. Hernandez
Richard Tschantz
Assistant General Counsels
Southwest Florida Water Management
District
2370 Broad Street
Brooksville, FL 34609-6899

Carolyn S. Holifield, Chief
Dept. of Transportation ✓
605 Suwannee Street, M.S. 58
Tallahassee, FL 32399-0458

James Antista, General Counsel
Florida Game and Fresh Water Fish
Commission
Bryant Building
620 South Meridian Street
Tallahassee, FL 32399-1600

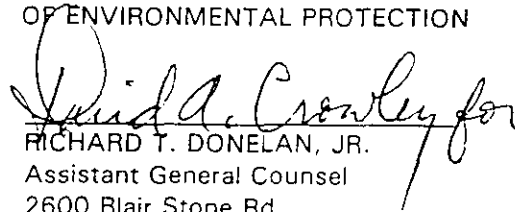
Doug Leonard, Executive Director
Ralph Artigliere, Attorney at Law
Central Florida Regional Planning
Council
409 E. Davidson Street
P.O. Box 2089
Bartow, FL 33830

Sara M. Fotopulos
Chief Counsel
Environmental Protection Commission
of Hillsborough County
1900 Ninth Avenue
Tampa, FL 33605

Julia Greene, Executive Director
Tampa Bay Regional Planning
Council
9455 Koger Blvd.
St. Petersburg, FL 33702

this 22 day of February, 1995.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


RICHARD T. DONELAN, JR.
Assistant General Counsel
2600 Blair Stone Rd.
Tallahassee, FL 32399-2400
(904) 488-9314

Law Offices

HOLLAND & KNIGHT

A Partnership Including Professional Corporations

315 South Calhoun Street
Suite 600
P.O. Drawer 810 (ZIP 32302-0810)
Tallahassee, Florida 32301

904-224-7000
FAX 904-224-8832

December 16, 1994

Atlanta	Orlando
Fort Lauderdale	St. Petersburg
Jacksonville	Tampa
Lakeland	Washington, D.C.
Miami	West Palm Beach

RECEIVED

DEC 19 1994

Mr. C. H. Fancy, P.E.
Chief, Bureau of Air Regulation
Department of Environmental
Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Bureau of
Air Regulation

Re: PSD-FL-194(A) Polk County -- Polk Power
Station

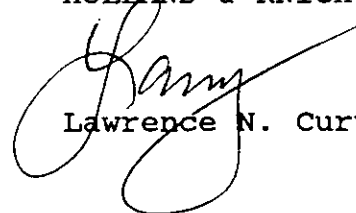
Dear Clair:

Attached for your files is the affidavit of publication of the Notice of Intent to Issue Permit Amendment for PSD-FL-194(A), concerning Tampa Electric Company's Polk Power Station. The Notice was published in the December 3, 1994, edition of The Lakeland Ledger.

Please let me know if you have any questions or require additional information.

Sincerely,

HOLLAND & KNIGHT



Lawrence N. Curtin

Attachment

cc w/o att:

Mr. Greg Nelson
Mr. Steve Jenkins

LNC/mrh
TAL-54885

Submitt
P. Curtin
D. P. ...
C. ...
S. ...

AFFIDAVIT OF PUBLICATION

THE LEDGER Lakeland, Polk County, Florida

Case No

STATE OF FLORIDA)
COUNTY OF POLK)

Before the undersigned authority personally appeared Robert Lee, who on oath says that he is Classified Manager of The Ledger, a daily newspaper published in Polk County, Florida; that the attached copy of advertisement, being a

..Notice of Intent to Issue Permit.....

in the matter of

PSD-FL-194 (A).....

in the

Court, was published in said newspaper in the issues of

December 3;.....

1994.....

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT AMENDMENT
PSD-FL-194(A)

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit amendment to Tampa Electric Company, Post Office Box 111, Tampa, Florida 33601-0111, to reflect modifications to the affected source and an extension of the expiration date. This facility consists of a 260 megawatt (net) integrated coal gasification combined cycle (IGCC) source located approximately 13 miles southwest of Bartow, Polk County, Florida. The modifications include the following: increasing the size and operating parameters of the auxiliary boiler; replacement of uncovered coal piles with coal silos; decreasing NOx emission limits for the IGCC combustion turbine; monitoring requirements for the auxiliary boiler; and, updating of applicable regulatory requirements. Modeling results show that increases in ground-level concentrations are less than Prevention of Significant Deterioration (PSD) significant impact levels. These emissions will not cause or contribute to a violation of any ambient air quality standard or PSD increment.

A person whose substantial interests are affected by the Department's proposed permitting decision (amendment) may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (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. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, 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 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 or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrants reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application/request 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 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

The Department will issue the permit amendment with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

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. Petitions filed by the permit amendment applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, 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 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 or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application/request have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt

of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


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

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this INTENT TO ISSUE PERMIT AMENDMENT and all copies were mailed by certified mail before the close of business on 11-16-94 to the listed persons.

Clerk Stamp

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


Clerk

11-16-94
Date

Copies furnished to:

cc: B. Thomas, SWD
J. Harper, EPA
J. Bunyak, NPS
H. Oven, PPS
L. Novak, Polk County
T. Davis, P.E., ECT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT AMENDMENT

PSD-FL-194 (A)

The Department of Environmental Protection (Department) gives notice of its intent to issue a permit amendment to Tampa Electric Company, Post Office Box 111, Tampa, Florida 33601-0111, to reflect modifications to the affected source and an extension of the expiration date. This facility consists of a 260 megawatt (net) integrated coal gasification combined cycle (IGCC) source located approximately 13 miles southwest of Bartow, Polk County, Florida. The modifications include the following: increasing the size and operating parameters of the auxiliary boiler; replacement of uncovered coal piles with coal silos; decreasing NO_x emission limits for the IGCC combustion turbine; monitoring requirements for the auxiliary boiler; and, updating of applicable regulatory requirements. Modeling results show that increases in ground-level concentrations are less than Prevention of Significant Deterioration (PSD) significant impact levels. These emissions will not cause or contribute to a violation of any ambient air quality standard or PSD increment.

A person whose substantial interests are affected by the Department's proposed permitting decision (amendment) may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (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. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, 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 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 or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner

contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and, (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application/request 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 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, Florida Administrative Code.

The application/requests are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Drive, Suite 4
Tallahassee, Florida 32301

Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8218

Any person may send written comments on the proposed action to Mr. John Brown at the Department of Environmental Protection, Bureau of Air Regulation, Mail Station 5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. All comments received within 14 days of the publication of this notice will be considered in the Department's final determination.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF PERMIT

In the matter of an
Application for Permit by:

DEP File No. PSD-FL-194
Polk County

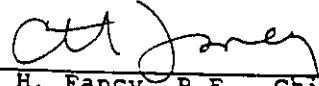
Mr. G. F. Anderson
Tampa Electric Company
P. O. Box 111
Tampa, FL 33601-0111

Enclosed is Permit Number PSD-FL-194 to construct a power plant facility at County Road 630 approximately 13 miles southwest of Bartow, Polk County, Florida, issued pursuant to Section (s) 403, Florida Statutes.

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

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


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

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on

2/23/94 to the listed persons.

Clerk Stamp

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

Cynthia A. Doyle 2/25/94
(Clerk) (Date)

- Copies furnished to:
- W. Thomas, SWD
 - D. Martin, Polk Co.
 - J. Harper, EPA
 - J. Bunyak, NPS
 - L. Curtin, Holland & Knight

7P '008E WJC

RETURN RECEIPT
Delivery restricted to the addressee, or to an authorized agent of the addressee.

Final Determination

Tampa Electric Company
Polk County, Florida

260 MW INTEGRATED COAL GASIFICATION
COMBINED CYCLE UNIT

File No: PSD-FL-194
PA-92-32

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

February 17, 1994

Final Determination

The Technical Evaluation and Preliminary Determination for the permits to construct a 260 megawatt (MW) integrated coal gasification combined cycle (IGCC) combustion turbine, coal gasification facilities, an auxiliary boiler and a fuel oil storage tank at an electrical power plant site in Bartow, Polk County, Florida, was distributed on December 20, 1993. The Notice of Intent to Issue was published in the Tampa Tribune on December 27, 1993. Copies of the evaluation were available for public inspection at the Department offices in Tampa and Tallahassee.

No adverse comments on the evaluation and proposed permits were submitted by the National Park Service (NPS) and the U.S. Environmental Protection Agency (EPA) in their letters dated January 27 and January 26, 1994 respectively.

Tampa Electric Company submitted comments on the Technical Evaluation and Preliminary Determination for the Polk Power Station. The applicant noted that the fuel bound nitrogen adjustment should also apply to oil firing during the two year hot gas clean up demonstration period. The Department agrees with the applicant's comment, and includes the language in the permit to reflect that.

The final action of the Department will be to issue the PSD permit (PSD-FL-194) with the changes noted above.



Florida Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

PERMITTEE:
Tampa Electric Company
702 North Franklin Street
Tampa, Florida 33602

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996
County: Polk
Latitude/Longitude: 27°43'43"N
81°59'23"W
Project: 260 MW Integrated Coal
Gasification Combined
Cycle Combustion Turbine

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-212 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and specifically described as follows:

For one 260 MW integrated coal gasification combined cycle (IGCC) combustion turbine (GE 7F CT or equivalent) with maximum heat input at 59°F of 1,755 MMBtu/hr (syngas) and 1765 MMBtu/hr (oil) to be located at the Polk County site near Bowling Green, Florida. The coal gasification facility will consist of coal receiving, storage and process facilities, air separation unit, gasifier, product gas cleaning facilities, acid gas removal unit, and auxiliary equipment. The first phase will also include a 49.5 MMBtu/hr auxiliary boiler and a 71,450 barrel fuel oil storage tank.

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

Attachments are listed below:

1. Tampa Electric Company (TECO) application received July 30, 1992.
2. Department's letter dated September 22, 1992.
3. TECO's letter dated April 12, 1993.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

GENERAL CONDITIONS:

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

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

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

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

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

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

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

GENERAL CONDITIONS:

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

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

- (X) Determination of Best Available Control Technology (BACT)
- (X) Determination of Prevention of Significant Deterioration (PSD)
- (X) Compliance with New Source Performance Standards (NSPS)

14. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

GENERAL CONDITIONS:

c. Records of monitoring information shall include:

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

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

A. Operation and Construction

The construction and operation of Polk Power Station (Project) shall be in accordance with all applicable provisions of Chapter 17, F.A.C. The following emission limitations reflect final BACT determinations for Phase I (integrated gasification, combined cycle (IGCC) combustion turbine and auxiliary equipment) of the project fired with syngas or fuel oil. BACT determinations for the remaining phases will be made upon review of supplemental applications. In addition to the foregoing, the Project shall comply with the following conditions of certification as indicated.

B. Heat Input

The maximum heat input to the IGCC combustion turbine (CT) shall neither exceed 1,755 MMBtu/hr while firing syngas, nor 1765 MMBtu/hr while firing No. 2 fuel oil at an ambient temperature of 59° F. Heat input may vary depending on ambient conditions and the CT characteristics. Manufacturer's curves for the heat input correction to other temperatures shall be provided to DEP for review 120 days after the siting board approval of the site certification. Subject to approval by the Department, the manufacturer's curve may be used to establish heat input rates over a range of temperature for the purpose of compliance determination.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

C. Hours of Operation

The IGCC unit in Phase I may operate continuously, i.e., 8,760 hrs/year.

D. Fuel

Only syngas and low sulfur fuel oil shall be fired in the IGCC combustion turbine. Only low sulfur fuel oil shall be fired in the auxiliary boiler. The maximum sulfur content of the low sulfur fuel oil shall not exceed 0.05 percent, by weight.

E. Auxiliary Boiler

The maximum heat input to the auxiliary boiler shall not exceed 49.5 MMBtu/hr when firing No. 2 fuel oil with 0.05 percent maximum sulfur content (by weight). All fuel consumption must be continuously measured and recorded for the auxiliary boiler.

F. Fuel Consumption

The maximum coal input to the coal gasification plant shall not exceed 2,325 tons per day, on a dry basis.

G. Fugitive Dust

Fugitive dust emissions during the construction period shall be minimized by covering or watering dust generation areas. Particulate emissions from the coal handling shall be controlled by enclosing all conveyors and conveyor transfer points (except those directly associated with the coal stacker/reclaimer for which an enclosure is operationally infeasible). Fugitive emissions shall be tested as specified in Specific Condition No. J. Inactive coal storage piles shall be shaped, compacted, and oriented to minimize wind erosion. Water sprays or chemical wetting agents and stabilizers shall be applied to uncovered storage piles, roads, handling equipment, etc. during dry periods and, as necessary, to all facilities to maintain an opacity of less than or equal to five percent. When adding, moving or removing coal from the coal pile, an opacity of 20 percent is allowed.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

H. Emission Limits

1. The maximum allowable emissions from the IGCC combustion turbine, when firing syngas and low sulfur fuel oil, in accordance with the BACT determination, shall not exceed the following:

<u>POLLUTANT</u>	<u>EMISSIONS LIMITATIONS - 7P CT</u>			
			<u>Post Demonstration Period</u>	
	<u>FUEL</u>	<u>BASIS^a</u>	<u>LB/HR*</u>	<u>TPY^b</u>
NOx	Oil	42 ppmvd**	311	N/A
	Syngas	25 ppmvd	222.5	1,044
VOC ^c	Oil	0.028 lb/MMBtu	32	N/A
	Syngas	0.0017 lb/MMBtu	3	38.5
CO	Oil	40 ppmvd	99	N/A
	Syngas	25 ppmvd	98	430.1
PM/PM ₁₀ ^d	Oil	0.009 lb/MMBtu	17	N/A
	Syngas	0.013 lb/MMBtu	17	74.5
Pb	Oil	5.30E-5 lb/MMBtu	0.101	N/A
	Syngas	2.41E-6 lb/MMBtu	0.0035	0.067
SO ₂	Oil	0.048 lb/MMBtu	92.2	N/A
	Syngas	0.17 lb/MMBtu	357	1563.7
Visible Emissions	Syngas	10 percent opacity		
	Oil	20 percent opacity		

(*) Emission limitations in lbs/hr are 30-day rolling averages. "Pollutant emission rates may vary depending on ambient conditions and the CT characteristics. Manufacturer's curves for the emission rate correction to other temperatures at different loads shall be provided to DEP for review 120 days after the siting board approval of the site certification. Subject to approval by the Department, the manufacturer's curve may be used to establish pollutant emission rates over a range of temperature for the purpose of compliance determination."

(**) The emission limit for NO_x is adjusted as follows for higher fuel bound nitrogen contents up to a maximum of 0.030 percent by weight:

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

<u>FUEL BOUND NITROGEN</u> <u>(% by weight)</u>	<u>NO_x EMISSION LEVELS</u> <u>(ppmvd @ 15% O₂)</u>
0.015 or less	42
0.020	44
0.025	46
0.030	48

using the formula $STD = 0.0042 + F$ where:

STD = allowable NO_x emissions (% by volume at 15% O₂ and on a dry basis).

F = NO_x emission allowance for FBN defined by the following table:

<u>FUEL BOUND NITROGEN</u> <u>(% by weight)</u>	<u>F (NO_x % BY VOLUME)</u>
0 < N < 0.015	0
0.015 < N < 0.03	0.04 (N-0.015)

N = nitrogen content of the fuel (% by weight).

NO_x emissions are preliminary for the fuel oil specified in Specific Condition D of Conditions of Certification. The permittee shall submit fuel bound nitrogen content data for the low sulfur fuel oil prior to commercial operation to the Bureau of Air Regulation in Tallahassee, and on each occasion that fuel oil is transferred to the storage tanks from any other source to the Southwest District office in Tampa. The % FBN (Z) following each delivery of fuel shall be determined by the following equation:

$$x(Y) + m(n) = (x+m) (Z)$$

where x = amount fuel in storage tank

y = % FBN in storage tank

m = amount fuel added

n = % FBN of fuel added

Z = % FBN of composite

- (a) Syngas lb/MMBtu values based on heat input (HHV) to coal gasifier and includes emissions from H₂SO₄ plant thermal oxidizer. Pollutant concentrations in ppmvd are corrected to 15% oxygen.
- (b) Annual emission limits (TPY) based on 10 percent annual capacity factor firing fuel oil.

$$\frac{\text{Load (\%)} \times \text{hours of operation}}{100} \leq 876 \text{ for fuel oil.}$$

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

- (c) Exclusive of background concentrations.
- (d) Excluding sulfuric acid mist.

2. The maximum allowable emissions from the IGCC combustion turbine, when firing syngas and No. 2 fuel oil during the two year demonstration period, shall not exceed the following:

POLLUTANT	FUEL	EMISSIONS LIMITATIONS	
		7FCT LB/HR*	TPYA
NO _x	Oil**	311	N/A
	Syngas	664.2	2,908.3
VOC ^b	Oil	32	N/A
	Syngas	3	38.5
CO	Oil	99	N/A
	Syngas	99	430.1
PM/PM ₁₀ ^c	Oil	17	N/A
	Syngas	17	74.5
Pb	Oil	0.101	N/A
	Syngas	0.023	0.13
SO ₂	Oil	92.2	N/A
	Syngas	518	2,269
Visible Emissions		Syngas 10 percent opacity	
		Oil 20 percent opacity	

(*) Emission limitations in lbs/hr are 30-day rolling averages.

(**) Footnote ** as shown in Specific Condition H.1. for fuel bound nitrogen adjustment also applies to oil firing during the Demonstration Period.

(a) Annual emission limits (TPY) based on 10-percent annual capacity factor firing No. 2 fuel oil.

$$\frac{\text{Load (\%)}}{100} \times \text{hours of operation} \leq 876 \text{ for oil.}$$

- (b) Exclusive of background concentrations.
- (c) Excluding sulfuric acid mist.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

3. The following allowable turbine emissions, were determined by BACT, and are also tabulated for PSD and inventory purposes:

ALLOWABLE EMISSIONS

<u>POLLUTANT</u>	<u>FUEL</u>	<u>IGCC</u>		<u>IGCC</u>	
		<u>POST DEMONSTRATION</u>		<u>2-YEAR DEMONSTRATION</u>	
		<u>LB/HR</u>	<u>TPY^a</u>	<u>LB/HR</u>	<u>TPY^b</u>
Sulfuric Acid ^c	Syngas	55	241	55	241
Inorganic Arsenic	Syngas	0.0006	0.019	0.08	0.35
Beryllium	Syngas	0.0001	0.0029	0.0001	0.0029
Mercury	Syngas	0.0034	0.017	0.025	0.11

- (a) Based on baseload operations firing syngas, with emission rates equivalent to 100 percent CGCU operations; up to 10 percent annual capacity factor firing fuel oil.
- (b) Based on baseload operations firing syngas, with a maximum of 8760 hrs/yr of HGCU operations; up to 10 percent annual capacity factor firing fuel oil.
- (c) Sulfuric acid mist emissions assume a maximum of 0.05 percent sulfur in the fuel oil.

4. Excess emissions from the turbine resulting from startup, shutdown, malfunction, or load change shall be acceptable providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for a longer duration. Best operating practices shall be documented in writing and a copy submitted to the Department along with the initial compliance test data. The document may be updated as needed with all updates submitted to the Department within thirty (30) days of implementation and shall include time limitations on excess emissions caused by turbine startup.

5. After the demonstration period, permittee shall operate the combustion turbine to achieve the lowest possible NO_x emission limit but shall not exceed 25 ppmvd corrected to 15% oxygen and ISO conditions.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

6. The combustion turbine will be operated for 12-18 months after the demonstration period (estimated to be from Mid 1998 until December 31, 1999). During that period NO_x emission testing will be performed on the turbine at a regular interval of every 2 months. The Department shall be provided with a test protocol including a time schedule 15 days prior to the initial test. The permittee will provide the Department the emission test results 30 days after the test is performed. These results are not for compliance purposes. The Department shall be notified and the reasons provided if a scheduled test is delayed or canceled.

7. One month after the test period ends (estimated to be by February 2000), the permittee will submit to the Department a NO_x recommended BACT Determination as if it were a new source using the data gathered on this facility, other similar facilities and the manufacturer's research. The Department will make a determination on the BACT for NO_x only and adjust the NO_x emission limits accordingly.

I. Auxiliary Boiler Operation

Operation of the auxiliary boiler shall be limited to a maximum of 1,000 hours per year and only during periods of startup and shutdown of the IGCC unit, or when steam from the IGCC unit's heat recovery steam generator is unavailable. The following emission limitations shall apply:

1. NO_x emissions shall not exceed 0.16 lbs/MMBtu for oil firing.
2. Sulfur dioxide emissions shall be limited by firing low sulfur fuel oil with a maximum sulfur content of 0.05 percent by weight.
3. Visible emissions shall not exceed 20 percent opacity (except for one six-minute period per hour during which opacity shall not exceed 27 percent), while burning low sulfur fuel oil.

J. Performance Testing

Initial (I) compliance tests shall be performed on the turbine using both fuels and on the auxiliary boiler using fuel oil. The stack test for the turbine and the auxiliary boiler shall be performed with the sources operating at capacity (maximum heat rate input for the tested operating temperature). Capacity is defined as 90 - 100 percent of permitted capacity. If it is impracticable to test at capacity, then sources may be tested at less than capacity; in this case subsequent source operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for purposes of

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department. Annual (A) compliance tests shall be performed on the turbine and the auxiliary boiler with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests for the applicable emission limitations shall be conducted using EPA reference methods in accordance with 40 CFR 60, Appendix A, as adopted by reference in Rule 17-297, F.A.C., and the requirements of 40 CFR 75:

1. Combustion Turbine

- a. Reference Method 5B for PM (I, A. for oil only).
- b. Reference Method 8 for sulfuric acid mist (I, for oil only).
- c. Reference Method 9 for VE (I, A).
- d. Reference Method 10 for CO (I, A).
- e. Reference Method 20 for NO_x (I, A).
- f. Reference Method 18 for VOC (I, A).
- g. Trace elements of Lead (Pb), Beryllium (Be) and Arsenic (As) shall be tested (I, for oil only) using Emission Measurement Technical Information Center (EMTIC) Interim Test Methods. As an alternative, Method 104 for Beryllium (Be) may be used; or Be and Pb may be determined from fuel analysis using either Method 7090 or 7091, and sample extraction using Method 3040 as described in the EPA solid waste regulations SW 846.
- h. ASTM D 2880-71 (or equivalent) for sulfur content of distillate oil (I,A).
- i. ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 for sulfur content of natural gas (I, and A if deemed necessary by DEP).
- j. Reference Method 22 for fugitive emissions (I,A).

2. Auxiliary Boiler

- a. Reference Method 9 of VE (I,A).
- b. ASTM D 2880-71 (or equivalent) for sulfur content of distillate oil (I,A).

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

c. Reference Methods 7, 7A, 7C, 7D, or 7E for NO_x (I,A).

Other DEP approved methods may be used for compliance testing after prior departmental approval.

K. Sulfur Content of Fuel

The maximum sulfur content of the low sulfur fuel oil shall not exceed 0.05 percent by weight. Compliance shall be demonstrated in accordance with the requirements of 40 CFR 60.334 by testing for sulfur content of the fuel oil in the storage tanks once per day when firing oil. Testing for fuel oil heating value, shall also be conducted on the same schedule.

L. Monitoring Requirements

A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained in accordance with 40 CFR 60, Appendix F, for the combined cycle unit to monitor nitrogen oxides and a diluent gas (CO₂ or O₂). The applicant shall request that this condition of certification be amended to reflect the Federal Acid Rain Program requirements of 40 CFR 75 when those requirements become effective within the state.

1. Each CEMS shall meet performance specifications of 40 CFR 60, Appendix B.

2. CEMS data shall be recorded and reported in accordance with Chapter 17-297.500, F.A.C., 40 CFR 60 and 40 CFR 75. The record shall include periods of startup, shutdown, and malfunction.

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

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

5. For purposes of the reports required under this permit, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Specific Condition No. H.4. herein, which exceeds the applicable emission limits in Condition No. H.1.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

M. Notification, Reporting and Recordkeeping

To determine compliance with the syngas and fuel oil firing heat input limitation, the permittee shall maintain daily records of syngas and fuel oil consumption for the turbine and the heating value for each fuel. All records shall be maintained for a minimum of two years after the date of each record and shall be made available to representatives of the Department upon request.

N. Applicable Requirements

The project shall comply with all the applicable requirements of Chapters 17-209 through 17-297, F.A.C., and 40 CFR 60 Subparts A and GG. The requirements shall include:

1. 40 CFR 60.7(a)(1) - By postmarking or delivering notification of the start of construction no more than 30 days after such date.

2. 40 CFR 60.7(a)(2) - By postmarking or delivering notification of the anticipated date of the initial startup of each turbine and the auxiliary boiler not more than 60 days nor less than 30 days prior to such date.

3. 40 CFR 60.7(a)(3) - By postmarking or delivering notification of the actual startup of each turbine and the auxiliary boiler within 15 days of such date.

4. 40 CFR 60.7(a)(5) - By postmarking or delivering notification of the date for demonstrating the CEMSS performance, no less than 30 days prior to such date.

5. 40 CFR 60.7(a)(6) - By postmarking or delivering notification of the anticipated date for conducting the opacity observations no less than 30 days prior to such date.

6. 40 CFR 60.7(b) - By initiating a recordkeeping system to record the occurrence and duration of any startup, shutdown or malfunction of a turbine and the auxiliary boiler, of the air pollution control equipment, and when the CEMS is inoperable.

7. 40 CFR 60.7(c) - By postmarking or delivering a quarterly excess emissions and monitoring system performance report within 30 days of the end of each calendar quarter. This report shall contain the information specified in 40 CFR 60.7(c) and (d).

8. 40 CFR 60.8(a) - By conducting all performance tests within 60 days after achieving the maximum turbine and boiler firing rates, but not more than 180 days after the initial startup of each turbine and the auxiliary boiler.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

9. 40 CFR 60.8(d) - By postmarking or delivering notification of the date of each performance test required by this permit at least 30 days prior to the test date; and,

10. 17-297.345 - By providing stack sampling facilities for the combustion turbine and the auxiliary boiler.

All notifications and reports required by this specific condition shall be submitted to the Department's Air Program, within the Southwest District office. Performance test results shall be submitted within 45 days of completion of such test.

O. Submission of Reports

The following information shall be submitted to the Department's Bureau of Air Regulation within 12 months of issuance of this permit:

1. Description of the final selection of the turbine and the auxiliary boiler to be installed at the facility. Descriptions shall include the specific make and model numbers, any changes in the proposed method of operation, fuels, emissions or equipment.

2. Description of the CEMS selected. Description shall include the type of sensors, the manufacturer and model number of the equipment.

3. If construction has not commenced within 18 months of issuance of this permit, then the permittee shall obtain from DEP a review and, if necessary, a modification of the BACT determination and allowable emissions for the unit(s) on which construction has not commenced [40 CFR 52.21(r)(2)]. Units to be constructed or modified in later phases of the project will be reviewed and limitations revisited under the supplementary review process of the Power Plant Siting Act.

P. Protocols

The following protocols shall be submitted to the Department's Air Program, within the Southwest District office, for approval:

1. CEMS Protocol - Within 60 days of selection of the CEMS, but prior to the initial startup, a CEMS protocol describing the system, its installation, operating and maintenance characteristics and requirements. The Department shall approve the protocol provided that the system and the protocol meet the requirements of 40 CFR 60.13, 60.334, Appendix B and Appendix F. This condition of certification shall be amended to reflect the Federal Acid Rain Program requirements of 40 CFR 75 when those requirements become effective within the State.

PERMITTEE:
Tampa Electric Company

Permit Number: PA-92-32
PSD-FL-194
Expiration Date: June 1, 1996

SPECIFIC CONDITIONS:

2. Performance Test Protocol - At least 90 days prior to conducting the initial performance tests required by this permit, the permittee shall submit to the Department's Air Program, within the Southwest District office, a protocol outlining the procedures to be followed, the test methods and any differences between the reference methods and the test methods proposed to be used to verify compliance with the conditions of this permit. The Department shall approve the testing protocol provided that it meets the requirements of this permit.

Q. Modifications

The permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change.

Issued this 24th day
of February, 1994

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Virginia B. Wetherell
Virginia B. Wetherell, Secretary

Best Available Control Technology (BACT) Determination
Tampa Electric Company

Polk County
PSD-FL-194
PA-92-32

The applicant is proposing to construct, in phases, a 1,150 MW power plant in Polk County. The proposed facilities will be known as the Tampa Electric Company Polk Power Station. The first phase will consist of an Integrated Coal Gasification Combined Cycle (IGCC) unit with heat recovery steam generator (HRSG) and steam turbine (ST) for a nominal net 260 MW IGCC unit. The coal-fueled advanced CT will be capable of baseload operations (i.e., 100 percent capacity factor) on syngas, while retaining the option to fire fuel oil as backup (maximum 10 percent capacity factor). Units proposed to be added at Polk Power Station include two combined cycle (CC) units totaling 440 MW (nominal) and six simple cycle (SC) CTs totaling 450 MW (nominal). All of these units will be fired with natural gas as the primary fuel and No. 2 fuel oil as backup. The phased schedule for construction and operation of the proposed generating units at the Polk Power Station is presented in Table 1.

Table 1

Proposed Schedule for Construction and Operation of Generating Units
for ultimate capacity at the Polk Power Station Site

Activity/Unit	Start Construction	Completion/ In-Service
Advanced CT, CG & HRSG/ST for 260-MW IGCC unit ^a	First Half 1994	July 1995
75-MW CT	April 1998	January 1999
75-MW CT	April 1999	January 2000
HRSG/ST for conversion of two 75-MW CTs for 220-MW CC unit	April 2000	January 2001
75-MW CT	April 2001	January 2002
220-MW CC	April 2001	January 2003
75-MW CT	April 2005	January 2006
75-MW CT	April 2006	January 2007
75-MW CT	April 2007	January 2008
75-MW CT	April 2008	January 2009
75-MW CT	April 2009	January 2010

a - 220 MW when fired on fuel oil and operated in CC mode.

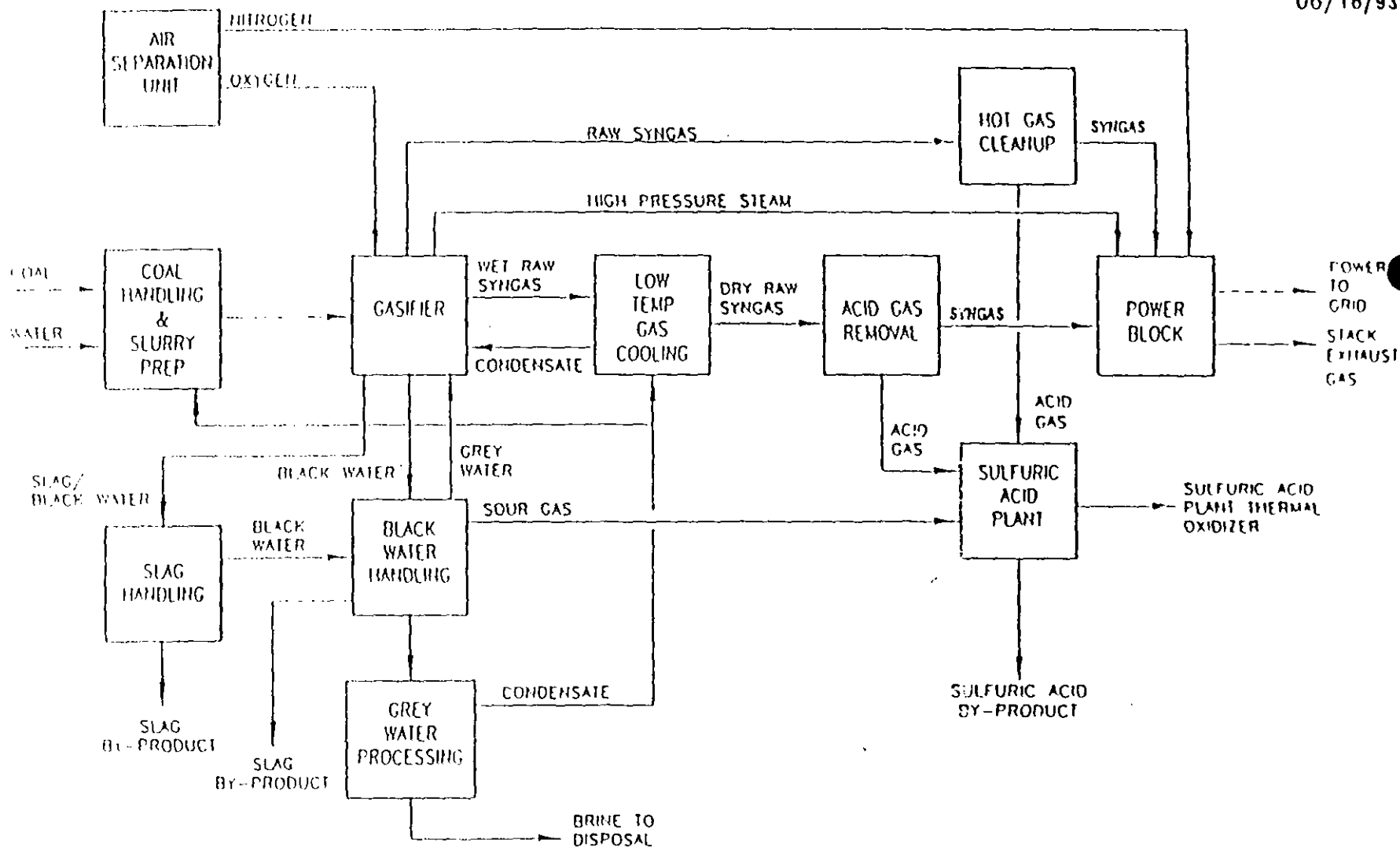
The IGCC unit will be supported in part through funding from the U.S. Department of Energy (DOE) under the Clean Coal Technology Demonstration Program. Under the program, the IGCC unit will be used to demonstrate the integration of coal gasification (CG) and CC technologies and to demonstrate a more efficient method for removal of sulfur from syngas. The new cleanup technology is called hot gas clean up (HGCU). Conventional methods for sulfur removal for IGCC units require that the gas be cooled prior to cleaning, called cold gas cleanup (CGCU), and then reheated. By comparison, the HGCU technology efficiently cleans the gas at high temperatures, thereby increasing the overall plant efficiency. Under the agreement with DOE, Tampa Electric Company will demonstrate the HGCU system for a 2-year period.

