

DESTEC ENERGY, INC.
2500 CITYWEST BLVD., SUITE 150
P.O. BOX 4411
HOUSTON, TEXAS 77210-4411
(713) 735-4000

December 20, 1994

Mr. Robert Soich
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

RECEIVED
DEC 21 1994

Department of Environmental Protection
BY _____
SOUTHWEST DISTRICT

**RE: 90 Day Extension for Duct Burner Unit
Permit No. AC53-214903 and PSD-FL-190
Tiger Bay Limited Partnership
Tiger Bay Cogeneration Facility**

Dear Mr. Soich:

On behalf of Tiger Bay Limited Partnership (TBLP), we are requesting a 90 day extension for the duct burner unit's initial source test. Presently, TBLP is experiencing duct burner problems which will require an outage to make the necessary modifications or repairs. At this time, the outage schedule has not been finalized but the repairs are expected to be completed during the month of March 1995. During the time between now and the March outage, TBLP plans to not fire the duct burner unit until the modifications or repairs have been completed. The maximum firing date for the duct burner unit was October 31, 1994.

Should you have any questions, please feel free to contact me at (713) 735-4087.

Sincerely,



Robert S. Chatham, P.E.
Senior Environmental Engineer

RSC:gmc

cc: M. M. Davenport
Ms. Teresa Heron, FDEP - Tallahassee
Mr. William Proses, FDEP - Tampa



Department of Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

February 15, 1995

Mr. Robert I. Taylor, Project Manager
Central Florida Power Limited Partnership
2500 Citywest Blvd. Suite 150
P.O. BOX 4411
Houston, Texas 77210-4411

RE: Continuous Monitoring System; Tiger Bay Cogeneration Facility, AC53-214903/
PSD-FL-190, API Instruments Model 200 NOX CEM, S/N 247 and Servomex Model
1400 O2 CEM, S/N 01420/B226

Dear Mr. Taylor:

This letter certifies that the above named monitoring system conforms with EPA performance requirements described in 40 CFR 60, Appendix B, as specified by DEP requirements 62-296 and 62-297. Modification to, or replacement of, system components beyond normal maintenance and repair procedures, may render each monitors' acceptable status void.

Sincerely,

Robert Soich, Air Compliance Engineer

cc: Robert Chatham



cc: Compliance Section 2/21/95
JK

February 13, 1995
J. KISSEL
Mr. ~~Harry Kerns~~, P.E.
District Air Engineer
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, FL 33619

RECEIVED
FEB 17 1995
Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

Re: Polk County--AC 53-21903/PSD-FL-190
Tiger Bay Cogeneration Facility
Tiger Bay Limited Partnership

Dear Harry:

This correspondence and the attached Certificate of Completion of Construction are submitted on behalf of Tiger Bay Limited Partnership. Based on my site visit to this facility, the Tiger Bay Cogeneration Facility has been constructed in accordance with the original permit application. There have been only minor changes to the site plan submitted in the original application; none of these changes affects the emission units at this facility.

The emissions from the facility fully comply with the permit limits and indeed are below the permitted limits for all of the parameters. This conclusion is based on the initial compliance tests performed in October 1994 and subsequently submitted to the Department. The results of the tests when firing natural gas are summarized below:

	Actual	Permitted
NO _x Emissions	16 ppmvd @ 15% O ₂ 98.5 lb/hr	25 ppmvd @ 15% O ₂ 161.9 lb/hr
CO Emissions	1 ppmvd 3 lb/hr	15 ppmvd 48.8 lb/hr
VOCs	0.0 lb/hr	2.8 lb/hr
PM/PM10	8.29 lb/hr	9 lb/hr
Opacity	0% Opacity	10% Opacity

The facility has been constructed with the capability to operate duct burners and fire distillate oil in the combustion turbine. The duct burner system has been installed but is not operating due to malfunctions. It is expected that the malfunctions will be corrected during an outage scheduled for March and April

14402Y/F2/1

KBN ENGINEERING AND APPLIED SCIENCES, INC.

6241 Northwest 23rd Street,
Suite 500
Gainesville, Florida 32653-1500
904-336-5600 FAX 904-336-6603

5405 West Cypress Street,
Suite 215
Tampa, Florida 33607
813-287-1717 FAX 813-287-1716

1801 Clint Moore Road, Suite 105
Boca Raton, Florida 33487
407-994-9910
FAX 407-994-9393

7785 Baymeadows Way,
Suite 105
Jacksonville, Florida 32256
904-739-5600 FAX 904-739-7777

1616 'P' Street N.W., Suite 450
Washington, D.C. 20036
202-462-1100
FAX 202-462-2270



1995. Based on the operational results of corrections performed, a compliance test will be scheduled in accordance with notification requirements in the permit. Although the combustion turbine has been constructed with the capability to fire distillate oil, some of the associated facilities such as the fuel oil tank have not been installed. The combustion turbine will be tested on distillate oil when the required associated facilities are installed. Again, proper notice will be given to the Department.

