

August 3, 1994

Ms. Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics Management Division
U. S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

RECEIVED

AUG 5 1994

Bureau of
Air Regulation

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

**RE: NSPS Custom Fuel Monitoring Schedule
Permit Nos. AC53-214903 and PSD-FL-190
Tiger Bay Limited Partnership
Tiger Bay Cogeneration Facility**

Dear Ms. Harper and Mr. Fancy,

On behalf of Tiger Bay Limited Partnership, we request that your department approve our proposed custom fuel monitoring schedule. For your review I have attached are two examples of NSPS custom fuel monitoring schedules for similar facilities. We propose that you approve a similar schedule for the Tiger Bay cogeneration facility. The following documents are attached:

1. KBN's March 7, 1994 Letter.
2. USEPA's April 18, 1994 Letter.
3. FDEP's April 22, 1994 Letter.
4. USEPA's Letter to Mr. C.H. Fancy-FDEP.
5. Specific Condition No. 18.

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:kro
Attachments (4)

cc: Teresa Heron -FDEP
Chuck Cook



Post-it Fax Note	7671	Date	# of pages
To	ROBERT CHATHAM	From	D. B. MCCANN
Co./Dept	DEPT. C	Co.	KBN
Phone #		Phone #	904-735-4571
Fax #	713-735-4571	Fax #	

March 7, 1994

Ms. Jewell A. Harper, Chief
 Air Enforcement Branch
 Air, Pesticides, and Toxics Management Division
 U.S. Environmental Protection Agency
 345 Courtland Street, N.E.
 Atlanta GA 30365

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

Re: Mulberry Cogeneration Project
 FDEP File No. AC53-211670; PSD-FL-187
 NSPS Custom Fuel Monitoring Schedule

Dear Ms. Harper and Mr. Fancy:

This correspondence is submitted on behalf of Polk Power Partners, L.P. to request approval of a custom fuel monitoring schedule for the determination of sulfur content required under the New Source Performance Standards (NSPS) for Stationary Gas Turbines [40 Code of Federal Regulations (CFR) Part 60, Subpart GG). This request is made necessary by Section 60.334(b) and (b)(2) of Subpart GG, which states:

(b) The owner or operator of any stationary gas turbine subject to the provisions of this subpart shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:

(2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with paragraph (b) of this section.

It is my understanding that the U.S. Environmental Protection Agency (EPA) has not delegated the authority to implement Section 60.334(4) to the Florida Department of Environmental Protection (FDEP). Therefore, a copy of this request has been transmitted jointly to EPA Region IV and FDEP.

91193A374

KBN ENGINEERING AND APPLIED SCIENCES, INC.

1034 Northwest 57th Street
 Gainesville, Florida 32605
 904-331-9000
 FAX 904-332-4183

3405 West Cypress Street,
 Suite 215
 Tampa, Florida 33607
 813-287-1717 FAX 813-287-1716

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

6821 Southpoint Drive North,
 Suite 216
 Jacksonville, Florida 32216
 904-256-9663 FAX 904-256-0146

One Church Street, Suite 801
 Rockville, Maryland 20850
 301-738-1100
 FAX 301-738-1105

Ms. Jewell Harper and Mr. Clair Fancy

March 7, 1994

Page 2



As indicated by Section 60.344(b)(2), the NSPS imply that daily sampling be performed when there is not an intermediate bulk storage tank, even if the fuel is pipeline natural gas. Discussions with EPA's Office of Air Quality Planning and Standards (OAQPS) confirm this interpretation of the rule and offer the attached memorandum as guidance. Specifically, a custom fuel monitoring schedule must be developed and approved for pipeline natural gas. The schedule should address the sulfur content of the fuel; the nitrogen content in natural gas is not required.

The sulfur content for natural gas submitted in the application was developed from data supplied by the natural gas pipeline company in Florida, i.e., Florida Gas Transmission Company (FGT). The data are summarized in Table 1. The emission limit proposed in the application was based on 1 grain sulfur per 100 cubic feet of gas (1 grain/100 cf) which is equivalent to about 0.003 percent sulfur by weight. This sulfur concentration was based on the highest recorded value over the 8-month study period (see Table 1) with a margin of 25 percent (i.e., 0.8 grains/100 cf times 1.25). The pipeline company (i.e., FGT) regularly samples for total sulfur in the natural gas to assure that the hydrogen sulfide content is low and that the concentrations of mercaptan are sufficient for safety reasons. Mercaptan is added to natural gas to assure that the gas has an odor that can be perceived if mistakenly released; otherwise natural gas would have no odor. Please note that the NSPS require that the sulfur content of the fuel be no more than 0.8 percent by weight; a difference of over two orders of magnitude from the basis of the emission limit. Thus, there is significant margin in complying with the NSPS limit.

The EPA guidance memorandum suggests that sampling be conducted twice monthly over the first six months, quarterly over the next six quarters and then during the first and third quarters of each calendar year. The 8 months of data listed in Table 1 (3 to 4 samples per month) demonstrate that the sulfur content meets the NSPS and is less than the basis of the emission limit for natural gas, i.e., 1 grain per 100 cf. FGT was recently contacted and supplied the following data from random analyses:

<u>Analyses Date</u>	<u>Sulfur Content (grains/100cf)</u>
03/10/92	0.50
06/30/92	0.40
09/29/92	0.26
01/05/93	0.31
03/02/93	0.27
06/01/93	0.16
09/28/93	0.12
12/14/93	0.42
02/09/94	0.04

Clearly, the data over that last several years have demonstrated that the NSPS limit is easily met. Thus, it is requested that EPA approve a custom fuel monitoring schedule that requires the facility to submit representative sulfur analyses supplied by the pipeline company each quarter over the first six quarters of turbine operation with the excess emissions report required under Section 60.7(c) of the CFR. After this

Ms. Jewell Harper and Mr. Clair Fancy
March 7, 1994
Page 3



time period, sulfur analyses would be supplied during the first and third quarters of each calendar year. This would provide assurance to EPA and FDEP that the NSPS was being achieved.

Please call if you have any questions.

Sincerely,

Kennard F. Kosky, P.E.
President

KFK/lcb

cc: Ward Marshall, C&SW
William Malenius, Ark Energy
FDEP Southwest District
File (2)

91193AJ/4
03/07/94Table 1. Sulfur Content, Heat Content, and SO₂ Emission Factors for Natural Gas

Date	Sulfur Content (gr/100 cf)	Heat Content (Btu)	SO ₂ Emission Factor (lb/10 ⁶ Btu)	SO ₂ Emission Factor (lb/10 ⁶ cf)
2/6/90	0.30	1,031	0.00083	0.857
2/13/90	0.05	1,028	0.00014	0.143
2/20/90	0.35	1,025	0.00098	1.000
2/27/90	0.45	1,024	0.00126	1.286
3/6/90	0.45	1,025	0.00125	1.286
3/13/90	0.30	1,026	0.00084	0.857
3/20/90	0.35	1,026	0.00097	1.000
3/27/90	0.35	1,025	0.00098	1.000
4/3/90	0.60	1,026	0.00167	1.714
4/10/90	0.25	1,022	0.00070	0.714
4/17/90	0.40	1,026	0.00111	1.143
4/24/90	0.30	1,022	0.00084	0.857
5/1/90	0.40	1,020	0.00112	1.143
5/8/90	0.25	1,034	0.00069	0.714
5/15/90	0.20	1,023	0.00056	0.571
6/5/90	0.45	1,020	0.00126	1.286
6/12/90	0.40	1,018	0.00112	1.143
6/19/90	0.70	1,017	0.00197	2.000
6/26/90	0.45	1,019	0.00126	1.286
7/3/90	0.55	1,022	0.00154	1.571
7/10/90	0.35	1,022	0.00098	1.000
7/17/90	0.45	1,021	0.00126	1.286
7/30/90	0.30	1,021	0.00084	0.857
8/7/90	0.50	1,024	0.00140	1.429
8/14/90	0.45	1,022	0.00126	1.286
8/21/90	0.40	1,022	0.00112	1.143
8/28/90	0.70	1,022	0.00196	2.000
9/4/90	0.55	1,029	0.00153	1.571
9/11/90	0.40	1,025	0.00111	1.143
9/18/90	0.45	1,026	0.00125	1.286
9/25/90	0.40	1,026	0.00111	1.143
10/2/90	0.45	1,029	0.00125	1.286
10/9/90	0.45	1,025	0.00125	1.286
10/16/90	0.70	1,028	0.00195	2.000
10/28/90	0.80	1,024	0.00223	2.286
Average:	0.43	1,024	0.00119	1.216
Maximum:	0.80	1,034	0.00223	2.286
Minimum:	0.05	1,017	0.00014	0.143
Std. Dev.	0.15	4	0.00042	0.427

Source: Florida Gas Transmission Company, 1990.