The projected maximum tonnage of regulated air pollutants emitted from the proposed facility based on a 100 percent capacity factor and 8,760 hours per year are shown in Table 2. A simplified flow chart for the operation of the IGCC systems at the site is attached (Figures 1 - 3).

Table 2

Projected Maximum Annual Emissions (tpy)
 for ultimate site capacity

Pollutant	IGCC ^a	+	CC ^b	+	SC ^c	=	Total	Significance Rate (tpy)
PM (TSP)	399		260		246		905	25
PM (PM ₁₀)	399		260		246		905	15
SO ₂	2469		720		654		3843	40
NO _x	2923		1308		1014		5245	40
CO	453		1092		978		2523	100
VOC	45		180		168		393	40
Pb	0.15		0.28		0.17		0.6	0.6
H ₂ SO ₄	241		80		72		393	7
Fluorides	0.92		0.17		0.10		1.2	3
Hg	0.12		0.21		0.19		0.5	0.1
Be	0.007		0.013		0.008		0.03	0.0004
Total reduced sulfur (including H ₂ S)	6.2		0		0		6.2	10



8-2

FIGURE 2-2.

GENERALIZED FLOW DIAGRAM OF IGCC SYSTEMS AND PROCESS

Source: ECT, 1993.



POLK
POWER
STATION

FIGURE 2

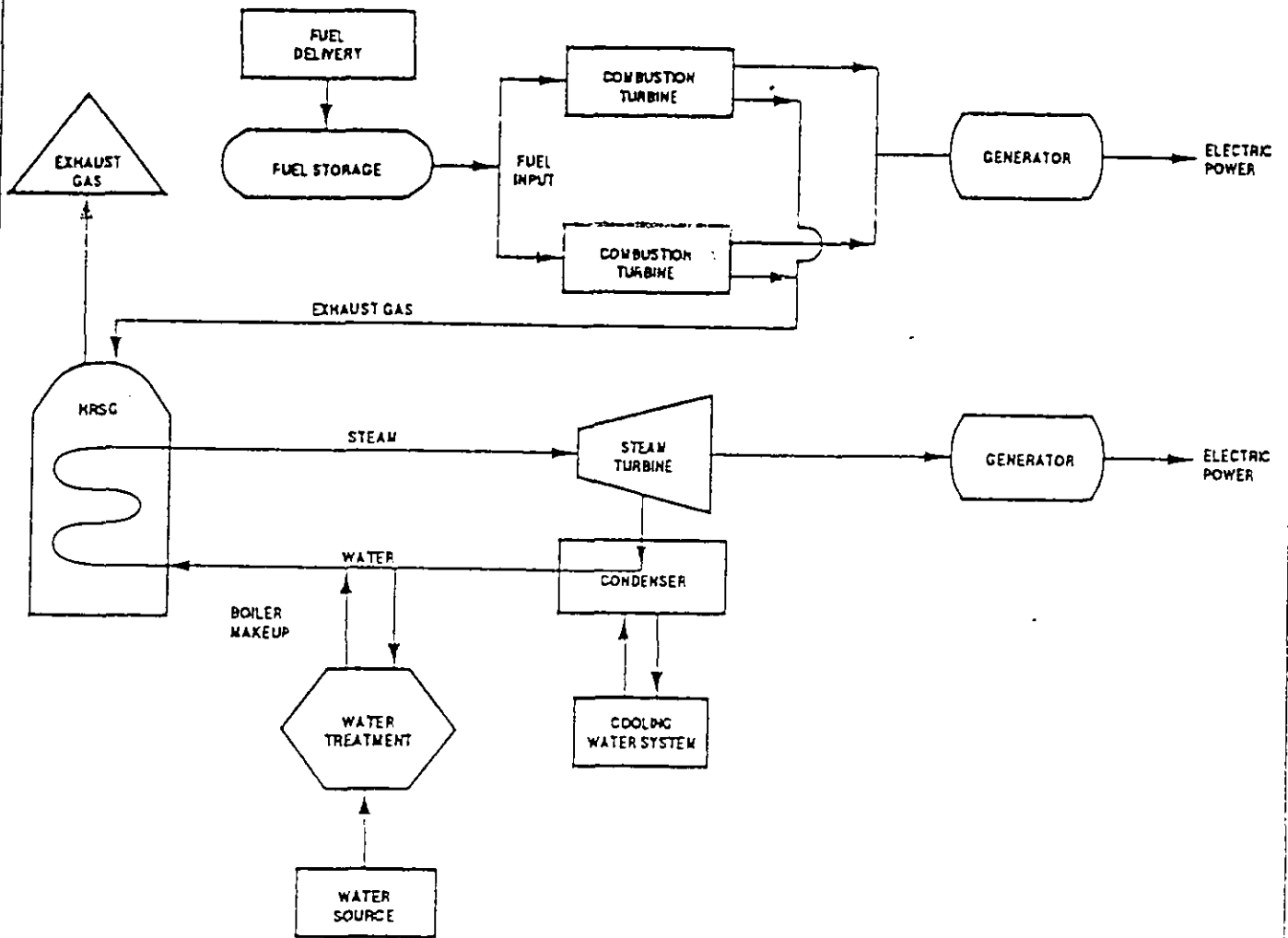


FIGURE 1.5.2-1.

SIMPLIFIED FLOW DIAGRAM OF COMBINED CYCLE POWER SYSTEM

Source: ECT, 1992.



POLK POWER STATION

1.5.3-4

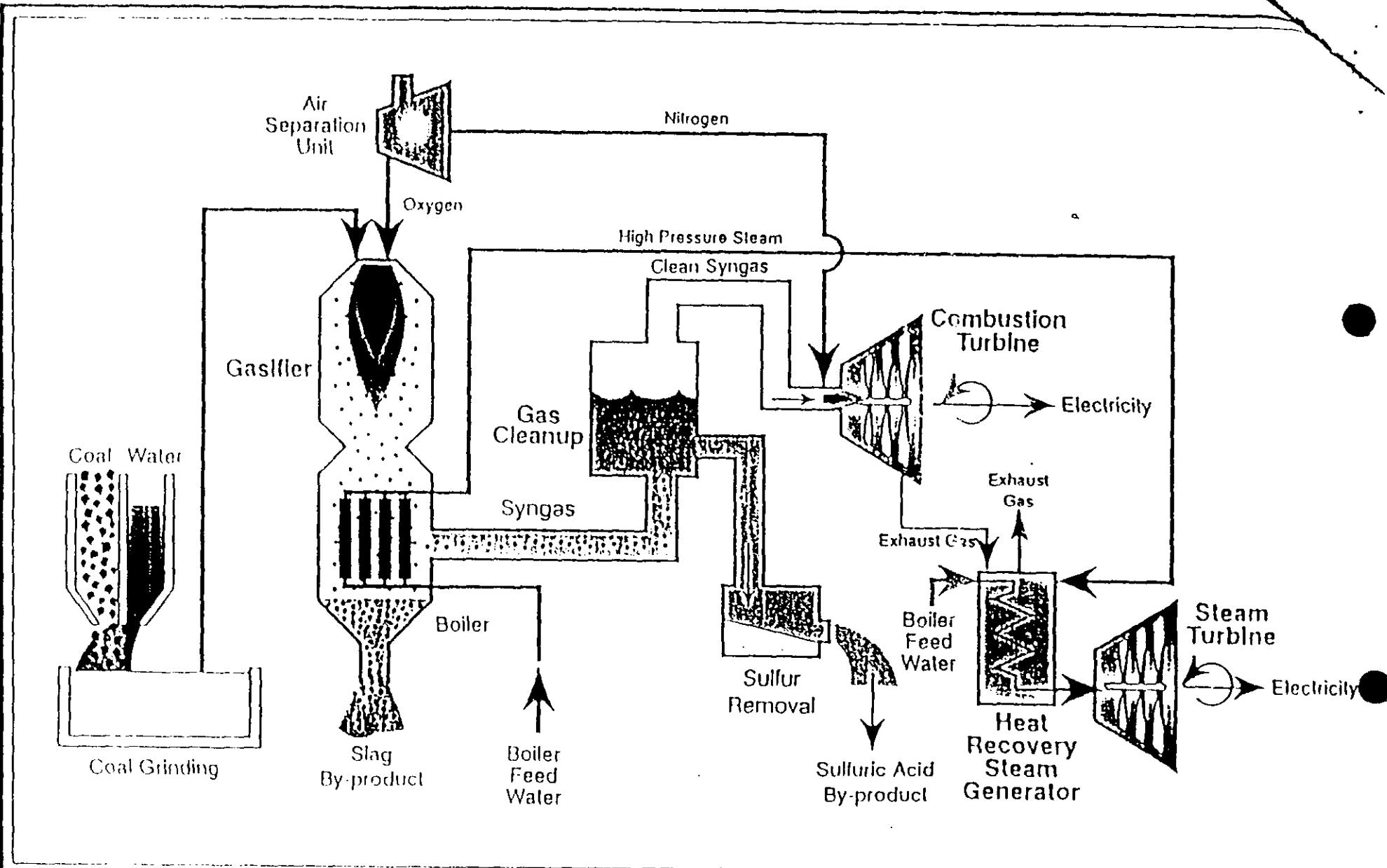


FIGURE 1.5.3-1.

SIMPLIFIED FLOW DIAGRAM OF INTEGRATED COAL GASIFICATION COMBINED CYCLE UNIT

Source: Texaco, 1992. Tampa Electric Company, 1992.



POLK
POWER
STATION

- a - IGCC emissions include the highest annual emissions estimates from the 7F CT (based on the larger of 100 percent CGCU or 50/50 CGCU/HGCU), plus related combustion emissions (e.g., thermal oxidizer), plus other associated process and fugitive emissions (PM, CO, VOC, and H₂S).
- b - CC emissions represent the totals for four stand-alone CTs in CC mode.
- c - SC emission represent the totals for six stand-alone CTs in simple cycle mode.

The proposed facility will also include one 49.5 MMBtu/hr auxiliary boiler fired with low sulfur (0.05% or less by weight) distillate fuel oil. The auxiliary boiler will operate only during startup and shutdown of the IGCC unit, or when steam from the IGCC unit's HRSG is unavailable. The auxiliary boiler will operate a maximum of 1,000 hours per year.

The coal gasification facility will serve as a source of medium Btu, low sulfur (0.07% or less, by weight, sulfur bearing compounds) coal-derived gas. The coal used in the gasification facility will have a maximum sulfur content of 3.05% and have a minimum heating value of approximately 11,035 Btu/lb. The coal gasification plant will consist of coal receiving, storage and process facilities, air separation unit, gasifier, product gas cleaning facilities, acid gas removal unit, and auxiliary equipment. The coal gasification unit will have two stacks, one flare stack used during startup, shutdown and emergency conditions and one thermal oxidation unit stack which will be used continuously.

The applicant has indicated the maximum tonnage of regulated air pollutants emitted from the IGCC unit CT during the initial phase, demonstration and post demonstration periods to be as shown in Table 3.

Table 3

Maximum Annual Emissions from IGCC Unit CT for Various Operating Configurations

Pollutant	Demonstration Period (tpy) ^a	Post-Demonstration Period (tpy) ^b
PM ^c	74.5	74.5
SO ₂	2,269	1,564
NO _x	2,908	1,044
CO	430	430
VOC	38.5	38.5

H ₂ SO ₄	241	241
Pb	0.13	0.067
Fluorides	0.92	0.92
Hg	0.11	0.017
Be	0.0029	0.0029

-
- a - Based on baseload operations firing syngas, with a maximum of 8,760 hr/yr utilization of HGCU and up to 10 percent annual capacity factor firing fuel oil.
 - b - Based on baseload operations firing syngas, with emission rates equivalent to 100 percent CGCU operations; up to 10 percent annual capacity factor firing fuel oil.
 - c - Excluding sulfuric acid mist.

Florida Administrative Code Rule 17-212.400 requires a BACT review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in Table 1.

Date of Receipt of A BACT Application

September 21, 1992

BACT Determination Requested by the Applicant

<u>Pollutant</u>	<u>Combined Cycle Units</u> <u>Determination</u>
NO _x	9 ppmvd (NG) 25 ppmvd (Syngas firing) 42 ppmvd (No. 2 fuel oil firing)
SO ₂	Firing of NG or Syngas Fuel oil with a maximum sulfur content of 0.05 % by weight, 0.048 lb/MMBtu
CO	Combustion control 25 ppmvd (NG) 40 ppmvd (No. 2 fuel oil firing) 25 ppmvd (Syngas firing)
VOC	Combustion control 7 ppmvd (NG) 7 ppmvd (No. 2 fuel oil firing) 1 ppmvd (Syngas firing)

Particulates	Good combustion, and type of fuels fired
Pb	Good combustion, and type of fuels fired
H ₂ SO ₄	Firing of NG, Syngas and No. 2 fuel oil
Be	Firing of NG, Syngas and No. 2 fuel oil
AS	Firing of NG, Syngas and No. 2 fuel oil

Coal Gasification Plant

Raw Product Gas

<u>Pollutant</u>	<u>Control Technology</u>
Sulfur	Acid Gas Removal (95.6%)
Particulates	Water scrubbing

The raw product gas is fired in the combined cycle combustion turbine units and emissions of product gas are included in the BACT determination for those units.

CG Emission (Thermal Oxidizer)

<u>Pollutant</u>	<u>Control Technology</u>
SO ₂	Fuel oil firing with a sulfur content not to exceed 0.05% by weight. (45.3 lb/hr)
NO _x	Combustion controls
CO	Combustion controls
Pb	Efficient Operation
H ₂ SO ₄	Efficient Operation
Mercury	Efficient Operation
Beryllium	Efficient Operation
Inorganic Arsenic	Efficient Operation

Materials Handling and Storage

Fugitive Dust Source

Control Technology

Coal Unloading

Enclosed - including a Collection System

Conveyers and Transfer Points
(Coal, Slag)

Transfer points enclosed with Collection System. Conveyers enclosed

Coal Storage and Reclaiming

Crusting Agent Application
Wet Suppression Systems or
Crusting Agents
Surfactant Application¹

Fuel Oil Storage

Bottom Loaded/Submerged Filling

Auxiliary Boiler

NO_x

Low NO_x Burners and Combustion Controls, limited operation²
(0.159 lb/MMBtu)

SO₂

Fuel oil firing with a sulfur content not to exceed 0.05 % by weight, and limited operation
(0.053 lb/MMBtu)

CO

Combustion Controls (0.087 lb/MMBtu)

VOC

Combustion Controls (0.0485 lb/MMBtu)

Particulates

Combustion Controls (0.061 lb/MMBtu)

Pb

Combustion Controls

Mercury

Combustion Controls

Beryllium

Combustion Controls

Inorganic Arsenic

Combustion Controls

1 - Total Coal Handling Sources PM Emissions are 11.2 tpy

2 - Maximum of 1000 hours of operation per year

Annual pollutant emissions are shown in Table 2 for all sources. Pollutant emission rates are listed in the section entitled "BACT Determination by DEP".

Flare Stacks

This source did not propose a BACT since its operation is expected to be infrequent (startup and shutdown, and emergencies).

BACT Determination Procedure

In accordance with Florida Administrative Code Chapter 17-296, Stationary Sources - Emission Standards, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).
- (b) All scientific, engineering, and technical material and other information available to the Department.
- (c) The emission limiting standards or BACT determinations of any other state.
- (d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

The air pollutant emissions from combined cycle power plants and coal fired power plants can be grouped into categories based upon what control equipment and techniques are available to control emissions from these facilities. Using this approach, the emissions can be classified as follows:

- o Combustion Products (Particulates and Heavy Metals). Controlled generally by good combustion of clean fuels and/or fabric filters.
- o Products of Incomplete Combustion (CO, VOC, Toxic Organic Compounds). Control is largely achieved by proper combustion techniques.
- o Acid Gases (SOx, NOx, HCL, Fl). Controlled generally by gaseous control devices.

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the equipment available to control the type or group of pollutants emitted and the corresponding energy, economic, and environmental impacts to be examined on a common basis. Although all of the pollutants addressed in the BACT analysis may be subject to a specific emission limiting standard as a result of PSD review, the control of "nonregulated" air pollutants is considered in imposing a more stringent BACT limit on a "regulated" pollutant (i.e., particulates, sulfur dioxide, fluorides, sulfuric acid mist, etc.), if a reduction in "nonregulated" air pollutants can be directly attributed to the control device selected as BACT for the abatement of the "regulated" pollutants.

Combustion Products

The IGCC facility's projected emissions for combustion products (Particulate Matter (PM) and trace heavy metals) exceed the significant emission rates given in Florida Administrative Code Rule 17-212.410, Table 212.400-2. A review of the BACT/LAER Clearinghouse indicates that the proposed PM/PM₁₀ emission level of 0.013 lbs/MMBtu (excluding H₂SO₄) for syngas for the IGCC unit is consistent with the particulate limit for recent determinations of coal fired boilers. The applicant proposed PM/PM₁₀ emission level of 0.009 lbs/MMBtu for No. 2 oil firing for the IGCC unit is consistent with previous BACT determinations in Florida.

In general, the BACT/LAER Clearinghouse does not contain specific emission limits for beryllium, mercury and arsenic from turbines. BACT for heavy metals is typically represented by the level of particulate control. The emission factors for PM/PM₁₀ when firing the IGCC with syngas and No. 2 fuel oil are judged to represent BACT for beryllium, arsenic and mercury.

PM/PM₁₀ emissions are controlled for the auxiliary boiler by firing with No. 2 fuel oil with a sulfur concentration not to exceed 0.05%, by weight. This fuel sulfur level is consistent with recent BACT determinations for similar facilities.

Products of Incomplete Combustion

The emissions of carbon monoxide, volatile organic compounds and other organics from combustion turbines are largely dependent upon the completeness of combustion and the type of fuel used. The applicant has indicated that the carbon monoxide emissions from the proposed turbines are based on exhaust concentrations of 25 ppmvd for syngas and 30 ppmvd for No. 2 fuel oil. Volatile organic compound emissions have been based on exhaust concentrations of 7 and 1 ppmvd for fuel oil firing and syngas, respectively.

A review of the BACT/LAER clearinghouse indicates that several of the largest combustion turbines (those with heat inputs greater than 1,000 MMBtu/hour) have been permitted with CO limitations which are similar to those proposed by the applicant. For VOC, the clearinghouse also indicates that the proposed emissions are consistent with that established for other turbines of similar size, thereby suggesting that the proposed emission levels for both CO and VOC are reasonable. Although the majority of BACT emissions limitations have been based on combustion controls for carbon monoxide and volatile organic compounds minimization, additional control is achievable through the use of catalytic oxidation.

Catalytic oxidation is a post-combustion control that has been employed in CO nonattainment areas where regulations have required CO emission levels to be less than those associated with wet injection for NO_x control. These installations have been required to utilize LAER technology, and typically have CO limits in the 10 ppm range (corrected to dry conditions).

In an oxidation catalyst control system, CO emissions are reduced by allowing unburned CO to react with oxygen at the surface of a precious metal catalyst such as platinum. Combustion of CO starts at about 300°F, with efficiencies above 90 percent occurring at temperatures above 600°F. Catalytic oxidation occurs at temperatures 50 percent lower than that of thermal oxidation, thereby reducing the amount of thermal energy required compared to thermal oxidation. For CC combustion turbines, the oxidation catalyst can be located directly after the CT or in the HRSG. Catalyst size depends upon the exhaust flow, temperature and desired efficiency. Most gas turbine applications have been limited to smaller cogeneration facilities burning natural gas in nonattainment areas.

The application of oxidation catalyst is not being required as BACT for the IGCC unit due to high content of sulfur in the fuel. Syngas fuel which will be utilized at 100 percent capacity factor contains up to 0.07% by weight sulfur content. These sulfur compounds are oxidized to SO₂ in the combustion process and will be further oxidized by the catalyst to sulfur trioxide (SO₃). SO₃ will, in turn, combine with moisture in the gas stream to form H₂SO₄ mist. Therefore, the use of an oxidation catalyst system for the IGCC unit is not BACT due to corrosion problems.

Acid Gases - Sulfur Dioxide

The emissions of sulfur dioxide, nitrogen oxides, fluorides, and sulfuric acid mist, as well as other acid gases which are not "regulated" under the PSD Rule, represent a significant proportion of the total emissions and need to be controlled if deemed appropriate. Sulfur dioxide emissions from combustion turbines are directly related to the sulfur content of the fuel being combusted.

The IGCC facility's projected emissions for SO₂ exceed the significant emission rates given in Florida Administrative Code Rule 17-212.410, Table 212.400-2. A review of the BACT/LAER Clearinghouse indicates that the proposed post-demonstration SO₂ emission level of 0.17 lbs/MMBtu for syngas is consistent with the SO₂ limit for recent determinations of coal fired boilers.

For the IGCC combustion turbine, the applicant has proposed the use of Syngas, No. 2 fuel oil with a maximum sulfur content of 0.05%, by weight, and coal gasification to control sulfur dioxide emissions. In accordance with the "top down" BACT review approach, only two alternatives exist that would result in more stringent SO₂ emissions. These include the use of a lower sulfur content syngas and fuel oil or the use of wet lime or limestone-based scrubbers, otherwise known as flue gas desulfurization (FGD).

In developing the NSPS for stationary gas turbines, EPA recognized that FGD technology was inappropriate to apply to these combustion units. EPA acknowledged in the preamble of the proposed NSPS that "Due to the high volumes of exhaust gases, the cost of flue gas desulfurization (FGD) to control SO₂ emissions from stationary gas turbines is considered unreasonable." EPA reinforced this point when, later on in the preamble, they stated that "FGD... would cost about two to three times as much as the gas turbine." The economic impact of applying FGD today would be no different.

Furthermore, the application of FGD would have negative environmental and energy impacts. Sludge would be generated that would have to be disposed of properly, and there would be increased utility (electricity and water) costs associated with the operation

of a FGD system. Finally, there is no information in the literature to indicate that FGD has ever been applied to stationary gas turbines burning distillate oil.

Coal gasification sulfur content is controlled through fuel-production process controls. Sulfur removal stages in the coal gasification process include acid gas removal, and sulfuric acid plant thermal oxidizer. Acid gas removal systems remove hydrogen sulfide, carbonyl sulfide and carbon dioxide from the fuel gas using an acid gas absorbent solution. The acid gases are stripped from the adsorbent solution and sent to the sulfuric acid plant for introduction into a thermal oxidizer, where the remaining sulfur compounds are converted to SO_2 , and finally converted to commercial grade liquid H_2SO_4 . The overall sulfur removal efficiency is 95.6%. The sulfur bearing compounds content of the syngas is reduced to 0.07% by weight, or less.

The elimination of flue gas control as a BACT option then leaves the use of NG, CG with the sulfur removal process or low sulfur coal as the options to be investigated. The applicant has proposed the use of syngas, CG with sulfur removal or No. 2 fuel oil (maximum of 876 hours per year per IGCC combustion turbine) with a maximum sulfur content of 0.05%, by weight, as BACT for this project.

Although the applicant's proposed coal gasification acid gas cleanup process is an existing technology, development is continuing on coal gasification systems. The data base to determine whether the proposed post-demonstration sulfur bearing compounds level of 0.07% by weight is reasonable for a coal gasification facility with resulting proposed emissions of 0.17 lbs/MMBtu is limited. A commercial scale demonstration of an IGCC 100 MW power plant has been conducted adjacent to Southern California Edison's Cool Water generating station. During the Cool Water demonstration project, high sulfur coals, Illinois #6 and Pittsburgh #8, with a sulfur content of about 3.1 percent were tested. The SO_2 emission rate was 0.11 lbs/MMBtu for the Pittsburgh #8 coal and was even lower for the Illinois #6 coal (Technical Brief, Cool Water Coal Gasification Program: Commercial Scale Demonstration of IGCC Technology Completed, Electric Power Research Institute). The Polk Power Station IGCC unit has been designed for a larger capacity and is expected to be capable of using coals from various sources not included in the Cool Water demonstration project tests. Although, emission rates from the Cool Water tests are representative of the SO_2 emission range that can be achieved using IGCC units, the study was conducted as a demonstration project and the unit was later converted to another fuel source.

The Polk Power Station IGCC coal gasification system includes an option for both cold gas and hot gas cleanup and emissions from the Cool Water demonstration project are not directly comparable to the hot gas cleanup system. However, an objective of the hot gas cleanup system test is to demonstrate the efficiency in decreasing sulfur emissions compared to cold gas cleanup system.

Acid Gases - Nitrogen Oxides

The applicant has stated that BACT for nitrogen oxides for the IGCC unit will be met by using nitrogen diluent injection to limit emissions to 25 ppmvd at 15% oxygen when burning syngas, and water injection to achieve 42 ppmvd at 15% oxygen when burning No. 2 fuel oil. The emission limit of 25 ppmvd when burning syngas is higher compared to 9 ppmvd when burning NG in a combustion turbine due to the difference in composition and heat content between the two fuels. In contrast to natural gas which is predominately methane, syngas is composed of a variety of constituents including CO, hydrogen, CO₂, nitrogen, and water. The combustible components of syngas are primarily CO and hydrogen instead of methane. CO and hydrogen burn at a higher adiabatic flame temperature than methane and therefore can produce approximately three times as much NO_x as natural gas.

A review of EPA's BACT/LAER Clearinghouse indicates that the lowest NO_x emission limit established to date for a combustion turbine is 4.5 ppmvd at 15 percent oxygen. This level of control was accomplished through the use of water injection and a selective catalytic reduction (SCR) system. The two 25 MW combustion turbines are located in Kern County, California and the degree of control at this facility exceeds BACT requirements.

Selective catalytic reduction is a post-combustion method for control of NO_x emissions. The SCR process combines vaporized ammonia with NO_x in the presence of a catalyst to form nitrogen and water. The vaporized ammonia is injected into the exhaust gases prior to passage through the catalyst bed.

The applicant has indicated that the cost effectiveness for the application of SCR technology to the Polk Power Station IGCC project was determined to be \$4,935 per ton of NO_x removed for a 50% reduction of NO_x concentration from 25 ppmvd to 12.5 ppmvd. The cost impact analysis was conducted using the OAQPS factors and project-specific economic factors. An assessment of economics impacts was performed by comparing control costs between a baseline case of advanced combustion and nitrogen injection and baseline technology with the addition of SCR controls. Baseline technology is expected to achieve NO_x exhaust concentrations of 25 and 42 ppmvd at 15% oxygen for syngas and oil-firing, respectively. Based

on Japanese experience, SCR technology was premised to achieve NO_x concentration of 12.5 and 21 ppmvd at 15% oxygen for syngas and oil-firing, respectively, representing a 50% NO_x removal efficiency.

Since SCR has been determined to be BACT for several combined cycle facilities firing natural gas, the EPA has clearly stated that there must be unique circumstances to consider the rejection of such control on the basis of economics. In a recent letter from EPA Region IV to the Department regarding the permitting of a combined cycle facility (Tropicana Products Inc.), the following statement is made:

"In order to reject a control option on the basis of economic considerations, the applicant must show why the costs associated with the control are significantly higher for this specific project than for other similar projects that have installed this control system or in general for controlling the pollutant."

The auxiliary boiler is expected to operate 1,000 hours per year or less. The applicant is proposing to control SO₂ and acid gas emissions by firing with No. 2 fuel oil with a sulfur content of 0.05% or less, by weight, and by using combustion controls. Therefore, limited operation and low sulfur distillate oil represents BACT for the auxiliary boiler.

H₂SO₄ Plant Thermal Oxidizer

The predominant emission from the thermal oxidizer is sulfur dioxide. The sulfur dioxide emissions proposed for the facility are based on the highest removal efficiency that is now being maintained at other coal gasification facilities. This is accomplished by using an acid gas removal system followed by a sulfuric plant thermal oxidizer. This process is capable of providing an overall sulfur removal rate of 95.6 percent.

Fugitive Sources

The applicant has indicated that fugitive particulate emissions may result from the storage and handling of coal, slag, and sulfur. BACT for controlling these activities is good engineering design and practices. Control measures shall include the following:

- Minimize number of material transfer points
- Apply crusting agent application to inactive storage areas
- Enclose conveyers and transfer points
- Provide induced collection systems for dust

- Provide wet suppression systems (surfactant)
- Cover by-product storage areas (upon completion of cell)
- Handle and store sulfur in a molten or continuous crystalline state

A review of the control strategy indicates that the applicant has proposed taking all reasonable measures to minimize fugitive particulate emissions.

Environmental Impact Analysis

The predominant environmental impacts associated with this proposal are related to the use of SCR for NO_x control. The use of SCR results in emissions of ammonia, which may increase with increasing levels of NO_x control. In addition, some catalysts may contain substances which are listed as hazardous waste, thereby creating an additional environmental burden. Although the use of SCR does have some environmental impacts, the disadvantages do not outweigh the benefit which would be provided by reducing nitrogen oxide emissions by 50 percent. The benefits of NO_x control by using SCR is substantiated by the fact that a number of BACT determinations have established SCR as the control measure for nitrogen oxides over the last five years for combustion turbines.

In addition to the criteria pollutants, the impacts of toxic pollutants associated with the combustion of syngas and No. 2 fuel oil have been evaluated. Beryllium and Mercury exceeds the PSD significant level. Other toxics are expected to be emitted in minimal amounts, with the total emissions combined to be less than one ton per year.

Although the emissions of the toxic pollutants could be controlled by particulate control devices such as a baghouse or scrubber, the amount of emission reductions would not warrant the added expense for firing with natural gas or fuel oil. Therefore, the Department does not believe that the BACT determination would be affected by the emissions of the toxic pollutants associated with the firing of syngas or No. 2 fuel oil.

Potentially Sensitive Concerns

With regard to controlling NO_x emissions from SCR the applicant has expressed concerns regarding SCR catalyst deactivation due to poisoning, oxidation of SO₂ to SO₃, formation of H₂SO₄, formation of ammonium bisulfate and ammonium sulfate, risk due to potential leaks from storage of NH₃ and disposal of spent catalyst which may be considered hazardous.

A review of permitting activities for combined cycle proposals across the nation indicates that SCR has been required or proposed for installations with a variety of operating conditions including firing with fuel oil. SCR also has been accepted as BACT for boilers fired with pulverized coal. Although the concerns expressed by the applicant were valid at one time, the most recent experiences indicate that these problems have been resolved through advances in catalysts and experiences gained in operation.

BACT Determination by DEP

1. Combustion Products - PM/PM₁₀ (excluding H₂SO₄)

During the two year demonstration period for the IGCC unit at the Polk Power Station, the applicant's proposed PM/PM₁₀ emission limit of 0.013 lb/MMBtu is accepted for IGCC hot cleanup testing conducted under the Cooperative agreement with the US DOE.

For IGCC operation following the 2-year demonstration period particulate emissions control for the IGCC unit will be limited to 0.013 lb/MMBtu.

2. Products of Incomplete Combustion - CO and VOC

The use of an oxidation catalyst system for the IGCC system is not found to be BACT due to the high sulfur content in the syngas and resulting corrosion problems. Emissions are to be controlled by good combustion practices during demonstration and post demonstration periods.

3. Acid Gases - Sulfur Dioxides

During the 2-year demonstration period for the IGCC unit at the Polk Power Station, the applicant's proposed SO₂ emissions limit of 0.247 lbs/MMBtu is accepted for IGCC demonstration testing conducted under the Cooperative Agreement with the US DOE. The proposed emissions limit will allow for testing of coals with a broad range of sulfur content and for evaluation of the IGCC unit design.

For IGCC operations following the demonstration period, SO₂ emissions shall not exceed the 0.17 lbs/MMBtu limit established in a recent BACT determination for the Indiantown Cogeneration facility.

The SO₂ emissions shall be limited to 0.17 lbs/MMBtu for the IGCC unit by the use of low sulfur coal and the integral IGCC sulfur removal and recovery processes.

Acid Gases - Nitrogen Oxides

The annualized cost per ton for NO_x removal of \$4,935 for the IGCC SCR estimated by the applicant exceeds recent estimates for other applications. Recent published estimates for a pulverized coal plant (Selective Catalytic Reduction for a 460 MW coal fueled unit: Overview of a NO_x Reduction System Selection, EPRI, 1993) with a NO_x reduction of 47 percent was \$3,265 per ton in 1997 dollars. Costs per ton in this range indicate SCR is a reasonable alternative. However, there are significant differences between a pulverized coal-fired power plant and an IGCC unit in the design and operation of SCR NO_x control systems.

Due to the uncertainty in actual system performance and high cost of a SCR control system, NO_x BACT for the IGCC CT will be determined following a data collection period. After the demonstration phase, NO_x emission testing will be conducted on the CT every two months over a 12 to 18 month period. Test results will be provided to the Department within thirty (30) days after each test is performed. During the test period, the CT shall be operated to achieve the lowest possible NO_x emission rate and shall not exceed 25 ppmvd NO_x corrected to 15 percent oxygen and ISO conditions. This concentration limitation, equivalent to an emission rate of 0.099 lb NO_x/MMBtu, is 42 percent lower than rates recently established as BACT for other pulverized coal-fired power plant applications. One month after the test period ends, the applicant will submit a recommended BACT determination for NO_x using the test results, data obtained from other similar facilities, and research conducted by the CT manufacturer. The Department will then make a BACT determination for NO_x only and adjust the NO_x emission limits as appropriate.