In addition, please note that the actual "as-built" stack diameter is 19 feet in contrast to the 18 feet in the original application. This change does not affect emissions or the underlining assumptions concerning the air quality impacts of the facility.

This facility is a Title V source, as defined in Chapter 62-213, Florida Administrative Code (F.A.C.) and has obtained approval under Chapter 62-212 for Prevention of Significant Deterioration (PSD). A Title V application is currently required to be submitted by April 2, 1995. (Note: recent decisions by the FDEP Division of Air will push back the required date to August 1995.) Since the expiration of the construction permit for this source (i.e., January 1, 1996) will overlap with the Title V requirements, an operation permit is not required to be issued by FDEP rules and the facility can operate under the provisions of the construction permit as long as a complete Title V permit application is submitted [see FDEP Rule 62-213.420(b)2.]. It is the intent of Tiger Bay Limited Partnership to submit a timely and complete Title V application as required under the Department's rules.

Please call if you have any questions.

Sincerely,

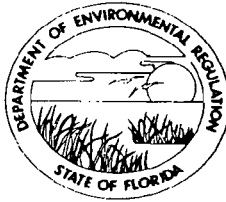
Kennard F. Kosky IVJP

Kennard F. Kosky, P.E.
President

Enclosure

KFK/vjp

cc: Robert Chatham, DESTEC
J.D. Sellers, DESTEC
Charles Cook, DESTEC
File (2)



RECEIVED
FEB 17 1995
BY: Environmental Protection
SOUTHWEST DISTRICT

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
AIR POLLUTION SOURCES
CERTIFICATE OF COMPLETION OF CONSTRUCTION*

PERMIT NO. AC53-214903/PSD-FL-190 DATE: 02/13/95

Company Name: Tiger Bay Limited Partnership County: Polk

Source Identification(s): Tiger Bay Cogeneration Facility

Actual costs of serving pollution control purpose: \$ 1,000,000

Operating Rates: up to 1,614.8 x 10⁶ Btu/hr (LHV) at 27°F Design Capacity: 1,614.8 x 10⁶ Btu/hr (IHV)

Expected Normal 1,450 x 10⁶ Btu/hr (LHV) at 72°F During Compliance Test 1,425 x 10⁶ Btu/hr (LHV) at 75.2°F

Date of Compliance Test October 19-22, 1995 (Attach detailed test report)*

Test Results: Pollutant Actual Discharge * Previously submitted. Allowed Discharge

Pollutant	Actual Discharge	Allowed Discharge
<u>NO_x</u>	<u>16 ppmvd @ 15% O₂/98.5 lb/hr</u>	<u>25 ppmvd @ 15% O₂/161.9 lb/hr</u>
<u>CO</u>	<u>1 ppmvd / 3 lb/hr</u>	<u>15 ppmvd / 48.8 lb/hr</u>
<u>VOC</u>	<u>0.0 ppmvd / 0 lb/hr</u>	<u>2.8 lb/hr</u>

Date plant placed in operation: 1/1/95

This is to certify that, with the exception of deviations noted", the construction of the project has been completed in accordance with the application to construct and Construction Permit No. AC53-214903/PSD-FL-190 dated 05/17/93.

A. Applicant:
J.D. Sellers, Plant Manager
Name of Person Signing (Type)

J.D. Sellers Plt. Mgr.
Signature of Owner or Authorized Representative and Title

Date: 02/13/95 Telephone: (813) 285-1200

B: Professional Engineer:
Kennard F. Kosky
Name of Person Signing (Type)

Kennard F. Kosky
Signature of Professional Engineer

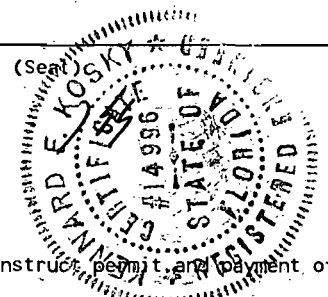
KBN Engineering and Applied Sciences, Inc.
Company Name

Florida Registration No. 14996

6241 NW 23rd St. Gainesville, FL 32653-1500
Mailing Address

Date: 02/13/95

(904) 336-5600
Telephone Number



*This form, satisfactorily completed, submitted in conjunction with an existing application to construct, permit, and payment of application processing fee will be accepted in lieu of an application to operate.

**As built, if not built as indicated include process flow sketch, plot plan sketch, and updates of applicable pages of application form.