RECEIVED 09/20 17:49 1992 AT 9043324109 PAGE 1 (PRINTED PAGE 1)
 SEP-20-1992 13:39 FROM OAGPS.ESD.CPB/15B RYP NC TO 9043324109 P.01

05 07-92 11:45AM FROM EPA FPS/SSCD



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

AUG 14 1987

OFFICE OF
 AIR AND RADIATION

MEMORANDUM

SUBJECT: Authority for Approval of Custom Fuel Monitoring
 Schedules Under NSPS Subpart GG

FROM: John B. Rasnic, Chief *John B. Rasnic*
 Compliance Monitoring Branch

TO: Air Compliance Branch Chiefs
 Regions II, III, IV, V, VI and IX

Air Programs Branch Chiefs
 Regions I-X

The NSPS for Stationary Gas Turbines (Subpart GG) at 40 CFR 60.314(b)(2) allows for the development of custom fuel monitoring schedules as an alternative to daily monitoring of the sulfur and nitrogen content of fuel fired in the turbines. Regional Offices have been forwarding custom fuel monitoring schedules to the Stationary Source Compliance Division (SSCD) for consideration since it was understood that authority for approval of these schedules was not delegated to the Regions. However, in consultation with the Emission Standards and Engineering Division, it has been determined that the Regional Offices do have the authority to approve Subpart GG custom fuel monitoring schedules. Therefore it is no longer necessary to forward these requests to Headquarters for approval.

Over the past few years, SSCD has issued over twenty custom schedules for sources using pipeline quality natural gas. In order to maintain national consistency, we recommend that any schedules Regional Offices issue for natural gas be no less stringent than the following: sulfur monitoring should

05-07-92 11:45AM FROM BPA FPS/SSCD

TO 89195413470

P007/007

Enclosure

Conditions for Custom Fuel Sampling Schedule for Stationary Gas Turbines

1. Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine.
2. Sulfur Monitoring
 - a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).
 - b. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.
 - c. If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
 - d. Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the State Air Control Board of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
3. If there is a change in fuel supply, the owner or operator must notify the State of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

RECEIVED 09/28 14:19 1992 AT 09043324189 PAGE 2 (PRINTED PAGE 2) 1

SEP-28-1992 13:40 FROM : GROUPS,ESO,CPS/152 RTP,NC TO : 9043324189 P.02

05 07-92 11:45AM FROM EPA FFS/SSCO

TO 29195413170

PG06/007

2

be bi-monthly, followed by quarterly, then semiannual, given at least six months of data demonstrating little variability in sulfur content and compliance with §60.111 at each monitoring frequency; nitrogen monitoring can be waived for pipeline quality natural gas, since there is no fuel-bound nitrogen and since the free nitrogen does not contribute appreciably to NO_x emissions. Please see the attached sample custom schedule for details. Given the increasing trend in the use of pipeline quality natural gas, we are investigating the possibility of amending Subpart DD to allow for less frequent sulfur monitoring and a waiver of nitrogen monitoring requirements where natural gas is used.

Where sources using oil request custom fuel monitoring schedules, Regional Offices are encouraged to contact SSCD for consultation on the appropriate fuel monitoring schedule. However, Regions are not required to send the request itself to SSCD for approval.

If you have any questions, please contact Sally K. Farrell at FTS 382-2875.

Attachment

cc: John Cranshaw
George Walsh
Robert Ajax
Earl Sale



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

645 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

APR 18 1994

4APT-AEB

Clair H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of
Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Approval of NSPS Custom Fuel Monitoring Schedules for:
Mulberry Cogeneration Project, PSD-FL-187 (AC53-211670);
Lake Cogeneration Project, PSD-FL-176 (AC15-196459); and
Pasco Cogeneration Project, PSD-FL-177 (AC51-196460).

Dear Mr. Fancy:

This is to acknowledge letters from KBN Engineering and Applied Sciences, Inc. (KBN) dated March 7, 1994, and March 17, 1994, requesting approval of customized fuel monitoring schedules for the above referenced projects. These requests were jointly transmitted to the U.S. Environmental Protection Agency (EPA), and to you. Since the authority for implementing §60.334(b) of 40 CFR Part 60, Subpart GG has not been delegated to the State of Florida, we have reviewed KBN's custom fuel monitoring schedules.

Based on our review we have determined that the proposed schedules are acceptable, as long as each source also complies with items 2(d), 3, and 4 of the attachment to the custom fuel monitoring guidance memo issued by EPA Headquarters on August 14, 1987. A copy of this memo was included in KBN's request as attachment.

If you have any questions regarding this letter, please contact Mr. Mirza P. Baig of my staff at 404/347-5014.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Jewell A. Harper", is written over a horizontal line.

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, & Toxics
Management Division

cc: Kennard F. Kosky
KBN Engineering



Lawton Chiles
Governor

Florida Department of Environmental Protection

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

Virginia B. Wetherell
Secretary

April 22, 1994

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Kevin Fullerton
Project Manager, Air Programs
Lake Cogen Limited
Post Office Box 2562
Tampa, Florida 33601

Dear Mr. Fullerton:

RE: Amendment to Construction Permit
AC 35-196459 (PSD-FL-176)
NSPS Custom Fuel Monitoring Schedule
Lake Cogen Limited

The Department has reviewed your March 17, 1994 letter, with supporting data, requesting an NSPS Custom Fuel Monitoring Schedule for sulfur dioxide (SO₂) and nitrogen oxide (NO_x) at the subject facility (refer to Attachment No. 1). The facility is required by the permit to comply with Subpart GG of the New Source Performance Standards (NSPS) 40 CFR 60. NSPS 40 CFR 60.334(b) and 60.334(b)(2) of Subpart GG state that for sources utilizing pipeline quality natural gas a custom fuel monitoring schedule, if supported by data which demonstrates compliance with NSPS emission limits, may be approved by the Administrator of EPA. This authority has been delegated to EPA's regional offices and a copy of the subject request was jointly submitted to EPA Region IV for their determination. The Department received a letter from EPA, by fax on April 15, 1994, stating that a custom fuel monitoring schedule for this facility was acceptable if it complied with specific items of a custom fuel monitoring guidance memo issued by EPA Headquarters on August 14, 1987 (Refer to attachment No. 2). Since monitoring data was provided by the applicant which demonstrated compliance with the requirements of 2.a and 2.b in the EPA guidance memo, 2.a and 2.b were deleted from the custom fuel monitoring schedule. In compliance with the EPA determination, the permit specific conditions will be amended as follows:

A. Specific Condition Number;

20. From

This source shall comply with all requirements of 40 CFR 60, Subparts GG and Dc and F.A.C. Rule 17-296.800(2)(a), Standard of Performance for Stationary Gas Turbines and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