The emission limits for the IGCC unit for firing with syngas and No. 2 fuel oil for the Polk Power Station are thereby established as follows:

Emission Limitations - 7F CT

Pollutant	Emission Limitations - 7F CT							
	IGCC				IGCC			
	Fuel	Basis	Post Demonstration		Fuel	Basis	2-year Demonstration	
lb/hr			tpy ^a	lb/hr			tpy ^b	
NO _x	Oil	42 ppmvd ^f	311	N/A	Oil	42 ppmvd	311	N/A
	Syngas	25 ppmvd ^f	222.5	1,044	Syngas	81 ppmvd	664.2	2,908.3
VOC ^c	Oil	0.025 lb/MMBtu	32	N/A	Oil	0.028 lb/MMBtu	32	N/A
	Syngas	0.0017 lb/MMBtu	3	38.5	Syngas	0.0017 lb/MMBtu	3	38.5
CO	Oil	40 ppmvd	99	N/A	Oil	40 ppmvd	99	N/A
	Syngas	25 ppmvd	98	430.1	Syngas	25 ppmvd	99	430.1
PM/PM ₁₀ ^d	Oil	0.009 lb/MMBtu	17	N/A	Oil	0.009 lb/MMBtu	17	N/A
	Syngas	0.013 lb/MMBtu	17	74.5	Syngas	0.013 lb/MMBtu	17	74.5
Pb	Oil	5.30E-5 lb/MMBtu	0.101	N/A	Oil	5.30E-5 lb/MMBtu	0.101	N/A
	Syngas	2.41E-6 lb/MMBtu	0.0035	0.067	Syngas	1.10E-5 lb/MMBtu	0.023	0.13
SO ₂	Oil ^e	0.048 lb/MMBtu	92.2	N/A	Oil	0.048 lb/MMBtu	92.2	N/A
	Syngas	0.17 lb/MMBtu	357	1563.7	Syngas	0.247 lb/MMBtu	518	2,269

- NOTES: a - Based on baseload operations firing syngas, with emission rates equivalent to 100 percent CGCU operations; up to 10 percent annual capacity factor firing fuel oil.
- b - Based on baseload operations firing syngas, with a maximum of 8760 hrs/yr utilization of HGCU operations; up to 10 percent annual capacity factor firing fuel oil.
- c - Exclusive of background concentrations.
- d - Excluding sulfuric acid mist.
- e - Sulfur dioxide emissions based on a maximum of 0.05 percent sulfur, by weight.
- f - ppmvd at 15% O₂ and ISO conditions.

Auxiliary Boiler

For the auxiliary boiler, BACT will be represented by a limitation on hours of operation and the use of clean fuel (maximum 1,000 hours per year firing No. 2 fuel oil with 0.05% sulfur, by weight).

H₂SO₄ Plant Thermal Oxidizer

A review of the proposed emission rates for the thermal oxidizer indicates that equipment in and of itself represents BACT for these sources.

Fugitive Sources

A review of the control strategy indicates that the applicant has proposed taking all reasonable measures to minimize fugitive particulate emissions and is representative of BACT.

Details of the Analysis May be Obtained by Contacting:

Doug Outlaw, P.E., BACT Coordinator
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:

CH Fancy

C. H. Fancy, P.E., Chief
Bureau of Air Regulation

February 18 1994
Date

Virginia B. Wetherell

Virginia B. Wetherell, Secretary
Dept. of Environmental Protection

February 24 1994
Date

**STATE OF FLORIDA
BEFORE THE GOVERNOR AND CABINET
SITTING AS THE SITING BOARD**

IN RE:)	
)	
APPLICATION FOR POWER PLANT)	DOAH CASE NO. 92-4896EPP
CERTIFICATION OF TECO POLK)	OGC CASE NO. 92-1399
COUNTY PROJECT,)	
PA 92-32)	
<hr/>		

FINAL ORDER APPROVING CERTIFICATION

On January 25, 1994, this matter came before the Governor and Cabinet, sitting as the Siting Board, pursuant to the Florida Electrical Power Plant Siting Act (PPSA), Section 403.501 et seq., Florida Statutes (1993), for final agency action concerning a recommended order dated November 30, 1993, attached as Exhibit 1, which recommends site certification for the Tampa Electric Company Polk Power Station project. By order dated January 26, 1993, the Board found the Polk site to be consistent and in compliance with existing land use plans and zoning ordinances. On March 2, 1992, the Public Service Commission certified the need for 260 MW of integrated combined cycle coal-gasification (IGCC) generating capacity at the site.

No party has filed exceptions to the Recommended Order.

Having reviewed the recommended order and otherwise being fully advised, it is ORDERED:

1. Pursuant to Section 120.57 (1)(b)(10), Florida Statutes (1993), the Recommended Order dated November 30, 1993, (Exhibit 1) is APPROVED and ADOPTED by the Board.
2. The Board APPROVES certification for the location,

construction and operation of 260 MW of integrated gasification combined cycle generating capacity at the the Tampa Electric Company Polk Power Station Site as proposed in the Site Certification Application, subject to the Conditions of Certification contained in Appendix A to Exhibit 1.

3. The Tampa Electric Company Polk Power Station Site is certified for an ultimate site capacity of 1150 MW fueled by coal gas and natural gas, subject to need determination by the Florida Public Service Commission as required by law, supplemental application review and approval by the Board pursuant to Section 403.517, Florida Statutes, and compliance with the Conditions of Certification contained in Appendix A to Exhibit 1.

4. The Board DELEGATES to the Department of Environmental Protection the authority to assure and enforce compliance by Tampa Electric Company and its agents with all of the Conditions of Certification imposed by this Order.

NOTICE OF RIGHTS

Any party to this certification proceeding has the right to seek judicial review of this Order under Section 120.68, Florida Statutes, by the filing of a notice of appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection, Office of General Counsel, 2600 Blair Stone Road, Tallahassee, FL 32399-2400; and by filing a copy with the appropriate District Court of Appeal.

The notice of appeal must be filed within 30 days from the date this Order is filed with the Clerk of the Siting Board.

DONE and ORDERED this 27th day of January, 1994, at Tallahassee, Florida, pursuant to a vote of the Governor and Cabinet sitting as the Siting Board, at a duly-noticed and constituted Cabinet meeting on January 25, 1994.

THE GOVERNOR AND CABINET
SITTING AS THE SITING BOARD

BY: 
THE HONORABLE LAWTON CHILES

FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to S120.52 Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

 1/27/94
Clerk Date

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been sent by U.S. Mail, to the following listed persons:

Hamilton S. Oven
Office of Siting Coordination
Department of Environmental
Protection
3900 Commonwealth Blvd Ste 953
Tallahassee FL 32399-3000

Michael Palecki, Esquire
Division of Legal Services
Public Service Commission
101 E Gaines St Rm 212
Tallahassee FL 32399-0850

R. Douglas Leonard
Executive Director
Central Florida Regional
Planning Council
409 E Davidson St
Bartow FL 33830

Mark Carpanini, Esquire
Office of County Attorney
Polk County
P O Box 60
Bartow FL 33830-0060

John J. Dingfelder, Esquire
Hillsborough County
P O Box 1110
Tampa FL 33601-1110

Karen Brodeen, Esq.
Assistant General Counsel
Department of Community
Affairs
2740 Centerview Dr Rm 138
Tallahassee FL 32399-0863

Carolyn S. Holifield, Esq.
Administrative Law Section
Department of Transportation
Haydon Burns Bldg
605 Suwannee St MS 58
Tallahassee FL 32399-0458

James Antista
General Counsel
Florida Game & Fresh Water
Fish Commission
Bryant Bldg
620 S Meridian St
Tallahassee FL 32399-1600

Julia Greene
Executive Director
Tampa Bay Regional
Planning Council
9455 Koger Blvd
St Petersburg FL 33702

Martin D. Hernandez, Esquire
Southwest Florida Water
Management District
2370 Broad St
Brooksville FL 34609-6899

Certificate of Service (continued)

Sara Fotopulos, Chief Counsel
EPC of Hillsborough County
1900 9th Ave
Tampa FL 33605

Lawrence N. Curtin, Esq.
Holland and Knight
P.O. Drawer 810
Tallahassee, FL 32302

this 27th day of January, 1994.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



RICHARD T. DONELAN, JR.
Assistant General Counsel

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee FL 32399-2400
Telephone: (904)488-9314

LAW OFFICES

HOLLAND & KNIGHT

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(904) 224-7000
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JOHNSON, BARTLETT & LYNN, P.A.
360 CENTRAL AVENUE
P.O. BOX 3542 (ZIP 33731)
ST. PETERSBURG, FL 33701
18131 896-7171 FAX 18131 822-8048

SPECIAL COUNSEL
LITIGATION & BANKRUPTCY
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ESERNIO & SCHWARTZ, P.C.
1010 FRANKLIN AVENUE
GARDEN CITY, NY 11530
15151 742-0610 FAX 15161 742-2670
300 EAST 42ND STREET
NEW YORK, NY 10017
(212) 338-0970

January 13, 1994

RECEIVED

JAN 13 1994

Bureau of
Air Regulation

VIA HAND DELIVERY

Mr. Clair Fancy
State of Florida Department
of Environmental Protection
111 South Magnolia Courtyard
Suite 4
Tallahassee, Florida 32399-2400

Re: Polk Power Station; Affidavits of Publication of
Notice of Intent to Issue PSD Permit (PSD-FL-194)

Dear Mr. Fancy

Attached are copies of the Affidavits of Publication from the
Lakeland Ledger, the Tampa Tribune, and the Mulberry Press relating
to the Department's Notice of Intent to Issue the above referenced
PSD permit to Tampa Electric Company.

Please give me a call if you have any questions.

Sincerely,

HOLLAND & KNIGHT


Samuel J. Morley

Attachments
SJM/mrh
TAL-38029

cc w/att:

Sayed Arif (via hand delivery)
Lawrence N. Curtin
Richard Donelan
Buck Oven
Tom Davis
Jewell Harper

Handwritten notes:
Sayed Arif, sub list
of 2/1/94

AFFIDAVIT OF PUBLICATION

THE LEDGER Lakeland, Polk County, Florida

Case No.

STATE OF FLORIDA
COUNTY OF POLK)

Before the undersigned authority personally appeared Tharon Honeycutt, who on oath says that he is Controller of The Ledger, a daily newspaper published at Lakeland in Polk County, Florida; that the attached copy of advertisement, being a

Notice of intent to issue permit

in the matter of
PSD-FL-194

in the

Court, was published in said newspaper in the issues of

January 3;

1994

Affiant further says that said The Ledger is a newspaper published at Lakeland, in said Polk County, Florida, and that the said newspaper has heretofore been continuously published in said Polk County, Florida, daily, and has been entered as second class matter at the post office in Lakeland, in said Polk 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 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.

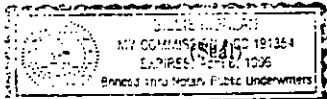
Signed Tharon Honeycutt
Controller

by Tharon Honeycutt who is personally known to me.

3rd

Sworn to and subscribed before me this

January A.D. 19 1994



Billie Morlan
Notary Public

BILLIE MORLAN

My Commission Expires
Holland & Knight
Acct #12610

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a PSD permit (PSD-FL-194) to Tampa Electric Company, located 13 miles south of Barlow, Polk County, Florida, to construct a 260 MW integrated coal gasification combined cycle facility. A determination of Best Available Control Technology (BACT) was required. The total PSD increments consumed by all sources, including this facility, in the Class I and II areas are:

Class I Area Parameter	Averaging Period	Total PSD Impact From All Sources (ug/m3)	Class I PSD Increment (ug/m3)	Increment Consumed (%)
SO2	3-hour	12.9	25	52
	24-hour	3.8	7	20
	Annual	0.4	1	32
NO2 PM	Annual	0.8	1.5	57
	24-hour	5.7	10	22
	Annual	1.1	5	

Class II Area Parameter	Averaging Period	Total PSD Impact From All Sources (ug/m3)	Class II PSD Increment (ug/m3)	Increment Consumed (%)
SO2	3-hour	104	512	20
	24-hour	27	91	30
	Annual	2.7	20	0
NO2 PM	Annual	3.3	25	13
	24-hour	31.8	37	86
	Annual	5.4	19	28

The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32309-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information: (a) The name, address, and telephone number of each petitioner; the applicant's name and address; the Department Permit Fee Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by petitioner; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this 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 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 is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:
Department of Environmental Protection
Bureau of Air Regulation
1115 Magnolia Park Courtyard
Tallahassee, Florida 32301
Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8218

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination. Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.
D-93 - 1-1, 1994

THE TAMPA TRIBUNE

Publishes Daily
Tampa, Hillsborough County, Florida

State of Florida }
County of Hillsborough } ss.

Before the undersigned authority personally appeared R. Putney, who on oath says that he is Accounting Manager of The Tampa Tribune, a daily newspaper published at Tampa in Hillsborough County, Florida; that the attached copy of advertisement being a

LEGAL NOTICE POLK

in the matter of _____

STATE OF FLORIDA

was published in said newspaper in the issues of _____

DECEMBER 27, 1993

Affiant further says that the said The Tampa Tribune is a newspaper published at Tampa in said Hillsborough County, Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County, Florida, each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough 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 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.

R. Putney

Sworn to and subscribed before me, this 27 day of DECEMBER, A.D. 1993

Personally Known _____ or Produced Identification _____
Type of Identification Produced _____

(SEAL)

T. J. Kennedy

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a PSD permit (PSD-FL-194) to Tampa Electric Company, located 43 miles south of Sebring, Polk County, Florida, to construct a 280 MW integrated coal gasification combined cycle facility. A determination of Best Available Control Technology (BACT) has been required. The total PSD increments consumed by all sources, including this facility, in the Class I area are:

Class I Area				
Parameter	Averaging Period	Total PSD impact from All Sources (ug/m ³)	Class I PSD increment (ug/m ³)	Increment Consumed (%)
SO ₂	3-hour	12.9	25	52
	24-hour	3.8	5	76
	Annual	0.4	2	20
NO _x	Annual	0.8	2.5	32
	24-hour	8.7	10	87
PM ₁₀	24-hour	1.1	5	22
	Annual	1.1	5	22

Class II Area				
Parameter	Averaging Period	Total PSD impact from All Sources (ug/m ³)	Class I PSD increment (ug/m ³)	Increment Consumed (%)
SO ₂	3-hour	10	112	9
	24-hour	2.7	31	9
	Annual	0.2	20	1
NO _x	Annual	3.3	25	13
	24-hour	21.8	37	59
PM ₁₀	24-hour	6.4	19	34
	Annual	6.4	19	34

The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2800 Blair Stone Road, Tallahassee, Florida 32309-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right which petitioner may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information: (a) The name, address, and telephone number of each petitioner, the applicant's name and address, and the Department 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 or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rule or statute petitioner contends requires reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this 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 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 to participate in the hearing under Section 120.57, F.S., and to participate as a party to the proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 20.00, F.A.C.

The application is available for public inspection during business normal hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Park Courtyard
Tallahassee, Florida 32301

Department of Environmental Protection
Southwest District
2804 Coconut Palm Drive
Tampa, Florida 33619-8218

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination. Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.

AFFIDAVIT OF PUBLICATION

MULBERRY PRESS

Area's legal newspaper since 1909
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Published Every Thursday

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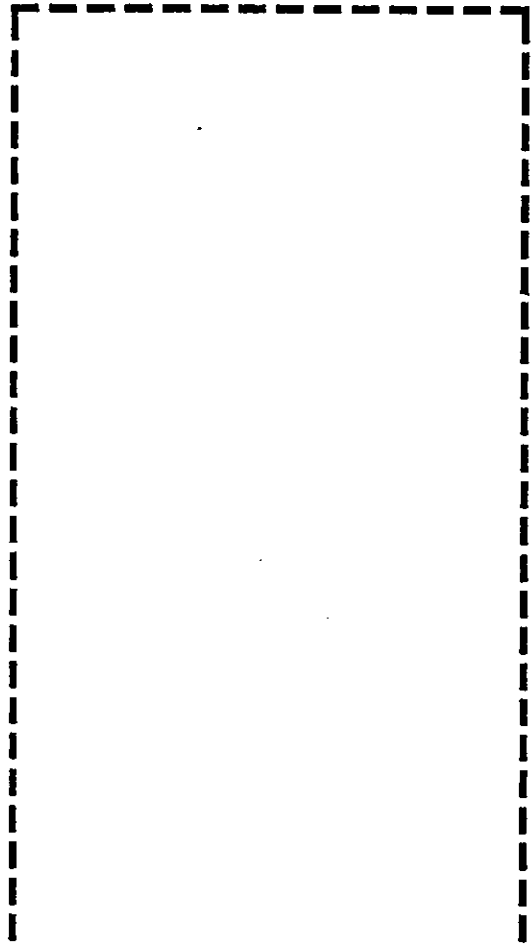
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Mulberry, Polk County, Florida

Case No. Docket Page No.

STATE OF FLORIDA } as.
COUNTY OF POLK }

Before the undersigned authority personally appeared
William M. Husted, who on oath says that he is
Publisher of the Mulberry Press, a newspaper published at
Mulberry, in Polk County, Florida; that the attached copy of advertisement,
being a Public Legal Notice
in the matter of State of Florida Department of
Environmental Protection gives notice of intent
in the Court, was published in said newspaper in the
issues of December 30, 1993



LEGAL NOTICE

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF INTENT TO ISSUE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a PSD permit (PSD-FL-194) to Tampa Electric Company, located 13 miles south of Bartow, Polk County, Florida, to construct a 260 MW integrated coal gasification combined cycle facility. A determination of Best Available Control Technology (BACT) was required. The total PSD increments consumed by all sources, including this facility, in the Class I and II areas are:

Class I Area

Parameter	Averaging Period	Total PSD Impact From All Sources (µg/m ³)	Class I PSD Increment (µg/m ³)	Increment Consumed (%)
SO ₂	3-hour	12.9	25	52
	24-hour	3.8	5	76
	Annual	0.4	2	20
NO ₂	Annual	0.8	2.5	32
PM	24-hour	5.7	10	57
	Annual	1.1	5	22

Class II Area

Parameter	Averaging Period	Total PSD Impact From All Sources (µg/m ³)	Class I PSD Increment (µg/m ³)	Increment Consumed (%)
SO ₂	3-hour	104	512	20
	24-hour	27	91	30
	Annual	0	20	0
NO ₂	Annual	3.3	25	13
PM	24-Hour	31.8	37	86
	Annual	5.4	19	28

The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this 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 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 is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Park Courtyard
Tallahassee, Florida 32301

Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8218

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 30 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.

TAL-36986

Published Mulberry Press, Mulberry, Florida December 30, 1993

Best Available Control Technology (BACT) Determination
 Central Florida Power, L.P.
 Polk County
 PSD-FL-190

The applicant proposes to construct a cogeneration facility near Ft. Meade, Polk County. This generator system will consist of a 184 MW General Electric PG7221FA combustion turbine generator (CT), equipped with a duct burner-fired heat recovery steam generator (HRSG), which will be used to power a nominal 74 MW steam turbine generator (ST).

The applicant has requested to burn natural gas for 8760 hours per year and distillate fuel oil, with a 0.05 percent sulfur content for a maximum 3,742,327 gallons per year. The applicant has indicated the maximum annual tonnage of regulated air pollutants emitted from the facility at base load, 27°F and type of fuel fired to be as follows:

Pollutant	Emissions (TPY)			Total	PSD Significant Emission Rate (TPY)
	Gas	Duct	Oil		
	PG7221FA (8460 hrs)	Burner (8760 hrs)	PG7221FA (300 hrs)		
NO _x	684.7	43.8	48.9	777.4	40
SO ₂	20.5	1.3	15	36.8	40
PM/PM ₁₀	38.1	4.4	2.6	45.1	25/15
CO	206.5	43.8	14.8	265.1	100
VOC	11.80	12.7	1.1	25.6	40
H ₂ SO ₄	2.5	0.16	1.9	4.5	7
Be	nil	nil	6.94 x 10 ⁻⁴	6.94 x 10 ⁻⁴	0.0004
Hg	nil	nil	8.32 x 10 ⁻⁴	8.32 x 10 ⁻⁴	0.1
Pb	nil	nil	2.47 x 10 ⁻⁴	2.47 x 10 ⁻⁴	0.6
As	nil	nil	1.17 x 10 ⁻³	1.17 x 10 ⁻³	0

Florida Administrative Code (F.A.C.) Rule 17-212.400(2) (f) (3) requires a BACT review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in the previous table.

Date of Receipt of a BACT Application

June 15, 1992

BACT Determination Requested by the Applicant

<u>Pollutant</u>	<u>Proposed Limits</u>
NO _x	25 ppmvd @ 15% O ₂ (natural gas burning) 42 ppmvd @ 15% O ₂ (for oil firing) Control Technology: Dry Low-NO _x Burners when firing natural gas and steam/water injection when firing distillate oil
SO ₂	0.05% sulfur by weight (fuel oil firing)
CO, VOC	Combustion Control
PM/PM ₁₀	Combustion Control

BACT Determination Procedure

In accordance with Florida Administrative Code Chapter 17-212, this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination the Department shall give consideration to:

- (a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).
- (b) All scientific, engineering, and technical material and other information available to the Department.
- (c) The emission limiting standards or BACT determinations of any other state.
- (d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source in question, then the

next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

The air pollutant emissions from combined cycle power plants can be grouped into categories based upon what control equipment and techniques are available to control emissions from these facilities. Using this approach, the emissions can be classified as follows:

- o Combustion Products (e.g., particulates). Controlled generally by good combustion of clean fuels.
- o Products of Incomplete Combustion (e.g., CO). Control is largely achieved by proper combustion techniques.
- o Acid Gases (e.g., NO_x). Controlled generally by gaseous control devices.

Grouping the pollutants in this manner facilitates the BACT analysis because it enables the equipment available to control the type or group of pollutants emitted and the corresponding energy, economic, and environmental impacts to be examined on a common basis. Although all of the pollutants addressed in the BACT analysis may be subject to a specific emission limiting standard as a result of PSD review, the control of "nonregulated" air pollutants is considered in imposing a more stringent BACT limit on a "regulated" pollutant (i.e., particulates, sulfur dioxide, fluorides, sulfuric acid mist, etc.), if a reduction in "nonregulated" air pollutants can be directly attributed to the control device selected as BACT for the abatement of the "regulated" pollutants.

BACT POLLUTANT ANALYSIS

COMBUSTION PRODUCTS

Particulate Matter (PM/PM₁₀)

The design of this system ensures that particulate emissions will be minimized by combustion control and the use of clean fuels. The particulate emissions from the combustion turbine when burning natural gas and fuel oil will not exceed 9 lbs/hr and 17 lbs/hr, respectively. The Department accepts the applicant's proposed control for particulate matter and heavy metals.

Lead, Mercury, Beryllium, Arsenic (Pb, Hg, Be, As)

The Department agrees with the applicant's rationale that there are no feasible methods to control lead, mercury, arsenic, and beryllium; except by limiting the inherent quality of the fuel.

Although the emissions of these toxic pollutants could be controlled by particulate control devices, such as a baghouse or scrubber, the amount of emission reductions would not warrant the added expense. As this is the case, the Department does not believe that the BACT determination for PM would be affected by the emissions of these pollutants.

PRODUCTS OF INCOMPLETE COMBUSTION

Carbon Monoxide (CO)

The emissions of carbon monoxide exceed the PSD significant emission rate of 100 TPY. The applicant has indicated that the carbon monoxide emissions from the proposed combined cycle turbine is on exhaust concentrations of 15 ppmv for natural gas firing and 30 ppmv for fuel oil firing.

The majority of BACT emissions limitations have been based on combustion controls for carbon monoxide and volatile organic compounds minimization, additional control is achievable through the use of catalytic oxidation. Catalytic oxidation is a postcombustion control that has been employed in CO nonattainment areas where regulations have required CO emission levels to be less than those associated with wet injection. These installations have been required to use LAER technology and typically have CO limits in the 10-ppm range (corrected to dry conditions).

In an oxidation catalyst control system, CO emissions are reduced by allowing unburned CO to react with oxygen at the surface of a precious metal catalyst such as platinum. Combustion of CO starts at about 300°F, with efficiencies above 90 percent occurring at temperatures above 600°F. Catalytic oxidation occurs at temperatures 50 percent lower than that of thermal oxidation, which reduces the amount of thermal energy required. For CT/HRSG combinations, the oxidation catalyst can be located directly after the CT or in the HRSG. Catalyst size depends upon the exhaust flow, temperature, and desired efficiency.

Due to the oxidation of sulfur compounds and excessive formation of H₂SO₄ mist emissions, oxidation catalyst are not considered to be technically feasible for gas turbines fired with fuel oil.

Catalytic oxidation has not been demonstrated on a continuous basis when using fuel oil.

Use of oxidation catalyst technology would be technically feasible for this natural gas-fired unit; however, the cost of \$10,000 per ton for the PG7221FA of CO removed will have an adverse economic impact on this project.

The Department is in agreement with the applicant's proposal of combustor design and good operating practices as BACT for CO for this cogeneration project.

ACID GASES

Nitrogen Oxides (NO_x)

The emissions of nitrogen oxides represent a significant proportion of the total emissions generated by this project, and need to be controlled if deemed appropriate. As such, the applicant presented an extensive analysis of the different available technologies for NO_x control.

The applicant has stated that BACT for nitrogen oxides will be met by using water/steam injection (when firing distillate fuel oil) and advanced combustor design to limit emissions to 25 ppmvd (corrected to 15% O₂) when burning natural gas and 42 ppmvd (corrected to 15% O₂) when burning fuel oil.

A review of the EPA's BACT/LAER Clearinghouse indicates that the lowest NO_x emission limit established to date for a combustion turbine is .5 ppmvd at 15% oxygen. This level of control was accomplished through the use of water injection and a selective catalytic reduction (SCR) system.

Selective catalytic reduction is a post-combustion method for control of NO_x emissions. The SCR process combines vaporized ammonia with NO_x in the presence of a catalyst to form nitrogen and water. The vaporized ammonia is injected into the exhaust gases prior to passage through the catalyst bed. The SCR process can achieve up to 90% reduction of NO_x with a new catalyst. As the catalyst ages, the maximum NO_x reduction will decrease to approximately 86 percent.

The effect of exhaust gas temperature on NO_x reduction depends on the specific catalyst formulation and reactor design. Generally, SCR units can be designed to achieve effective NO_x control over a 100-300°F operating window within the bounds of 450-800°F, although recently developed zeolite-based catalysts are claimed to be capable of operating at temperatures as high as 950°.

BACT-Central Florida Power, L.P.
PSD-FL-190
Page 6

Increased water vapor content in the exhaust gas (as would result from water or steam injection in the gas turbine combustor) can shift the operating temperature window of the SCR reactor to slightly higher levels.

A concern associated with the use of SCR on combined cycle projects is the formation of ammonium bisulfate. For the SCR process, ammonium bisulfate can be formed due to the reaction of sulfur in the fuel and the ammonia injected. The ammonium bisulfate formed has a tendency to plug the tubes of the heat recovery steam generator leading to operational problems. As this is the case, SCR has been judged to be technically infeasible for oil firing in some previous BACT determinations.

The latest information available now indicates that SCR can be used for oil firing provided that adjustments are made in the ammonia to NO_x injection ratio. For natural gas firing operation, NO_x emissions can be controlled with up to a 90 percent efficiency using a 1 to 1 or greater ammonia injection ratio. By lowering the injection ratio for oil firing, testing has indicated that NO_x can be controlled with efficiencies ranging from 60 to 80 percent. When the injection ratio is lowered there is not a problem with ammonium bisulfate formation since essentially all of the ammonia is able to react with the nitrogen oxides present in the combustion gases. Based on this strategy SCR has been both proposed and established as BACT for oil fired combined cycle facilities with NO_x emission limits ranging from 11.7 to 25 ppmvd depending on the efficiency of control established.

The applicant has indicated that the total levelized annual operating cost to install SCR for this project at 100 percent capacity factor and burning natural gas is \$3,364,400 for the PG7221FA. Taking into consideration the total annual cost, a cost/benefit analysis of using SCR can now be developed.

For this project, based on the information supplied by the applicant, it is estimated that the maximum annual NO_x emissions using dry low- NO_x (natural gas) and water injection (oil firing) will be 702.1 tons/year (at 72°F). Assuming that SCR would reduce the NO_x emissions by 65%, about 245.7 TPY would be emitted annually. When this reduction (456.4 TPY) is taken into consideration with the total levelized annual operating cost of \$3,364,400; the cost per ton of controlling NO_x is \$7,400. This calculated cost is higher than has previously been approved as BACT.

A review of the latest DER BACT determinations show limits of 15 ppmvd (natural gas) using low- NO_x burn technology for combined cycle turbines. General Electric is currently developing programs using both steam/water injection and dry low NO_x combustor to achieve NO_x emission control level of 9 ppm when firing natural gas. Therefore, since this technology will likely be available by

1997, the Department has accepted the water/steam injection (for distillate fuel oil firing), the dry low-NO_x burner design, and the 25 ppmvd (natural gas)/42 ppmvd (oil) at 15% O₂ as BACT for a limited time (up to 12/31/97).

BACT Determination by DER

NO_x Control

The information that the applicant presented and Department calculations indicates that the cost per ton of controlling NO_x for this turbine [\$7,400 per ton (natural gas)] is high compared to other BACT determinations which require SCR. Based on the information presented by the applicant, the Department believes that the use of SCR for NO_x control is not justifiable as BACT at this time.

A review of the permitting activities for combined cycle proposals across the nation indicates that SCR has been required and most recently proposed for installations with a variety of operating conditions (i.e., natural gas, fuel oil, and various capacity factors). Although, the cost and other concerns expressed by the applicant are valid, the Department, in this case, is willing to accept water/steam injection and low NO_x burner design as BACT for this project for a limited time (up to 12/31/97).

It is the Department's understanding that General Electric is developing programs for the PG7221FA using either steam/water injection or dry low NO_x combustor technology to achieve a NO_x emission control level of 9 ppm when firing natural gas.

Based on this, the Department has determined to revise and lower the allowable BACT limit for this project to 15 ppmvd at 15% O₂ no later than 12/31/97. For this turbine, an even lower NO_x emission level than 15 (gas)/42 (oil) ppmvd, corrected to 15% O₂, may become a condition of the permit pursuant to F.A.C. Rule 17-4.080.

CO Control

Combustion control will be considered as BACT for CO and VOC when firing natural gas.

Other Emissions Control

The emission limitations for PM and PM₁₀, Be, Pb, and Hg are based on previous BACT determinations for similar facilities.

The emission limits for the Central Florida Power, L.P. project are thereby established as follows:

- (a) Emissions calculated at base load and 27°F.
- (b) Fuel oil with a maximum of 0.05% sulfur by weight.
- (c) Natural gas (8760 hours per year), Fuel oil (3,742,327 gallons per calendar year).
- (d) Initial NO_x emission rates for natural gas firing shall not exceed 25 ppmvd at 15% oxygen on a dry basis. The permittee shall achieve NO_x emissions of 15 ppmvd at 15% oxygen at the earliest achievable date based on dry low NO_x combustor injection technology or any other combustion technology, but no later than 12/31/97.

Details of the Analysis May be Obtained by Contacting:

Preston Lewis, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

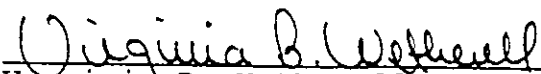
Recommended by:



C. H. Fancy, P.E., Chief
Bureau of Air Regulation

May 4 1993
Date

Approved by:



Virginia B. Wetherell, Secretary
Dept. of Environmental Regulation

May 17 1993
Date

258 MW COMBINED CYCLE COMBUSTION TURBINE
100 MMBtu/hr Duct Burner

Pollutant	Emission Standards/Limitations(a)		Method of Control
	Oil(b)	Gas(c)	
NO _x (CT)	42 ppmvd at 15% O ₂ ; 362.2 lbs/hr	25 ppmvd at 15% O ₂ ; 161.9 lbs/hr	Water Injection/ Dry Low-NO _x Combustor
		15 ppmvd at 15% O ₂ ; 97.2 lbs/hr	Dry Low-NO _x Combustor or any other NO _x Control Technology
NO _x (DB)		0.1 lbs/MMBtu	
CO (CT)	98.4 lbs/hr	49 lbs/hr	Combustion
CO (DB)		10 lbs/hr	
PM/PM ₁₀ (CT)	17 lbs/hr	9 lbs/hr	Combustion
PM/PM ₁₀ (DB)		0.01 lbs/MMBtu	
SO ₂ (CT)	99.7 lbs/hr	4.9 lbs/hr	Distillate Fuel Oil (0.05% S)
SO ₂ (DB)		0.3 lbs/hr	
H ₂ SO ₄ (CT)	1.2 lbs/hr	5.95 x 10 ⁻¹ lbs/hr	Distillate Fuel Oil (0.05% S)
H ₂ SO ₄ (DB)		3.7 x 10 ⁻² lbs/hr	
VOC (CT)	7.5 lbs/hr	2.8 lbs/hr	Combustion
VOC (DB)		2.9 lbs/hr	
Hg	3.0 x 10 ⁻⁶ lbs/MMBtu (5.5 x 10 ⁻³ lbs/hr)		Fuel Quality
Pb	8.9 x 10 ⁻⁶ lbs/MMBtu (1.65 x 10 ⁻² lbs/hr)		Fuel Quality
Be	2.5 x 10 ⁻⁶ lbs/MMBtu (4.62 x 10 ⁻³ lbs/hr)		Fuel Quality
As	4.2 x 10 ⁻⁶ lbs/MMBtu (7.77 x 10 ⁻³ lbs/hr)		Fuel Quality

LAW OFFICES

HOLLAND & KNIGHT

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TALLAHASSEE, FLORIDA 32301
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300 EAST 42ND STREET
NEW YORK, NY 10017
(212) 338-0970

December 23, 1993

Mr. Clair Fancy, P.E.
Chief, Bureau of Air Regulation
State of Florida Department
of Environmental Protection
111 South Magnolia
Suite 4
Tallahassee, Florida 32399

RECEIVED

JAN 10 1994

Re: Polk Power Station; PSD Public Notice

Bureau of
Air Regulation

Dear Mr. Fancy:

Attached is a copy of the revised public Notice of Intent to Issue Permit which reflects minor revisions to the notice attached to your December 17, 1993 letter to Mr. Greg Nelson. These revisions were approved by Mr. Syed Arif with the Department. Specifically, these revisions include the following revised last sentence of the first paragraph. The additional language is underlined.

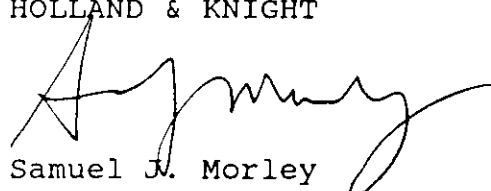
"The total PSD increments consumed by all sources, including this facility, in the Class I and II areas are:"

Also, the schedules set out in the notice have been clarified to include captions for each of the schedule columns.

If there are any questions or comments regarding the above, please call me or Mr. Tom Davis with Environmental Consulting & Technology, Inc. ((904) 332-0444).