SWD file copy

TO: J. REYNOLDS

August 2, 1995

DESTEC ENERGY, INC.
2500 CITYWEST BLVD., SUITE 150
P.O. BOX 4411
HOUSTON, TEXAS 77210-4411
(713) 735-4000

Mr. Al Linero
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

(clean copy attached)
Per telecon of Reynolds / J Kissel
8/14/95, Tall's will process.
I told R. Chatham that*
DEP would contact him if
fee required.
- JK 8/14/95

**RE: Tiger Bay Limited Partnership
(Previously Central Florida Power Limited Partnership)
DEP Permit Number AC53-214903 & PSD-FL-190
Construction Permit Extension to Accommodate Title V**

Dear Mr. Linero:

** he mentioned that they have*
another permit, for a spray dryer
in the same
situation

Due to the recent extension of time for submitting Title V applications, the above referenced construction permit will expire before the Title V application due date. The Title V permit application for this source will be due in February 1995 while the permit expires on January 1, 1996. This issue was discussed between Ken Kosky of KBN Engineering and Jerry Kissel of the Southwest District. Mr. Kissel indicated that the FDEP policy is to extend the construction permit in these cases. In addition, he indicated that the office issuing the permit needed to extend the permit. As a consequence, since the construction permit was issued in Tallahassee, an extension of the construction permit till July 31, 1996 is requested. An extension till July 31, 1996 will allow for any future delays in the Title V application due dates.

Please call me at (713) 735-4087 if you have any questions.

Sincerely,

Robert S. Chatham

Robert S. Chatham, P.E.
Senior Environmental Engineer

RECEIVED
AUG 04 1995

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

RSC/sem

cc: FDEP, Mr. Clair Fancy, P.E., Chief
FDEP, Mr. Bill Thomas, Southwest District Office
Ken Kosky, KBN

g:\linero



August 2, 1995

DESTEC ENERGY, INC.
2500 CITYWEST BLVD., SUITE 150
P.O. BOX 4411
HOUSTON, TEXAS 77210-4411
(713) 735-4000

Mr. Al Linero
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
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Please call me at (713) 735-4087 if you have any questions.

Sincerely,

Robert S. Chatham

Robert S. Chatham, P.E.
Senior Environmental Engineer Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

RECEIVED
AUG 04 1995

RSC/sem

cc: FDEP, Mr. Clair Fancy, P.E., Chief
FDEP, Mr. Bill Thomas, Southwest District Office
Ken Kosky, KBN

g:linero



August 25, 1995

DESTEC ENERGY, INC.
2500 CITYWEST BLVD., SUITE 150
P.O. BOX 4411
HOUSTON, TEXAS 77210-4411
(713) 735-4000

Mr. Robert Soich
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

**RE: Outage Update for Duct Burner Unit
Permit No. AC53-214903 and PSD-FL-190
Tiger Bay Limited Partnership
Tiger Bay Cogeneration Facility**

RECEIVED
AUG 28 1995

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

Dear Mr. Soich:

The purpose of this letter is to update the FDEP on the status of our efforts to have the duct burner unit reinstalled. As you know, the original duct burner had to be removed because of a structural failure. Presently, the unit has not been reinstalled. However, we are working with the vendor and the plant to have the unit reinstalled. Our plan is to complete the reinstallation during the December 1995 or March 1996 outages. The compliance testing should commence within sixty days after the initial firing of the unit.

Respectively, the Partnership request FDEP's written concurrence that Tiger Bay is allowed to proceed with the duct burner reinstallation during the December or March outages. Should you have any questions, please feel free to contact me at (713) 735-4087.

Sincerely,

Robert S. Chatham, P.E.
Senior Environmental Engineer

RSC:mf

cc: Ms. Teresa Heron, FDEP - Tallahassee
Mr. William Proses, FDEP - Tampa

February 26, 1996

RECEIVED

FEB 27 1996

BUREAU OF
AIR REGULATION

Mr. Al Linero
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: *Tiger Bay Limited Partnership*
Amendment of Permit AC53-214903, PSD-FI-190(A)

Dear Mr. Linero:

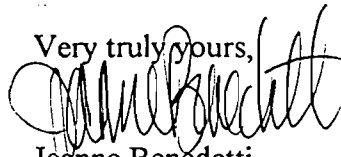
I would like to thank you and your staff for processing Tiger Bay Limited Partnership's ("Tiger Bay") request for amendment to the above referenced permits in such an expeditious manner. And for the opportunity to provide written comment as part of the public review process on this permitting action.

I have reviewed your draft language for amending Condition No.5 relating to fuel usage at the gas turbine (Attachment 1) and find the language acceptable.