Mr. Kevin Fullerton
AC 35-196459 (PSD-FL-176)
Permit Amendment
April 22, 1994
Page 2 of 4

To

This source shall comply with all requirements of 40 CFR 60, Subparts GG and Dc and F.A.C. Rule 17-296.800(2)(a), Standard of Performance for Stationary Gas Turbines and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. 40 CFR 60.334(b)(2) requires that a custom fuel monitoring schedule shall be followed for natural gas fired at this facility, as follows:

Custom Fuel Monitoring Schedule for Natural Gas

1. Monitoring of fuel nitrogen content shall not be required since natural gas is the only fuel being fired in the gas turbines.
2. Sulfur Monitoring
 - a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are ASTM D1072-80, ASTM D3031-81, ASTM D3246-81, and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).
 - b. This custom fuel monitoring schedule shall become effective on the date this permit becomes valid. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters. If monitoring data is provided by the applicant which demonstrates consistent compliance with the requirements herein the applicant may begin monitoring as per the requirements of 2(c).
 - c. If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
 - d. Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the Department of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
3. If there is a change in fuel supply, the owner or operator must notify the Department of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall

Mr. Kevin Fullerton
AC 35-196459 (PSD-FL-176)
Permit Amendment
April 22, 1994
Page 3 of 4

be conducted weekly during the interim period when this custom schedule is being re-examined.

4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

B. Attachments to be Incorporated;

- KBN letter received March 21, 1994
- EPA letter received April 15, 1994

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the applicant of the amendment request/application and the parties listed below must be filed within 14 days of receipt of this amendment. Petitions filed by other persons must be filed within 14 days of the amendment issuance or within 14 days of their receipt of this amendment, whichever occurs first. 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;
- (g) A statement of the relief sought by petitioner, stating precisely the action the 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 amendment. Persons whose substantial interests will be affected by any decision

Mr. Kevin Fullerton
AC 35-196459 (PSD-FL-176)
Permit Amendment
April 22, 1994
Page 4 of 4

of the Department with regard to the request/application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this amendment 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.

This letter amendment must be attached to Construction Permit No. AC 35-196459 (PSD-FL-176), and shall become part of the permit.

Sincerely,



Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/CSL

Attachments

cc: A. Zahm, CD
J. Harper, EPA
J. Bunyak, NPS
K. Kosky, KBN

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this AMENDMENT and all copies were mailed by certified mail before the close of business on 5/2/94 to the listed persons.

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

Barbara V. Boutwell 5/2/94
Clerk Date



March 17, 1994

Ms. Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta GA 30365

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

Re: Lake and Pasco Cogeneration Projects
FDEP File Nos. AC35-196459, PSD-FL-176; AC51-196460, PSD-FL-177
NSPS Custom Fuel Monitoring Schedule

RECEIVED
MAR 21 1994
Bureau of
Air Regulation

Dear Ms. Harper and Mr. Fancy:

This correspondence is submitted on behalf of Lake Cogen Limited and Pasco Cogen Limited to request approval of a custom fuel monitoring schedule for the determination of sulfur content required under the New Source Performance Standards (NSPS) for Stationary Gas Turbines (40 Code of Federal Regulations (CFR) Part 60, Subpart GG). This request is made necessary by Section 60.334(b) and (b)(2) of Subpart GG, which states:

(b) The owner or operator of any stationary gas turbine subject to the provisions of this subpart shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:

(2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with paragraph (b) of this section.

It is my understanding that the U.S. Environmental Protection Agency (EPA) has not delegated the authority to implement Section 60.334(4) to the Florida Department of Environmental Protection (FDEP). Therefore, a copy of this request has been transmitted jointly to EPA Region IV and FDEP.

90115/90116A/1/11

KBN ENGINEERING AND APPLIED SCIENCES, INC.

1034 Northwest 57th Street
Gainesville, Florida 32605
904-331-9000
FAX 904-332-4189

5405 West Cypress Street,
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813-287-1717 FAX 813-287-1716

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407-994-9910
FAX 407-994-9393

6821 Southpoint Drive North,
Suite 216
Jacksonville, Florida 32216
904-296-9663 FAX 904-296-0146

One Church Street, Suite 801
Rockville, Maryland 20850
301-738-1100
FAX 301-738-1105



As indicated by Section 60.344(b)(2), the NSPS imply that daily sampling be performed when there is not an intermediate bulk storage tank, even if the fuel is pipeline natural gas. Discussions with EPA's Office of Air Quality Planning and Standards (OAQPS) confirm this interpretation of the rule and offer the attached memorandum as guidance. Specifically, a custom fuel monitoring schedule must be developed and approved for pipeline natural gas. The schedule should address the sulfur content of the fuel; the nitrogen content in natural gas is not required.

The sulfur content for natural gas submitted in the application was developed from data supplied by the natural gas pipeline company in Florida, i.e., Florida Gas Transmission Company (FGT). The data are summarized in Table 1. The emission limit proposed in the application was based on 1 grain sulfur per 100 cubic feet of gas (1 grain/100 cf) which is equivalent to about 0.003 percent sulfur by weight. This sulfur concentration was based on the highest recorded value over the 8-month study period (see Table 1) with a margin of 25 percent (i.e., 0.8 grains/100 cf times 1.25). The pipeline company (i.e., FGT) regularly samples for total sulfur in the natural gas to assure that the hydrogen sulfide content is low and that the concentrations of mercaptan are sufficient for safety reasons. Mercaptan is added to natural gas to assure that the gas has an odor that can be perceived if mistakenly released; otherwise natural gas would have no odor. Please note that the NSPS require that the sulfur content of the fuel be no more than 0.8 percent by weight; a difference of over two orders of magnitude from the basis of the emission limit. Thus, there is significant margin in complying with the NSPS limit.

The EPA guidance memorandum suggests that sampling be conducted twice monthly over the first six months, quarterly over the next six quarters and then during the first and third quarters of each calendar year. The 8 months of data listed in Table 1 (3 to 4 samples per month) demonstrate that the sulfur content meets the NSPS and is less than the basis of the emission limit for natural gas, i.e., 1 grain per 100 cf. FGT was recently contacted and supplied the following data from random analyses:

<u>Analyses Date</u>	<u>Sulfur Content (grains/100cf)</u>
03/10/92	0.50
06/30/92	0.40
09/29/92	0.26
01/05/93	0.31
03/02/93	0.27
06/01/93	0.16
09/28/93	0.12
12/14/93	0.42
02/09/94	0.04

Clearly, the data over that last several years have demonstrated that the NSPS limit is easily met. Thus, it is requested that EPA approve a custom fuel monitoring schedule that requires the facility to submit representative sulfur analyses supplied by the pipeline company each quarter over the first six quarters of turbine operation with the excess emissions report required under Section 60.7(c) of the CFR. After this

Ms. Jewell Harper and Mr. Clair Fancy
March 17, 1994
Page 3



time period, sulfur analyses would be supplied during the first and third quarters of each calendar year. This would provide assurance to EPA and FDEP that the NSPS was being achieved.

Please call if you have any questions.