Sincerely,

HOLLAND & KNIGHT


Samuel J. Morley

Mr. Clair Fancy, P.E.
December 23, 1993
Page 2

cc: Lawrence N. Curtin
Richard Donelan
Buck Oven
Tom Davis
Jewell Harper

SJM/mrh
TAL-37022

Handwritten signature

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF INTENT TO ISSUE PERMIT

The Department of Environmental Protection gives notice of its intent to issue a PSD permit (PSD-FL-194) to Tampa Electric Company, located 13 miles south of Bartow, Polk County, Florida, to construct a 260 MW integrated coal gasification combined cycle facility. A determination of Best Available Control Technology (BACT) was required. The total PSD increments consumed by all sources, including this facility, in the Class I and II areas are:

Class I Area

Parameter	Averaging Period	Total PSD Impact From All Sources ($\mu\text{g}/\text{m}^3$)	Class I PSD Increment ($\mu\text{g}/\text{m}^3$)	Increment Consumed (%)
SO ₂	3-hour	12.9	25	52
	24-hour	3.8	5	76
	Annual	0.4	2	20
NO ₂	Annual	0.8	2.5	32
PM	24-hour	5.7	10	57
	Annual	1.1	5	22

Class II Area

Parameter	Averaging Period	Total PSD Impact From All Sources ($\mu\text{g}/\text{m}^3$)	Class I PSD Increment ($\mu\text{g}/\text{m}^3$)	Increment Consumed (%)
SO ₂	3-hour	104	512	20
	24-hour	27	91	30
	Annual	0	20	0
NO ₂	Annual	3.3	25	13
PM	24-hour	31.8	37	86
	Annual	5.4	19	28

The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period

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Class II Area

Parameter	Averaging Period	Total PSD Impact From All Sources ($\mu\text{g}/\text{m}^3$)	Class I PSD Increment ($\mu\text{g}/\text{m}^3$)	Increment Consumed (%)
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	24-hour	27	91	30
	Annual	0	20	0
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shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information; (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed; (b) A statement of how and when each petitioner received notice of the Department's action or proposed action; (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action; (d) A statement of the material facts disputed by Petitioner, if any; (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action; (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this 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 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 is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection
Bureau of Air Regulation
111 S. Magnolia Park Courtyard
Tallahassee, Florida 32301

Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619-8218

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All

comments received within 30 days of the publication of this notice will be considered in the Department's final determination.

Further, a public hearing can be requested by any person(s). Such requests must be submitted within 30 days of this notice.

TAL-36986

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Environmental Protection

Lawton Chiles
Governor

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

Virginia H. Wetherell
Secretary

December 17, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Greg Nelson
Tampa Electric Company
Post Office Box 111
Tampa, Florida 33601-0111

Re: Polk Power Station
PSD Public Notice

Dear Mr. Nelson:

This letter is in reference to a requirement of 17-210.350 PSD permit public notice that was not fulfilled in the notice published for the certification hearing of the Polk Power Station.

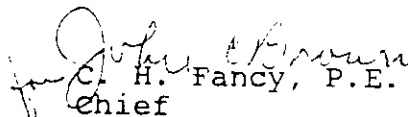
The public notice requirements for sources subject to PSD or nonattainment area new source review is outlined in 17-210.350 and the portions of the item left out in the certification hearing public notice is the following:

"Specifying whether BACT or LAER has been determined and the degree of PSD increment consumption expected"

Attached is a revised public notice that should be published in the same newspaper as the certification hearing notice. A 30 day public comment period shall be provided by the notice. Simultaneously, we will be submitting the Technical Evaluation and Preliminary Determination to EPA for their 30 days comment period, along with a copy of this letter to provide assurance to EPA that proper public notice procedures were followed for a PSD permit.

If there are any questions or comments on the above, please call Syed Arif at (904) 488-1344.

Sincerely,


C. H. Fancy, P.E.
Chief

Bureau of Air Regulation

cc: Richard Donelan
Buck Oven
Larry Curtin, Holland & Knight
Tom Davis, ECT
Jewell Harper, EPA

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<u>Class I</u>			<u>% of Increment</u>		
SO ₂	-	3-hour	12.9	25	52%
		24-hour	3.8	5	76%
		Annual	0.4	2	20%
NO ₂	-	Annual	0.8	2.5	32%
PM	-	24-hour	5.7	10	57%
		Annual	1.1	5	22%

<u>Class II</u>			<u>% of Increment</u>		
SO ₂	-	3-hour	104	512	20%
		24-hour	27	91	30%
		Annual	0	20	0%
NO ₂	-	Annual	3.3	25	13%
PM	-	24-hour	31.8	37	86%
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RECEIVED
DEC 01 1993

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
TAMPA ELECTRIC COMPANY
POLK POWER STATION
CASE NO. PA 92-32

11/29/93

CONDITIONS OF CERTIFICATION

TABLE OF CONTENTS

	PAGE NO.
I. GENERAL	1
A. Definitions	1
B. Applicable Rules	2
II. CHANGE IN DISCHARGE	2
III. GENERAL CONDITIONS	2
A. Facilities Operation	2
B. Non-Compliance Notification	3
C. Safety	4
D. Enforcement	4
E. Design and Performance	4
F. Certification	5
G. Laboratories and Quality Assurance	7
H. Procedures for Post-Certification Submittals	7
1. Purpose of Submittals	7
2. Filings	7
3. Completeness	7
4. Interagency Meetings	8
5. Reasonable Assurance of Compliance	8
6. Commencement of Construction	8
IV. ADVERSE IMPACT	8
V. RIGHT OF ENTRY	8
VI. REVOCATION OR SUSPENSION	9
VII. CIVIL AND CRIMINAL LIABILITY	9
VIII. PROPERTY RIGHTS	9
IX. SEVERABILITY	10

X.	REVIEW OF SITE CERTIFICATION	10
XI.	MODIFICATION OF CONDITIONS	10
XII.	CONSTRUCTION	10
	A. Standards and Review of Plans	10
	B. Control Measures	11
	1. Storm Water Run-Off	11
	2. Open Burning	11
	3. Sanitary Wastes	12
	4. Solid Wastes	12
	5. Noise	12
	6. Dust and Odors	12
	7. Transmission Lines	12
	8. Protection of Vegetation	12
	9. Dewatering Operations	12
	10. Historical or Archaeological Finds	13
	C. Environmental Control Program	13
	D. Reporting	13
XIII.	AIR	14
	A. Operation and Construction	14
	B. Heat Input	14
	C. Hours of Operation	14
	D. Fuel	14
	E. Auxiliary Boiler	14
	F. Fuel Consumption	14
	G. Fugitive Dust	15
	H. Emission Limits	15
	I. Auxiliary Boiler Operation	19
	J. Performance Testing	19
	K. Sulfur Content of Fuel	21
	L. Monitoring Requirements	21
	M. Notification, Reporting and Recordkeeping	21
	N. Applicable Requirements	22
	O. Submission of Reports	23
	P. Protocols	23
	Q. Modifications	24
XIV.	SURFACE WATER DISCHARGES	25
	A. Plant Effluents and Receiving Body of Water	25
	1. Receiving Body of Water	25
	2. Point of Discharge	25
	3. Effluent Limitations	25
	4. Zone of Mixing	26
	B. Thermal Mixing Zone	26
	C. pH	27
	D. Polychlorinated Biphenyl Compounds	27
	E. Construction Storm Water Runoff	27
	F. Steam System Blowdown	27
	G. Operation Storm Water Effluent Limits	28
	H. Surface Water Monitoring	28

XV.	DOMESTIC WASTEWATER	31
XVI.	DRINKING WATER FACILITIES	35
	A. Prior Approval	35
	B. Construction	37
	C. Operation	38
XVII.	INDUSTRIAL WASTEWATER	40
	A. Leachate Standards	40
	B. Solids Generated	40
	C. Water Treatment Systems	40
	D. Construction and Operation of Cooling Pond	40
	E. Vegetative Cover	40
	F. Inspection of Cooling Pond	40
	G. Inspection of Cooling Pond Berms	41
	H. Surge Capacity	41
	I. Disposal of Waste Oil Collected	41
	J. Waste Discharged into Receiving Waters	41
	K. Sampling and Design	41
XVIII.	GROUND WATER	42
	A. Specific Conditions	42
	B. Ground Water Monitoring Plan	42
	C. Location Map	43
	D. Well Information	43
	E. Monitoring	43
	F. Plugging and Abandonment	45
	G. Zone of Discharge	45
	H. Variances	45
	I. Underground Injection	46
XIX.	SCREENING	46
XX.	TOXIC, DELETERIOUS OR HAZARDOUS MATERIALS	46
	A. Spills	46
	B. Handling and Testing of Potentially Hazardous Material	46
XXI.	SOLID WASTE STORAGE AND DISPOSAL	47
	A. Solid Waste General	47
	B. Solid Waste Site Specific Standards	47
	C. Processing Additional Information	50
XXII.	FEDERAL ANNUAL OPERATING PERMITS AND FEES	51
	A. DEP Responsibilities	51
	B. TEC Responsibilities	51
	C. Annual Operating Permit Application and Fee	51

XXIII.	WETLANDS MITIGATION	52
	A. Procedures for the Selection of the Transmission Line ROW	52
	B. Work on the Certified Site	52
	C. Transmission Line Construction Activities	52
	D. Off-Site Impacts	53
	E. Erosion/Runoff Control	53
	F. Wetlands Clearing	54
	G. Herbicides	54
	H. Mitigation for Wetland Impacts	54
XXIV.	WETLAND RECLAMATION REQUIREMENTS	56
	A. Permit Transfer	56
	B. Planting Plans	56
	C. Management Plan	56
	D. Biological Consultant	56
	E. Hardwood Forest Reclamation	57
	F. Mixed Forest Reclamation	57
	G. Herbaceous Wetland Reclamation	57
	H. Surveying and Mapping	57
	I. Organic Soil Placement	58
	J. Plant Stock Requirements	58
	K. Reclamation Success Goals	58
	L. Reporting	59
	M. Review of Reclamation/Mitigation	60
	N. Drag-Line Walk Path	61
XXV.	MINE RECLAMATION CONDITIONS	62
	A. Conceptual Plan Modification and Variance Applications	62
	B. Changes in Land Ownership and Operators	62
	C. Reclamation/Restoration	63
	D. Time Tables	63
	E. Standards	63
	F. Right of Entry	64
	G. Release Procedures	64
XXVI.	SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT	65
	A. Water Use Permitting Conditions	65
	B. Surface Water Management	75
XXVII.	FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS	86
	A. Public Safety	86
	B. Natural Systems and Recreational Lands	86
	C. Air Quality	86
	D. Hazardous and Non-Hazardous Materials	86
XXVIII.	FLORIDA GAME AND FRESH WATER FISH COMMISSION	87

XXIX.	FLORIDA DEPARTMENT OF TRANSPORTATION	88
	A. Haul Route	88
	B. Traffic Monitoring Program	88
	C. Work/Construction Within the State Rights-of-Way	88
	D. New and Modifications to Existing Intersections	88
	E. New Public Rail/Highway At-Grade Crossings	89
	F. Traffic Monitoring Program For All At-Grade Rail/Highway Crossings	89
XXX.	POLK COUNTY	90
	A. CUP 92-05 Conditions	90
	B. Transmission Lines	92
	C. Sinkhole Response Plan	92
	D. Landscape Buffer	92
	E. Tall Structure Compliance	93
	F. Inspection and Permit Compliance Fees	93
	G. Flood Protection	93
	H. Reporting	93
XXXI.	HILLSBOROUGH COUNTY	93

11/29/93

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
TAMPA ELECTRIC COMPANY
POLK POWER STATION
PA 92-32

CONDITIONS OF CERTIFICATION

I. GENERAL

A. Definitions

The meaning of the terms used herein shall be governed by the definitions contained in Chapters 403, 378, 373, 372, and 253, Florida Statutes (F.S.), and any regulation adopted pursuant thereto and the statutes and regulations of any agency. In the event of any dispute over the meaning of a term used in these conditions which is not defined in such statutes or regulations, such dispute shall be resolved by reference to the most relevant definitions contained in any other state or federal statute or regulation or, in the alternative, by the use of the commonly accepted meaning as determined by the Department. As used herein:

1. "Application" shall mean the Site Certification Application (SCA) for the Polk Power Station Project, as supplemented.

2. "DEP" shall mean the Florida Department of Environmental Protection, or Department.

3. "DHR" shall mean the Florida Department of State, Division of Historical Resources.

4. "Emergency conditions" shall mean urgent circumstances involving potential adverse consequences to human life or property as a result of weather conditions or other calamity, and necessitating new or replacement gas pipeline, transmission lines, or access facilities.

5. "Feasible" or "practicable" shall mean reasonably achievable considering a balance of land use impacts, environmental impacts, engineering constraints, and costs.

6. "GFWFC" shall mean the Florida Game and Fresh Water Fish Commission.

7. "Permittee" shall mean Tampa Electric Company (TEC).

8. "Power plant" shall mean the electric power generating equipment and appurtenances to be constructed on the Polk Power Station site in Polk County, as generally depicted in the Application.

9. "Project" shall mean the TEC Polk Power Station (PPS) and all associated facilities, including: the power plant, coal gasification plant, sulfuric acid plant and related facilities, and the cooling reservoir and related facilities.

10. "SWFWMD" shall mean the Southwest Florida Water Management District.

11. "ISO" shall mean International Organization for Standardization, ISO 3977-1978(E) standard conditions for gas turbines = 14.7 psia, 15°C, relative humidity 60 percent.

12. "ROW" shall mean the linear facility right-of-way to be selected within the certified corridors in accordance with the conditions of certification.

B. Applicable Rules

The construction and operation of the Power Plant Station shall be in accordance with all applicable provisions of at least the following regulations of DEP: Chapters 17-2, 17-814, 17-28, 17-256, 17-296, 17-297, 17-301, 17-302, 17-531, 17-532, 17-550, 17-555, 17-560, 17-650, 17-660, 17-701, 17-4, 17-25 and 17-610, Florida Administrative Code (F.A.C.), or their successors as they are renumbered.

II. CHANGE IN DISCHARGE

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any regulated pollutant not identified in the application, or more frequent than, or at a level in excess of that authorized herein, shall constitute a violation of the certification. Any anticipated facility expansions beyond the certified initial, nominal, net capacity of 260 MW, production increases, or process modifications which may result in new, different, or increased discharges of pollutants, change in type of fuel as described in XIII.D., or expansion in steam generation capacity shall be reported by submission of a supplemental application pursuant to Chapter 403, F.S.

III. GENERAL CONDITIONS

A. Facilities Operation

1. The Permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the Permittee to achieve compliance with the terms and conditions of this certification. In the event of a malfunction of a electric generating unit's pollution control system, that unit's load shall be shifted to any or all of the remaining units having a properly functioning pollution control system, and the malfunctioning unit shall be promptly shut down.

2. In the event of a prolonged (thirty (30) days or more) equipment malfunction or shutdown of air pollution control equipment, operation may be allowed to resume and continue to take place under an appropriate Department order, provided that the Permittee demonstrates that such operation will be in compliance with all applicable ambient air quality standards and PSD increments, solid waste rules, domestic waste rules and industrial waste rules. During such malfunction or shutdown, the operation of the Polk Power Station shall comply with all other requirements of this certification and all applicable state and federal emission standards not affected by the malfunction or shutdown which is the subject of the Department's order. Operational stoppages exceeding two hours for air pollution control systems or four hours for other systems or operational malfunctions as defined in the operational contingency plans as specified in Condition XVI are to be reported as specified in Condition III.B. Identified operational malfunctions which do not stop operation but do compromise the integrity of the operation shall be reported to the Southwest District office as specified in Condition III.B.

3. TEC shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the TEC to achieve compliance with the conditions of this certification, and are required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the approval and when required by department rules.

b. Non-Compliance Notification

If, for any reason, the permittee (defined as the applicant or its successors and or assigns) does not comply with or will be unable to comply with any limitation specified in this certification, the permittee shall notify the Southwest District office of the DEP by telephone within a working day that said noncompliance occurs and shall confirm this in writing at 3804 Coconut Palm Drive, Tampa, Florida 33619-8318 within seventy-two (72) hours of becoming aware of such conditions, and shall supply the following information:

1. A description of the discharge and cause of noncompliance; and,

2. The period of non-compliance, including exact dates and times; or if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying event.

3. The permittee shall report all critical (having potential to significantly pollute surface or ground waters)

spills of liquid or liquid-solid materials not confined to a building or similar containment structure to the Department by phone immediately after the discovery and submit a written report within forty-eight (48) hours, excluding weekends, from the original notification. The written report shall include, but not be limited to, a detailed description of how the spill occurred, the name and chemical make-up (include any MSDS sheets) of the substance, the amount spilled, the time and date of the spill, the name and title of the person who first reported the spill, the areal size of the spill and surface types (impervious, ground, waterbodies, etc.) it impacted, the cleanup procedures taken and status of completion, and include a map or aerial photograph showing the extent and paths of the material flow. Any deviation from this requirement must receive prior approval from the Department.

C. Safety

1. The overall design, layout, and operation of the facilities shall be such as to minimize hazards to humans and the environment. Security control measures shall be utilized to prevent exposure of the public to hazardous conditions. The Federal Occupational Safety and Health Standards will be complied with during construction and operation. The Safety Standards specified under Section 440.56, F.S., by the Industrial Safety Section of the Florida Department of Commerce will also be complied with.

2. The Permittee shall not discharge to surface waters wastes which are acutely toxic, or present in concentrations which are carcinogenic, mutagenic, or teratogenic to human beings or to significant locally occurring wildlife or aquatic species. The Permittee shall not discharge to ground waters wastes in concentrations which, alone or in combination with other substances, or components of discharges (whether thermal or non-thermal) are carcinogenic, mutagenic, teratogenic, or toxic to human beings (unless specific criteria are established for such components in Section 17-520.420, F.A.C.) or are acutely toxic to indigenous species of significance to the aquatic community within surface waters affected by the ground water at the point of contact with surface waters.

D. Enforcement

The Department may take any and all lawful actions as it deems appropriate to enforce any condition of this certification.*

E. Design and Performance Criteria

The power plant may be operated at up to 115 percent of the maximum electrical output at ISO conditions projected from design information without the need for modifying these conditions. Treatment or control facilities or systems

installed or used to achieve compliance with the terms and conditions of this certification are not to be bypassed without prior DEP approval. Moreover, the Permittee shall take all reasonable steps to minimize any adverse impacts resulting from noncompliance with any limitation specified in this certification, including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying event.

F. Certification

1. The terms, conditions, requirements, limitations and restrictions set forth in these conditions of certification are binding and enforceable pursuant to Sections 403.141, 403.161, 403.514, 403.727, and 403.859 through 403.861, F.S. TEC is placed on notice that the Department will review this approval periodically and may initiate enforcement action for any violation of these conditions.

2. This approval is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this approval may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6), 403.511, and 403.722(5), F.S., the issuance of this approval does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This approval is not a waiver of or approval of any other Department approval that may be required for other aspects of the total project under federally delegated programs which are not addressed in this certification.

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

5. In accepting this certification, TEC understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this approved source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the approved source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

6. This certification is transferable only upon Department approval in accordance with Section 403.516, F.S., Rule 17-4.120 and 17-730.300, F.A.C., as applicable. TEC shall be liable for any noncompliance of the approved activity until the transfer is approved by the Department.

7. These conditions of certification or a copy thereof shall be kept at the work site of the approved activity.

8. TEC shall comply with the following:

a) Upon request, TEC shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b) TEC shall hold at the facility or other location designated by this approval records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the approval, copies of all reports required by this approval, and records of all data used to complete the application for this approval. These materials shall be retained at least three (3) years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c) Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;

2. the person responsible for performing the sampling or measurements;

3. the dates analyses were performed;

4. the person responsible for performing the analyses;

5. the analytical techniques or methods used;

6. the results of such analyses.

9. When requested by the Department, TEC shall within a reasonable time furnish any information required by law which is needed to determine compliance with the certification. If TEC becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

G. Laboratories and Quality Assurance

1. The Permittee shall ensure that all laboratory analytical data submitted to the Department, as required by this certification, must be from a laboratory which has a currently valid and Department approved comprehensive Quality Assurance Plan (QAP) [or a QAP pending approval] for all parameters being reported, as required by Chapter 17-160, F.A.C.

2. When a contract laboratory is used to analyze samples required pursuant to this certification, the Permittee is required to have the samples taken by qualified personnel following EPA and Department approved sampling procedures and chain-of-custody requirements in accordance with Rule 17-160, F.A.C.

3. When an in-house laboratory is used to analyze samples required pursuant to this permit, the Permittee is required to have the samples taken by a qualified technician following EPA and Department approved sampling procedures and chain-of-custody requirements. All chain-of-custody records must be retained on-site for at least three (3) years and made available to the Department immediately upon request.

H. Procedures for Post-Certification Submittals

1. Purpose of Submittals

Conditions of certification which provide for the post-certification submittal of information to DEP by TEC are for the purpose of facilitating DEP's monitoring of the effects arising from the location of the transmission line ROW and the construction and maintenance of the transmission line and the plant facilities. This monitoring is for DEP to assure, in consultation with other agencies with applicable regulatory jurisdiction, continued compliance with the conditions of certification, without any further agency action.

2. Filings

All post-certification submittals of information by TEC are to be filed with DEP. Copies of each submittal shall be simultaneously submitted to any other agency indicated in the specific conditions requiring the post-certification submittals.

3. Completeness

The DEP shall promptly review each post-certification submittal for completeness. This review shall include consultation with the other agencies receiving the post-certification submittal. For the purposes of this condition, completeness shall mean that the information submitted is both complete and sufficient. If found to be incomplete, TEC shall be so notified. Failure to issue such a notice within forty-five (45) days after filing of the submittal shall constitute a finding of completeness.

4. Interagency Meetings

Within sixty (60) days of the filing of a complete post-certification submittal, DEP may conduct an interagency meeting with other agencies which received copies of the submittal. The purpose of such an interagency meeting shall be for the agencies with regulatory jurisdiction over the matters addressed in the post-certification submittal to discuss whether reasonable assurance of compliance with the conditions of certification has been provided. Failure of any agency to attend an interagency meeting shall not be grounds for DEP to withhold a determination of compliance with these conditions nor to delay the time frames for review established by these conditions.

5. Reasonable Assurance of Compliance

Within ninety (90) days of the filing of a complete post-certification submittal, DEP shall give written notification to TEC and the agencies to which the post-certification information was submitted of its determination whether there is reasonable assurance of compliance with the conditions of certification. If it is determined that reasonable assurance has not been provided, TEC shall be notified with particularity and possible corrective measures suggested. Failure to notify TEC in writing within ninety (90) days of receipt of a complete post-certification submittal shall constitute a compliance determination.

6. Commencement of Construction

If DEP does not object within the time period specified in Condition III.H. above, TEC may begin construction pursuant to the terms of the conditions of certification and the subsequently submitted construction details.

IV. ADVERSE IMPACT

The Permittee shall take all reasonable steps to minimize any adverse impact resulting from noncompliance with any limitation specified in this certification, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

V. RIGHT OF ENTRY

The Permittee shall allow during normal operational or business hours the Secretary of the Florida Department of Environmental Protection and/or authorized representatives, including representatives of the SWFWMD and Polk County upon the presentation of credentials:

1. To enter upon the Permittee's premises where an effluent source is located or in which records are required to be kept under the terms and conditions of this certification;

2. To have access during normal business hours (Monday-Friday, 7:00 a.m. to 3:30 p.m.) to any records required to be kept under the conditions of this certification for examination and copying;

3. To inspect and test any monitoring equipment or monitoring method required in this certification and to sample any discharge or pollutants, or monitor any substances or parameters at any location reasonably necessary to assure compliance with this certification or Department rules; and,

4. To assess any damage to the environment or violation of ambient standards.

A reasonable time may depend on the nature of the concern being investigated.

VI. REVOCATION OR SUSPENSION

This certification may be suspended or revoked for violations of any of its conditions pursuant to Section 403.512, F.S.

VII. CIVIL AND CRIMINAL LIABILITY

This certification does not relieve the Permittee from civil or criminal penalties for noncompliance with any conditions of this certification, applicable rules or regulations of the Department or Chapter 403, F.S., or regulations thereunder.

Subject to Section 403.511, F.S., this certification shall not preclude the institution of any legal action or relieve the Permittee from any responsibilities or penalties established pursuant to any other applicable state statutes or regulations.

VIII. PROPERTY RIGHTS

The issuance of this certification does not convey any property rights in either real or personal property, nor any exclusive privileges, nor does it authorize any injury to public or private property or any invasion of personal rights nor any infringement of federal, state or local laws or regulations.

This certification conveys no title to land or water, does not constitute state recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

IX. SEVERABILITY

The provisions of this certification are severable, and if any provision of this certification or the application of any provision of this certification to any circumstances, is held invalid, the application of such provisions to other circumstances and the remainder of the certification shall not be affected thereby.

X. REVIEW OF SITE CERTIFICATION

The certification shall be final unless revised, revoked, or suspended pursuant to law. At least every five (5) years from the date of issuance of certification the Department may review these conditions of certification and propose any needed changes.

XI. MODIFICATION OF CONDITIONS

Pursuant to Subsection 403.516(1), F.S., the Board hereby delegates the authority to the Secretary to modify any condition of this certification.

XII. CONSTRUCTION

A. Standards and Review of Plans

1. The facility shall be constructed pursuant to the design standards presented in the application and the standards or plans and drawings submitted and signed by an engineer registered in the state of Florida. The Applicant shall present specific facility plans, as developed, for review by the Southwest District office at least ninety (90) days prior to construction of those portions of the facility for which the plans are then being submitted, unless other time limits are specified in the following conditions herein. Specific Southwest District office acceptance of plans will be required based upon a determination of consistency with approved design concepts, regulations and these conditions prior to initiation of construction of the: industrial waste treatment facilities; domestic waste treatment facilities; potable water treatment and supply systems; ground water monitoring systems; off-site water and wastewater pipelines; transmission lines; storm water runoff systems; solid waste disposal areas; and hazardous or toxic handling facilities or areas. Review and approval or disapproval shall be accomplished in accordance with Chapter 120, F.S.

2. The Department must be notified in writing and prior written approval obtained for any changes, modification, or revision to be made to the project during construction. If there are any changes, modification, or revision made to a project approved by the Department without this prior written approval, the project will be considered to have been constructed without departmental approval, the construction will not be cleared for service, and the construction will be considered a violation of the conditions of certification.

3. Ninety (90) days prior to the anticipated date of first operation, TEC shall provide the Department with an itemized list of any changes made to the facility design and operation plans that would affect a change in discharge as referenced in Condition II. since the time of the approval of these conditions. This pre-operational review of the final design and operation shall demonstrate continued compliance with Department rules and standards.

B. Control Measures

1. Storm Water Runoff

To control runoff during construction which may reach and thereby pollute waters of the state, necessary measures shall be utilized to settle, filter, treat or absorb silt-containing or pollutant-laden storm water to ensure against spillage or discharge of excavated material that may cause turbidity in excess of 29 Nephelometric Turbidity Units above background in waters of the state. For the purposes of compliance, background turbidity shall be established by sampling the discharge from the reclaimed pond at the control structure CS-9 within one-half hour of detecting a discharge through OSN's 001 or 002. Control measures may consist of sediment traps, barriers, berms, and vegetation plantings. Exposed or disturbed soil shall be protected and stabilized as soon as possible to minimize silt and sediment-laden runoff. The pH of the runoff shall be kept within the range of 6.0 to 8.5. The Permittee shall comply with Chapters 17-25, and 40D-4, F.A.C. The Permittee shall complete the forms required by 40D-4, F.A.C., and submit those forms and the required information to the SWFWMD for any modifications that might occur.

2. Open Burning

Open burning in connection with initial land clearing shall be in accordance with Chapter 17-256, F.A.C., Chapter 5I-2, F.A.C., Uniform Fire Code Section 33.101 Addendum, and any other applicable county regulation.

Any burning of construction-generated material, after initial land clearing that is allowed to be burned in accordance with Chapter 17-256, F.A.C., shall be approved by the Southwest District office in conjunction with the Division of Forestry and any other county regulations that may apply. Burning shall not occur unless approved by the appropriate agency or if the Department or the Division of Forestry has issued a ban on burning due to fire safety conditions or due to air pollution conditions.

3. Sanitary Wastes

Disposal of sanitary wastes from construction toilet facilities shall be in accordance with applicable regulations of the appropriate local health agency.

4. Solid Wastes

Solid wastes resulting from construction shall be disposed of in accordance with the applicable regulations of Chapter 17-701, F.A.C.

5. Noise

Construction noise shall not exceed either local noise ordinance specifications, or those noise standards imposed by zoning.

6. Dust and Odors

The Permittee shall employ proper odor and dust control techniques to minimize odor and fugitive dust emissions. The applicant shall employ control techniques sufficient to prevent nuisance conditions on adjoining property.

7. Transmission Lines

The directly associated transmission lines from the Power Plant Station electric switchyard to the existing TEC transmission lines shall be cleared, maintained, and prepared in accordance with the application and the appropriate state and federal regulations concerning use of herbicides. TEC shall notify the Department of the type of herbicides to be used at least 60 days prior to its first use. Wetland mitigation shall be accomplished in accordance with Chapter 17-312, F.A.C., and Condition XXIII.

8. Protection of Vegetation

The Permittee shall develop the site so as to retain a buffer of trees or shall plant a buffer of trees sufficient to minimize the aesthetic and noise impacts of the facility. The buffer, as far as practicable, shall be of sufficient height and width suitable for the purpose of mitigating both construction and operational impacts of the facility.

9. Dewatering Operations

The dewatering operations during construction shall be carried out in such a manner that all water withdrawn will be retained on site. There shall be no discharge of water off site due to dewatering operations unless approved by the Department and SWFWMD, or unless such discharge occurs as a result of an extreme rainfall event such as a 24-hour, 10-year storm.

10. Historical or Archaeological Finds

If historical or archaeological artifacts, such as Indian canoes, are discovered at any time within the project site, the Permittee shall notify the DEP Southwest District office and the Bureau of Historic Preservation, Division of Archives, History and Records Management, R.A. Gray Building, Tallahassee, Florida 32399, telephone number (904) 487-2073.

C. Environmental Control Program

An environmental control program shall be established under the supervision of a Florida registered professional engineer to assure that all construction activities conform to applicable environmental regulations and the applicable conditions of certification. If a violation of standards, harmful effects or irreversible environmental damage not anticipated by the application or the evidence presented at the certification hearing are detected during construction, the Permittee shall notify the Southwest District office as required by Condition III.B.

D. Reporting

1. Notice of commencement of construction shall be submitted to the Siting Coordination Office and the Southwest District office within fifteen (15) days of initiation. Starting three (3) months after construction commences, a quarterly construction status report shall be submitted to the Southwest District office. The report shall be a short narrative describing the progress of construction.

2. Upon or immediately prior to completion of construction of the Power Plant Station or a phase thereof and upon or immediately prior to completion of all necessary preparation for the operation of the on-site potable water supply, domestic or industrial waste treatment facility, ground water monitoring system, brine storage area or slag storage area, the Southwest District office will be notified of certification of construction completion and a date on which a site or facility inspection can be performed in accordance with Condition V.

XIII. AIR

A. Operation and Construction

The construction and operation of Polk Power Station (Project) shall be in accordance with all applicable provisions of Chapter 17, F.A.C. The following emission limitations reflect final BACT determinations for Phase I (integrated gasification, combined cycle (IGCC) combustion turbine and auxiliary equipment) of the project fired with syngas or fuel oil. BACT determinations for the remaining phases will be made upon review of supplemental applications. In addition to the foregoing, the Project shall comply with the following conditions of certification as indicated.

B. Heat Input

The maximum heat input to the IGCC combustion turbine (CT) shall neither exceed 1,755 MMBtu/hr while firing syngas, nor 1,765 MMBtu/hr while firing No. 2 fuel oil at an ambient temperature of 59° F. Heat input may vary depending on ambient conditions and the CT characteristics. Manufacturer's curves for the heat input correction to other temperatures shall be provided to DEP for review 120 days after the Siting Board approval of the site certification. Subject to approval by the Department, the manufacturer's curves may be used to establish heat input rates over a range of temperatures for the purpose of compliance determination.

C. Hours of Operation

The IGCC unit in Phase I may operate continuously, i.e., 8,760 hrs/year.

D. Fuel

Only syngas and low sulfur fuel oil shall be fired in the IGCC combustion turbine. Only low sulfur fuel oil shall be fired in the auxiliary boiler. The maximum sulfur content of the low sulfur fuel oil shall not exceed 0.05 percent by weight.

E. Auxiliary Boiler

The maximum heat input to the auxiliary boiler shall not exceed 49.5 MMBtu/hr when firing No. 2 fuel oil with 0.05 percent maximum sulfur content by weight. All fuel consumption must be continuously measured and recorded for the auxiliary boiler.

F. Fuel Consumption

The maximum coal input to the coal gasification plant shall not exceed 2,325 tons per day, on a dry basis.

G. Fugitive Dust

Fugitive dust emissions during the construction period shall be minimized by covering or watering dust generation areas. Particulate emissions from the coal handling equipment shall be controlled by enclosing all conveyors and conveyor transfer points (except those directly associated with the coal stacker/reclaimer for which an enclosure is operationally infeasible). Fugitive emissions shall be tested as specified in Condition No. XIII.J. Inactive coal storage piles shall be shaped, compacted, and oriented to minimize wind erosion. Water sprays or chemical wetting agents and stabilizers shall be applied to uncovered storage piles, roads, handling equipment, etc. during dry periods and, as necessary, to all facilities to maintain an opacity of less than or equal to five percent. When adding, moving or removing coal from the coal pile, an opacity of 20 percent is allowed.