However, I understand from Ms. Teresa Heron that Tiger Bay's request dated February 9, 1996 (Attachment 2) concerning Condition No.13 and the requirement to adjust source testing results to ISO conditions may not have been received in a timely manner to be included in your draft language. Therefore, Tiger Bay respectfully requests that the amendment to Condition No.13 also be included in this permitting action. Tiger Bay understands that the amendment may consist of the total deletion of the condition.

Again, thank you for your time and consideration into this matter. Your efforts are greatly appreciated. If you have any questions or require any further information please do not hesitate to contact me at (713) 735-4568.

Very truly yours,



Jeanne Benedetti
Senior Environmental Engineer

Attachments

CC Jeff Fassett

CC: T. Ellison, SWD
EPA
NPS

January 24, 1996

Mr. Al Linero
Florida Department of Environmental Protection
Air Resource Management
2600 Blairstone Road
Tallahassee, Florida 32399-2400

*RE: Tiger Bay Limited Partnership
Permit Number: AC53-214903
Facility ID: AIRS-1050223*

Dear Mr. Linero,

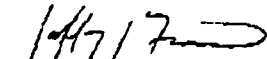
It was a pleasure meeting with you and your staff on January 23, 1996 to discuss Specific Condition No.5.b of Tiger Bay Limited Partnership's ("Tiger Bay") air quality permit.

Based on our discussion and a review of potential operating conditions, Tiger Bay would like to propose the following amendment to Specific Condition No.5.b:

"The permitted materials and utilization rates for the combined cycle gas turbine system shall be as stated in the application. The operating parameters include, but are not limited to: b) The maximum heat input of ~~1,614.8 MMBtu/hr (LHV) at 27°F~~ 1,710 MMBtu/hr and at base load for natural gas."

Again, thank you very much for your time. It was a pleasure meeting you. If you should have any questions or require further information please do not hesitate to contact me at (941) 285-1200 or Ms. Jeanne Benedetti, Senior Environmental Engineer at (713) 735-4568.

Very truly yours,


Jeffrey J. Fassett
Senior Plant Engineer

JJF:tma

cc: Jeanne Benedetti / Destec
F39.2.6

permit file



January 18, 1996

TIGER BAY COGEN
3219 STATE RD., 630 WEST
FORT MEADE, FL 33841
(813) 285-1200 FAX (813) 285-1206

Mr. Al Linero
Florida Department of Environmental Protection
Air Resource Management
2600 Blairstone Road
Tallahassee, Florida 32399-2400

RECEIVED
JAN 23 1996
BUREAU OF
AIR REGULATION

**RE: Tiger Bay Limited Partnership
Permit Number: AC53-214903
Facility ID: AIRS-1050223**

Dear Mr. Linero,

As we discussed on January 17, 1996, I submit on behalf of Tiger Bay Limited Partnership ("Tiger Bay"), the following proposed amendment to Specific Condition No. 5.b. of the permit referenced above (Attachment 1). Attached you will find the required \$250.00 filing fee and documentation supporting the request.

Specific Condition No. 5.b. states:

"The permitted materials and utilization rates for the combined cycle gas turbine system shall be as stated in the application. The operating parameters include, but are not limited to: b) The maximum heat input of 1,614.8 MMBtu/hr (LHV) at 27°F and at base load for natural gas."

On January 16, 1996, Tiger Bay discovered that while operating at base load and in compliance with permitted emissions limitations, we were consuming fuel at a rate that was within 0.5% of the rate allowed by our permit. We feel that this was in the accuracy of our installed plant instrumentation but allows no room for any deviation without reducing plant load.

Tiger Bay requests the deletion Specific Condition No. 5.b. in its entirety. This proposed modification does not include any change in the emission limits contained in Table 1 of the permit.

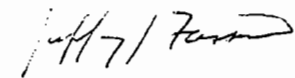
The following is offered in support of this amendment:

- 1) The configuration, plant operating history (continuous emission monitoring data), quarterly reports, and annual source test data has demonstrated that the turbine continuously operates well below the permitted emission limitations.