Sincerely,

Kennard F. Kosky, P.E.
President

KFK/lcb

cc: Kevin Fullerton, Lake Cogen Limited
Bruce Miller, Pasco Cogen Limited
Harry Kerns, FDEP Southwest District
Chuck Collins, FDEP Central District
File (2)

Table 1. Sulfur Content, Heat Content, and SO₂ Emission Factors for Natural Gas

Date	Sulfur Content (gr/100 cf)	Heat Content (Btu)	SO ₂ Emission Factor (lb/10 ⁶ Btu)	SO ₂ Emission Factor (lb/10 ⁶ cf)
2/6/90	0.30	1,031	0.00083	0.857
2/13/90	0.05	1,028	0.00014	0.143
2/20/90	0.35	1,025	0.00098	1.000
2/27/90	0.45	1,024	0.00126	1.286
3/6/90	0.45	1,025	0.00125	1.286
3/13/90	0.30	1,026	0.00084	0.857
3/20/90	0.35	1,026	0.00097	1.000
3/27/90	0.35	1,025	0.00098	1.000
4/3/90	0.60	1,026	0.00167	1.714
4/10/90	0.25	1,022	0.00070	0.714
4/17/90	0.40	1,026	0.00111	1.143
4/24/90	0.30	1,022	0.00084	0.857
5/1/90	0.40	1,020	0.00112	1.143
5/8/90	0.25	1,034	0.00069	0.714
5/15/90	0.20	1,023	0.00056	0.571
6/5/90	0.45	1,020	0.00126	1.286
6/12/90	0.40	1,018	0.00112	1.143
6/19/90	0.70	1,017	0.00197	2.000
6/26/90	0.45	1,019	0.00126	1.286
7/3/90	0.55	1,022	0.00154	1.571
7/10/90	0.35	1,022	0.00098	1.000
7/17/90	0.45	1,021	0.00126	1.286
7/30/90	0.30	1,021	0.00084	0.857
8/7/90	0.50	1,024	0.00140	1.429
8/14/90	0.45	1,022	0.00126	1.286
8/21/90	0.40	1,022	0.00112	1.143
8/28/90	0.70	1,022	0.00196	2.000
9/4/90	0.55	1,029	0.00153	1.571
9/11/90	0.40	1,025	0.00111	1.143
9/18/90	0.45	1,026	0.00125	1.286
9/25/90	0.40	1,026	0.00111	1.143
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10/16/90	0.70	1,028	0.00195	2.000
10/28/90	0.80	1,024	0.00223	2.286
Average:	0.43	1,024	0.00119	1.216
Maximum:	0.80	1,034	0.00223	2.286
Minimum:	0.05	1,017	0.00014	0.143
Std. Dev.	0.15	4	0.00042	0.427

Source: Florida Gas Transmission Company, 1990.

05 07-92 11:45AM FROM EPA FPS/SSCD



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

AUG 14 1992

OFFICE OF
AIR AND WATER

MEMORANDUM

SUBJECT: Authority for Approval of Custom Fuel Monitoring
Schedules Under NSPS Subpart GG

FROM: John B. Resnic, Chief *John B. Resnic*
Compliance Monitoring Branch

TO: Air Compliance Branch Chiefs
Regions II, III, IV, V, VI and IX

Air Programs Branch Chiefs
Regions I-X

The NSPS for Stationary Gas Turbines (Subpart GG) at 40 CFR 60.334(b)(2) allows for the development of custom fuel monitoring schedules as an alternative to daily monitoring of the sulfur and nitrogen content of fuel fired in the turbines. Regional Offices have been forwarding custom fuel monitoring schedules to the Stationary Source Compliance Division (SSCD) for consideration since it was understood that authority for approval of these schedules was not delegated to the Regions. However, in consultation with the Emission Standards and Engineering Division, it has been determined that the Regional Offices do have the authority to approve Subpart GG custom fuel monitoring schedules. Therefore it is no longer necessary to forward these requests to Headquarters for approval.

Over the past few years, SSCD has issued over twenty custom schedules for sources using pipeline quality natural gas. In order to maintain national consistency, we recommend that any schedules Regional Offices issue for natural gas be no less stringent than the following: sulfur monitoring should

05 07-92 11:45AM FROM EPA PPS/SSCD

TO 29195413470

PG 36/007

2

be bimonthly, followed by quarterly, then semiannual, given at least six months of data demonstrating little variability in sulfur content and compliance with 60.133 at each monitoring frequency; nitrogen monitoring can be waived for pipeline quality natural gas, since there is no fuel-bound nitrogen and since the free nitrogen does not contribute appreciably to NO_x emissions. Please see the attached sample custom schedule for details. Given the increasing trend in the use of pipeline quality natural gas, we are investigating the possibility of amending Subpart DD to allow for less frequent sulfur monitoring and a waiver of nitrogen monitoring requirements where natural gas is used.

Where sources using oil request custom fuel monitoring schedules, Regional Offices are encouraged to contact SSCD for consultation on the appropriate fuel monitoring schedule. However, Regions are not required to send the request itself to SSCD for approval.

If you have any questions, please contact Sally M. Farnell at FTS 387-2875.

Attachment

cc: John Cranshaw
George Walsh
Robert Ajax
Earl Salo

05-07-92 11:45AM FROM EPA FPS/SSCO

TO 89195413470

P007/007

Enclosure

Conditions for Custom Fuel Sampling Schedule for Stationary Gas Turbines

1. Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine.
2. Sulfur Monitoring
 - a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).
 - b. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.
 - c. If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
 - d. Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the State Air Control Board of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
3. If there is a change in fuel supply, the owner or operator must notify the State of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

US ENVIRONMENTAL PROTECTION AGENCY

Region IV



TO: Name: CHARLES LOGAN
Company: DEP - Tallahassee
Phone: _____ FAX: 404-622-6979
Date: 4-15-94 Pages (incl. cover) 2

FROM: Air Enforcement Branch Phone: (404) 347-5014
345 Courtland Street, NE
Atlanta, GA 30065 FAX: (404) 347-3059

Sender's Name: MIRZA P. BAIG

Subject: Mulberry / Lake / Pasco Gas Turbine

COMMENTS: Custom Fuel Monitoring Schedules

Dear Charles:

I am faxing you the letter that approves custom fuel monitoring for the above referenced gas turbines.

The hard copy should get to you next week.

If you need anything else please let me know.

Thanks,

Mirza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

4APT-AEB

Clair H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of
Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Approval of NSPS Custom Fuel Monitoring Schedules for:
Mulberry Cogeneration Project, PSD-FL-187 (ACS3-211670);
Lake Cogeneration Project, PSD-FL-176 (AC15-196459); and
Pasco Cogeneration Project, PSD-FL-177 (ACS1-196460).

Dear Mr. Fancy:

This is to acknowledge letters from KBN Engineering and Applied Sciences, Inc. (KBN) dated March 7, 1994, and March 17, 1994, requesting approval of customized fuel monitoring schedules for the above referenced projects. These requests were jointly transmitted to the U.S. Environmental Protection Agency (EPA), and to you. Since the authority for implementing §60.334(b) of 40 CFR Part 60, Subpart GG has not been delegated to the State of Florida, we have reviewed KBN's custom fuel monitoring schedules.

Based on our review we have determined that the proposed schedules are acceptable, as long as each source also complies with items 2(d), 3, and 4 of the attachment to the custom fuel monitoring guidance memo issued by EPA Headquarters on August 14, 1987. A copy of this memo was included in KBN's request as attachment.

If you have any questions regarding this letter, please contact Mr. Mirza P. Baig of my staff at 404/347-5014.

Sincerely yours,

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, & Toxics
Management Division

cc: Kennard F. Kosky
KBN Engineering

PERMITTEE:
Central Florida Power, L.P.

Permit Number: AC53-214903
PSD-FL-190
Expiration Date: January 1, 1996

SPECIFIC CONDITIONS:

18. Sulfur and nitrogen content and lower heating value of the fuel being fired in the combustion turbines shall be determined as specified in 40 CFR 60.334(b). Any request for a future custom monitoring schedule shall be made in writing and directed to the Southwest District office. Any custom schedule approved by DER pursuant to 40 CFR 60.334(b) will be recognized as enforceable provisions of the permit, provided that the holder of this permit demonstrates that the provisions of the schedule will be adequate to assure continuous compliance. The records of distillate fuel oil usage shall be kept by the company for a two-year period for regulatory agency inspection purposes. For sulfur dioxide, periods of excess emissions shall be reported if the fuel being fired in the gas turbine exceeds 0.05 percent sulfur by weight.