H. Emission Limits

1. The maximum allowable emissions from the IGCC combustion turbine, when firing syngas and low sulfur fuel oil, in accordance with the BACT determination, shall not exceed the following:

POLLUTANT	FUEL	BASIS _a	EMISSIONS LIMITATIONS - 7F CT		
			POST DEMONSTRATION PERIOD		
			LB/HR*	TPY _b	
NOx	Oil	42 ppmvd**	311	N/A	
	Syngas	25 ppmvd	222.5	1,044	
VOC ^c	Oil	0.028 lb/MMBtu	32	N/A	
	Syngas	0.0017 lb/MMBtu	3	38.5	
CO	Oil	40 ppmvd	99	N/A	
	Syngas	25 ppmvd	98	430.1	
PM/PM ₁₀ ^d	Oil	0.009 lb/MMBtu	17	N/A	
	Syngas	0.013 lb/MMBtu	17	74.5	
Pb	Oil	5.30E-5 lb/MMBtu	0.101	N/A	
	Syngas	2.41E-6 lb/MMBtu	0.0035	0.067	
SO ₂	Oil	0.048 lb/MMBtu	92.2	N/A	
	Syngas	0.17 lb/MMBtu	357	1563.7	
Visible Emissions	Syngas	10 percent opacity			
	Oil	20 percent opacity			

- (*) Emission limitations in lbs/hr are 30-day rolling averages. Pollutant emission rates may vary depending on ambient conditions and the CT characteristics. Manufacturer's curves for the emission rate correction to other temperatures at different loads shall be provided to DEP for review 120 days after the Siting Board approval of the site certification. Subject to approval by the Department, the manufacturer's curves may be used to establish pollutant emission rates over a range of temperatures for the purpose of compliance determination.
- (**) The emission limit for NO_x is adjusted as follows for higher fuel-bound nitrogen contents up to a maximum of 0.030 percent by weight:

<u>FUEL-BOUND NITROGEN</u> <u>(% by weight)</u>	<u>NO_x EMISSION LEVELS</u> <u>(ppmvd @ 15% O₂)</u>
0.015 or less	42
0.020	44
0.025	46
0.030	48

using the formula $STD = 0.0042 + F$ where:

STD = allowable NO_x emissions (% by volume at 15% O₂ and on a dry basis).

F = NO_x emission allowance for FBN defined by the following table:

<u>FUEL BOUND NITROGEN</u> <u>(% by weight)</u>	<u>F (NO_x % by volume)</u>
0 < N < 0.015	0
0.015 < N < 0.03	0.04 (N-0.015)

N = nitrogen content of the fuel (% by weight).

NO_x emissions are preliminary for the fuel oil specified in Condition XIII.C. The Permittee shall submit fuel bound nitrogen content data for the low sulfur fuel oil prior to commercial operation to the Bureau of Air Regulation in Tallahassee, and on each occasion that fuel oil is transferred to the storage tanks from any other source to the Southwest District office in Tampa. The percent FBN (Σ) following each delivery of fuel shall be determined by the following equation:

$$x(Y) + m(n) = (x+m) (\Sigma)$$

where x = amount fuel in storage tank
 y = % FBN in storage tank
 m = amount fuel added
 n = % FBN of fuel added
 Σ = % FBN of composite

- (a) Syngas lb/MMBtu values based on heat input (HHV) to coal gasifier and includes emissions from H₂SO₄ plant thermal oxidizer. Pollutant concentrations in ppmvd are corrected to 15 percent oxygen.
- (b) Annual emission limits (TPY) based on 10 percent annual capacity factor firing fuel oil.
Load (%) x hours of operation < 876 for fuel oil.
100
- (c) Exclusive of background concentrations.
- (d) Excluding sulfuric acid mist.

2. The maximum allowable emissions from the IGCC combustion turbine, when firing syngas and No. 2 fuel oil during the two year demonstration period, shall not exceed the following:

POLLUTANT	FUEL	EMISSIONS LIMITATIONS	
		LB/HR*	TPY ^a
NO _x	Oil**	311	N/A
	Syngas	664.2	2,908.3
VOC ^b	Oil	32	N/A
	Syngas	3	38.5
CO	Oil	99	N/A
	Syngas	99	430.1
PM/PM ₁₀ ^c	Oil	17	N/A
	Syngas	17	74.5
Pb	Oil	0.101	N/A
	Syngas	0.023	0.13
SO ₂	Oil	92.2	N/A
	Syngas	518	2,269
Visible Emissions	Syngas	10 percent opacity	
	Oil	20 percent opacity	

- (*) Emission limitations in lbs/hr are 30-day rolling averages.
- (**) See Fuel Bound Nitrogen adjustment in H.1. above.
- (a) Annual emission limits (TPY) based on 10 percent annual capacity factor firing No. 2 fuel oil.
Load (%) x hours of operation < 876 for oil.
100

- (b) Exclusive of background concentrations.
- (c) Excluding sulfuric acid mist.

3. The following turbine emissions, determined by EACT, are tabulated for PSD and inventory purposes:

<u>POLLUTANT</u>	<u>FUEL</u>	<u>ALLOWABLE EMISSIONS</u>			
		<u>IGCC</u>		<u>IGCC</u>	
		<u>POST DEMONSTRATION</u>		<u>2-YEAR DEMONSTRATION</u>	
		<u>LB/HR</u>	<u>TPY^A</u>	<u>LB/HR</u>	<u>TPY^B</u>
Sulfuric Acid ^C	Syngas	55	241	55	241
Inorganic Arsenic	Syngas	0.0006	0.019	0.08	0.35
Beryllium	Syngas	0.0001	0.0029	0.0001	0.0029
Mercury	Syngas	0.0034	0.017	0.025	0.11

- (a) Based on baseload operations firing syngas, with emission rates equivalent to 100 percent CGCU operations; up to 10 percent annual capacity factor firing fuel oil.
- (b) Based on baseload operations firing syngas, with a maximum of 8,760 hrs/yr of HGCU operations; up to 10 percent annual capacity factor firing fuel oil.
- (c) Sulfuric acid mist emissions assume a maximum of 0.05 percent sulfur in the fuel oil.

4. Excess emissions from the turbine resulting from startup, shutdown, malfunction, or load change shall be acceptable providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24-hour period unless specifically authorized by the Department for a longer duration. Best operating practices shall be documented in writing and a copy submitted to the Department along with the initial compliance test data. The document may be updated as needed with all updates submitted to the Department within thirty (30) days of implementation and shall include time limitations on excess emissions caused by turbine startup.

5. After the demonstration period, Permittee shall operate the combustion turbine to achieve the lowest possible NO_x emission limit but shall not exceed 25 ppmvd corrected to 15 percent oxygen and ISO conditions.

6. The combustion turbine will be operated for 12 to 18 months after the demonstration period (estimated to be from mid 1998 until December 31, 1999). During that period NO_x emission testing will be performed on the turbine at a regular interval of every 2 months. The Department shall be provided with a test protocol, including a time schedule, fifteen (15) days prior to the initial test. The Permittee will provide the Department the emission test results thirty (30) days after the test is performed. These results will not be used for compliance purposes. The Department shall be notified and the reasons provided if a scheduled test is delayed or canceled.

7. One month after the test period ends (estimated to be by February 2000), the Permittee will submit to the Department a NO_x recommended BACT Determination as if it were a new source using the data gathered on this facility, other similar facilities and the manufacturer's research. The Department will make a determination on the BACT for NO_x only and adjust the NO_x emission limits accordingly.

I. Auxiliary Boiler Operation

Operation of the auxiliary boiler shall be limited to a maximum of 1,000 hours per year and only during periods of startup and shutdown of the IGCC unit, or when steam from the IGCC unit's heat recovery steam generator is unavailable. The following emission limitations shall apply:

1. NO_x emissions shall not exceed 0.16 lbs/MMBtu for oil firing.
2. Sulfur dioxide emissions shall be limited by firing low sulfur fuel oil with a maximum sulfur content of 0.05 percent by weight.
3. Visible emissions shall not exceed 20 percent opacity (except for one six-minute period per hour during which opacity shall not exceed 27 percent), while burning low sulfur fuel oil.

J. Performance Testing

Initial (I) compliance tests shall be performed on the turbine using both fuels and on the auxiliary boiler using fuel oil. The stack test for the turbine and the auxiliary boiler shall be performed with the sources operating at capacity (maximum heat rate input for the tested operating temperature). Capacity is defined as 90 to 100 percent of rated capacity. If it is impracticable to test at capacity, sources may be tested at less than capacity; in this case subsequent source operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen (15) days

for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department. Annual (A) compliance tests shall be performed on the turbine and the auxiliary boiler with the fuel(s) used for more than 400 hours in the preceding 12-month period. Tests for the applicable emission limitations shall be conducted using EPA reference methods in accordance with 40 CFR 60, Appendix A, as adopted by reference in Rule 17-297, F.A.C., and the requirements of 40 CFR 75:

1. Combustion Turbine

- a. Reference Method 5B for PM (I, A, for oil only).
- b. Reference Method 8 for sulfuric acid mist (I, for oil only).
- c. Reference Method 9 for VE (I, A).
- d. Reference Method 10 for CO (I, A).
- e. Reference Method 20 for NO_x (I, A).
- f. Reference Method 18 for VOC (I, A).

g. Trace elements of Lead (Pb), Beryllium (Be) and Arsenic (As) shall be tested (I, for oil only) using Emission Measurement Technical Information Center (EMTIC) Interim Test Methods. Method 104 for Beryllium (Be) may be used, Be and Pb may be determined from fuel analysis using either Method 7090 or 7091, and sample extraction using Method 3040 as described in the EPA solid waste regulations SW 846.

h. ASTM D 2880-71 (or equivalent) for sulfur content of distillate oil (I,A).

i. ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 for sulfur content of natural gas (I, and A if deemed necessary by DEP).

j. Reference Method 22 for fugitive emissions (I,A).

2. Auxiliary Boiler

a. Reference Method 9 for VE (I,A).

b. ASTM D 2880-71 (or equivalent) for sulfur content of distillate oil (I,A).

c. Reference Methods 7, 7A, 7C, 7D, or 7E for NO_x (I,A).

Other DEP approved methods may be used for compliance testing after prior departmental approval.

K. Sulfur Content of Fuel

The maximum sulfur content of the low sulfur fuel oil shall not exceed 0.05 percent by weight. Compliance shall be demonstrated in accordance with the requirements of 40 CFR 60.334 by testing for sulfur content of the fuel oil in the storage tanks once per day when firing oil. Testing for fuel oil heating value shall also be conducted on the same schedule.

L. Monitoring Requirements

A continuous emission monitoring system (CEMS) shall be installed, operated, and maintained in accordance with 40 CFR 60, Appendix F, for the combined cycle unit to monitor nitrogen oxides and a diluent gas (CO₂ or O₂). The applicant shall request that this condition of certification be amended to reflect the Federal Acid Rain Program requirements of 40 CFR 75 when those requirements become effective within the state.

1. Each CEMS shall meet performance specifications of 40 CFR 60, Appendix B.
2. CEMS data shall be recorded and reported in accordance with Chapter 17-297.500, F.A.C., 40 CFR 60 and 40 CFR 75. The record shall include periods of startup, shutdown, and malfunction.
3. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.
4. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of all CEMS.
5. For purposes of the reports required under this certification, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Condition No. XIII.H.4. herein, which exceeds the applicable emission limits in Condition No. XIII.H.4.

M. Notification, Reporting and Recordkeeping

To determine compliance with the syngas and fuel oil firing heat input limitation, the Permittee shall maintain daily records of syngas and fuel oil consumption for the turbine and the heating value for each fuel. All records shall be maintained for a minimum of two (2) years after the date of each record and shall be made available to representatives of the Department upon request.

N. Applicable Requirements

The project shall comply with all the applicable requirements of Chapter 17, F.A.C., and 40 CFR 60 Subparts A and GG. The requirements shall include:

1. 40 CFR 60.7(a)(1) - By postmarking or delivering notification of the start of construction no more than thirty (30) days after such date.
2. 40 CFR 60.7(a)(2) - By postmarking or delivering notification of the anticipated date of the initial startup of each turbine and the auxiliary boiler no more than sixty (60) days nor less than thirty (30) days prior to such date.
3. 40 CFR 60.7(a)(3) - By postmarking or delivering notification of the actual startup of each turbine and the auxiliary boiler within fifteen (15) days of such date.
4. 40 CFR 60.7(a)(5) - By postmarking or delivering notification of the date for demonstrating the CEMS performance no less than thirty (30) days prior to such date.
5. 40 CFR 60.7(a)(6) - By postmarking or delivering notification of the anticipated date for conducting the opacity observations no less than thirty (30) days prior to such date.
6. 40 CFR 60.7(b) - By initiating a recordkeeping system to record the occurrence and duration of any startup, shutdown or malfunction of a turbine and the auxiliary boiler, of the air pollution control equipment, and when the CEMS is inoperable.
7. 40 CFR 60.7(c) - By postmarking or delivering a quarterly excess emissions and monitoring system performance report within thirty (30) days of the end of each calendar quarter. This report shall contain the information specified in 40 CFR 60.7(c) and (d).
8. 40 CFR 60.8(a) - By conducting all performance tests within sixty (60) days after achieving the maximum turbine and boiler firing rates, but not more than one hundred eighty (180) days after the initial startup of each turbine and the auxiliary boiler.
9. 40 CFR 60.8(d) - By postmarking or delivering notification of the date of each performance test required by this permit at least thirty (30) days prior to the test date; and,
10. 17-297.345, F.A.C. - By providing stack sampling facilities for the combustion turbine and the auxiliary boiler.

All notifications and reports required by this specific condition shall be submitted to the Department's Air Program, within the Southwest District office. Performance test results shall be submitted within forty-five (45) days of completion of such test.

O. Submission of Reports

The following information shall be submitted to the Department's Bureau of Air Regulation within twelve (12) months of issuance of this permit:

1. Description of the finally selected turbine and the auxiliary boiler to be installed at the facility. The description shall include the specific make and model numbers, and any changes in the proposed method of operation, fuels, emissions or equipment.

2. Description of the CEMS selected. Description shall include the type of sensors, the manufacturer, and model number of the equipment.

3. If construction has not commenced within eighteen (18) months of issuance of this certification, then the Permittee shall obtain from DEP a review and, if necessary, a modification of the BACT determination and allowable emissions for the unit(s) on which construction has not commenced [40 CFR 52.21(r)(2)]. Units to be constructed or modified in later phases of the project will be reviewed and limitations revisited under the supplementary review process of the Power Plant Siting Act.

P. Protocols

The following protocols shall be submitted to the Department's Air Program, within the Southwest District office, for approval:

1. CEMS Protocol - Within sixty (60) days of selection of the CEMS, but prior to the initial startup, a CEMS protocol describing the system, its installation, operating and maintenance characteristics and requirements. The Department shall approve the protocol provided that the system and the protocol meet the requirements of 40 CFR 60.13, 60.334, Appendix B and Appendix F. This condition of certification shall be amended to reflect the Federal Acid Rain Program requirements of 40 CFR 75 when those requirements become effective within the state.

2. Performance Test Protocol - At least ninety (90) days prior to conducting the initial performance tests required by this certification, the Permittee shall submit to the Department's Air Program, within the Southwest District office, a protocol outlining the procedures to be followed, the test

methods and any differences between the reference methods and the test methods proposed to be used to verify compliance with the conditions of this certification. The Department shall approve the testing protocol provided that it meets the requirements of this certification.

Q. Modifications

The Permittee shall give written notification to the Department when there is any modification to this facility. This notice shall be submitted sufficiently in advance of any critical date involved to allow sufficient time for review, discussion, and revision of plans, if necessary. Such notice shall include, but not be limited to, information describing the precise nature of the change; modifications to any emission control system; production capacity of the facility before and after the change; and the anticipated completion date of the change.

XIV. SURFACE WATER DISCHARGES

Discharges into surface waters of the state during construction and operation of the project shall be in accordance with applicable provisions of Chapters 17-3, 17-4, 17-25, 17-40, 17-160, 17-301, 17-302, 17-520, 17-522, 17-531, 17-532, 17-550, 17-551, 17-555, 17-560, 17-600, 17-601, 17-604, 17-640, 17-650, 17-660, 17-672, 17-699, and 17-701, F.A.C., and the following conditions of certification:

A. Plant Effluents and Receiving Body of Water

For discharges made from the Power Plant Station the following conditions shall apply:

1. Receiving Body of Water (RBW) - The receiving bodies of water have been determined by the DEP to be the reclaimed lake and subsequent down stream waters of Little Payne Creek.

2. Point of Discharge (POD) - The point of discharge has been determined by DEP to be where the effluent from Outfall Serial Number 001 (OSN-001) physically enters the waters of the state in the reclaimed lake and from storm water runoff collection systems at OSN 002 to the reclaimed lake.

3. From the date of plant startup, the effluent from OSN 001, shall not exceed the effluent limitations and shall be monitored by the Permittee as specified below; if there is no discharge during a sampling period, the sample shall be collected on the day of next discharge. OSN 001 wastewater samples shall be taken prior to actual discharging or mixing with the receiving waters. All samples shall be taken in strict accordance with the following table.

EFFLUENT LIMITATIONS/
WATER QUALITY STANDARDS

<u>EFFLUENT CHARACTERISTIC</u>	<u>DAILY MINIMUM</u>	<u>30-DAY AVERAGE</u>	<u>DAILY MAXIMUM</u>	<u>SAMPLING FREQUENCY/TYPE</u>
Flow (MGD)	N/A	Report	Report	Recorder/Calculation
Dissolved Oxygen (mg/l) ¹	5.0	Report	N/A	Daily/Grab
Total Ammonia (as N) (mg/l) [*]	N/A	Report	Report	Monthly/Grab
Un-ionized Ammonia (mg/l)	N/A	Report	0.02	Monthly/Calculation
Specific Conductance (umhos/cm) ^{***}	N/A	Report	1275	Daily/Grab
Gross Alpha Particle Activity (pCi/l)	N/A	Report	15	Monthly/Grab
Total Sulfate (mg/l)	N/A	Report	Report	Monthly/Grab
Oil and Grease			5.0	Monthly/Grab

pH (standard units)**	6.0	Report	8.5	Daily/Grab
Total Nitrogen (mg/l)*	N/A	Report	Report	Monthly Grab
Total Kjeldahl Nitrogen (mg/l)*	N/A	Report	Report	Monthly Grab
Total Suspended Solids (mg/l)	N/A	50	150	Monthly Grab
Water Temperature (°F) (Summer Season)	N/A	Report	92****	Continuous Recorder
Water Temperature (°F) (Winter Season)	N/A	Report	88.7****	Continuous Recorder
CBOD ₅ (mg/l)	N/A	1.0	3.0	Monthly Grab
Total Residual Chlorine (mg/l)	N/A	Report	0.01	Monthly Grab
ICP 23 metals (ug/l) with Class III standards	N/A	Report	****	2/year/Grab

* The Permittee shall not exceed the background levels of this parameters, as specified in Table 50.9.a. (Volume 4 of Sufficiency Responses).

** As per Rule 17-302.530 (52)(c), F.A.C.

*** As per Rule 17-302.530 (23), F.A.C.

**** Limits pursuant to Rule 17-302.560, F.A.C.

1. The time and depth for sampling Dissolved Oxygen (DO) should be specified and recorded. DO monitoring should occur before 10:00 a.m. whenever possible.

4. For each parameter for which the Department has granted a zone of mixing pursuant to Rule 17-4.244, F.A.C., TEC shall demonstrate compliance with the surface water standard(s) of Rules 17-302.510 and 17-302.530, F.A.C., at the edge of the mixing zone by not exceeding the effluent limitation(s) for those parameters at the POD established by Condition XIV.A.3. above. An exceedance of the effluent limitation at the POD for any parameter for which the Department has granted a zone of mixing shall be considered a violation of the surface water quality standard(s) of Rules 17-302.510, and 17-302.530, F.A.C., at the edge of the mixing zone and subject to enforcement action as per Sections 403.161, and 403.514, F.S.

B. Thermal Mixing Zone

The TEC is hereby granted a thermal mixing zone for the discharge from the cooling reservoir through Outfall 001 to the reclaimed lake. The mixing zone shall be a 250 foot radius semicircle centered at the point of entry into the reclaimed lake. The temperature at the edge of the mixing zone shall not

exceed the limitations of Rule 17-302.520(4)(a), F.A.C. The temperature at OSN 001 shall not exceed 92° F. during the summer season nor 88.7°F. during the winter season. The minimum criteria for surface waters as given in Rule 17-302.500, F.A.C., shall not be violated within the zone of mixing.

C. pH - The pH of the combined discharges to the cooling pond shall be such that the pH will fall within the range of 6.0 to 9.0, and any discharge from the pond at OSN 001 to the reclaimed lake shall fall within the range of 6.0 to 8.5.

D. Polychlorinated Biphenyl Compounds - There shall be no discharge of polychlorinated biphenyl compounds.

E. Construction Storm Water Runoff - During construction, discharge from the surface water management system to the RBW from a storm event less than the 10-year, 24-hour storm shall meet the following limits and shall be monitored at all point source discharges through discharge structures, by a grab sample once per discharge, but not more often than once per week:

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITS INSTANTANEOUS MAXIMUM</u>
FLOW (MGD)	Report
TSS (mg/l)	50
pH	6.0-8.5

During construction special consideration must be given to the control of sediment-laden runoff resulting from storm events. Best management practices erosion controls should be installed early during the construction period so as to prevent the transport of sediment into surface waters which could result in water quality violations and DEP enforcement action. Revegetation and stabilization of disturbed areas should be accomplished as soon as possible to reduce the potential for further soil erosion. Should construction phase runoff pose a threat to the water quality of state waters, additional measures such as treatment of imposed runoff or the use of turbidity curtains (screens) in on-site impoundments shall be implemented.

F. Steam System Blowdown

Blowdown discharge from the steam electric generating system to the cooling pond shall be limited and monitored at OSN 003 as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITS		MONITORING REQUIREMENTS	
	DAILY AVERAGE	DAILY MAXIMUM	SAMPLE TYPE	MEASUREMENT FREQUENCY
TSS (mg/l)	30.0	100	grab	1/month
Oil and Grease (mg/l)	15.0	20	grab	1/month
Flow (MGD)	--	--	Calculation	1/month

G. Operation Storm Water Effluent Limits

1. From the date of plant startup, the effluent from OSN 002 shall not exceed the effluent limitations and shall be monitored by the Permittee as specified below. A grab sample of the storm water at the OSN 002 is required to be analyzed once per discharge but not more often than once per week, for the following parameters:

EFFLUENT LIMITATIONS WATER QUALITY STANDARDS

<u>EFFLUENT CHARACTERISTICS</u>	<u>30-DAY AVERAGE</u>	<u>DAILY MAXIMUM</u>	<u>MINIMUM</u>
Flow (MGD)	Report	Report	N/A
CBOD ₅ (mg/l)	Report	12.0	N/A
Total Suspended Solids (mg/l)	Report	50.0	N/A
pH (Std. Units)	N/A	8.5	6.0
Oil & Grease (mg/l)	Report	5.0	N/A

2. During plant operation, necessary measures shall be used to settle, filter, treat or absorb silt-containing or pollutant-laden storm water runoff to limit the suspended solids to 50 mg/l or less at OSN 001 and 002 during rainfall periods less than the 10-year, 24-hour rainfall.

3. Control measures shall consist at the minimum of filters, sediment traps, barriers, berms or vegetative planting. Exposed or disturbed soil shall be protected as soon as possible to minimize silt and sediment-laden runoff. The pH shall be kept within the range of 6.0 to 8.5 in the discharge.

H. Surface Water Monitoring

1. No later than one (1) year prior to startup, TEC shall submit for departmental approval a Biological Assessment Plan of Study for macroinvertebrates for the receiving water body (the reclaimed lake). Upon approval of the plan of study by the Department, TEC will carry out this biological assessment prior to startup and once every five (5) years, beginning three (3) years after the first discharge from OSN 001.

2. In order to provide the Department with reasonable assurance that the discharges from OSN 001 do not violate the acute toxicity requirements of Section 17-302.500(d), F.A.C., the Permittee shall perform the toxicity tests as specified below and submit the results to the Department for review.

a. The Permittee shall initiate a series of bioassay tests, as described below, within one hundred twenty (120) days from initiation of operations, to evaluate whole effluent toxicity of the discharge. All test species, procedures, and quality assurance criteria used shall be in accordance with Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-90/27. The Permittee shall conduct a 96-hour static renewal acute toxicity test on the test species, *Ceriodaphnia dubia* and *Notropis leedsii*, twice a year (bi-annually) on samples of 100 percent whole effluent. Such static renewal tests will be conducted on four separate grab samples of 100 percent final effluent collected at evenly spaced (6-hour) intervals over a 24-hour period and used in four separate tests in order to account for daily variations in effluent quality. If the bioassays indicate acceptable levels of toxicity after four successive tests, the frequency of testing shall be reduced to annually or at a lesser frequency as approved by the Department.

A standard reference toxicant test shall be conducted concurrently with each species used in the toxicity test and all the test reports shall be submitted along with the concomitant monthly operation report.

b. If control mortality exceeds 10 percent of either species in any test, the test(s) for that species (including the control) shall be repeated. A test will be considered valid only if control mortality does not exceed 10 percent for either species. If, in any test, 100 percent mortality occurs prior to the end of the test, and control mortality is less than 10 percent at that time, that test (including the control) shall be terminated with the conclusion that the sample demonstrates unacceptable acute toxicity.

c. If any screening test indicates that unacceptable toxicity (less than 80 percent survival of test organisms in 100 percent effluent) is found in any sample of effluent, additional acute (definitive) renewal toxicity testing involving the determination of 96-hour LC50 values with ninety-five (95) percent confidence limits will be required. A minimum of three (3) such additional 96-hour tests are required to be conducted within thirty (30) days from the date that any screening test indicates the presence of toxicity. Preferably, the first of these additional tests shall be initiated within seventy-two (72) hours of a failed screening test. The second test shall be

initiated at least seven (7) days after completion of the first additional test. Such tests shall be conducted using the test species which exhibited the most toxic response in the screening tests above, and shall be taken at the same time of day and day of the week during which the greatest toxic response was exhibited.

3. WQBEL Study Requirements

If effluent Total Nitrogen concentrations for OSN 001 exceed the ambient levels (twice in a six-month period) of these parameters as specified in Table 50-9.9 (Volume 4 of Sufficiency Response), TEC shall initiate a Level II Water Quality Based Effluent Limitation Study for the discharge from OSN 001. The study shall be conducted in accordance with the requirements of Rule 17-650, F.A.C. TEC shall submit a draft plan of study to the Point Source Evaluation Section within six months of notification by the Department that a study is necessary, and shall modify the plan of study as necessary to obtain Department approval.

The final plan of study shall include a schedule for the submittal of:

- 1) an Intensive Survey document summarizing all data collected; and,

- 2) a WQBEL document summarizing all modeling conducted and proposed effluent limitations. The draft Intensive Survey document shall be provided within one year of the original plan of study submittal and the draft WQBEL document shall be provided within one and a half years of the original plan of study submittal.

XV. DOMESTIC WASTEWATER

A. No portion of the domestic wastewater collection system, treatment plant or effluent transmission line (excluding cooling reservoir) may be constructed without prior written approval from the Department. Construction of any portion of the domestic wastewater facility without the prior written approval of the Department will be considered a violation of the conditions of certification.

B. In order to obtain approval to construct a domestic wastewater treatment facility (DWT), the following forms, reports, plans and data, properly executed and appropriately signed and sealed by an engineer registered in the state of Florida, must be submitted to the Department at least one hundred twenty (120) days prior to proposed date for commencement of construction of that system:

1. The preliminary design report in accordance with Rule 17-600.715, F.A.C., (Minimum Class III Reliability features must be indicated. A Reduced Pressure Zone Backflow Preventer must be designated for potable water isolation.)

2. DER Form 17-604.900(1), Application to Construct a Domestic Wastewater Collection System, with supporting documents.

3. DER Form 17-600.910(1), Application to Construct a Domestic Wastewater Facility, with documentation.

4. DER Form 17-640(1), Agricultural Use Plan, or DER Form 17-640(2), Dedicated Disposal Site Plan, with documentation.

5. 8-1/2" x 11" copies of: (i) DWT location, (ii) sludge disposal site, indicating all public or private drinking water wells within 0.5 miles, (iii) roadmap, or drawing of roads leading to the DWT, (iv) flow process diagram, showing all piping, and planar and volumetric data.

C. All plans and proposals must comply with the requirements of the departmental rules and regulations in effect as of the date of proposed commencement of construction. All requirements of Chapters 17-4, 17-600, 17-640, F.A.C., and other pertinent Florida Administrative Code rules must be met, including construction certifications.

D. Department approval for construction of this domestic wastewater facility will be in effect for two (2) years from the date of issuance; request for extension of time must be submitted in writing on forms and in a manner prescribed by the Department of Environmental Protection at least sixty (60) days prior to date of expiration of the construction approval.

E. Domestic wastewater post-certification approvals will be issued under the provisions of Chapter 403, F.S., and Chapters 17-3, 17-4, 17-300, 17-500 and the 17-600, Series, F.A.C. TEC will be approved to perform the work or operate the facility shown on the approved drawing(s), plans, and other documents, attached thereto or on file with the Department.

F. In accordance with Chapter 17-699, F.A.C., the required certified operator on site time is:

A Class D or higher operator for three (3) non-consecutive visits per week for 1-1/2 hours per week. The Department reserves the right to modify staffing requirements.

G. The discharge from the chlorine contact chamber shall be sampled in accordance with Chapter 17-601, F.A.C., and shall meet the following limitations:

<u>PARAMETER</u>	<u>UNIT</u>	<u>MIN- IMUM</u>	<u>MAXIMUM</u>	<u>TYPE SAMPLE</u>
<u>FREQUENCY</u>				
Permitted Capacity (flow)	mgd	.000	0.0105	
Daily, 5/wk				
pH	STD UN	6.00	8.50	grab
Daily, 5/wk				
CBOD ₅ * & Total Suspended Solids*	mg/L	0	20 annual avg. 60 any one sample	grab
Monthly				
Nitrate (as N)	mg/L	0	12	grab
Monthly				
Cl ₂ residual	mg/L	0.5	-	grab
Daily, 5/wk				
Fecal coliform	#/100	0	200 annual avg.	grab
Monthly			200 monthly avg.	

* Influent shall be monitored and each sampling shall be reported on a monthly basis [Rule 17-601.300(1), F.A.C.]

The results shall be reported monthly on DER Form 17-601.900(1).

H. If sludge is disposed of by land application, the sludge shall be sampled after final treatment in accordance with Rule 17-640.700(1)(b) F.A.C., but prior to land application for the parameters listed below every twelve months. A copy of the analyses shall be submitted with the monthly operation report for the following parameters:

Total Nitrogen	-	% dry weight
Total Phosphorus	-	% dry weight
Total Potassium	-	% dry weight
Cadmium	-	mg/kg dry weight
Copper	-	mg/kg dry weight
Lead	-	mg/kg dry weight
Nickel	-	mg/kg dry weight
Zinc	-	mg/kg dry weight
pH	-	standard units
Total Solids	-	%

I. Direct discharge of effluent to waters of the state is not allowed. Such discharge shall be considered a violation of this certification and TEC shall immediately report any such discharge to the Southwest District office.

J. Upon completion of construction and prior to placing the treatment plant or effluent discharge system into operation for any purpose other than testing for leaks and equipment operation, TEC shall submit a Notification That a Domestic Wastewater Facility Will Be Placed Into Operation [DER Form 17-600.910(3)], signed and sealed by a Registered Engineer, to the DEP Southwest District office.

K. TEC shall provide an approved flow measurement device on the sewage treatment plant to monitor the influent (ahead of any return flows) and/or effluent flow, as appropriate. The flow measurement device shall be calibrated at least annually, with evidence of calibration kept at the site of flow measurement, and submitted to the Department upon request.

L. TEC shall provide a weatherproof location for an on-site log book to monitor each day's activities of the certified operator. This log book shall record sign in/out times of the certified operator, list any maintenance performed and contain the signature and certification number of the operator.

M. TEC shall maintain all audible and visual alarm systems on the lift station(s) in operating condition at all times.

N. A reduced pressure zone backflow preventer shall be installed on any potable water supply pipeline connected to the treatment facility. No potable water outlet intended for human contact shall be located down-line of the backflow preventer.

O. The disinfection system shall be operated to maintain a minimum chlorine residual of 0.5 mg/L at the outfall from the chlorine contact chamber. A metering device for dosing chlorine to the effluent shall be utilized, and the chlorine supply tank shall be inspected regularly to ensure proper operation.

P. Daily checks of the plant shall be performed by TEC or supplier, or his representative or agent five (5) days per week for a D plant pursuant to Rule 17-699.311(1), F.A.C.

XVI. DRINKING WATER FACILITIES

A. Prior Approval

1. No portion of the potable water supply system or any portion of a water supply system that will be or is intended to be converted to potable water use at a later date may be constructed without prior written approval from the Department. Construction of any portion of the potable water supply system without the prior written approval of the Department will be considered a violation of the conditions of certification.

2. In order to obtain approval to construct a potable water supply system which includes an on-site water treatment facility, the following information must be submitted to the Department no earlier than one year prior to the date that the water supply system is proposed for construction:

a. A completed and fully executed "Application to Construct a Public Drinking Water System" form which complies with the requirements of the rules and regulations of the Department in effect as of the date that the request for approval to commence construction of the system is made to the Department.

b. Copy of the well driller's well completion report for each well to be used as a potable water supply well.

c. Complete water quality analysis of the raw water from each individual well to be used as a potable water supply well. Analysis of composite samples will not be accepted. The analysis must include all water quality parameters required for the classification of the water supply system being proposed pursuant to the rules and regulations of the Department in effect as of the date that the request for approval to construct the system is made to the Department. Each individual analysis must have been performed by a laboratory certified by the state to perform that particular potable water quality analysis and must have an analysis date within one (1) year of the date that the request for approval to construct the water supply system is made to the Department.

d. Complete specifications for the material and workmanship for the entire potable water supply system for which the request for approval to construct is being made. The specifications must be signed and sealed by an engineer registered in the state of Florida and must provide documentation that the material and workmanship will comply with all applicable rules and regulations of the Department in effect as of the date that the request for approval to construct is made to the Department.

e. Complete engineering drawings of the entire proposed potable water supply system for which approval to construct is being requested. The drawings must demonstrate full compliance with all applicable rules and regulations of the Department in effect as of the date that the request is made to the Department for approval to construct the system. The drawings must be signed and sealed by an engineer registered in the state of Florida.

f. Site plan showing the location of each potable water supply well. The site plan must include all proposed and existing, above and below grade, facilities, natural formations (e.g., streams, creeks, etc.), structures, etc. within a minimum of a complete five hundred (500) foot radius of each wellhead; however, if any facility, natural formation, structure, etc. is located outside of the five hundred (500) foot radius and that facility, natural formation, structure, etc. has a setback distance from the wellhead greater than five hundred (500) feet established in applicable rules of the Department in effect as of the date that the request for approval to construct is made, then that facility, natural formation, structure, etc. must also be shown on the site plan requested here. The site plan must be certified for accuracy by the professional engineer registered in the state of Florida responsible for design of the potable water supply system.

g. Signed and sealed comprehensive engineering report on the proposed potable water supply system which fully describes the project and basis of design. The report must include design data and such pertinent data to give an accurate understanding of the work to be undertaken and must provide supporting documentation that the potable water system as proposed will comply with all applicable rules and regulations of the Department in effect as of the date that the request for approval to construct the water supply system is made to the Department.