- 2) In accordance with the Specific Conditions, No.14, Tiger Bay provided your office with the manufacturer's capacity versus temperature (ambient) curve with the compliance test results (Attachment 3). Please note that this curve, dated April 18, 1991, was developed by the manufacturer three and a half (3 1/2) years prior to Tiger Bay reaching achieved operation. The curve was based on theoretical data, since there were no similar units operating at the time Tiger Bay was permitted. Consequently, this curve does not reflect the actual operating parameters of Tiger Bay's gas turbine.
- 3) There is no apparent correlation between turbine emissions and ambient temperatures, i.e., a change in ambient conditions does not necessarily result in a corresponding change in NOX emissions, measured in ppmvd, (see attached graph showing ambient temperature, MW and corrected NOX emissions).
- 4) The turbine manufacturer used a lower heating value (LHV) of 923 / scf in developing the curve referenced above. The fuel gas currently being consumed at the plant has a LHV of 942 / scf which is approximately 2% above design. The control scheme utilized by the manufacturer calculates a reference firing temperature based upon compressor inlet temperature (ambient), fuel gas flow (not energy) and exhaust temperature. Since the exhaust temperature is only one of the three (3) variable which would be directly affected by a higher LHV of the fuel, despite higher energy inputs the control system does not back down the combustion turbine heat consumption in, a direct, linear fashion.
- 5) The data from the CEMS is fed to the Distribution Control System (DCS) for data acquisition and reporting. Tiger Bay will implement changes at the DCS such that emissions are recorded on lbs / hr basis in addition to ppmvd (@ 15% O₂).
- 6) Permit levels tied to theoretical design data does not allow any room for unit efficiency degradation or normal fluctuation in pipeline quality gas.

Thank you very much for your time and expeditious consideration into this matter. If you should have any questions or require any further information please do not hesitate to contact me at (941) 285-1200 or Ms. Jeanne Benedetti, Senior Environmental Engineer at (713) 735-4568.

Very truly yours,



Jeffrey J. Fassett
Senior Plant Engineer

cc: Jeanne Bennedette / Destec
Tom Ellison / FDEP

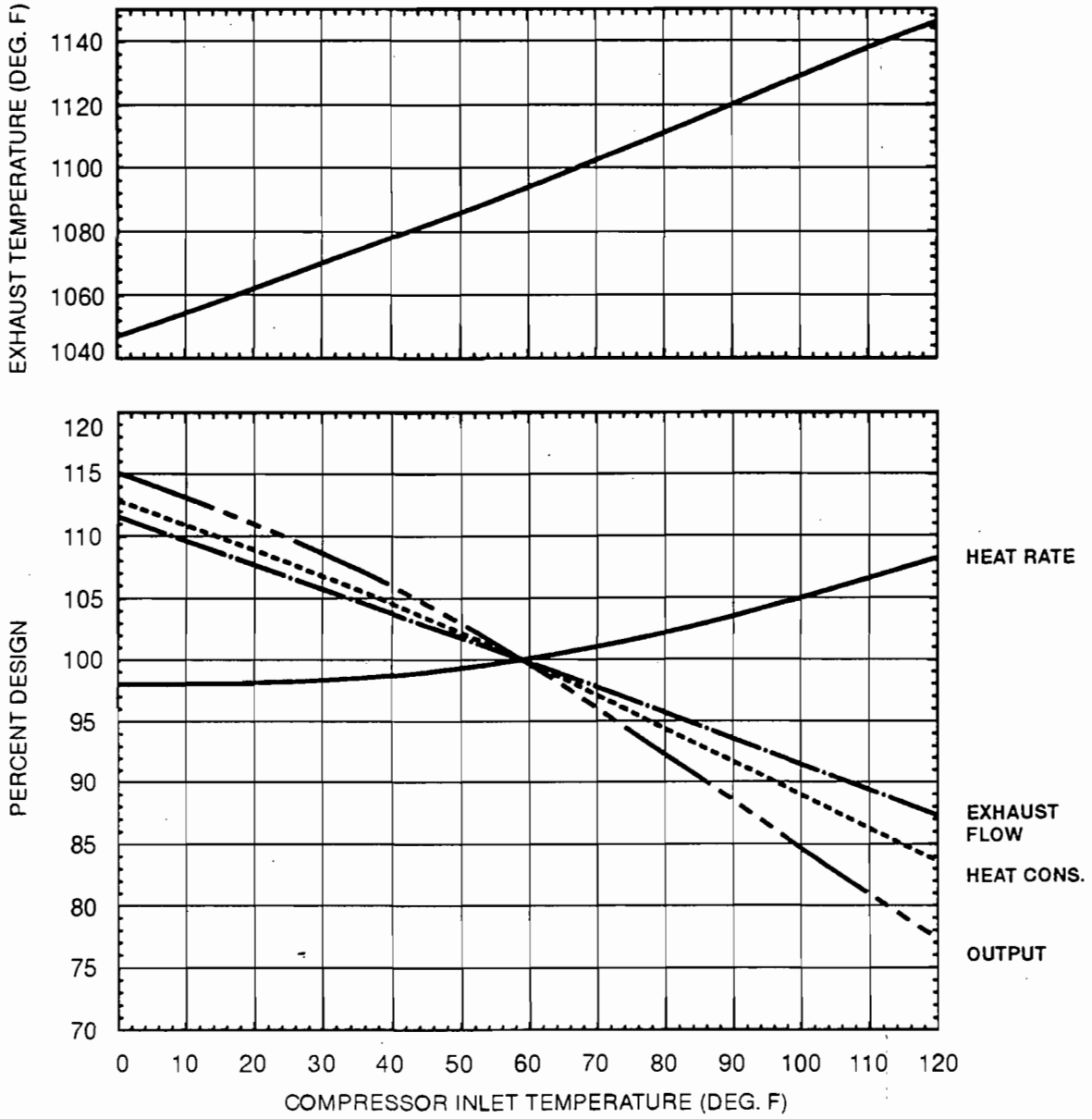
Table 3-2. Emissions Test Results - Tiger Bay Cogeneration Facility
Gas Firing - Base Load Condition
Date: 24 October, 1995