Rule Requirements

19. This source shall comply with all applicable provisions of Chapter 403, Florida Statutes, Chapters 17-210, 212, 275, 296, 297 and 17-4, Florida Administrative Code and 40 CFR 60 (July, 1992 version).

20. The sources shall comply with all requirements of 40 CFR 60, Subpart GG and Subpart Dc, and F.A.C. Rule 17-296.800, (2)(a), Standards of Performance for Stationary Gas Turbines and Standards of Performance for Industrial, Commercial, and Institutional Steam Generating Units.

21. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (F.A.C. Rule 17-210.300(1)).

22. This source shall be in compliance with all applicable provisions of F.A.C. Rules 17-210.650: Circumvention; 17-210.700: Excess Emissions; 17-296.800: Standards of Performance for New Stationary Sources (NSPS); 17-297: Stationary Sources-Emissions Monitoring; and, 17-4.130: Plant Operation-Problems.

23. If construction does not commence within 18 months of issuance of this permit, then the permittee shall obtain from the Department a review and, if necessary, a modification of the control technology and allowable emissions for the unit(s) on which construction has not commenced (40 CFR 52.21(r)(2)).

24. Quarterly excess emission reports, in accordance with the July 1, 1992 version of 40 CFR 60.7 and 60.334 shall be submitted to the Department's Southwest District office.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. Addressee's Address
2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Mr. Robert S. Chatham, P.E.
 Destec Energy, Inc.
 P. O. Box 4411
 Houston, Texas 77210-4411

4a. Article Number
 P 872 563 653

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery

AUG 22 1994

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

C. T. [Signature]

PS Form 3811, December 1991 *U.S. GPO: 1992-323-402

DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

P 872 563 653



Receipt for Certified Mail

No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

PS Form 3800, JUNE 1991

Sent to Mr. Robert S. Chatham, P.E.	
Street and No. P. O. Box 4411	
P.O., State and ZIP Code Houston, TX 77210-4411	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date Mailed: 8-18-94 Permit: AC53-214903 PSD-FL-190	



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

August 18, 1994

Mr. Robert S. Chatham, P.E.
Destec Energy, Inc.
P.O. Box 4411
Houston, Texas 77210-4411

RE: Custom Fuel Monitoring Schedule Request
Tiger Bay Cogeneration Facility
AC 53-214903 [PSD-FL-190]

Dear Mr. Chatham:

Thank you for your letter dated August 3, 1994 and the attached documents. Comments concerning the letter and attached documents are as follows:

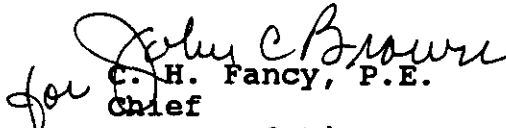
- 1) Pursuant to Rules 17-4.050(4) and (5), F.A.C., the Department must receive the proper processing fee before action is taken on an applicant's request. The Department will begin processing the subject request once a fee of \$250.00 has been received.
- 2) Please clarify that the data submitted on the sulfur content of the fuel were for the pipeline that supplies the turbine at Tiger Bay, without intermediate bulk storage.
- 3) Please provide the test(s) or analysis method(s) used to determine the sulfur content of the fuel referenced in your letter and in Table 1. Also, provide supporting documentation from the vendor. In addition, please provide any additional sulfur analysis data that is available for the past two years with supporting documentation and method(s) of determining sulfur content.
- 4) EPA has delegated authority for implementation of 40 CFR 60, Subpart GG, to the Department. The Department and EPA agree that all future requests be submitted to the Department and not EPA. The Department will then coordinate with EPA for approval of custom fuel monitoring schedules.
- 5) If available, please provide any information to substantiate that the fuel sampling location for the sulfur

Mr. Robert Chatham
Permit Amendment Request
AC 53-214903 [PSD-FL-190]
August 18, 1994
Page 2 of 2

content will clearly be representative of the fuel that is delivered to Tiger Bay.

If you have any questions concerning the above, please call Mr. Charles Logan at (904) 488-1344 or write to me at the above address.

Respectfully,

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

CHF/csl/bjb

cc: B. Thomas, SWD
D. Zell, SWD
J. Harper, U.S. EPA
B. Beals, U.S. EPA
J. Brown, DEP

Cabinet # 2
Drawn # 4



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

August 3, 1994

Ms. Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics Management Division
U. S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

RECEIVED

AUG 5 1994

Bureau of
Air Regulation

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

**RE: NSPS Custom Fuel Monitoring Schedule
Permit Nos. AC53-214903 and PSD-FL-190
Tiger Bay Limited Partnership
Tiger Bay Cogeneration Facility**

Dear Ms. Harper and Mr. Fancy,

On behalf of Tiger Bay Limited Partnership, we request that your department approve our proposed custom fuel monitoring schedule. For your review I have attached are two examples of NSPS custom fuel monitoring schedules for similar facilities. We propose that you approve a similar schedule for the Tiger Bay cogeneration facility. The following documents are attached:

1. KBN's March 7, 1994 Letter.
2. USEPA's April 18, 1994 Letter.
3. FDEP's April 22, 1994 Letter.
4. USEPA's Letter to Mr. C.H. Fancy-FDEP.
5. Specific Condition No. 18.

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:kro
Attachments (4)

cc: Teresa Heron -FDEP
Chuck Cook



Post-It Fax Note	7671	Date		# of pages	2
To	ROBERT CHATHAM	From	A. D. MCCANN		
Co./Dept	DEPT	Co.	KBN		
Phone #		Phone #	904 735-4571		
Fax #	713-735-4571	Fax #			

March 7, 1994

Ms. Jewell A. Harper, Chief
 Air Enforcement Branch
 Air, Pesticides, and Toxics Management Division
 U.S. Environmental Protection Agency
 345 Courtland Street, N.E.
 Atlanta GA 30365

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

Re: Mulberry Cogeneration Project
 FDEP File No. AC53-211670; PSD-FL-187
 NSPS Custom Fuel Monitoring Schedule

Dear Ms. Harper and Mr. Fancy:

This correspondence is submitted on behalf of Polk Power Partners, L.P. to request approval of a custom fuel monitoring schedule for the determination of sulfur content required under the New Source Performance Standards (NSPS) for Stationary Gas Turbines [40 Code of Federal Regulations (CFR) Part 60, Subpart GG]. This request is made necessary by Section 60.334(b) and (b)(2) of Subpart GG, which states:

(b) The owner or operator of any stationary gas turbine subject to the provisions of this subpart shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:

(2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with paragraph (b) of this section.

It is my understanding that the U.S. Environmental Protection Agency (EPA) has not delegated the authority to implement Section 60.334(4) to the Florida Department of Environmental Protection (FDEP). Therefore, a copy of this request has been transmitted jointly to EPA Region IV and FDEP.

21193A34

KBN ENGINEERING AND APPLIED SCIENCES, INC.

1034 Northwest 57th Street
 Gainesville, Florida 32605
 904-331-9000
 FAX 904-312-4187

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

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

6821 Southpoint Drive North,
 Suite 216
 Jacksonville, Florida 32216
 904-296-9663 FAX 904-296-0146

One Church Street, Suite 801
 Rockville, Maryland 20850
 301-738-1100
 FAX 301-738-1105

Ms. Jewell Harper and Mr. Clair Fancy
 March 7, 1994
 Page 2



As indicated by Section 60.344(b)(2), the NSPS imply that daily sampling be performed when there is not an intermediate bulk storage tank, even if the fuel is pipeline natural gas. Discussions with EPA's Office of Air Quality Planning and Standards (OAQPS) confirm this interpretation of the rule and offer the attached memorandum as guidance. Specifically, a custom fuel monitoring schedule must be developed and approved for pipeline natural gas. The schedule should address the sulfur content of the fuel; the nitrogen content in natural gas is not required.