3. Construction of potable water lines for the purpose of obtaining potable water from an off-site public water supply system is not covered by the conditions of certification. To obtain permission to connect to such a potable water system, TEC shall submit a modification request pursuant to 403.516, F.S., in accordance with the requirements of Chapter 17-555, F.A.C.

4. Prior to submitting any information to the Department for review of the proposed potable water supply system, all wells that are proposed for use as potable water supply wells and that will be included in the request for approval to construct the water supply system must have been constructed and fully developed. Once the well has been fully developed and the water samples collected, the well must be properly capped (or isolated from the potable water system) until written approval to construct the potable water supply system has been issued by the Department.

5. Should TEC request approval to construct a water treatment system which produces a waste stream (e.g., softening, electro dialysis, reverse osmosis, etc.) other than as described in the original SCA, TEC must submit as part of its request for approval to construct that water supply system documentation that the disposal of that waste stream has been approved by the appropriate agency or section of the Department.

B. Construction

1. TEC must retain the services of a project engineer registered in the state of Florida to observe that the construction of the water supply system is in accordance with the plans and specifications approved by the Department. The project engineer will be responsible for certifying to the Department that he/she observed the construction and that the construction conformed to the plans and specifications approved by the Department.

2. The approval to construct the potable water supply system will be in effect for two (2) years from the date of issuance. All construction of the potable water supply system must be completed within this two (2) year period unless a written request for an extension of this date is made to the Department at least sixty (60) days prior to the expiration of the construction approval, and written approval for an extension of the expiration date is issued by the Department. The expiration date of the construction approval may be extended on a year-by-year basis; however, under no circumstances will the approval to construct the water supply system be extended beyond three (3) years from the date of the earliest water quality analysis of the initial wells. The request for an extension of the expiration date must be accompanied by a analysis of the raw water from each well for each water quality parameter required pursuant to the requirements of the rules and regulations of the Department in effect as of the date that the request for the extension is made. Such an analysis and a request for approval shall be submitted and approved prior to constructing and operating any portion of the appurtenances necessary to connect and operate that new well to the existing system for each new well added to the potable water system after the initial system is constructed and approved. The water quality analysis report submitted with this request must have an analysis date no earlier than one year from the date that the request for an extension of the expiration date is made, must have been performed by a laboratory certified by the state to perform the analysis, and must contain no water quality violations other than those for which the water supply system was originally designed to address. The maximum length of time that the approval or each subsequent approval for the construction of the potable water system may be in effect is five (5) years from the date of the original approval or for subsequent approvals from the date of issuance of each approval. Should the construction of the water supply system not be completed within that five (5)

year period, should TEC have failed to request a timely extension of the approval expiration date, or should any water quality analysis submitted with the request for an extension of the expiration date demonstrate the presence of a contaminant for which the water treatment plant was not originally designed to handle, or as additional wells are installed on-site and proposed for connection to the potable water system, TEC will have to make a new request to the Department for approval to construct the potable water system. That request must meet the submittal and approval requirements of the rules of the Department in effect as of the date that the request for approval is submitted and will be subject to the same review schedule as the original request.

C. Operation

1. No portion of the potable water supply system may be placed into service without the prior written approval of the Department. Placing any portion of the potable water supply system into service prior to receipt of this written approval will be considered as a violation of the conditions of certification.

2. The Department will not issue approval to place the potable water supply system or any portion of that system into service unless the construction of the system or portion thereof had been approved for construction by the Department prior to the commencement of that construction.

3. In order to obtain approval to place the potable water supply system into service, TEC must make a written request for clearance to the Department. The request must be in the form and/or manner stipulated in the letter authorizing construction of the potable water supply system and must include all information stipulated in that letter as being required to be submitted with the request for clearance, as well as any information required for clearance of a potable water supply system contained in applicable rules and regulations of the Department in effect as of the date that the request for clearance is made.

4. The Department will issue a letter of clearance to place the water supply system into service within thirty (30) days of receipt of a written request for clearance, provided that the request is accompanied by all necessary supporting documentation and meets the criteria for clearance contained in the applicable rules and regulations of the Department in effect as of the date that the request for clearance was made.

5. All construction or activity taking place in the vicinity of the potable water supply wells must conform with the setback distances from a potable water supply well established.

in the rules of the Department at the time that the construction or activity is proposed and must be coordinated with the Department.

6. TEC must provide, in accordance with applicable state rules, a certified water treatment plant operator who meets the staffing requirements for the type and capacity of the water treatment system cleared for service.

7. The water meter at the potable water treatment plant(s) must be read at approximately the same time each day, seven days per week, and both the meter reading and the gallons of water pumped to distribution recorded in the plant log.

8. The certified water treatment plant operator must submit a report on the operation of the water treatment plant(s) to the Department monthly in the manner required by the rules and regulations of the Department.

9. The drinking water must be analyzed for all applicable water quality parameters to the degree and frequency required by the rules and regulations of the Department. The analysis must be performed in accordance with these rules and regulations and submitted to the Department in the format required by these rules and regulations.

10. The one-day maximum day demand for the period of time covering the most recent twelve (12) months of operation of the water treatment plant may not exceed the capacity of the water treatment plant approved for construction and cleared for use by the Department. Should the demand on any one day during a twelve (12) month period exceed the capacity of the water treatment plant, TEC shall submit a request for any expansion of the potable water system for review and approval.

11. TEC must plan, design, obtain approval for, and construct all necessary modifications to its water supply system in a timely manner in order to provide sufficient capacity to meet the potable water demands of its system.

12. TEC must operate the water supply system in such a manner as to comply with the provisions of Chapter 403, F.S., and all the rules of the Department.

XVII. INDUSTRIAL WASTEWATER

A. The Permittee shall assure that the sludge filter cake generated from the industrial wastewater treatment plant will meet the leachate standards established by the Toxicity Characteristic Leaching Procedure prior to its disposal.

B. The solids generated by the brine concentration system should be concentrated or dewatered to obtain a solids content of 50 percent or greater prior to disposal off-site.

C. Water Treatment Systems

1. Low Volume Wastes - All discharges of low volume wastes shall be treated in an adequately sized and constructed treatment facility prior to discharge into the cooling pond. TEC shall demonstrate that the discharge of reject water from the wastewater treatment plant will not cause or contribute to a violation of water quality standards at the POD from the cooling pond. Such demonstration will include as a minimum the testing of treated discharges as required by Condition XVII.K.

2. Submission of Plans - The Permittee shall submit to the Department at least ninety (90) days prior to start of construction of the industrial waste treatment system a set of drawings, signed and sealed by a professional engineer registered in the state of Florida, showing the construction details of the proposed lime/soda ash pretreatment system and multi-stage reverse osmosis system.

3. Chemical Metal Cleaning - Chemical metal cleaning wastes shall be disposed off-site in an approved treatment system or disposal area. Prior to operation, TEC shall provide the name and address of the firm holding the contract for off-site disposal to the Southwest District office of the DEP.

D. The Permittee shall ensure that construction and subsequent operation of the cooling pond, and its system of above-grade internal dikes and external berms shall be in strict accordance with the best engineering practices, using Chapter 17-672, F.A.C., where applicable as a guide.

E. The Permittee shall ensure that a vegetative or non-vegetative cover adequate to inhibit wind and water erosion shall be established and maintained on all exposed dam surfaces. Such vegetation shall be maintained by the Permittee sufficiently low enough to permit visual inspection of the soil surfaces in critical areas outlined in Section 17-672.400(1), F.A.C.

F. The Permittee shall, at a minimum, inspect the cooling pond once per week as prescribed in Section 17-672.500(2), F.A.C.

G. An inspection of the cooling pond berms shall be conducted annually by a professional engineer registered in Florida experienced in the field of construction and maintenance of dams. A copy of the inspection report shall be furnished, upon receipt by the Permittee, to the Department for review [Section 17-672.500(5), F.A.C.].

H. The Permittee shall ensure that the cooling pond will be designed, constructed and operated to maintain a surge capacity equal to the runoff from a 100-year, 24-hour rainfall event, plus the flow of all process water diverted from the power plant operation.

I. The Permittee shall dispose of all waste oil collected from the oil/water separator in a Department-approved manner.

J. The Permittee shall not allow any waste sludge or other solid waste to be discharged into the receiving waters either directly or indirectly.

K. Sampling and Design

Within twelve (12) months from commencement of operation of the IGCC, each of the wastestreams discharged to the cooling reservoir shall be properly characterized through an approved sampling and analytical protocol.

1. Ninety (90) days prior to operation of the unit producing the listed wastestream, TEC shall submit for approval a sampling and analysis plan identifying the expected frequency of each wastewater discharge, appropriate sampling parameters, expected variability of the wastewater stream quality and a proposed sampling schedule.

2. The sampling plan shall also include an assessment of the effectiveness of each of the wastewater treatment units prior to discharge to the cooling pond. Effluent sampling shall be conducted for each unit through a plan submitted as specified in Condition XVII.K.1.

3. Upon approval by the Department, the sampling and analysis plan specified in Condition XVII.K.1. and 2. shall be implemented.

XVIII. GROUND WATER

A. Specific Conditions

1. TEC shall submit a Ground Water Monitoring Plan within one hundred eighty (180) days of certification of the application. TEC shall propose monitor well locations, for Department approval, that will provide reasonable assurance that contamination to ground waters of the state that may potentially occur will be detected. These monitor well locations shall be located so that each disposal site as well as the facility will be monitored in the unconfined, upper intermediate, lower intermediate and upper Floridan aquifer system as defined by Florida Geological Survey Bulletin No. 59 and as discussed in the SCA. A ground water monitoring plan shall be prepared by TEC for submittal to the Department prior to construction of any solid waste disposal unit. The ground water monitoring plan shall include, at a minimum, the equivalent to the requirements of Chapter 17-701.510, F.A.C. Detection monitoring wells shall be screened at the base of the surficial aquifer system, specifically no deeper than the base of the Bone Valley Member as defined in FGS Bulletin No. 59. If the surficial aquifer is present within 100 feet laterally of the edge of the Solid Waste Disposal Area (SWDA), one additional well shall be located downgradient from the SWDA.

2. Construction on the monitoring system to implement the Ground Water Monitoring Plan shall be completed at least sixty (60) days prior to start of commercial operation in accordance with Rule 17-522.600, F.A.C.

3. Operation of the facility shall not commence without a written notice from the DEP's Technical Support Section that the installation of the monitor wells and water quality analyses have been approved and reviewed by the Technical Support Section.

B. Ground Water Monitoring Plan

At a minimum the Ground Water Monitoring Plan shall include or address the following, under the indicated section, and shall become effective upon written approval from the Technical Support Section of the Department's Southwest District office:

1. This Ground Water Monitoring Plan is designed for the monitoring of the following sites (as defined in Rule 17-520.200(15), F.A.C.): the Cooling Water Pond and the Brine Storage Area where the outward facing portion of the pond berms define each respective site boundary. The Zone of Discharge (as defined in Rule 17-520.200(19), F.A.C.), for each site, shall be horizontally located 100 feet from the disposal site boundary,

pursuant to Rule 17-522.410(2)(a), F.A.C., and vertically extend to the base of the surficial aquifer system, specifically no deeper than the base of the Bone Valley Member as defined in FGS Bulletin No. 59.

2. The Ground Water Monitoring System shall be designed and constructed by the Permittee in accordance with the plans and supporting documentation submitted and on file in the Southwest District office. Each monitor well shall be constructed within an individual bore hole.

3. Upon approval, TEC shall comply with the Ground Water Monitoring Plan.

C. Location Map

Within ninety (90) days of completion of construction of the ground water monitor wells, a surveyed drawing shall be submitted showing the location of all monitoring wells (active and abandoned) which will be horizontally located by metes and bounds or equivalent surveying techniques. The surveyed drawing shall include the monitor well identification number as well as location and elevation of all permanent benchmark(s) and/or corner monument marker(s) at the site. The survey shall be conducted by a Florida registered surveyor. Two copies of the certified drawing shall be sent to the DEP's Technical Support Section, Southwest District office.

D. Well Information

Within ninety (90) days of completion of construction of each monitor well, the Permittee or the authorized representative shall submit the following information for each monitor well:

- a) A complete DEP Monitor Well Completion Report.
- b) A copy of the SWFWMD Application to Construct a Well, SWFWMD Form SF 306(3) Rev. 9/92; and,
- c) A copy of the SWFWMD Well Completion Report, SWFWMD Form 25-18-3/90.

The information shall be sent to the Technical Support Section, Southwest District office, Department of Environmental Protection, 3804 Coconut Palm Drive, Tampa, Florida 33619-8318.

E. Monitoring

1. Within sixty (60) days of completion of construction of the Ground Water Monitoring System and every five (5) years thereafter, the Permittee shall sample all ground water monitor wells for the Primary and Secondary Drinking Water

parameters included in Chapter 17-550, F.A.C., Public Drinking Water Systems, Fecal Coliform and EPA Methods 601 and 602. The results shall be sent to the DEP's Technical Support Section. First test results shall determine background.

2. Within six (6) months of startup for any new facilities certified through supplemental proceedings and at least every five (5) years thereafter the Permittee shall provide a wastestream characterization for the cooling water pond. The wastestreams shall be analyzed for the Primary and Secondary Drinking Water Standards (Chapter 17-550, F.A.C), Fecal Coliform and the EPA Priority Pollutants. The results shall be sent to the Technical Support Section, Southwest District office, DEP.

3. The wells shall be sampled at the frequency specified and for the parameters listed in the ground water monitoring plan. The results shall be sent to the Technical Support Section, Southwest District office, DEP.

4. After four (4) consecutive quarters of data (after completion and operation of the IGCC), the Permittee may request a reduction in sampling frequency or specific parameters of the ground water monitoring plan. The request shall be considered reasonable when a trend analysis of the parameter indicates no significant or substantial change in the parameter. Specific parameters that are key indicators of the domestic or industrial processes or field measured parameters may not be reduced or eliminated from the ground water monitoring plan.

5. Following the initial analysis of the ground water monitor wells, all monitor wells shall be sampled, and analyzed, and results reported in accordance with the ground water monitoring plan. TEC shall submit to the Department the results of the water quality analyses no later than the 15th day of the month immediately following the end of the sampling period. The results shall be sent to the Technical Support Section, Southwest District office, DEP.

6. Ground water sampling shall be reported on the Monitoring Report Forms [DER Form 522.900(2)]. In order to facilitate entry of this data into the state computer system, these forms or an exact replica must be used and must not be altered as to content. The original copies should be retained so that the necessary information is available to properly complete future reports. The report forms received from the laboratory must be submitted along with the DEP/DER Parameter Monitoring Report Forms described above.

7. If, at any time, background ground water standards are exceeded at the edge of the zone of discharge, the Permittee has fifteen (15) days from receipt of the laboratory analyses in which to resample the monitor well(s) to verify the original analyses. The monitoring test results must be submitted to the Department within fifteen (15) days of receipt of the reanalyses

from the laboratory. Should the Permittee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility.

8. The field testing, sample collection, preservation and laboratory testing, including quality control procedures, shall be in accordance with methods approved by the Department in accordance with Chapter 17-160, F.A.C.

9. If any monitor well becomes damaged or inoperable, the TEC shall notify the Department the next business day and a detailed written report shall follow within seven (7) days. The written report shall detail what problem has occurred and remedial measures that have been taken to prevent the recurrence. All monitoring well design and replacement shall be approved by the Department prior to installation of the replacement well.

F. Plugging and Abandonment

Within sixty (60) days of issuance of this certification, all piezometers and wells not a part of the approved ground water monitoring plan or monitoring wells required by SWFWMD are to be plugged and abandoned in accordance with Rule 17-532.500(4), F.A.C., and the rules of the SWFWMD. The Permittee shall submit a written report to the Department providing verification of the plugging program. A written request for exemption to the plugging of a well must be submitted to the DEP's Technical Support Section for prior approval.

G. Zone of Discharge

1. The Permittee shall ensure that the water quality standards for Class G-II ground waters will not be exceeded at the boundary of the zone of discharge in accordance with Rules 17-520.400 and 17-520.420, F.A.C.

2. The Permittee shall ensure that the minimum criteria for ground water specified in Rule 17-520.420, F.A.C., shall not be violated within the permitted zone of discharge.

H. Variances

Consideration of requests for ground water variances shall be postponed until two (2) years after the beginning of plant operations. A variance from the drinking water quality standard for antimony may be granted by the Department upon demonstration that levels of antimony in the cooling pond exceed the standard in Rule 17-520, F.A.C. However, if representative ambient values for iron and color are shown to already exceed secondary drinking water standards, then these representative values shall be the prevailing standard (Rule 17-520.420(2), F.A.C.).

I. Underground Injection

TEC shall not use underground injection without prior approval pursuant to Chapter 403.516, F.S.

XIX. SCREENING

The Permittee shall provide screening of the site to the extent feasible through the use of aesthetically acceptable structures, vegetated earthen walls and/or existing or planted vegetation.

XX. TOXIC, DELETERIOUS OR HAZARDOUS MATERIALS

A. Spills

The spill of any toxic, deleterious, or hazardous materials shall be reported in the manner specified by Condition III.B., Noncompliance Notification.

B. Handling and Testing of Potentially Hazardous Material

Within one hundred twenty (120) days prior to commercial operation, TEC shall provide a plan for handling and disposing of hazardous catalysts to the DEP Southwest District office.

XXI. SOLID WASTE STORAGE AND DISPOSAL

A. Solid Waste General

1. The solid waste disposal areas shall be designed, constructed, operated, maintained, closed and monitored in accordance with acceptable landfill practices described in Chapter 17-701, F.A.C.

2. No solid waste disposal areas shall be constructed until detailed plans and drawings as required by Chapter 17-701, F.A.C., have been submitted to and approved by the Solid Waste Section of the Southwest District (SWSSWD) of the DEP.

3. Each solid waste disposal unit shall meet the general criteria for landfills as stated in Rule 17-701.340, F.A.C.

4. Any solid waste produced by the operation of the facility shall be disposed of in a permitted disposal facility. Byproducts that are sold for reuse are not considered solid waste.

B. Solid Waste Site Specific Standards

1. The temporary storage area for the brine solids shall have a leachate control system to prevent a discharge of leachate and mixing of leachate with storm water.

2. Provisions for storing slag for more than one year shall be addressed in the Solid Waste Operations Plan to be submitted to the SWSSWD of the DEP prior to operation of the slag storage unit.

3. The Permittee shall provide reasonable assurance that the liners for all solid waste storage areas shall be constructed, operated and maintained in accordance with acceptable landfill liner practices. Acceptable practices are detailed in Rule 17-701.400, F.A.C., (new January 6, 1993). The characteristics of the soils underlying the liner shall also be determined to prevent settlement or other problems associated with use of a geomembrane liner. The results of all soils and materials testing shall be submitted to the SWSSWD of the DEP with liner specifications for approval prior to construction.

4. The Permittee shall provide leachate collection and disposal plans that meet the criteria of Rule 17-701.400, F.A.C. Leachate sampling shall be addressed in the facility ground water monitoring plan as a post-certification submittal. Parameters detected in the leachate at levels of concern may be included in future ground water sampling analyses. The

Permittee is responsible for the storm water control in the solid waste retention areas. Storm water or other surface water which comes into contact with the solid waste or mixes with leachate shall be considered leachate.

5. The Permittee shall provide backup provisions for leachate management in the event that the industrial wastewater treatment plant is inoperable. This shall be submitted to the SWSSWD of the DEP prior to operation of any solid waste disposal unit.

6. The zone of discharge for each SWDA shall be 100 feet from the edge of the SWDA, or the property boundary, whichever is less. Ground water standards for G-II ground waters shall be maintained at the boundary of the zone of discharge.

7. The Permittee shall provide reasonable assurance that the solid waste disposal area liner system shall be equivalent to a composite or double liner system.

8. The Permittee shall submit to the SWSSWD of the DEP a quality assurance plan for the liner systems equivalent to that for a composite or double liner system for approval by the Department's SWSSWD prior to construction. Soil liner construction quality assurance shall include a quality control plan specifying performance criteria for the soil liner, testing procedures and sampling frequencies.

9. The Permittee shall submit to the SWSSWD of the DEP a comprehensive operation plan for the facility that provides written, detailed instructions for the daily operation of the solid waste disposal areas. The plan shall include the items listed in Rule 17-701.500, F.A.C. The plan shall be kept at the facility and shall be accessible to the operators. The plan shall be revised if operational procedures change. A schedule for routine maintenance of the leachate collection and removal system shall be established to ensure operation of the system. The maintenance schedule shall be a part of the operational procedures for the plan. The initial operation plan shall include the first solid waste disposal area and shall be submitted for approval to the SWSSWD of the DEP prior to operation of the solid waste disposal area.

10. The Permittee shall hold the operator responsible for leachate level monitoring, sampling, analysis of the leachate, and for providing copies of the leachate analysis to the Department's SWSSWD. The operator shall have a prepared contingency plan to handle leachate collection, removal, and treatment problems such as interruptions of discharges to a treatment plant. Quantities of leachate collected by the leachate collection and removal system shall be recorded in gallons per day before on-site treatment or transport off-site.

A rain gauge shall be installed, operated, and maintained to record precipitation at the facility. Precipitation records shall be maintained and used to compare with leachate generation rates.

11. Hazardous waste or any hazardous substance shall not be accepted for disposal at this site. Hazardous waste is a solid waste identified by the Department as a hazardous waste in Chapter 17-730, F.A.C. Hazardous substances are those defined in Section 403.703, F.S., or in any other applicable state or federal law or administrative rule.

12. The Permittee shall maintain a program which prohibits the disposal of bulk industrial wastes which operation personnel reasonably believe to either be or contain hazardous waste, without first obtaining a chemical analysis of the material showing the waste to be non-hazardous. The chemical analysis of any such material, along with the date of disposal, shall be kept on file at the facility.

13. A trained supervisor or foreman shall be responsible for maintaining the solid waste disposal areas in an orderly, safe, and sanitary manner. Sufficient personnel shall be employed for adequate operation. In the event of damage to any portion of the solid waste disposal area or failure of any portion of the related systems, the Department's SWSSWD shall receive notification in accordance with Condition III.B.

14. The facility ground water monitoring plan, to be submitted as a post-certification report, shall include monitoring of the solid waste disposal areas. This plan shall include, at a minimum, the equivalent to the requirements of Rule 17-701-510, F.A.C., for the solid waste disposal areas. The facility ground water monitoring plan must be approved by the Department prior to facility operation. The facility ground water monitoring plan is described in condition of certification Section XVIII.

15. All engineering plans, reports, and related information shall be provided by the engineer of record with professional certification and shall be approved by the Department's SWSSWD prior to construction. A construction certification report signed and sealed by a professional engineer, and record drawings showing all modifications to construction plans, shall be submitted for approval to the SWSSWD of the DEP prior to operation of each solid waste disposal area.

16. Prior to any construction of each solid waste disposal area, the engineer shall define the engineering properties of the site that are necessary for the design, construction, and support for the disposal area.

17. The closure of each solid waste disposal area shall be equivalent to lined landfill closures, and shall have a barrier layer. All engineering plans, reports, and related information shall be provided by the engineer of record with professional certification and shall be approved by the Department's SWSSWD prior to closure.

18. Financial assurance for the solid waste disposal areas shall be provided in accordance with Rule 17-701.630, F.A.C., prior to operation of each solid waste disposal area. All cost estimates for closure and long-term care shall be adjusted and submitted annually to: SWSSWD of the DEP. Proof that the financial assurance has been funded adequately shall be submitted annually to the SWSSWD and to: Financial Coordinator, Solid Waste Section, Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

19. If ground water monitoring reveals chemical parameters at concentrations significantly above background concentrations due to leachate, the Permittee shall submit a contamination assessment plan to the Department's Solid Waste Section within one hundred fifty (150) days of knowledge of exceedance. The contamination assessment plan shall provide a detailed plan for evaluating the vertical and horizontal extent of affected soils and ground water.

C. Processing Additional Information

The Permittee shall send all appropriate submittals to the SWSSWD of the DEP to the following address:

Florida Department of Environmental Protection
Solid Waste Section
3804 Coconut Palm Drive
Tampa, FL 33619

XXII. FEDERAL ANNUAL OPERATING PERMITS AND FEES

A. DEP Responsibilities

The Department of Environmental Protection shall implement the provisions of Title V of the 1990 Clean Air Act for the Power Plant Station (PPS) developing conditions of certification requiring submission of annual operating permit information and annual pollutant emission fees in accordance with federal law and federal regulations.

B. TEC Responsibilities

TEC shall submit the appropriate annual operating information as well as the appropriate annual pollutant emission fees as required by federal law to the Department.

XXIII. WETLANDS MITIGATION

A. Procedures for the Selection of the Transmission Line ROW

Prior to finalization of the ROW location, three copies of blue-line reproductions of the aerial photographs, taken no earlier than 1991, of the corridor, at a scale of 1"= 400' with wetland locations generally identified (see Appendix 2), shall be submitted to DEP, and one copy to SWFWMD delineating the certified corridor and the designated transmission line ROW, structure locations and access road locations. In addition, TEC shall note on the aerial photographs new development in the corridor. TEC shall notify all parties of such filing. This information may be submitted in segments. The agencies receiving copies of the aerial photographs from TEC shall have thirty (30) days from receipt of the photographs to review the photographs and to notify DEP of any apparent conflicts with the requirements of the conditions of certification. However, this paragraph shall not operate to avoid the need for post-certification submittals and compliance reviews otherwise required by the conditions of certification.

After review of the aerial photographs and comments from the other reviewing agencies, if DEP has reason to believe that the construction of the transmission line, access roads, or pads within TEC's designated ROW cannot be accomplished in compliance with the conditions of certification, TEC shall be so notified in writing within forty-five (45) days from receipt of the aerial photographs. Such notice shall specify with particularity the basis for DEP's conclusion, and possible corrective measures shall be suggested. If such notice is provided, TEC may relocate the ROW within the certified corridor to address the specified concern, or TEC may proceed with design of the transmission line on the noticed ROW at its own risk that construction can be accomplished in compliance with the conditions of certification.

B. Work on the Certified Site

Prior to construction, TEC shall submit to DEP for review a detailed narrative and 8-1/2" x 11" plan view and cross-section drawings explaining and illustrating the dewatering plans and turbidity controls for each construction and reclamation phase on the certified site. The purpose of the information is to provide DEP with reasonable assurance that state water quality standards will not be violated in waters of the state during the construction and reclamation on the site.

C. Transmission Line Construction Activities

Prior to construction, TEC shall submit to DEP for review 8-1/2" x 11" plan view and cross-section drawings showing all dredge and fill, structure placement and wetland clearing

necessary to construct the transmission line. The drawings shall include the dimensions and elevations of all the structures and show the areas to be cleared to the ground and restrictively cleared.

D. Off-Site Impacts

It is the responsibility of TEC to ensure that adverse off-site water resource related impacts do not occur during construction. All wetland areas or waterbodies that are outside of the specific limits of construction authorized by this certification shall be protected from erosion, siltation, scouring or excess turbidity, and dewatering. TEC shall prevent adverse off-site water resource related impacts during construction as required by Condition XII.B.1. In determining the acceptability of other methods of control, DEP shall consult with SWFWMD. Off-site discharges during construction and development shall not violate state water quality standards.

E. Erosion/Runoff Control

TEC shall compact or otherwise stabilize any fill material placed around newly installed structures, to reduce erosion, turbidity, nutrient loading and sedimentation in the receiving waters.

Grass seed, mulch or sod must be installed and maintained on exposed slopes within forty-eight (48) hours of completing final grade, and at any other time as necessary, to prevent erosion, sedimentation or turbid discharges into waters of the state.

TEC shall take additional measures when necessary to prevent turbid discharges in violation of state water quality standards and to minimize off-site damage associated with erosion or turbidity. These measures may include but are not limited to the installation of turbidity barriers at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the proposed construction. Turbidity barriers must be maintained in effective condition at all locations until construction is completed and disturbed soil areas are stabilized. TEC shall be responsible for implementing measures to address any sedimentation, turbidity, erosion, or shoaling problems that result from the construction, operation or maintenance of the works authorized under this certification. After fill material has been stabilized, TEC will be responsible for the removal of the barriers.

F. Wetlands Clearing

TEC shall use only restrictive clearing practices during construction and maintenance of the transmission line where it crosses wetlands. Restrictive clearing, as used in this condition, is the cutting and removal of vegetation from the wetland by hand, usually with chain saws, or with low-ground-pressure shear or rotary machines to reduce soil compaction and damage to ground cover. These methods may be used alone or in combination, as may be appropriate for specific sites. Restrictive clearing includes the removal of vegetation from areas extending from the transmission line centerline to 20 feet on each side of the outer conductors and in work areas approximately 100 feet by 150 feet around structure sites. Also, in areas where TEC may need to create access to particular structure sites via finger roads rather than a continuous access road, a path approximately 20- to 25- feet wide may be cleared to reach the site from an existing access road. If necessary, the work area around the structure and the access areas may be destumped. Removable construction matting may be used in these areas to support equipment. The stumps shall not be removed in the portion of the ROW outside of the work area and the access areas. The remainder of the ROW in wetland areas, beyond 20 feet on either side of the outer conductors, shall not be cleared to the ground; however, these areas may be restrictively cleared, in that vegetation that has an expected mature height greater than 14 feet may be removed. All cut vegetation shall be removed from the restrictively cleared areas by hand, if practicable. All invasive exotic species shall be removed from the ROW. Herbicides shall not be applied to the cut stumps of native tree species during the initial clearing.

G. Herbicides

Herbicides used in the transmission line ROW or on the certified site shall include only those registered by the U.S. Environmental Protection Agency and which have state approval. Herbicide application rates and concentrations will be in accordance with label directions and will be carried out by a licensed applicator, meeting all federal, state, and local regulations. Herbicide applications shall be selectively applied to targeted vegetation. Broadcast or aerial application of a herbicide shall not be used in the ROW or on the certified site unless approved in writing by DEP.

H. Mitigation for Wetland Impacts

TEC shall provide mitigation as necessary to offset the wetland loss and habitat degradation resulting from the construction of this project. Prior to construction, TEC shall propose a mitigation plan and shall provide the following information to the Bureau of Wetland Resource Management to allow DEP to review the proposed mitigation plan:

1. detailed description of each wetland impact area;
2. acreage of the type and quality of wetland being impacted at each site;
3. narrative, drawings and aerial photographs showing and explaining the proposed mitigation;
4. detailed description of the existing conditions at the mitigation area;
5. acreage of the total proposed mitigation area, broken down by acreage of each mitigation type and wetland type;
6. documentation providing reasonable assurance that the proposed mitigation will be successful.

If the mitigation submittal is deemed by DEP to provide insufficient information for review, additional information requested by DEP shall be submitted.

If DEP, upon review of the proposed mitigation, determines that the proposed mitigation is inadequate to offset the wetland loss and habitat degradation from this project, TEC shall propose additional mitigation.

If the proposed mitigation plan is deemed acceptable by DEP, DEP shall establish construction conditions, success criteria and a monitoring plan to be carried out for the approved mitigation. These conditions, criteria and monitoring plan shall be incorporated into the certification conditions as a minor modification.

No construction within wetland areas shall commence until DEP approves a mitigation plan, and mitigation construction conditions, success criteria and a monitoring plan are incorporated into the certification conditions.

XXIV. WETLAND RECLAMATION REQUIREMENTS

A. Permit Transfer

Prior to any construction on the certified site, the process to transfer DEP Permit No. 531620259 from Agrico Chemical Company to TEC shall be initiated and a permit modification for the same permit to change the reclamation plan shall be submitted to the Bureau of Wetland Resource Management for review. The mining authorized in the above referenced permit shall be allowed to proceed as described in the permit pursuant to the conditions in the permit.

B. Planting Plans

Prior to construction, TEC shall submit final planting plans for all areas to be reclaimed as wetlands. The plans shall include plan views and cross-sections showing the species to be planted at the various elevations. The plans shall specify the size of the plants to be planted and the source of the plants.

C. Management Plan

Prior to construction, a detailed management plan for the reclaimed wetlands shall be submitted to DEP for review. The approved plan shall be made part of this certification. Upon approval, the plan shall be fully implemented. The management plan shall include, but not be limited to, frequent assessment and regular removal, if present, of any nuisance and exotic species and supplemental plantings of wetland species (including groundcover, shrubs and trees) to simulate a natural floristic composition in the shrub and groundcover strata in the forested wetlands. Specific details for all aspects of the plans shall be included, such as specific time intervals for nuisance species assessments and planting densities. The management and maintenance actions shall be fully described in the required annual monitoring reports.

D. Biological Consultant

In order to ensure that the wetland reclamation is correctly implemented, a qualified biological consultant shall oversee the earthmoving, mucking, grading, planting, and monitoring required for the reclamation plan. Prior to the commencement of any reclamation activities, TEC shall submit to DEP for review and approval the name of the biological consultant and supporting documentation that the biological consultant is qualified to oversee the work. The biological consultant must have documented experience in successful reclamation. Any proposed change in the biological consultant during the life of the facility shall be submitted to DEP for review and approval.

E. Hardwood Forest Reclamation

TEC shall plant the 17 acres to be reclaimed as hardwood forest with a mixture of woody species at a density of 800 trees/acre. The species shall be a mixture, including but not limited to, the following species: *Acer rubrum* (red maple), *Gordonia lasianthus* (loblolly bay), *Fraxinus caroliniana* (pop ash), *Nyssa sylvatica* var. *biflora* (black gum), *Magnolia virginiana* (sweet bay), *Liquidambar styraciflua* (sweetgum), *Ilex cassine* (dahoon holly), *Persea palustris* (swamp bay), and *Ulmus americana* (elm). In addition to the woody species, these areas shall be planted on 3-foot centers with a mixture, including but not limited to, the following herbaceous species: *Panicum hemitomon* (maidencane), *Pontederia cordata* (pickerelweed), *Sagittaria* sp. (arrowhead), *Saururus cernuus* (lizard's tail), *Woodwardia* sp. (chain fern), and *Juncus* sp. (bog rush). The woody species and the herbaceous species shall be planted at elevations within the reclaimed wetland that will provide hydroperiods appropriate for the species.