Parameter	Units	Run #1	Run #2	Run #3	Average	Permit Emissions Limit
Operating Parameters:						
Load:	MW	143.80	143.80	143.80	143.80	
Fuel Flow:	MSCFH	1513.83	1513.83	1513.83	1513.83	
Volumetric Flow Rate	dscfm	664953	721375	719299	701876	
Ambient Data:						
Ambient Temperature	degrees F	83.6	84.8	83.9	84.1	
Wet Bulb Temperature:	degrees F	75.8	74.3	68.3	72.8	
Barometric Pressure:	"Hg	30.03	30.05	30.02	30.03	
Specific Humidity (Hobs):	# H2O/# DA	0.01630	0.01530	0.01090	0.01417	
Emissions Data:						
Oxygen:	%V, dry	13.9	13.8	13.8	13.8	
Nitrogen Oxides:	ppmV, dry	21.6	22.3	22.4	22.1	
	lb/MMBtu	0.06707	0.06827	0.06857	0.06797	
	ppmV@15% O2	18.2	18.5	18.6	18.5	
	ppmV@15% O2 & ISO Conditions	20.5	20.4	18.9	19.9	25 ppmV
	lb/hr (c)	102.9	115.2	115.4	111.2	161.9 lb/hr
Carbon Monoxide:	ppmV, dry	0.9	0.8	0.8	0.8	15 ppmvd
	lb/MMBtu	0.00170	0.00149	0.00149	0.00156	
	ppmV@15% O2	0.8	0.7	0.7	0.7	
	lb/hr (c)	2.6	2.5	2.5	2.5	48.8 lb/hr
VOCs	ppmV as Propane	0.0	0.0	0.0	0.0	
	lb/hr	0.0	0.0	0.0	0.0	2.8 lb/hr
Visible Emissions (Average)	% Opacity	0	NA	NA	0	
	(Highest 6-min. avg. % Opacity	0	NA	NA	0	

General Electric Model PG7221(FA) Gas Turbine

Effect of Compressor Inlet Temperature on
Output, Heat Rate, Heat Consumption, Exhaust Flow
And Exhaust Temperature at 100% Speed

FUEL: NATURAL GAS & DISTILLATE OIL
DESIGN VALUES ON CURVE 517HA303



DATE 4/18/91
FJ BROOKS

517HA304

Environmental Science & Engineering, Inc.
 Continuous Emissions Monitoring Data
 Performed for: Destec Engineering, Inc.
 Tiger Bay Cogen; Ft. Meade, FL

Table 3-5. EMISSIONS TEST RESULTS AT 150 MW LOAD POINT

PARAMETER	UNITS	RUN 1	RUN 2	RUN 3	AVERAGE
Turbine conditions					
Load	MW	151.0	150.0	146.0	149.0
Fuel flow rate	lb/sec	18.92	18.92	18.92	18.92
Gross Calorific Value	Btu/lb	23221	23221	23221	23221.0
Heat input rate (Gross)	MMBtu/hr	1581.4	1581.4	1581.4	1581.4
Pobs (Compressor Discharge)	psig	201.3	199.8	197.1	199.4
Pref (Compressor Discharge)	psig	195.3	195.3	193.3	194.6
Ambient conditions					
Barometric Pressure	in Hg	29.96	29.96	29.84	29.92
Ambient temperature	deg F	70.2	74.5	81.0	75.2
Wet bulb temperature	deg F	68.0	69.1	70.9	69.3
Specific humidity	lb H ₂ O/lb. dry air	0.01382	0.01363	0.01358	0.01367
Test results					
Stack flow rate (1)	ACFM	1030300	1030300	1030300	1030300
Stack flow rate (1)	DSCFM	718633	718633	718633	718633
Oxygen	%V	13.85	13.80	13.85	13.83
NOx	ppmV	18.6	19.1	19.7	19.1
	ppmV @ 15% O ₂	15.6	15.9	16.4	16.0
	ppmV @ ISO	17.2	17.2	17.6	17.3
	lb / hr	95.9	98.3	101.3	98.5
CO	ppmV	1.1	1.0	0.8	1.0
	ppmV@ 15% O ₂	1.0	0.8	0.7	0.8
	lb / hr	3.6	3.0	2.4	3.0
VOC	ppmV as C ₃ H ₈	0.0	0.0	0.0	0.0
	lb/hr as C ₃ H ₈	0.0	0.0	0.0	0.0
Particulate Matter	gr/dscf	0.00321	0.00021	0.00058	0.00133
	lb/hr	19.99	1.26	3.63	8.29
Notes: (1) Average of three measurements made during particulate matter tests					