The sulfur content for natural gas submitted in the application was developed from data supplied by the natural gas pipeline company in Florida, i.e., Florida Gas Transmission Company (FGT). The data are summarized in Table 1. The emission limit proposed in the application was based on 1 grain sulfur per 100 cubic feet of gas (1 grain/100 cf) which is equivalent to about 0.003 percent sulfur by weight. This sulfur concentration was based on the highest recorded value over the 8-month study period (see Table 1) with a margin of 25 percent (i.e., 0.8 grains/100 cf times 1.25). The pipeline company (i.e., FGT) regularly samples for total sulfur in the natural gas to assure that the hydrogen sulfide content is low and that the concentrations of mercaptan are sufficient for safety reasons. Mercaptan is added to natural gas to assure that the gas has an odor that can be perceived if mistakenly released; otherwise natural gas would have no odor. Please note that the NSPS require that the sulfur content of the fuel be no more than 0.8 percent by weight; a difference of over two orders of magnitude from the basis of the emission limit. Thus, there is significant margin in complying with the NSPS limit.

The EPA guidance memorandum suggests that sampling be conducted twice monthly over the first six months, quarterly over the next six quarters and then during the first and third quarters of each calendar year. The 8 months of data listed in Table 1 (3 to 4 samples per month) demonstrate that the sulfur content meets the NSPS and is less than the basis of the emission limit for natural gas, i.e., 1 grain per 100 cf. FGT was recently contacted and supplied the following data from random analyses:

<u>Analyses Date</u>	<u>Sulfur Content (grains/100cf)</u>
03/10/92	0.50
06/30/92	0.40
09/29/92	0.26
01/05/93	0.31
03/02/93	0.27
06/01/93	0.16
09/28/93	0.12
12/14/93	0.42
02/09/94	0.04

Clearly, the data over that last several years have demonstrated that the NSPS limit is easily met. Thus, it is requested that EPA approve a custom fuel monitoring schedule that requires the facility to submit representative sulfur analyses supplied by the pipeline company each quarter over the first six quarters of turbine operation with the excess emissions report required under Section 60.7(c) of the CFR. After this

Ms. Jewell Harper and Mr. Clair Fancy
March 7, 1994
Page 3



time period, sulfur analyses would be supplied during the first and third quarters of each calendar year. This would provide assurance to EPA and FDEP that the NSPS was being achieved.

Please call if you have any questions.

Sincerely,

Kennard F. Kosky, P.E.
President

KFK/lcb

cc: Ward Marshall, C&SW
William Malenius, Ark Energy
FDEP Southwest District
File (2)

81193A3/4
03/07/94Table 1. Sulfur Content, Heat Content, and SO₂ Emission Factors for Natural Gas

Date	Sulfur Content (gr/100 cf)	Heat Content (Btu)	SO ₂ Emission Factor (lb/10 ⁶ Btu)	SO ₂ Emission Factor (lb/10 ⁶ cf)
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3/6/90	0.45	1,025	0.00125	1.286
3/13/90	0.30	1,026	0.00084	0.857
3/20/90	0.35	1,026	0.00097	1.000
3/27/90	0.35	1,025	0.00098	1.000
4/3/90	0.60	1,026	0.00167	1.714
4/10/90	0.25	1,022	0.00070	0.714
4/17/90	0.40	1,026	0.00111	1.143
4/24/90	0.30	1,022	0.00084	0.857
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5/15/90	0.20	1,023	0.00056	0.571
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6/19/90	0.70	1,017	0.00197	2.000
6/26/90	0.45	1,019	0.00126	1.286
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7/10/90	0.35	1,022	0.00098	1.000
7/17/90	0.45	1,021	0.00126	1.286
7/30/90	0.30	1,021	0.00084	0.857
8/7/90	0.50	1,024	0.00140	1.429
8/14/90	0.45	1,022	0.00126	1.286
8/21/90	0.40	1,022	0.00112	1.143
8/28/90	0.70	1,022	0.00196	2.000
9/4/90	0.55	1,029	0.00153	1.571
9/11/90	0.40	1,025	0.00111	1.143
9/18/90	0.45	1,026	0.00125	1.286
9/25/90	0.40	1,026	0.00111	1.143
10/2/90	0.45	1,029	0.00125	1.286
10/9/90	0.45	1,025	0.00125	1.286
10/16/90	0.70	1,028	0.00195	2.000
10/28/90	0.80	1,024	0.00223	2.286
Average:	0.43	1,024	0.00119	1.216
Maximum:	0.80	1,034	0.00223	2.286
Minimum:	0.05	1,017	0.00014	0.143
Std. Dev.	0.15	4	0.00042	0.427

Source: Florida Gas Transmission Company, 1990.

RECEIVED 09/20 14:45 1992 AT 9043324109 PAGE 1 (PRINTED PAGE 1)
 SEP-20-1992 13:39 FROM OAGPS.ESD.CPB/ISB RTP NC TO

69043324109 P.01

05 07-92 11:45AM FROM EPA FPS/SSCD



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

AUG 14 1992

OFFICE OF
 AIR AND WASTE

MEMORANDUM

SUBJECT: Authority for Approval of Custom Fuel Monitoring
 Schedules Under NSPS Subpart GG

FROM: John B. Rasnia, Chief *John B. Rasnia*
 Compliance Monitoring Branch

TO: Air Compliance Branch Chiefs
 Regions II, III, IV, V, VI and IX

Air Programs Branch Chiefs
 Regions I-X

The NSPS for Stationary Gas Turbines (Subpart GG) at 40 CFR 60.334(b)(2) allows for the development of custom fuel monitoring schedules as an alternative to daily monitoring of the sulfur and nitrogen content of fuel fired in the turbines. Regional Offices have been forwarding custom fuel monitoring schedules to the Stationary Source Compliance Division (SSCD) for consideration since it was understood that authority for approval of these schedules was not delegated to the Regions. However, in consultation with the Emission Standards and Engineering Division, it has been determined that the Regional Offices do have the authority to approve subpart GG custom fuel monitoring schedules. Therefore it is no longer necessary to forward these requests to Headquarters for approval.

Over the past few years, SSCD has issued over twenty custom schedules for sources using pipeline quality natural gas. In order to maintain national consistency, we recommend that any schedules Regional Offices issue for natural gas be no less stringent than the following: sulfur monitoring should

05-07-92 11:45AM FROM EPA FPS/SSCO

TO 89195413470

P007/007

Enclosure

Conditions for Custom Fuel Sampling Schedule for Stationary Gas Turbines

1. Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine.
2. Sulfur Monitoring
 - a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).
 - b. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.
 - c. If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
 - d. Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the State Air Control Board of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
3. If there is a change in fuel supply, the owner or operator must notify the State of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

RECEIVED 09/20 11:49 1992 AT 9043324189 PAGE 2 (PRINTED PAGE 2) 1

SEP-20-1992 13:40 FROM OAGPS.ESD.CPB/ISB RTP NC TO

9043324189 P.02

05 07-92 11:45AM FROM EPA EFS/SSCO

TO 09195413170

PG06/007

2

be bimonthly, followed by quarterly, then semiannual, given at least six months of data demonstrating little variability in sulfur content and compliance with 460.333 at each monitoring frequency; nitrogen monitoring can be waived for pipeline quality natural gas, since there is no fuel-bound nitrogen and since the free nitrogen does not contribute appreciably to NO_x emissions. Please see the attached sample custom schedule for details. Given the increasing trend in the use of pipeline quality natural gas, we are investigating the possibility of amending Subpart GG to allow for less frequent sulfur monitoring and a waiver of nitrogen monitoring requirements where natural gas is used.