F. Mixed Forest Reclamation

TEC shall plant the 295 acres to be reclaimed as mixed forest with *Taxodium distichum* (bald cypress) in addition to the woody and herbaceous species listed for the hardwood forest areas at densities specified for the hardwood forest areas. The woody species and the herbaceous species shall be planted at elevations within the reclaimed wetland that will provide hydroperiods appropriate for the species.

G. Herbaceous Wetland Reclamation

TEC shall plant the 379 acres to be reclaimed as herbaceous wetlands with a mixture, including but not limited to the following herbaceous species: *Panicum hemitomon* (maidencane), *Pontederia cordata* (pickerelweed), *Sagittaria* sp. (arrowhead), *Spartina bakeri* (cordgrass), *Thalia geniculata* (arrowroot), and *Juncus* sp. (bog rush). These herbaceous species shall be planted at elevations within the reclaimed wetland that will provide hydroperiods appropriate for the species.

H. Surveying and Mapping

Within thirty (30) days of achieving final grade, cross sections of the wetland reclamation areas shall be resubmitted to DEP. The cross sections shall meet the following criteria:

1. They shall clearly depict the wetland topography in such a way as to unambiguously show how the site will retain, detain, shed, or otherwise influence the flow and detention of water at the site;

2. They shall be certified by a registered land surveyor;

3. They shall show any hydrologic connections between the reclaimed and adjacent, existing wetlands; and,

4. They shall show the variations of topographic relief within the graded areas.

I. Organic Soil Placement

To provide for a more hospitable root zone environment and to foster better water quality in the short term, DEP encourages TEC to place organic soils or muck to a minimum depth of four inches on as much of the reclaimed wetlands on the site as possible and requires that organic soils or muck be placed on the seven acres of wetlands to be reclaimed pursuant to DEP Permit No. 531620259. An alternative that would be acceptable to the Department would be to cap the wetland area with mucky sand rather than overburden. Mucky sand, for purposes of the condition, is defined as a fine sand with 6 percent or greater organic content, if tested by the Walkley-Black method.

J. Plant Stock Requirements

The plants used to plant the mitigation areas shall be container-grown, nursery stock. "Container-grown stock" means plants grown in containers from cuttings or seeds. The plants shall originate from within a 50 mile radius of the site or within the same SCS sub-hardiness zone as the mitigation site.

K. Reclamation Success Goals

1. Freshwater herbaceous wetland

Freshwater herbaceous wetland reclamation shall be considered successful when the following conditions are met:

a. Percent cover by non-nuisance, non-exotic wetland species shall be 80 percent or more. Percent covers for the aggregate of those wetland species, and of non-wetland species, bare ground and water shall be reported relative to the total area. A list of the wetland species included in the aggregate shall be included. Wetland species shall be those listed in Rule 17-301.400, F.A.C.;

b. Nuisance species, such as *Mikania scandens* (climbing hempvine), *Typha* sp. (cattail) and *Ludwigia peruviana* (primrose willow), and exotic species are limited to 10 percent or less of the total cover with no one species being more than five percent of the total cover. If these species exceed 10 percent of the total cover, their density must be declining over several years, which would be considered a positive indication that they are under control;

c. The reclaimed wetlands are constructed in accordance with the conditions of certification.

These criteria must all be met at least one year after connection to waters of the state for sites that are severed from waters of the state during some or all of the establishment phase.

2. Forested wetland reclamation shall be considered successful when the following conditions are met:

a. An average of at least 400 wetland trees per acre shall be growing above the herbaceous stratum;

b. The wetland species tree cover shall exceed 33 percent of the total area and in no area of an acre in size shall the tree cover be less than 20 percent total cover. Cover measurement shall be restricted to (1) those trees exceeding the herbaceous stratum in height and (2) those indigenous species that contribute to the overstory of the mature forest of the South Prong of the Alafia River and the Peace River and its tributaries and that are wetland vegetation listed in Rule 17-301.400, F.A.C.;

c. At least 80 percent of obligate groundcover (herbaceous) and obligate shrub (non-canopy woody species) vegetation shall be among those species listed in Rule 17-301.400, F.A.C., and shall be reproducing naturally, either normal, healthy, vegetative spread (in ways that would be normal for each wetland species) or through seedling establishment, growth and survival. Nuisance species such as *Mikania scandens* (climbing hempvine), *Typha* sp. (cattail) and *Ludwigia peruviana* (primrose willow), and all exotic species shall be limited to 10 percent or less of the total cover with no one species being more than five percent of the total cover. If these species exceed 10 percent of the total cover, their density must be declining over several years, which would be considered a positive indication that they are under control;

d. The reclaimed wetlands are constructed in accordance with the conditions of certification.

These criteria must all be met at least one year after connection to waters of the state for sites that are severed from waters of the state during some or all of the establishment phase.

L. Reporting

TEC shall furnish to DEP annual statistical reports of vegetational sampling of the reclaimed wetlands done by any mutually agreed-upon method. Acceptable methods may be found in Daubenmire (1968), Green (1979), Grieg-Smith (1983),

Mueller-Dombois and Ellenberg (1974), Oosting (1956), Poole (1974), and Southwood (1978). It is the responsibility of TEC to ensure that the monitoring report provides a qualitative and quantitative depiction of the site that is representative of the conditions at the entire site.

This report shall include on the cover page, just below the title, the certification of the following statement by the individual who supervised preparation of the report: "This report represents a true, accurate, and representative description of the site conditions present at the time of monitoring." This report shall also contain the following:

1. A monitoring plan describing sampling methods and report format, and map of sampling locations and photographic stations shall be submitted to the Department for review and approval within sixty (60) days after certification issuance and prior to the first monitoring event.

2. Annual statistical reports describing as appropriate for each reclamation area: (1) the density and percent cover of listed trees, and (2) percent cover of listed and non-listed herbaceous species, bareground and water. For forested wetlands, reports on canopy cover shall be submitted for not less than the third, fifth, and any subsequent years after planting until a determination of a successful reclamation has been made. Data for listed nuisance or exotic species shall be tabulated separately from the remaining data. A listed species is one listed in Rule 17-301.400, F.A.C. Reports shall also include an assessment of the jurisdictional status of each reclamation area. Data shall be taken during the summer growing season. Reports shall be submitted annually within sixty (60) days of data acquisition until a determination of a successful wetland reclamation has been made. The first annual statistical report data gathering shall occur not later than one year after planting.

M. Review of Reclamation/Mitigation

Following implementation of the reclamation plan, monitoring shall be performed, following the methods established in the monitoring section, until a determination of a successful reclamation is obtained. At the end of the first three (3) years of monitoring, TEC may request in writing that the monitoring program be reviewed by the DEP to determine whether or not the frequency or parameters of the monitoring program should be changed.

If it is determined by DEP staff, based on visual inspection and review of the monitoring reports that the reclamation is not trending toward success, TEC shall present within thirty (30) days of DEP's notification a plan of corrective actions containing methods and proposals to be

reviewed and approved by the DEP to ensure success of the reclamation effort. The plan of corrective actions shall be implemented within ninety (90) days of written approval by DEP.

N. Drag-line Walk Path

TEC shall notify the Bureau of Wetland Resource Management of a proposed usage of the drag-line walk path on the west side of SR 37 at least fifteen (15) days prior to the event. With the notification, TEC shall provide the Bureau with certified drawings showing the proposed modifications to the Payne Creek outfall. Within twenty-four (24) hours of the dragline crossing the Payne Creek outfall, the outfall and any adjacent areas that were impacted by the crossing shall be restored to original grade and stabilized by either planting or sodding. Within thirty (30) days of the crossing, TEC shall provide the Bureau with certified drawings of record showing the restored areas on one-foot contours with a 50 foot grid as verification that the outfall was restored to original grade.

XXV. MINE RECLAMATION CONDITIONS

A. The conceptual plan modification (AGR-FG-CPG) and variance (AGR-FG-TEC-V1) applications are to be incorporated into the DEP's siting certification process as part of the TEC's Polk Power Station Site Certification Application. Final agency action on these applications by the Governor and Cabinet, sitting as the Siting Board, shall take place simultaneously with the Site Certification Application under the provisions of the Florida Electric Power Plant Siting Act (FEPPSA), pursuant to sections 403.501-403.517, F.S. Approval of the conceptual plan modification application, AGR-FG-CPG, and variance application, AGR-FG-TEC-V1, as part of the site certification of the PPS does not warrant the suitability of subject lands for any current or proposed land use and does not constitute a statement, admission, or waiver by the state of Florida concerning ownership of any interest in the subject lands within the PPS site or the conceptual plan area. Approval of the conceptual plan modification and variance applications does not relieve Agrico Chemical Company - Freeport MacMoran Resource Partners, Limited Partnership, American Cyanamid, IMC Fertilizer, Incorporated, IMC-Agrico Company, and/or the current land owner or mine operator from the obligation to comply with the requirements, standards, and criteria set forth in Chapter 16C-16, F.A.C., reference Subsection 16C-16.0033(6)(e), F.A.C.

B. All changes in land ownership and operators of each applicable mine, within the lands specifically identified in the TEC's Site Certification Application as the PPS site, shall be reported to the Bureau of Mine Reclamation no later than thirty (30) days after the effective date of such changes, pursuant to Subsection 16C-16.006(6), F.A.C. Pursuant to approval of Tampa Electric Company's Site Certification Application by the Governor and Cabinet, sitting as the Siting Board, each applicable operator (Agrico Chemical Company - Freeport MacMoran Resource Partners, Limited Partnership, American Cyanamid, IMC Fertilizer, Incorporated, IMC-Agrico Company) shall notify the Department within thirty (30) days of the sale or legal transfer of the land within the proposed Polk Power Station site to the TEC or any other entity(ies) claiming a fee interest in the land subject to the mandatory reclamation obligation, as defined in Section 211.32, F.S. This notification shall be in the form of a legal contract of sale or transfer agreement between each applicable operator and the entity(ies) claiming a fee interest in the affected lands. The contract/agreement shall appropriately identify the rights, duties, and responsibilities that shall be assumed and delegated by the transferee and each applicable operator, and shall be signed by the transferee and the applicable operators.

C. Reclamation/Restoration

The TEC shall reclaim and restore all lands within the 4,348-acre PPS site as depicted and described in the TEC's Site Certification Application and in the Agrico Chemical Company's (a Division of the Freeport MacMoran Resource Partners, Limited Partnership) conceptual plan modification application, AGR-FG-CPG, in accordance with the required time schedules in Condition XXV.D and in a manner which will yield the following total (including non-mandatory acreages) post-reclamation land use acreages: 3 acres of transportation routes; 321 acres of industrial use as power plant associated facilities; 730 acres of improved pasture; 18 acres of citrus; 544 acres of shrub and brushland; 6 acres of mixed rangeland; 55 acres of upland hardwood forest; 774 acres of upland mixed forest; 264 acres of lakes; 834 acres of cooling reservoir; 61 acres of wetland hardwood forest; 310 acres of wetland mixed forests; and 428 acres of herbaceous wetlands. Of the total site acreage, 523 acres are non-mandatory acres and will exist as 211 acres of improved pasture, 4 acres of shrub and brushland, 6 acres of mixed rangeland, 29 acres of upland hardwood forest, 34 acres of upland mixed forest, 165 acres of lakes, 40 acres of wetland hardwood forest, 11 acres of wetland mixed forest, and 23 acres of herbaceous wetlands.

D. Time Tables

The TEC shall carry out and complete all reclamation and restoration activities in Tract A, all lands east of State Road 37, and Tract B, all lands west of State Road 37, within the Polk Power Station site in accordance with the following time tables:

TRACT	CONTOURING		REVEGETATION		ESTABLISHMENT	
	BEGINS	ENDS	BEGINS	ENDS	BEGINS	ENDS
A	06/94	11/95	12/95	05/96	06/96	05/97
B	10/94	03/96	04/96	09/96	10/96	09/97

E. Standards

The TEC shall conduct all reclamation and restoration activities within the Polk Power Station site in accordance with the requirements, criteria, and standards as set forth in Sections 16C-16.0051 and 16C-16.0053, F.A.C., (reference attached copy of these rules), with the following exceptions:

1. No minimum annual zone of fluctuation shall be required for the 834-acre cooling reservoir, rather than the 25 percent required by Subsection 16C-16.0051(5)(a), F.A.C.;

2. Approximately eight percent (60 acres) of the low water surface of the cooling reservoir will consist of a zone between the annual low water line and six feet below the annual low water line to provide fish bedding areas and submerged vegetation zones, rather than the 20 percent required by Subsection 16C-16.0051(5)(b), F.A.C.; and,

3. Reclamation and restoration activities within the Polk Power Station site shall be conducted and completed in accordance with the required time schedules as stated previously in Condition XXV.D.

F. All authorized representatives of the Department, on presentation of appropriate credentials to the applicable land owner and/or mine operator, or its authorized representatives, shall have the right of entry to, on, or through all lands subject to Chapter 16C-16, F.A.C. Inspections shall be conducted in accordance with the requirements mandated in Subsections 16C-16.0067(1)-(9), F.A.C.

G. Release Procedures

Upon fulfillment of the requirements, standards, and criteria, as dictated above in Conditions XXV. B. and C., within Tracts A and B of the TEC's PPS site, the authorized agent of the TEC or the applicable land owner and/or mine operator shall submit a release request to the Department that identifies the post-reclamation land use acreages to be released. The release request shall include a statement certifying that the requirements, standards, and criteria, as required in the Conditions XXV.B., C., D., E., and F. above, have been met. This request shall be submitted to:

The Department of Environmental Protection
The Bureau of Mine Reclamation
2051 Paul Dirac Drive,
Tallahassee, Florida 32310.

Release procedures shall be followed in accordance with the requirements set forth in Subsections 16C-16.0068(2)-(6), F.A.C.

XXVI. SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

A. Water Use Permitting Conditions

1. If any of the statements in the application and in the supporting data are found to be untrue and/or inaccurate, or if TEC fails to comply with all of the provisions of Chapter 373, F.S., Chapter 40D, F.A.C., or the conditions set forth herein, the SWFWMD shall initiate action for suspension or revocation of certification.

2. This certificate is issued based on information provided by TEC demonstrating that the use of water is reasonable and beneficial, is consistent with the public interest, and will not interfere with any existing legal use of water. If it is determined by the SWFWMD that the use is not reasonable and beneficial, is not in the public interest, or does impact an existing legal use of water, the SWFWMD shall initiate action for suspension or revocation of certification.

3. TEC shall not deviate from any of the water use related terms or conditions of the site certificate without written approval by the SWFWMD.

4. In the event the SWFWMD declares that a water shortage exists pursuant to Chapter 40D-21, F.A.C., the SWFWMD shall initiate any required action to alter, modify, or declare inactive all or parts of this certification as necessary to address the water shortage.

5. The SWFWMD shall collect water samples from any withdrawal point listed in the certificate or shall require TEC to submit water samples when the SWFWMD determines there is a potential for adverse impacts to water quality.

6. The SWFWMD shall initiate any necessary action to require TEC to cease or reduce withdrawal if water levels in aquifers fall below the minimum levels established by the Governing Board.

7. TEC shall practice water conservation to increase the efficiency of transport, application, and use, as well as to decrease waste and to minimize runoff from the property. At such time as the Governing Board adopts specific conservation requirements for TEC's water use classification, the SWFWMD shall initiate any required action to make this certification subject to those requirements upon notice and after a reasonable period for compliance.

8. The SWFWMD may establish special regulations for permits within the regions designated a Water Use Caution Area. If the SWFWMD has established, or establishes in the future, a

Water Use Caution Area for the region that encompasses this certificate, at such time as the Governing Board adopts such special regulations, the SWFWMD shall initiate any required action to make TEC subject to them upon notice and after a reasonable period for compliance.

9. TEC shall mitigate, to the satisfaction of the SWFWMD, any adverse impact to existing legal uses caused by withdrawals. When adverse impacts occur or are imminent, the SWFWMD shall require TEC to mitigate the impacts. Adverse impacts include, but are not limited to:

a. A reduction in water levels which impairs the ability of a well to produce water;

b. Significant reduction in levels or flows in waterbodies such as lakes, impoundments, wetlands, springs, streams or other water courses; or,

c. Significant inducement of natural or manmade contaminants into a water supply or into a usable portion of any aquifer or waterbody.

10. TEC shall mitigate to the satisfaction of the SWFWMD any adverse impact to environmental features or off-site land uses as a result of withdrawals. When adverse impacts occur or are imminent, the SWFWMD shall require TEC to mitigate the impacts. Adverse impacts include the following:

a. Significant reduction in levels or flows in waterbodies such as lakes, impoundments, wetlands, springs, streams, or other watercourses;

b. Sinkholes or subsidence caused by reduction in water levels;

c. Damage to crops and other vegetation causing financial harm to the owner; and,

d. Damage to the habitat of endangered or threatened species.

11. A SWFWMD identification tag shall be prominently displayed at each withdrawal point by permanently affixing the tag to the withdrawal facility.

12. TEC must notify the SWFWMD within thirty (30) days of the sale or transfer of permitted water withdrawal facilities or the land on which the facilities are located.

13. All reports required by the certificate shall be submitted to the SWFWMD on or before the tenth day of the month following data collection and shall be addressed to:

Southwest Florida Water Management District
Permits Data Section
2379 Broad Street
Brooksville, Florida 34609-6899

Unless otherwise indicated, three (3) copies of each plan or report, with the exception of pumpage, rainfall, evapotranspiration, water level or water quality data which require one copy, are required by the certification.

14. Subject to the provisions of Condition XXVI.A.27, TEC is authorized to withdraw from the Upper Floridan aquifer in support of the 260 MW nominal net generating capacity an amount of water not to exceed 5.24 MGD Annual Average Daily and 7.4 MGD Peak Month Daily. TEC is further authorized to withdraw, in support of 1,150 MW nominal net ultimate site capacity at its Polk Power Station, up to a total of 6.4 MGD Annual Average Daily and 9.22 MGD Peak Month Daily of water from the Upper Floridan aquifer, subject to the following conditions:

The total quantity of water which TEC is authorized to withdraw from the Upper Floridan aquifer shall be limited to 6.4 MGD Annual Average Daily, which amount is determined by the SWFWMD not to have an adverse effect on other legal existing users. However, withdrawal of any water from the Upper Floridan aquifer beyond 5.24 MGD Annual Average Daily and 7.4 MGD Peak Month Daily shall be subject to additional conditions. These conditions shall be applied during review pursuant to Section 403.517, F.S., of any supplemental application for the construction and operation of additional generating units or a further increment of generating capacity at the Polk Power Station. The conditions are as follows:

1) TEC shall demonstrate that any incremental quantity of process or cooling water which it proposes to withdraw from the Upper Floridan aquifer in support of generating units will be minimized to the greatest extent practicable by prudent technologically and economically feasible water conservation practices consistent with those generally required within the Southern Water Use Caution Area (SWUCA) of SWFWMD, including but not limited to the following:

a) Minimization of loss of water from the site during construction;

b) Use of water-conserving electric generation and pollution control technologies;

c) On-site rainwater and storm water capture and management;

d) Reuse of internal wastewater streams of technologically suitable quality;

e) Reuse of treated wastewater of technologically suitable quality available from other sources, such as publicly-owned sewage treatment facilities; and,

f) Use of other available sources of non-potable water of technologically suitable quality.

2) To the extent that total water use in the SWUCA is fixed in a manner which limits the withdrawal of Upper Floridan aquifer water for TEC's Polk Power Station, withdrawal by TEC from that source of any quantity greater than 5.24 MGD Annual Average Daily and ~~7.4~~ MGD Peak Month Daily must also be either:

a) Offset by retirement of permitted quantities which are actively used within the SWUCA, to the extent such quantities are eligible to provide offset, pursuant to agreements between TEC and other Permittees which are subject to review by SWFWMD for conformity with generally applicable standards; or,

b) Approved through the "competing application process" under the applicable standards of Section 373.233, F.S., and applicable SWFWMD rules.

3) To the extent that total water use in the SWUCA is not fixed in a manner which limits the withdrawal of Upper Floridan aquifer water for TEC's Polk Power Station, TEC may withdraw from that source up to 6.4 MGD Annual Average Daily and 9.22 MGD Peak Month Daily subject to the requirements of Condition XXVI.A.14.a.1., but not subject to those of Condition XXVI.A.14.a.2.

15. TEC shall investigate the feasibility of using reclaimed water as a water source and submit a report describing the feasibility to the Permits Data Section by January 1, 1995. The report shall contain an analysis of reclaimed water sources for the area, including the relative location of these sources to TEC's property, the quantity of reclaimed water available, the projected date(s) of availability, costs associated with obtaining the reclaimed water, and an implementation schedule for reuse, if feasible. Infeasibility shall be supported with a detailed explanation.

16. Within ninety (90) days of completion of construction of the withdrawal facility or prior to activation of a standby source, District ID Nos. 1, 2, 3, and 4, TEC ID Nos. P1, P2, P3, and P4, shall be equipped with non-resettable, totalizing flow meters, or other measuring devices as approved in writing by the Permitting Department Director, Resource

Regulation, unless an extension is granted by the Director. Such devices shall have and maintain an accuracy within five percent of the actual flow as installed. Total withdrawal and meter readings from each metered withdrawal shall be recorded on a monthly basis and reported to the Permits Data Section (using district forms) on or before the tenth day of the following month. If a metered withdrawal is not utilized during a given month, a report shall be submitted to the Permits Data Section indicating zero gallons. Prior to meter installation, non-use shall be documented with monthly pumpage reports indicating zero gallons withdrawn.

17. Water quality samples shall be collected and analyzed, for parameter(s) and frequency(ies) specified below. Water quality samples from production wells shall be collected whether or not the well is being used, unless infeasible. If sampling is infeasible, TEC shall indicate the reason for not sampling on the water quality data form. Water quality samples shall be analyzed by a Department of Health and Rehabilitative Services (DHRS) certified laboratory under Environmental Laboratory Certification General Category "1". At a minimum, water quality samples shall be collected after pumping the well at its normal rate for a pumping time specified in the table below, or to a constant temperature, pH, and conductivity. In addition, TEC's sampling procedure shall follow the handling and chain-of-custody procedures designated by the certified laboratory which will undertake the analysis. Any variance in sampling and/or analytical methods shall have prior approval of the Permitting Department Director, Resource Regulation. Reports of the analyses shall be submitted to the Permits Data Section (using SWFWMD forms) on or before the 10th day of the following month, and shall include the signature of an authorized representative and the certification number of the certified laboratory which undertook the analysis. The parameters and frequency of sampling and analysis may be modified by the Permitting Department Director, Resource Regulation, as necessary to ensure the protection of the resource.

<u>SWFWMD ID NO.</u>	<u>TEC ID NO.</u>	<u>MINIMUM PUMPING TIME (MINUTES)</u>	<u>PARAMETER</u>	<u>SAMPLING FREQUENCY</u>
1	P1	45 minutes	Chlorides, Sulfates, TDS	Feb., May, Aug., & Nov.

Water quality samples shall be collected based on the following time table:

Quarterly Same week of months specified

Analyses shall be performed according to procedures outlined in the current edition of Standard Methods for Examination of Water and Wastewater, by the American Public Health

Association-American Water Works Association-Water Pollution Control Federation (APHA-AWWA-WPCF) or Methods of Chemical Analyses of Water and Wastes, by the U.S. Environmental Protection Agency.

18. During drilling of SWFWMD ID Nos. 1 and 4, TEC ID Nos. P1 and P4, water quality samples shall be collected at intervals of 50 feet or less, from 300 feet to a maximum depth of five feet above the bottom of the well. Regardless of the specified sample collection interval, a sample shall be collected from the depth which corresponds to five feet above the bottom of the well. Samples shall be collected during reverse air drilling or other appropriate method with prior approval by the Permitting Department Director, Resource Regulation, which will allow representative samples for each depth to be collected. Samples shall be analyzed by a certified laboratory for chlorides, sulfates, and TDS. TEC's sampling procedure shall follow the handling and chain of custody procedures designated by the certified laboratory which will undertake the analysis. Reports of the analyses shall be submitted to the Permits Data Section (using SWFWMD forms) within thirty (30) days of sampling, and shall include the signature of an authorized representative and the certification number of the Department of Health and Rehabilitative Services (DHRS) certified laboratory under Environmental Laboratory Certification General Category "1" which undertook the analysis.

Analyses shall be performed according to procedures outlined in the current edition of Standard Methods for the Examination of Water and Wastewater, by the American Public Health Association-American Water Works Association-Water Pollution Control Federation (APHA-AWWA-WPCF) or Methods for Chemical Analyses of Water and Wastes, by the U.S. Environmental Protection Agency.

19. Within 90 days of completion of construction of the first phase power generation facility, TEC shall install and maintain a continuous recording rain gauge in the area around SWFWMD ID No. 1. Total daily rainfall shall be recorded at this station and submitted to the Permits Data Section, on SWFWMD forms on or before the tenth day of the following month. The reporting period for these data shall begin on the first day of each month and end on the last day of each month. Final location shall be submitted plotted on an original blue-line aerial map or United States Geological Survey quadrangle map, or by providing latitude - longitude location.

20. Any wells not in use and in which pumping equipment is not installed shall be capped or valved in a water tight manner in accordance with Chapter 17-532.500(3)(a)(4), F.A.C.

21. TEC shall construct the proposed wells according to the surface diameter and casing depth specifications below. The casing depth specified is to prevent the unauthorized interchange

of water between different water bearing zones. If a total depth is listed below, this is an estimate, based on best available information, of the depth at which high producing zones are encountered. However, it is TEC's responsibility to have the water in the well sampled during well construction, before reaching the estimated total depth. Such sampling is necessary to ensure that the well does not encounter water quality that cannot be utilized by TEC, and to ensure that withdrawals from the well will not cause saltwater intrusion.

<u>SWFWMD</u> <u>ID NO.</u>	<u>TEC</u> <u>ID NO.</u>	<u>SURFACE</u> <u>DIAMETER</u>	<u>MINIMUM</u> <u>CASING DEPTH</u>	<u>ESTIMATED</u> <u>TOTAL DEPTH</u>
1	P1	10 in.	300 ft.	900 ft.
2	P2	10 in.	300 ft.	900 ft.
3	P3	24 in.	300 ft.	900 ft.
4	P4	24 in.	300 ft.	900 ft.

a. The casing shall be continuous from land surface to the minimum depth stated above;

b. All well casing (including liners and/or pipe) must be sealed with neat cement grout to the depth specified above;

c. The proposed wells(s) shall be constructed of materials that are resistant to degradation of the casing/grout due to interaction with water of lesser quality. A minimum grout thickness of two (2) inches is required on wells four (4) inches or more in diameter.

d. A minimum of twenty (20) feet overlap and two (2) centralizers is required for public supply wells, and all wells six (6) inches or more in diameter.

e. The finished well casing depth shall not vary from these specifications by greater than ten (10) percent unless advance approval is granted by the Permitting Department Director, Resource Regulation, or the Supervisor of the Well Construction Permitting Section in Brooksville.

f. Advance approval from the Permitting Department Director, Resource Regulation is necessary should TEC propose to change the well location or casing diameter.

22. Within six (6) months of site certification issuance, TEC shall submit a detailed plan for a long-term aquifer performance test (APT) for approval by the Permitting Department Director, Resource Regulation. The test shall be conducted for a sufficient period of time to determine the leakance parameter between the surficial and intermediate aquifers and the leakance parameter between the intermediate and Upper Floridan aquifers. The test shall be conducted for a minimum of seven (7) days, and shall include collection of water

quality data (see Condition XXVI.A.21 for water quality parameters). Attempts will be made to conduct the test during a period of minimal adjacent pumpage and during a period of minimal rainfall to minimize interference with the test. This test shall take place prior to initiation of pumpage from these wells. A report of the results of the test, including all raw data and analyses, shall be provided to the Permits Data Section within thirty (30) days of the completion of the test.

If any of the aquifer characteristics vary significantly from those used in the ground water flow model submitted with the certification, TEC shall submit an updated ground water flow model upon notification by the Permitting Department Director, Resource Regulation. This model shall utilize the actual aquifer characteristics determined during the APT to predict impacts due to ground water withdrawals at this site. If the new modeling (if required) indicates that there are adverse impacts not indicated in the SCA, TEC may be required to amend the Site Certification.

23. By January 1, 1998, TEC shall submit for approval by the Permitting Department Director, Resource Regulation, a water conservation plan for the purposes of documenting the current ground water use for each aspect of the plant's water use operations, and the existing and proposed water conservation programs which are, or will be, implemented to conserve ground water at the plant. The plan shall address the following:

a. Current Plant Operation

1) For ground water and recycled surface water sources, separately document the processes which use water, and the magnitude of the use in terms of average annual and peak monthly quantities;

2) For ground water and recycled surface water sources, separately document the range in monthly water use for each process;

3) For ground water and recycled surface water sources, separately document the factors which contribute to monthly fluctuations in water use; and,

4) Describe the methods used to determine the range in water use and the methods used to determine the factors which contribute to the water use fluctuations.

b. Future Plant Operation

1) Determine processes which can be modified to reduce ground water dependency;

2) Propose conservation measures for reducing ground water use and provide implementation dates; and,

3) Propose methods for calculating the effectiveness of water conservation methods in Condition XXVI.A.23.b.2. above.

24. Prior to dewatering within 2,640 feet of a property boundary, TEC shall comply with one of the following two alternatives:

a. Secure written consent from all adjacent property users for lowering the water table below their lands. Three copies of the consent shall be submitted in writing to the Permitting Department Director, Resource Regulation prior to dewatering within the specified distance. This alternative cannot be used if adjacent lands contain wetlands or other waterbodies within 2,640 feet of TEC's dewatering activity.

b. Implement a procedure to mitigate impacts by maintaining the water table at historic levels at the property boundary. TEC must obtain approval from the Permitting Department Director, Resource Regulation. The procedure shall include Conditions XXVI.A.26.a., b., c., d., and e.

25

25. Prior to dewatering within 2,640 feet of an on- or off-site wetland that is greater than 0.5 acre in size and will not be disturbed in association with this certification, TEC shall implement a procedure to mitigate impacts by maintaining the water table at historic levels beneath such wetlands or at the property boundary for off-site wetlands. Prior to implementation, TEC must obtain approval, in writing, from the Permitting Department Director, Resource Regulation. The procedure shall include:

a. A water table monitoring network, approved by the Permitting Department Director, Resource Regulation, designed to demonstrate that water table drawdown does not exceed one foot under on-site wetlands that will not be disturbed.

b. Collection of water table level data after construction of the approved monitor well network for at least six (6) months prior to the initiation of dewatering in the area, to obtain background data. During this time period, water level data shall be recorded on a weekly basis and submitted monthly.

c. If a rim-ditch system is proposed to recharge the water table near on-site wetlands that will not be disturbed, design and operation details must be submitted to demonstrate that the water table will be maintained at appropriate levels based on the background data collected. Rim-ditch systems must also be accompanied by a monitor well network to verify water table maintenance.

d. At least one month prior to the anticipated date of dewatering an area within the setback distance, water level data shall be recorded and submitted on a weekly basis.

e. Data collection shall continue for six months following completion of dewatering and reclamation or until SWFWMD staff determine that background or steady-state levels are attained. During this time period, water level data shall be recorded on a weekly basis and reported monthly. Water levels shall be reported in feet relative to the National Geodetic Vertical Datum (N.G.V.D.).

26. TEC's current development schedule for ultimate site capacity at the Polk Power Station estimates incremental additions of generating capacity at an approximate average rate of approximately 72 MW (range of 65 to 220 MW) every two to three years for the period 1995 through 2010, both inclusive, for a total of approximately 1,150 MW nominal net generating capacity. The following additional requirements shall apply in order to ensure that TEC does not unnecessarily deprive other users of ground water:

a. In each supplemental application for the construction and operation of a further increment of generating capacity at the Polk Power Station, TEC shall indicate:

1) Whether it has determined not to install any prior or subsequent increment of generating capacity;

2) The basis for delay in the installation of any increment of generating capacity for more than five (5) years beyond the estimated schedule; and,

3) The quantity of ground water from the Upper Floridan aquifer which any such increment of capacity that has been eliminated or delayed would have required.

b. If TEC has determined not to install any increment of generating capacity or in the absence of a reasonable basis for a delay greater than five (5) years, the quantity of ground water which TEC is authorized to withdraw from the Upper Floridan aquifer in support of ultimate site capacity may be reduced accordingly.

27. Prior to initiation of withdrawals from the proposed production wells in amounts in excess of 3.14 MGD Annual Average Daily and 5.8 MGD Peak Month Daily ground water quantities for the first phase, and 4.3 MGD Annual Average Daily and 7.6 MGD Peak Month Daily quantities for buildout, TEC must submit a detailed plan of study, including a detailed cost analysis for the treatment and reuse of the 2.1 MGD of cooling reservoir blowdown water (wastewater) that is proposed to be discharged to prevent the water quality in the cooling reservoir from exceeding

Class III Florida water quality standards. This plan must address, but is not limited to: the initial investment capital costs for construction of the treatment facilities, operational costs of the treatment facility on an annual basis, costs associated with construction of the brine storage area, and the average cost to store and/or dispose of the brines on- or off-site. The study must also include a comparison of the above mentioned costs with the total budgeted project cost. TEC will also address the feasibility of reuse of treated wastewater of technologically suitable quality available from other sources, such as publicly-owned sewage treatment facilities, and the feasibility of use of other available sources of non-potable water of technologically suitable quality. The study shall be submitted to the Permitting Department Director, Resource Regulation. Based on the information submitted, the SWFWMD Governing Board shall determine whether or not treatment of the wastewater is feasible. If the SWFWMD Governing Board, subject to approval pursuant to the site certification modification process, determines that treatment of this wastewater is economically feasible, then the first phase Annual Average Daily and Peak Month Daily ground water quantities shall be maintained at 3.14 MGD and 5.8 MGD, respectively, and the build-out Annual Average Daily and Peak Month Daily quantities shall be maintained at 4.3 MGD and 7.6 MGD, respectively. If the SWFWMD Governing Board determines that treatment of this wastewater is economically infeasible, the quantities shall not change for the first phase.

If the SWFWMD Governing Board determines that treatment of the wastewater is infeasible for the first phase of the project, TEC shall submit a revised plan of study prior to any subsequent increases in power generation capacity and the corresponding increase in ground water requirements. If during the review of any of the subsequent plans of study the SWFWMD Governing Board determines that treatment of the wastewater is economically feasible, the Annual Average Daily and Peak Month Daily quantity shall be reduced by 2.1 MGD and 1.6 MGD, respectively, from the quantities indicated in SWFWMD Water Use Condition XXVI.A.14. subject to approval pursuant to the site certification modification process.