18-Jan-1996
10:45:36
drop211

Historical Trend Display 1

select About Modify... Groups... Create new... Tabular Page Zoom

Start Time : 08-Jan-96 14:00:18 EST End Time : 15-Jan-96 16:20:17 EST Period: 00:17:02

ID	Variable	Unit	Scale
A T101550	AMBIENT TEMPERATURE	DEG F	ACTUAL VAL
A A111525B	CEMS-NON ANLZR CORRECTED	PPM	ACTUAL VAL
A JY07761	GTG MW OUTPUT	MW	ACTUAL VAL



Data retrieval has completed

file

DESTEC ENERGY, INC.
2500 CITYWEST BLVD., SUITE 150
P.O. BOX 4411
HOUSTON, TEXAS 77210-4411
(713) 735-4000

October 23, 1996

Mr. A. A. Linero
Administrator New Source Review Section
State of Florida
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED
OCT 24 1996
BUREAU OF
AIR REGULATION

Re: *Tiger Bay Cogen ("Tiger Bay")*
AIRS ID #1050223-001-AC
Air Permit No: AC53-214903/PSD-FL-190
Request for Extension to Specific Condition No. 15

Dear Mr. Linero:

As discussed on June 18, 1996, with representatives of Destec Energy Inc. and Tiger Bay Cogen, Tiger Bay respectfully requests an extension to Specific Condition No. 15 of the air permit referenced above. Specific condition No. 15 states that:

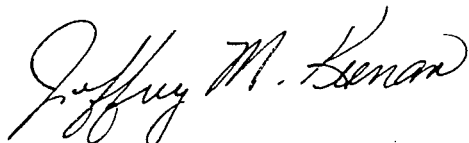
"The permittee shall comply with the following by December 31, 1997:

- a) For this turbine, if the 15 (gas)/42 (oil) ppmvd, corrected to 15% O₂ emission rates cannot be met by December 31, 1997, SCR or other control technology will be installed. Hence, the permittee shall install a duct module suitable for future installation of SCR equipment."

Tiger Bay is requesting permission to extend the December 31, 1997 deadline to December 31, 1998. The "Supplemental Information" document (Tab 1) supports our request for an extension to December 31, 1998. If you have any questions please do not hesitate to contact me at (713).735-4086.

Additionally, enclosed you will find a check in the amount of \$250 for the processing fee for this request.

Very truly yours,



Jeffrey M. Keenan
Staff Environmental Engineer

Enclosures

CC: Sam Rubio-Tiger Bay Cogen
Jeff Fassett-Tiger Bay Cogen
File 1253

RECEIVED
OCT 30 1996
BY SOUTHWEST DISTRICT
Department of Environmental Protection



Destec Energy Inc.
 P.O. Box 4411
 Houston, Texas 77210

4442

DATE 10/17/96

PAYMENT ADVICE

CHECK NUMBER 00165848

INVOICE		COMMENT	GROSS	DEDUCTIONS	AMOUNT PAID
NUMBER	DATE				
101596	101596	APPLICATION FOR EXTENSION TO SPECIFIC CONDITION #15			\$250.00

DETACH BEFORE DEPOSITING



CITIBANK Delaware
 One Penn's Way
 New Castle, DE 19720

162-20
 CHECK NUMBER 00165848
 311

DATE	AMOUNT
10/17/96	\$250.00*****

PAY
 TWO HUNDRED FIFTY DOLLARS AND NO/100'S*****

TO THE ORDER OF:

FLORIDA DEPARTMENT OF ENVIRONMENTAL
 PROTECTION
 TWIN TOWERS OFFICE BLDG
 2600 BLAIR STONE ROAD
 TALLAHASSEE, FL 32399

Destec Energy Inc.