Where sources using oil request custom fuel monitoring schedules, Regional Offices are encouraged to contact SSCO for consultation on the appropriate fuel monitoring schedule. However, Regions are not required to send the request itself to SSCO for approval.

If you have any questions, please contact Sally M. Farrell at FTS 382-2875.

Attachment

cc: John Cranshaw
George Walsh
Robert Ajax
Earl Salo



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

315 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

APR 18 1994

4APT-AEB

Clair H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of
Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Approval of NSPS Custom Fuel Monitoring Schedules for:
Mulberry Cogeneration Project, PSD-FL-187 (AC53-211670);
Lake Cogeneration Project, PSD-FL-176 (AC15-196459); and
Pasco Cogeneration Project, PSD-FL-177 (AC51-196460).

Dear Mr. Fancy:

This is to acknowledge letters from KBN Engineering and Applied Sciences, Inc. (KBN) dated March 7, 1994, and March 17, 1994, requesting approval of customized fuel monitoring schedules for the above referenced projects. These requests were jointly transmitted to the U.S. Environmental Protection Agency (EPA), and to you. Since the authority for implementing §60.334(b) of 40 CFR Part 60, Subpart GG has not been delegated to the State of Florida, we have reviewed KBN's custom fuel monitoring schedules.

Based on our review we have determined that the proposed schedules are acceptable, as long as each source also complies with items 2(d), 3, and 4 of the attachment to the custom fuel monitoring guidance memo issued by EPA Headquarters on August 14, 1987. A copy of this memo was included in KBN's request as attachment.

If you have any questions regarding this letter, please contact Mr. Mirza P. Baig of my staff at 404/347-5014.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Jewell A. Harper".

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, & Toxics
Management Division

cc: Kennard F. Kosky
KBN Engineering



Lawton Chiles
Governor

Florida Department of Environmental Protection

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

Virginia B. Wetherell
Secretary

April 22, 1994

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Kevin Fullerton
Project Manager, Air Programs
Lake Cogen Limited
Post Office Box 2562
Tampa, Florida 33601

Dear Mr. Fullerton:

RE: Amendment to Construction Permit
AC 35-196459 (PSD-FL-176)
NSPS Custom Fuel Monitoring Schedule
Lake Cogen Limited

The Department has reviewed your March 17, 1994 letter, with supporting data, requesting an NSPS Custom Fuel Monitoring Schedule for sulfur dioxide (SO₂) and nitrogen oxide (NO_x) at the subject facility (refer to Attachment No. 1). The facility is required by the permit to comply with Subpart GG of the New Source Performance Standards (NSPS) 40 CFR 60. NSPS 40 CFR 60.334(b) and 60.334(b)(2) of Subpart GG state that for sources utilizing pipeline quality natural gas a custom fuel monitoring schedule, if supported by data which demonstrates compliance with NSPS emission limits, may be approved by the Administrator of EPA. This authority has been delegated to EPA's regional offices and a copy of the subject request was jointly submitted to EPA Region IV for their determination. The Department received a letter from EPA, by fax on April 15, 1994, stating that a custom fuel monitoring schedule for this facility was acceptable if it complied with specific items of a custom fuel monitoring guidance memo issued by EPA Headquarters on August 14, 1987 (Refer to attachment No. 2). Since monitoring data was provided by the applicant which demonstrated compliance with the requirements of 2.a and 2.b in the EPA guidance memo, 2.a and 2.b were deleted from the custom fuel monitoring schedule. In compliance with the EPA determination, the permit specific conditions will be amended as follows:

A. Specific Condition Number;

20. From

This source shall comply with all requirements of 40 CFR 60, Subparts GG and Dc and F.A.C. Rule 17-296.800(2)(a), Standard of Performance for Stationary Gas Turbines and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

To

This source shall comply with all requirements of 40 CFR 60, Subparts GG and Dc and F.A.C. Rule 17-296.800(2)(a), Standard of Performance for Stationary Gas Turbines and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. 40 CFR 60.334(b)(2) requires that a custom fuel monitoring schedule shall be followed for natural gas fired at this facility, as follows:

Custom Fuel Monitoring Schedule for Natural Gas

1. Monitoring of fuel nitrogen content shall not be required since natural gas is the only fuel being fired in the gas turbines.
2. Sulfur Monitoring
 - a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are ASTM D1072-80, ASTM D3031-81, ASTM D3246-81, and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).
 - b. This custom fuel monitoring schedule shall become effective on the date this permit becomes valid. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters. If monitoring data is provided by the applicant which demonstrates consistent compliance with the requirements herein the applicant may begin monitoring as per the requirements of 2(c).
 - c. If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
 - d. Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the Department of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
3. If there is a change in fuel supply, the owner or operator must notify the Department of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall

Mr. Kevin Fullerton
AC 35-196459 (PSD-FL-176)
Permit Amendment
April 22, 1994
Page 3 of 4

be conducted weekly during the interim period when this custom schedule is being re-examined.

4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

B. Attachments to be Incorporated;

- KBN letter received March 21, 1994
- EPA letter received April 15, 1994

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the applicant of the amendment request/application and the parties listed below must be filed within 14 days of receipt of this amendment. Petitions filed by other persons must be filed within 14 days of the amendment issuance or within 14 days of their receipt of this amendment, whichever occurs first. 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;
- (g) A statement of the relief sought by petitioner, stating precisely the action the 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 amendment. Persons whose substantial interests will be affected by any decision

Mr. Kevin Fullerton
AC 35-196459 (PSD-FL-176)
Permit Amendment
April 22, 1994
Page 4 of 4

of the Department with regard to the request/application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this amendment 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.

This letter amendment must be attached to Construction Permit No. AC 35-196459 (PSD-FL-176), and shall become part of the permit.

Sincerely,



Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/CSL

Attachments

cc: A. Zahm, CD
J. Harper, EPA
J. Bunyak, NPS
K. Kosky, KBN

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this AMENDMENT and all copies were mailed by certified mail before the close of business on 5/2/94 to the listed persons.

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.

Barbara J. Boutwell 5/2/94
Clerk Date



March 17, 1994

Ms. Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta GA 30365

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

Re: Lake and Pasco Cogeneration Projects
FDEP File Nos. AC35-196459, PSD-FL-176; AC51-196460, PSD-FL-177
NSPS Custom Fuel Monitoring Schedule

RECEIVED
MAR 21 1994
Bureau of
Air Regulation

Dear Ms. Harper and Mr. Fancy:

This correspondence is submitted on behalf of Lake Cogen Limited and Pasco Cogen Limited to request approval of a custom fuel monitoring schedule for the determination of sulfur content required under the New Source Performance Standards (NSPS) for Stationary Gas Turbines (40 Code of Federal Regulations (CFR) Part 60, Subpart GG). This request is made necessary by Section 60.334(b) and (b)(2) of Subpart GG, which states:

(b) The owner or operator of any stationary gas turbine subject to the provisions of this subpart shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:

(2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with paragraph (b) of this section.

It is my understanding that the U.S. Environmental Protection Agency (EPA) has not delegated the authority to implement Section 60.334(4) to the Florida Department of Environmental Protection (FDEP). Therefore, a copy of this request has been transmitted jointly to EPA Region IV and FDEP.

90115/90116A/1/11

KBN ENGINEERING AND APPLIED SCIENCES, INC.

1034 Northwest 57th Street
Gainesville, Florida 32605
904-331-9000
FAX 904-332-4189

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

6821 Southpoint Drive North,
Suite 216
Jacksonville, Florida 32216
904-296-9663 FAX 904-296-0146

One Church Street, Suite 801
Rockville, Maryland 20850
301-738-1100
FAX 301-738-1105



As indicated by Section 60.344(b)(2), the NSPS imply that daily sampling be performed when there is not an intermediate bulk storage tank, even if the fuel is pipeline natural gas. Discussions with EPA's Office of Air Quality Planning and Standards (OAQPS) confirm this interpretation of the rule and offer the attached memorandum as guidance. Specifically, a custom fuel monitoring schedule must be developed and approved for pipeline natural gas. The schedule should address the sulfur content of the fuel; the nitrogen content in natural gas is not required.