B. Surface Water Management

1. TEC shall provide post-certification submittals to the SWFWMD to ensure that the construction, operation and maintenance of the surface water management system will be in compliance with the conditions of certification and the rules of Chapter 40D-4, F.A.C., in effect at the time of post-certification submittals. The TEC shall consult with the SWFWMD surface water permitting staff prior to finalization of construction designs, plans, specifications and locations of project facilities to coordinate and foster mutual understanding of construction designs, techniques and regulatory objectives which are to be reflected on any post-certification review information submittals.

Three (3) sets of the post-certification submittals for the surface water management system shall be sent to the Southwest Florida Water Management District, Bartow Service Office, 170 Century Boulevard, Bartow, Florida 33830. If SWFWMD staff does not issue a written request within 30 days of receipt of the information, the information will be deemed to be complete and sufficient. Within ninety (90) days of the determination by SWFWMD staff that the additional information is complete and sufficient, the SWFWMD shall determine and notify the TEC in writing whether the proposed activities conform to SWFWMD criteria, as required by Chapter 40D-4, F.A.C., and the conditions of certification. Construction activities which impact works of the SWFWMD or have surface water management impacts shall not begin until the SWFWMD has determined that the activities are in compliance with the applicable SWFWMD rule criteria and conditions of certification, either in writing or by failure to notify the TEC in writing.

The following information shall be provided to the SWFWMD by the TEC for further post-certification regulatory review:

a. At least one hundred twenty (120) days prior to commencement of construction of the linear facilities, copies of blue-line reproductions of aerial photographs of at least 1:400 scale shall be submitted to the SWFWMD delineating the row routes selected, boundaries, preliminary pole and pad locations and access roads. The SWFWMD and any other party who requests to do so shall have thirty (30) days from receipt of notice to review the photographs and to call any apparent conflicts with the requirements of the conditions of certification to the TEC's attention. However, this condition shall not operate to avoid the need for post-certification submittals and compliance reviews otherwise required by the conditions of certification.

If any substantially affected party has reason to believe that the construction of the linear facility and access roads within the TEC's designated row cannot be accomplished in compliance with the conditions of certification, the TEC shall be so notified in writing. Failure of such a notice to be served on the TEC within thirty (30) days from the notice of filing of the aerial photographs with SWFWMD constitutes acknowledgment that construction of the linear facilities and access roads can be accomplished within the designated row submitted for review.

The TEC shall, where practicable, utilize adjacent existing public roads for access to the linear facility rows for construction, operation and/or maintenance purposes. Finger roads connecting the existing roads to transmission lines, structure pads and access roads must be constructed in a manner which minimizes changes to natural drainage flows and adverse water resource impacts.

The acquisition of a particular ROW or the expenditure of funds toward acquisition of a particular ROW prior to post-

certification review pursuant to these conditions will be at the TEC's risk, and no party will be estopped by such acquisition to seek disapproval of the construction of the linear facility or access roads within the ROW in accordance with these conditions of certification.

b. At least one hundred twenty days (120) days prior to the commencement of construction of any portion or phase of the project which may obstruct, divert, control, or impound waters of the state, such construction must be reviewed by the SWFWMD for a determination of compliance with Chapter 40D-4, F.A.C., and the conditions of certification, as appropriate. "Construction" activities for which such review is required shall include those activities as defined in Rule 40D-4.021(13), F.A.C., and includes, but is not limited to, installation of all surface water and storm water management facilities, the placement of structure pads, dredging and filling, the installation of access/maintenance roads and culverts and fill materials, and related activities in circumstances where a permit from the SWFWMD would ordinarily be required. The TEC will provide appropriate final site information and construction drawings, engineering design calculations, operating and maintenance procedures (all designed and sealed by an engineer practicing in the state of Florida, having the appropriate experience in surface water management design and construction, and in compliance with Chapter 471, F.S.), mitigation/compensation measures and other explicit supporting information for various project phases that are applicable to surface water or storm water management systems. This information shall be sufficiently provided in scope, content and detail to demonstrate compliance with the surface water regulation requirements of Chapter 40D-4, F.A.C., and the conditions of certification.

For all construction activities resulting in and adjacent to wetlands, the following information shall be provided as a minimum:

i. Provide a certified survey or other form of accurate and reproducible means of depicting the field verified wetland limits and clearly indicate these limits on the construction drawings.

ii. Provided a numbering system for all on-site wetlands (including those less than 0.5 acre) and for each wetland clearly indicate the index number on the construction drawings. In tabular form, please indicate for each wetland the index number, on-site acreage, impact acreage, and indicate whether the wetland has been claimed by the SWFWMD, the ACOE, and/or DEP.

iii. Conduct a habitat assessment of each of the proposed wetland impact areas. Describe the type and function and include the dominant floral and faunal species for each distinct vegetative zone and stratum.

iv. Submit a sufficiently comprehensive wetland mitigation/compensation plan to provide reasonable assurance of the successful replacement of the proposed impact wetlands values and functions. Include all design details of the wetland mitigation/compensation areas on the construction drawings. Details should include plan and cross-sectional views showing limits of each distinct zone in reference to proposed control elevations, proposed plantings (species, relative compensation, sizes, and densities) within each zone, mulching details, proposed water elevations (Seasonal High Water Level and Normal Pool), bottom elevations, slopes, and schedules for wetlands compensation, grading, mulching, planting of the mitigation areas, etc.

v. Provide a monitoring and maintenance plan for the wetland mitigation/compensation areas. Sampling design and methodology must clearly demonstrate that the sampling methods and intensity are sufficient to accurately characterize each vegetative zone and stratum in a reproducible manner.

For all construction activities related to linear facilities, the following information shall be provided as a minimum:

i. A centerline profile of existing topographic features along the proposed linear facilities corridor(s) sufficient to show contours, drainage patterns, and wetland limits;

ii. Construction plans and designs of the proposed access/maintenance and finger road(s) with elevations, dimensions, and wetland limits shown;

iii. Typical cross-sections of the proposed access/maintenance and finger road(s);

iv. Cross-section(s) of each wetland, stream or creek at the points to be crossed by the access/maintenance and finger road(s) or other construction;

v. Specifications showing the location of each linear facility structure, finger and maintenance/access road, and culvert to be constructed, including all areas to be filled or excavated;

vi. Specifications, including supporting assumptions and calculations, showing the type and size of water control structures (ditch, culvert, equalizer, etc.) to be used, with proposed flowline elevations marked, drainage areas identified and design capacity verified; and,

vii. A cross-section of all proposed fill/excavation areas, with the exception of fill/excavation directly associated with transmission line support poles, showing the proposed depth.

2. TEC shall avoid impacting wetlands by construction of the linear facilities wherever practicable. If necessary and feasible, the location of and span between power poles shall be varied to eliminate or reduce wetland impacts.

3. Subsequent modifications to the drawings and supporting calculations submitted to the SWFWMD which may significantly alter the quantity and/or quality of waters discharged off-site shall also be submitted to the SWFWMD for determinations that the modifications are in compliance with Chapters 40D-4, F.A.C., as appropriate, prior to the commencement of construction.

4. The operational phase of the surface water management system authorized under this certification shall not become effective until the TEC confirms in writing, upon completion of each phase, that these facilities have been constructed consistent with the conditions of certification. Such confirmation shall include a certification by an engineer registered in the state of Florida that the facilities have been constructed in accordance with the approved project design. Within thirty (30) days after completion of construction of each phase of the surface water management system, the TEC shall submit the confirmation, including "as-built" construction drawings with the engineer's certification and a description of any deviations and notify the SWFWMD that the facilities are ready for inspection for consistency with the conditions of certification and information submitted hereunder.

5. The SWFWMD may initiate action to require additional post-certification monitoring requirements as a result of technical review of construction information, where necessary to demonstrate compliance with SWFWMD regulations.

6. If a situation arises in which mutual agreement cannot be reached between the TEC and an agency with regulatory jurisdiction, then the matter shall be immediately referred to the Division of Administrative Hearings (DOAH) for disposition in accordance with the provisions of Chapter 120, F.S.

7. The terms, conditions, requirements, limitations, and restrictions set forth herein are "conditions of certification" for the surface water management system and as such are binding upon the TEC and enforceable pursuant to the authority of Chapters 373 and 403, F.S. The TEC is hereby placed on notice that the SWFWMD will review this certification periodically and may initiate enforcement action for any violation of the "conditions of certification" for the surface water management system by the TEC, its agents, employees, servants, or representatives.

8. This certification for the surface water management system is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits.

Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of certification may constitute grounds for revocation and enforcement action.

9. This certification for the surface water management system does not relieve the TEC from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of the certified system, nor does it allow the TEC to cause pollution in contravention of Florida Statutes and SWFWMD rules, unless specifically authorized by any order from the SWFWMD.

10. The TEC shall at all times properly operate and maintain the systems of treatment and control (and related appurtenances) that are installed or used by the TEC to achieve compliance with conditions of certification for the surface water management system, as required by the SWFWMD rules (Chapter 40D-4, F.A.C.). This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of certification and when required by the SWFWMD rules.

11. If, for any reason, the TEC does not comply with or will be unable to comply with any condition or limitation specified in this certification for the surface water management system, the TEC shall immediately notify and provide the SWFWMD with the following information:

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

The TEC shall be responsible for any and all damages which may result and may be subject to enforcement action for penalties or revocation of the certificate.

12. In accepting this certification for the surface water management system, the TEC understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this certified source, which are submitted to the SWFWMD, may be used by the SWFWMD as evidence in any enforcement case arising under the Florida Statutes, or SWFWMD rules, except where such use is proscribed by Florida Statutes.

13. The SWFWMD may initiate any necessary action to require TEC to comply with any applicable changes in SWFWMD rules and Florida Statutes after a reasonable time for compliance, provided, however, the TEC does not waive any other rights granted by Florida Statutes or SWFWMD rules.

14. TEC shall comply with the following monitoring and record keeping requirements:

a. Upon request, the TEC shall furnish all records and plans required under the SWFWMD rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the SWFWMD, during the course of any unresolved enforcement action.

b. The TEC shall retain, at the facility or other location designated by this certification, records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentations), copies of all reports required by this certification, and records of all data used to complete the application for this certification for the surface water management system. The time period of retention shall be at least three (3) years from the date of the sample, measurement, report or application unless otherwise specified by SWFWMD rule.

c. Records of monitoring information shall include:

i. the date, exact place, and time of sampling or measurements;

ii. The person responsible for performing the sampling or measurements;

iii. The date(s) analyses were performed;

iv. The person responsible for performing the analyses;

v. The analytical techniques or methods used; and,

vi. The results of such analyses.

15. When requested by the SWFWMD, the TEC shall within a reasonable time furnish any information required by law which is needed to determine compliance with the certification for the surface water management system. If the TEC becomes aware that relevant facts were not submitted or were incorrect in the certification application or in any report to the SWFWMD, such facts or information shall be submitted or corrected promptly.

16. Drawings, plans, calculations, specifications or other information submitted by the TEC, not attached hereto, but retained on file at the SWFWMD office, are made a part of this certification.

17. A copy of this certification and a set of construction drawings depicting the certified system are required to be kept at the work site of the certified activity during the entire period of construction or operation.

18. Any surface water discharged from the site during construction of the project shall meet state water quality standards at the property boundary or point of discharge to wetlands or state waters. If the discharge does not meet these standards, the discharge will be immediately stopped and the SWFWMD shall be notified of action taken to correct the violation. Turbidity shall not exceed 29 N.T.U. above background level. Turbidity shall be monitored at least daily during discharge, or more often as determined by the project engineer or SWFWMD if needed, to ensure compliance.

19. The TEC and construction representatives shall assure that erosion and sediment control measures as necessary and as required by Rule 40D-4.091, F.A.C., shall be effectively implemented continuously from the beginning of project construction until completion to prevent erosion and transport and discharge of sediment to wetlands or any property other than the project area. Project detention ponds and discharge control structures which are to be constructed as part of the project shall be initially built and maintained continuously during project construction to avoid adverse impact to receiving waters or off-site lands.

20. Except as authorized by this certification for the surface water management system, any further land development, wetlands disturbance or other construction within the total land area of this site will require a review and potential modification of these conditions pursuant to Section 403.516, F.S. and in accordance with the SWFWMD's rules (Chapter 40D-4, F.A.C.).

21. All rights-of-way and easement locations necessary to construct, operate and maintain all facilities, including uplands conservation/buffer areas and wetlands which constitute the certified surface water management system, shall be reserved for water management purposes.

22. Construction of the discharge control and water quality treatment facilities which are part of the certified surface water management system shall be completed and operational prior to beneficial occupancy and use of the project development being served.

23. Establishment and survival of littoral areas provided for storm water quality treatment in wet detention systems shall be assured by proper and continuing maintenance procedures designed to promote viable wetlands plant growth of natural diversity and character. As-built drawings depicting the established wet detention treatment areas shall be submitted to the SWFWMD for inspection and approval upon completion of construction. Following as-built approval, perpetual maintenance shall be provided for the certified system.

24. Any existing wells in the path of construction shall be properly plugged and abandoned by a licensed water well contractor in accordance with Chapter 40D-3 and Rule 17-532.500(4), F.A.C.

25. Any existing septic tanks on this site shall be abandoned at the beginning of the project construction in accordance with Rule 10D-6.53, F.A.C.

26. Any existing fuel storage tanks and fuel pumps on this site shall be removed at the beginning of project construction in accordance with Rule 17-61.05(3)(c), F.A.C.

27. All retention/detention pond side slopes shall be sodded and staked as necessary, to prevent erosion.

28. By issuance of this certification, the SWFWMD, its employees and representatives assume no responsibility and/or liability in regard to either the design, construction or performance of the certified facilities.

29. Any system alteration, including for augmentation into or withdrawal of water from the certified surface water management system, other than as specifically authorized by this certification will require additional SWFWMD certification consideration. The water level of detention ponds shall not be augmented by pumping or diversion of water into the ponds to artificially control their level above the design normal or beginning storage level.

30. Information and reports required to be submitted by this certification shall be submitted to:

Southwest Florida Water Management District
Permits Data Section
2379 Broad Street
Brooksville, Florida 34609-6899

31. Construction of all surface water management facilities, excluding wetlands compensation, grading, mulching, planting of the mitigation areas, etc., must be completed prior to operation of the surface water management system.

32. The TEC shall notify the SWFWMD within thirty (30) days of the sale or transfer of ownership of land on which a surface water management system will be or is located.

33. The TEC shall perform the construction authorized in a manner so as to minimize any adverse impact of the system on fish, wildlife, natural environmental values, and water quality. TEC shall institute necessary measures during the construction period, including full compaction of any fill material placed around newly installed structures, to reduce erosion, turbidity, nutrient loading and sedimentation in the receiving waters.

34. Following review of post-certification submittals, the SWFWMD may initiate action to require additional water quality data for the storm water discharged from the surface water management system. Parameters to be monitored may include those listed in Chapter 17-302, F.A.C. Analyses shall be performed according to procedures outlined in the current edition of Standard Methods for the Examination of Water and Wastewater, by the American Public Health Association, or Methods for Chemical Analyses of Water and Wastes, by the U.S. Environmental Protection Agency. If water quality data are required, the TEC shall provide data as required on volumes of water discharged from the surface water management system, including total volume discharged during the days of sampling and total monthly discharges from the property or into surface waters of the state.

35. The TEC shall obtain all necessary federal, state, local and special district authorizations prior to the start of any construction or alteration of works authorized by this certification.

36. The operation phase of this certification for the surface water management system shall not become effective until the owner or authorized agent certifies that all facilities of the surface water management system have been constructed in accordance with the design approved by the SWFWMD. Within thirty (30) days after completion of construction of the surface water management system, the TEC shall submit the as-builts and notify the SWFWMD that the facilities are complete. The SWFWMD may inspect the system and require remedial measures.

37. Off-site discharges of surface water during construction and development shall be made only through the facilities authorized by this certificate. Water discharged from the project shall be through structures having a mechanism suitable for regulating upstream stages. Stages may be subject to operating schedules satisfactory to the SWFWMD.

38. No construction authorized herein shall commence until a responsible entity acceptable to the SWFWMD has been established and has agreed to operate and maintain the system. The entity must be provided with sufficient ownership so that it has control over all water management facilities authorized herein. Upon receipt of written evidence of the satisfaction of this condition, the SWFWMD will issue an authorization to commence construction.

39. The TEC shall hold and save the SWFWMD harmless from any and all damages, claims, or liabilities which may arise by reason of the construction operation, maintenance or use of any facility authorized by the certificate.

40. This certificate is issued based on the TEC's submitted information, which reasonably demonstrates that adverse off-site water resource-related impacts will not be caused by the

completed surface water management system. It is also the responsibility of the TEC to ensure that adverse off-site water resource-related impacts do not occur during construction.

41. All surface water management systems shall practice water conservation to maintain environmental quality and resource protection; to increase the efficiency of transport, application and use; to decrease waste; to minimize unnatural runoff from the property; and to minimize dewatering of off-site property. At such time in the future as the SWFWMD Governing Board establishes minimum water levels in aquifers or minimum rates of flow in streams, or otherwise adopts specific conservation criteria, SWFWMD may initiate any necessary action to require TEC to undergo an alteration of the system to comply with such criteria upon notice and after a reasonable period for compliance.

42. In order to ensure that the person who will construct the proposed work is identified as required by Subsection 373.413(2)(f), F.S., once the contract is awarded, the name, address, and telephone number of the contractor will be submitted to the SWFWMD prior to construction.

43. The TEC shall immediately provide written notification to the SWFWMD upon beginning any construction authorized by this certificate.

44. The TEC shall retain the design engineer, or other professional engineer registered in Florida, to conduct on-site observations of construction and assist with the as-built certification requirements of this project; the TEC shall inform the SWFWMD in writing and prior to beginning construction of the name, address and phone number of the professional engineer so employed by the TEC for that purpose.

45. The operation and maintenance entity shall submit inspection reports for the surface water management system in the form required by the SWFWMD, in accordance with the following schedule:

For systems utilizing wet detention the inspections shall be performed two (2) years after operation is authorized and every two years thereafter.

XXVII. FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

A. To the extent feasible, TEC shall avoid guyed transmission line structures in any residential areas to reduce visual impact.

B. To the extent feasible, TEC shall locate the proposed linear facilities within existing utility rights-of-way.

C. To the extent feasible, TEC shall locate the transmission line away from residences, schools, and places of employment.

D. Hazardous and Non-Hazardous Materials

1. The Permittee shall make all feasible efforts to recycle project wastes.

2. The Permittee shall treat its sanitary waste on-site and route it to the cooling pond in order to reduce ground water withdrawals.

XXVIII. FLORIDA GAME AND FRESH WATER FISH COMMISSION

A. The postreclamation land use plan proposed by TEC includes areas which, by nature of elevation, soils and hydroperiod, may be suitable for the development of xeric upland habitat systems. Following reclamation, areas so identified will be managed to promote their succession into productive xeric systems. The use of any available top soil mulch stripped from the disturbed power block area which would advance this succession is encouraged.

B. During the final phases of the reclamation of portions of the Polk Power Station site intended to function as habitat, TEC will develop, with Game and Fresh Water Fish Commission input, a wildlife habitat and management plan. Where appropriate, TEC will incorporate best management practices from the Florida Game and Fresh Water Fish Commission publication Habitat Reclamation Guidelines: A Series of Recommendations for Fish and Wildlife Habitat Enhancement on Phosphate Mined Lands and Other Disturbed Areas, April, 1985.

C. Reclamation success and wildlife utilization of the site should be monitored on a routine basis as proposed in the site certification application. In addition, the Florida Game and Fresh Water Fish Commission will encourage TEC to provide reasonable access to local Audubon chapters and other conservation groups who may desire to conduct annual bird counts, nesting surveys or other studies of fish and wildlife habitat values.

D. Prior to construction of the proposed facility or installation of any associated linear facility, wildlife surveys shall be conducted for the presence of listed species (endangered, threatened, or species of special concern). The results of these surveys shall be presented to the Florida Game and Fresh Water Fish Commission and the United States Fish and Wildlife Service. TEC shall consult with the Florida Game and Fresh Water Fish Commission and the United States Fish and Wildlife Service to determine the appropriate steps to be taken to avoid, minimize, mitigate or otherwise appropriately address impacts within each agency's respective jurisdiction.

XXIX. FLORIDA DEPARTMENT OF TRANSPORTATION

A. By 1995, TEC shall begin a traffic monitoring program at the intersection of SR 37 and CR 630 for determining the need to install a traffic signal or to make geometric improvements. Intersection monitoring shall consist of conducting turning movement counts and a signal warrant analysis. The monitoring shall be conducted once per year in January, February or March, until the number of employees has peaked or a signal and appropriate intersections improvements are installed, whichever comes first. Should the traffic monitoring program show the need for a new traffic signal and/or geometric improvements as a result of traffic to the Polk Power Station, it shall be the responsibility of TEC to install a new traffic signal and/or to make geometric improvements.

B. By 1995, TEC shall begin a traffic monitoring program at the intersection of SR 37 and CR 640 for determining the need to install a traffic signal or to make geometric improvements. Intersection monitoring shall consist of conducting turning movement counts and a signal warrant analysis. The monitoring shall be conducted once per year in January, February or March, until the number of employees has peaked or a signal and appropriate intersections improvements are installed, whichever comes first. Should the traffic monitoring program show the need for a new traffic signal and/or geometric improvements as a result of traffic to the Polk Power Station, it shall be the responsibility of TEC to install a new traffic signal and/or to make geometric improvements.

C. Work/Construction Within the State Rights-of-Way

All utility work/construction within the state rights-of-way shall conform to the minimum requirements of the Utility Accommodation Guidelines (UAG) dated 5/90, or as may be amended. For all work normally requiring a Utility Permit, FDOT shall issue the permit within ninety (90) days, or as may be required by the UAG, of the submission of a satisfactorily completed Utility Permit (Form #592-03, or as may be amended).

D. New and Modifications to Existing Intersections

Construction of new and modifications to existing intersections with state roads shall be in compliance with Rule Chapters 14-96 and 14-97, F.A.C. For construction of new and modifications to existing intersections with state roads, FDOT shall assign a permit number within ninety (90) days of the submission of a satisfactorily completed Connection Permit (Form #850-040-10-a (12/89), or as may be amended).

E. New Public Rail/Highway At-Grade Crossings

Any new public rail/highway at-grade crossings which may be deemed necessary for this site by TEC must adhere to the standards of Rule 14-46.003, F.A.C. TEC shall submit the appropriate information on the proposed crossing to FDOT for review and approval.

F. Erection of Towers and/or Structures

Erection of towers and/or structures that exceed an overall height of 200 feet above ground level, including any appurtenances, must be coordinated with FDOT's Aviation Bureau in Tallahassee as required by Chapter 14-60, F.A.C.

XXX. POLK COUNTY

A. CUP 92-05 Conditions

1. Permits - Copies of all federal permits and the PPSA certification order required for each phase of development of the Polk County Site facility shall be provided to the Polk County Planning Division Director prior to the commencement of building construction code compliance review.

2. Fuel - The project shall be restricted to the use of the following fuels: natural gas, coal, coal gas, petroleum coke, or oil unless a CUP modification is received.

3. Fire Protection Plan - Prior to obtaining a building permit, TEC shall submit an acceptable fire protection plan to Polk County outlining specific measures to be taken to meet all local fire codes and regulations. As part of these plans, TEC shall give consideration to foam systems for tank protection as discussed in NFPA 850(5-3.9.2) as part of the overall fire risk evaluation. The evaluation shall consider such factors as the specific type of tank to be utilized, exposure to other important structures, product value and resupply capability.

4. Emergency Management and Response Plans - Following site certification, and prior to commercial operation, TEC shall submit an acceptable Emergency Management Plan to Polk County (Office of Public Safety). This plan will detail emergency management procedures for any project-related, off-site incident in Polk County so as to minimize response time and maximize effectiveness to protect the public health, safety, and welfare.

5. Emergency Notice - TEC shall agree to immediately contact Polk County's Office of Public Safety when the applicant becomes aware of project-related off-site incidents which have the potential for affecting the public's health, safety, and welfare.

6. Transportation

a. In 1995, 1996, and 1997, TEC shall begin a traffic monitoring program at the intersection of SR 37 and CR 630 to monitor the need to install a traffic signal or to make geometric improvements. Intersection monitoring shall consist of conducting turning movement counts and a signal warrant analysis. The monitoring shall be conducted once in 1995, 1996, and 1997, during January, February, or March and reported to the Transportation Section of the Planning Division. Should the traffic monitoring program show the need for a new traffic signal as a result of traffic to the Polk Power Station, it shall be the responsibility of TEC to install such a signal.

b. In 1995, 1996, and 1997, TEC shall begin a traffic monitoring program at the intersection of CR 630 and Fort Green Road to monitor the need to install a traffic signal or to make geometric improvements. Intersection monitoring shall consist of conducting turning movement counts and a signal warrant analysis. The monitoring shall be conducted once in 1995, 1996, and 1997, during January, February, or March. Should the traffic monitoring program show the need for improvements as a result of traffic to the Polk Power Station, it shall be the responsibility of TEC to install a new traffic signal or to make geometric improvements.

7. Solid Waste Disposal

a. TEC shall be responsible for proper disposal of slag and/or ash by-products produced in the power generation process at locations other than at county landfills.

b. TEC shall monitor ground water in relation to by-product and temporary storage areas and make available to the county all data produced from the ground water monitoring system. Upon 24-hour notice, TEC shall allow county staff members access to the site for purposes of examining the condition of the ground water monitoring equipment.

8. Hazardous Materials Storage - TEC shall report its storage and usage of hazardous material annually to Polk County's Environmental Services Department and shall allow the county to make random inspection of the facility to determine compliance with the reporting requirements. As part of the first report, TEC shall specifically address provision (a) through (g) of Comprehensive Plan Policy 2.310A4.

9. Spill Prevention Containment and Control Plan (SPCC) - TEC shall be required to submit a preliminary Spill Prevention Containment and Control Plan (SPCC) to the Polk County Public Safety Department and the Polk County Planning Department as part of the building construction code compliance review. The final SPCC Plan shall be submitted within six (6) months after the date the facility begins operations. Spill Prevention Containment and Control Plan updates and amendments, due to a change in design, construction, operation, technology, or maintenance, shall be submitted within six (6) months of such change.

10. Flood Study - TEC shall submit a flood study within one year of release of reclamation of the site.

11. Stack Emissions Monitoring - TEC shall make available to the county all data produced from the emissions monitoring systems for the exhaust stack when requested and shall allow designated county staff members access to the site for purposes of examining the condition of this equipment, upon prior notice.

12. Compliance with Applicable Air Quality Regulations - TEC shall comply with applicable air quality regulations in effect at the time of filing of each site certification application or supplemental application for each phase of development of the Polk Power Station.

13. Wildlife Habitat Management Plan - Within one year of release of reclamation of the site by DEP, TEC shall prepare a wildlife management plan in consultation with the Florida Game and Fresh Water Fish Commission, Polk County and other interested parties concerning that portion of TEC's site located west of SR 37.

14. Water Use and Conservation Reporting - TEC shall supply water use quantities, methods of water conservation, and estimates of water conservation if available, on an annual basis to Polk County (Planning and Water Resources Divisions).

15. Ambient Air Quality Testing - The purpose of this condition is to assist Polk County in gathering air quality data. Therefore, to the extent not required as a condition of TEC's certification approval and provided for through the DEP Title V funded statewide air quality monitoring network or other means, TEC shall provide up to two ambient air quality monitoring stations ("Monitors"). The parameters to be monitored, the location of the Monitors, and the operational date of the Monitors will be determined during TEC's certification process.

B. Transmission Lines

TEC shall apply to Polk County for a modification to CUP 92-05 at the time it submits a supplement to or modification of its site certification application to the state regarding a defined, proposed corridor route for any new, proposed transmission lines associated with the TEC Polk Power Station site, other than those detailed in the CUP application.

C. Sinkhole Response Plan

TEC shall develop and submit to Polk County for approval six (6) months prior to commencing operation of the first commercial unit, a plan detailing the emergency measures to be implemented if a sinkhole occurs on the TEC site. TEC shall include a plan to address any necessary remedial actions required as a result of contamination to impacted aquifer(s) and surface water(s) if a sinkhole occurs on the TEC site.

D. Landscape Buffer

Landscaping shall be installed in accordance with the landscape plan included in the Site Certification Application.

E. Tall Structure Compliance

TEC shall, at the time it proposes to construct any structure over 500 feet in height at its site, comply with all regulations as imposed by the Polk County Airport Zoning Ordinance, prior to completion of building construction code compliance review for the units requiring such a structure.

F. Inspection and Permit Compliance Fees

Polk County shall be allowed to inspect any and all construction, operating, monitoring, sampling, and remediation activities which TEC conducts on site. Polk County shall provide notice to TEC prior to performing any such inspection. TEC shall be required to pay Polk County all generally applicable building code compliance and inspection fees provided, however, that such fees shall be adjusted to reasonably reflect actual cost to the county.

G. Flood Protection

TEC during construction and operation shall maintain adequate flood protection berms to assure that residential properties will not receive flood waters in the event of a berm failure. TEC shall perform and provide to Polk County an analysis of berm failure flood conditions including alternatives for minimizing obstruction and damage to roadways.

H. Reporting

TEC shall submit all reports and submissions to the Director of the Polk County Community Services Department in addition to the other departments as noted in the preceding conditions.

XXXI. HILLSBOROUGH COUNTY

Placement of natural gas pipeline facilities in Hillsborough County to serve future Polk Power Station units will require modification of this certification or submittal of a supplemental certification application.



Lawton Chiles
Governor

Florida Department of Environmental Protection

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

Virginia B. Wetherell
Secretary

November 5, 1993

Mr. Thomas W. Davis, P.E.
Environmental Consulting & Technology, Inc.
3701 N.W. 98th. St.
Gainesville, FL 32606

RE: Tampa Electric Company
Polk Power Station
Conditions of Certification

Dear Mr. Davis:

This is a follow-up to our letter of October 19, 1993, in which we outlined recommended changes to the Conditions of Certification in response to your request of the October 14, 1993 letter. We will recommend additional changes to the conditions of certification as follows:

The heat input language (Specific condition B) in the Condition of Certification will be changed to read as follows:

"The maximum heat input to the IGCC combustion turbine (CT) shall neither exceed 1,755 MMBtu/hr while firing syngas, nor 1765 MMBtu/hr while firing No. 2 fuel oil at an ambient temperature of 59° F. Heat input may vary depending on ambient conditions and the CT characteristics. Manufacturer's curves for the heat input correction to other temperatures shall be provided to DEP for review 90 days after the selection of the CT. Subject to approval by the Department, the manufacturer's curve may be used to establish heat input rates over a range of temperature for the purpose of compliance determination."

Additionally, the following language will be added to footnote (*) in Table H.1.

"Pollutant emission rates may vary depending on ambient conditions and the CT characteristics. Manufacturer's curves for the emission rate correction to other temperatures at different loads shall be provided to DEP for review 90 days after the selection of the CT. Subject to approval by the Department, the manufacturer's curve may be used to establish pollutant emission rates over a range of temperature for the purpose of compliance determination."

If there are any questions or comments on the above, please call Syed Arif at (904) 488-1344.

Sincerely,



C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

cc: Richard Donelan
Buck Oven
Greg Nelson, TEC
Larry Curtin, Holland & Knight



Florida Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

October 19, 1993

Mr. Thomas W. Davis, P.E.
Environmental Consulting & Technology, Inc.
3701 N.W. 98th Street
Gainesville, FL 32606

Patty,
Do you need
a copy of this
for file?
Bob

RE: Tampa Electric Company
Polk Power Station
Conditions of Certification

Dear Mr. Davis:

This letter is in response to your letter of October 14, 1993, requesting additions to the Conditions of Certification and is to inform you of the changes to the Conditions of Certification that we plan to make. This does not constitute authority to operate in accordance with the changes until the Conditions of Certification have been changed. Items No. 1, 3, 4, and 5 will be revised as outlined in your letter.

Item No. 2 of your letter relating to oil fuel bound nitrogen (FBN) adjustments cannot be accepted as presented. The range of FBN requested is much greater than other facilities. TECO has not presented data that shows ranges of the distillate fuel oil FBN content by weight within their system. When the fuel oil is required to have a maximum sulfur content of 0.05 percent by weight, as proposed for this project, the additional sulfur is removed by hydrotreating. FBN values are also reduced using this process.

Item No. 2 for FBN adjustments shall read as follows (based on FBN information for other facilities):

(2) The emission limit for NO_x is adjusted as follows for higher fuel bound nitrogen contents up to a maximum of 0.030 percent by weight:

<u>FUEL BOUND NITROGEN</u> <u>(% by weight)</u>	<u>NO_x EMISSION LEVELS</u> <u>(ppmvd @ 15% O₂)</u>
0.015 or less	42
0.020	44
0.025	46
0.030	48

using the formula $STD = 0.0042 + F$ where:

Mr. Thomas W. Davis, P.E.
October 19, 1993
Page Two

STD = allowable NO_x emissions (% by volume at 15% O₂ and on a dry basis).

F = NO_x emission allowance for FBN defined by the following table:

<u>FUEL BOUND NITROGEN (% by weight)</u>	<u>F (NO_x % by volume)</u>
0 < N < 0.015	0
0.015 < N ≤ 0.03	0.04 (N-0.015)

N = nitrogen content of the fuel (% by weight).

NO_x emissions are preliminary for the fuel oil specified in Specific Condition XIII. C of Conditions of Certification. The permittee shall submit fuel bound nitrogen content data for the low sulfur fuel oil prior to commercial operation to the Bureau of Air Regulation in Tallahassee, and on each occasion that fuel oil is transferred to the storage tanks from any other source to the Southwest District office in Tampa. The % FBN (Z) following each delivery of fuel shall be determined by the following equation:

$$x(y) + m(n) = (x+m)(Z)$$

where x = amount fuel in storage tank
y = % FBN in storage tank
m = amount fuel added
n = % FBN of fuel added
Z = % FBN of composite

If there are any questions or comments on the above, please call Syed Arif at (904) 488-1344.

Sincerely,



C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/SA/bjb

cc: Richard Donelan
Buck Owen
Greg Nelson, TEC
Larry Curtin, Holland & Knight