⑈00165848⑈ ⑆031100209⑆

38853041⑈

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SUPPLEMENTAL INFORMATION
FOR
REQUEST FOR EXTENSION TO SPECIFIC CONDITION NO. 15
AIR PERMIT NO. AC53-214903/PSD-FL-190
AIRS ID# 1050223-001-AC
TIGER BAY COGEN

RECEIVED

OCT 24 1996

BUREAU OF
AIR REGULATION

I. Introduction:

Tiger Bay Cogen ("Tiger Bay") is requesting an extension to Specific Condition No. 15, Air Permit No. AC53-214903/PSD-FL-190 (Tab 4). Tiger Bay operates a cogeneration facility located at 3219 State Road 630 West, Fort Meade, Florida. The cogeneration facility employs one General Electric (GE) MS7001FA combustion turbine (CT). The CT has DLN-II dry low NO_x combustors, which have a guaranteed NO_x emission limit of 25 ppmvd @ 15% O₂. Specific Condition No. 15 of the Air Permit requires Tiger Bay to reduce the CT NO_x emissions to 15 ppmvd @ 15% O₂ by December 31, 1997.

The facility has experienced numerous unscheduled shut downs resulting from technical difficulties created by the GE DLN-II dry low NO_x combustors. To date there have been three combustion system flashbacks in the gas turbine at the Tiger Bay facility. A flashback is an event in which the flame velocity exceeds the fuel velocity. Flashbacks have resulted in damage to the fuel nozzles that are located in the combustor cans. The combustor cans are located in the combustor section of the gas turbine. Although not a threat to NO_x limits in the air permit, when a flashback occurs the plant recognizes a very small increase in NO_x emissions (approximately .25 to .5 ppm). While members of GE have investigated the problem, Tiger Bay continues to experience unscheduled shut downs. Photographs of the damaged fuel nozzles are shown in Tab 3 of this application.

As the problems with the fuel nozzles and combustors persist, Tiger Bay has been compelled to solve the combustor problems first in order to properly design a complete, reliable, and dependable solution to the pending compliance order.

II. Description of Modification of Compliance:

Enclosed hereto is a report prepared by the independent engineering firm of by Sargent and Lundy, L.L.C. ("Sargent and Lundy") entitled "NO_x reduction Study", dated August 1996. The study examines five strategies to meet the 15 ppmvd NO_x limitation. The report contains sensitive and confidential information, therefore Tiger Bay respectfully requests that the Florida Department of Environmental Protection ("FDEP") consider the document as such.

Based on the findings and recommendations of the independent engineer, Tiger Bay is proposing to meet the 15 ppmvd NO_x limit by retrofitting the Heat Recovery Steam Generator ("HRSG") with a Selective Catalytic Reduction ("SCR") system utilizing aqueous ammonia as the reactant. Tiger Bay respectfully requests that Condition No. 15

be amended to provide one additional year to allow Tiger Bay to engineer, procure, and install a SCR system to comply with the 15 ppmvd NO_x requirement by December 31, 1998.

In the "Supplemental Information" document you will find a "GANTT" type schedule that charts activities relative to the proposed compliance target date of December 31, 1998. The schedule identifies task activities and durations, and completion dates of the installation of the SCR system. The installation is currently scheduled for March and April, 1998. A plant outage during this period will correspond with the scheduled maintenance outages of the Power Purchase Agreement executed by and between Tiger Bay Limited Partnership and Florida Power Corp.

III. Proposed Modification:

Tiger Bay proposes the following changes to Specific Condition No. 15:

Proposed Wording

15. "The permittee shall comply with the following by ~~12/31/97~~ 12/31/98:

- a) For this turbine, if the 15 (gas) / 42 (oil) ppmvd, corrected to 15% O₂ emission rates cannot be met by ~~12/31/97~~, 12/31/98, SCR or other control technology will be installed. Hence, the permittee shall install a duct module suitable for future installation of SCR equipment".

NO_x emissions will continue to be monitored using the Continuous Emission Monitoring System (CEMS) that is currently installed and in use at the plant. The CEMS currently meets the requirements of 40 CFR Part 60, Subpart GG and applicable FDEP rules and regulations.

Tiger Bay Limited Partnership - Engineering, Procurement, and Construction Schedule for SCR Installation

Task Name	Duration	Start Date	End Date	1996			1997												1998					
				Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Begin Capital Expenditure	49.00d	10/10/96	12/19/96	█																				
Receive Owner Approval	1.00d	12/19/96	12/19/96			█																		
Issue Bid Package	20.00d	1/24/97	2/21/97				█																	
Award EPC Contract	15.00d	3/3/97	3/21/97					█																
Begin Construction	254.00d	3/24/97	3/24/98																					
Installation of SCR Catalyst	15.00d	3/27/98	4/16/98																			█		
Compliance Demonstration	63.00d	4/24/98	7/23/98																				█	

PHOTOGRAPHS

**Burned Fuel Nozzles Taken From the General Electric Model
MS7001FA (7FA) Combustion Turbine**