The sulfur content for natural gas submitted in the application was developed from data supplied by the natural gas pipeline company in Florida, i.e., Florida Gas Transmission Company (FGT). The data are summarized in Table 1. The emission limit proposed in the application was based on 1 grain sulfur per 100 cubic feet of gas (1 grain/100 cf) which is equivalent to about 0.003 percent sulfur by weight. This sulfur concentration was based on the highest recorded value over the 8-month study period (see Table 1) with a margin of 25 percent (i.e., 0.8 grains/100 cf times 1.25). The pipeline company (i.e., FGT) regularly samples for total sulfur in the natural gas to assure that the hydrogen sulfide content is low and that the concentrations of mercaptan are sufficient for safety reasons. Mercaptan is added to natural gas to assure that the gas has an odor that can be perceived if mistakenly released; otherwise natural gas would have no odor. Please note that the NSPS require that the sulfur content of the fuel be no more than 0.8 percent by weight; a difference of over two orders of magnitude from the basis of the emission limit. Thus, there is significant margin in complying with the NSPS limit.

The EPA guidance memorandum suggests that sampling be conducted twice monthly over the first six months, quarterly over the next six quarters and then during the first and third quarters of each calendar year. The 8 months of data listed in Table 1 (3 to 4 samples per month) demonstrate that the sulfur content meets the NSPS and is less than the basis of the emission limit for natural gas, i.e., 1 grain per 100 cf. FGT was recently contacted and supplied the following data from random analyses:

<u>Analyses Date</u>	<u>Sulfur Content (grains/100cf)</u>
03/10/92	0.50
06/30/92	0.40
09/29/92	0.26
01/05/93	0.31
03/02/93	0.27
06/01/93	0.16
09/28/93	0.12
12/14/93	0.42
02/09/94	0.04

Clearly, the data over that last several years have demonstrated that the NSPS limit is easily met. Thus, it is requested that EPA approve a custom fuel monitoring schedule that requires the facility to submit representative sulfur analyses supplied by the pipeline company each quarter over the first six quarters of turbine operation with the excess emissions report required under Section 60.7(c) of the CFR. After this

Ms. Jewell Harper and Mr. Clair Fancy
March 17, 1994
Page 3



time period, sulfur analyses would be supplied during the first and third quarters of each calendar year. This would provide assurance to EPA and FDEP that the NSPS was being achieved.

Please call if you have any questions.

Sincerely,

Kennard F. Kosky, P.E.
President

KFK/lcb

cc: Kevin Fullerton, Lake Cogen Limited
Bruce Miller, Pasco Cogen Limited
Harry Kerns, FDEP Southwest District
Chuck Collins, FDEP Central District
File (2)

Table 1. Sulfur Content, Heat Content, and SO₂ Emission Factors for Natural Gas

Date	Sulfur Content (gr/100 cf)	Heat Content (Btu)	SO ₂ Emission Factor (lb/10 ⁶ Btu)	SO ₂ Emission Factor (lb/10 ⁶ cf)
2/6/90	0.30	1,031	0.00083	0.857
2/13/90	0.05	1,028	0.00014	0.143
2/20/90	0.35	1,025	0.00098	1.000
2/27/90	0.45	1,024	0.00126	1.286
3/6/90	0.45	1,025	0.00125	1.286
3/13/90	0.30	1,026	0.00084	0.857
3/20/90	0.35	1,026	0.00097	1.000
3/27/90	0.35	1,025	0.00098	1.000
4/3/90	0.60	1,026	0.00167	1.714
4/10/90	0.25	1,022	0.00070	0.714
4/17/90	0.40	1,026	0.00111	1.143
4/24/90	0.30	1,022	0.00084	0.857
5/1/90	0.40	1,020	0.00112	1.143
5/8/90	0.25	1,034	0.00069	0.714
5/15/90	0.20	1,023	0.00056	0.571
6/5/90	0.45	1,020	0.00126	1.286
6/12/90	0.40	1,018	0.00112	1.143
6/19/90	0.70	1,017	0.00197	2.000
6/26/90	0.45	1,019	0.00126	1.286
7/3/90	0.55	1,022	0.00154	1.571
7/10/90	0.35	1,022	0.00098	1.000
7/17/90	0.45	1,021	0.00126	1.286
7/30/90	0.30	1,021	0.00084	0.857
8/7/90	0.50	1,024	0.00140	1.429
8/14/90	0.45	1,022	0.00126	1.286
8/21/90	0.40	1,022	0.00112	1.143
8/28/90	0.70	1,022	0.00196	2.000
9/4/90	0.55	1,029	0.00153	1.571
9/11/90	0.40	1,025	0.00111	1.143
9/18/90	0.45	1,026	0.00125	1.286
9/25/90	0.40	1,026	0.00111	1.143
10/2/90	0.45	1,029	0.00125	1.286
10/9/90	0.45	1,025	0.00125	1.286
10/16/90	0.70	1,028	0.00195	2.000
10/28/90	0.80	1,024	0.00223	2.286
Average:	0.43	1,024	0.00119	1.216
Maximum:	0.80	1,034	0.00223	2.286
Minimum:	0.05	1,017	0.00014	0.143
Std. Dev.	0.15	4	0.00042	0.427

Source: Florida Gas Transmission Company, 1990.

05 07-92 11:45AM FROM EPA FPS/SSCO



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

AUG 14 1992

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Authority for Approval of Custom Fuel Monitoring
Schedules Under NSPS Subpart GG

FROM: John B. Rasnia, Chief *John B. Rasnia*
Compliance Monitoring Branch

TO: Air Compliance Branch Chiefs
Regions II, III, IV, V, VI and IX

Air Programs Branch Chiefs
Regions I-X

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PG06/007

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Where sources using oil request custom fuel monitoring schedules, Regional Offices are encouraged to contact SSCD for consultation on the appropriate fuel monitoring schedule. However, Regions are not required to send the request itself to SSCD for approval.

If you have any questions, please contact Sally K. Farrell at FTS 182-2875.

Attachment

cc: John Cranshaw
George Walsh
Robert Ajax
Earl Salo

05-07-92 11:45AM FROM BPA FPS/SSCO

TO 89195413470

P007/007

Enclosure

Conditions for Custom Fuel Sampling Schedule for Stationary Gas Turbines

1. Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine.
2. Sulfur Monitoring
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 - d. Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the State Air Control Board of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
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US ENVIRONMENTAL PROTECTION AGENCY

Region IV



TO: Name: CHARLES LOGAN
Company: DEP - Tallahassee
Phone: _____ FAX: 404-622-6979
Date: 4-15-94 Pages (incl. cover) 2

FROM: Air Enforcement Branch Phone: (404) 347-5014
345 Courtland Street, NE
Atlanta, GA 30065 FAX: (404) 347-3059

Sender's Name: MIRZA P. BAIG.
Subject: Mulberry / Lake / Pasco Gas Turbine
COMMENTS: Custom Fuel Monitoring Schedules.

Dear Charles:

I am faxing you the letter that approves custom fuel monitoring for the above referenced gas turbines.

The hard copy should get to you next week.

If you need anything else please let me know.

Thanks,

Mirza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

4APT-AEB

Clair H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of
Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Approval of NSPS Custom Fuel Monitoring Schedules for:
Mulberry Cogeneration Project, PSD-FL-187 (AC53-211670);
Lake Cogeneration Project, PSD-FL-176 (AC15-196459); and
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Dear Mr. Fancy:

This is to acknowledge letters from KBN Engineering and Applied Sciences, Inc. (KBN) dated March 7, 1994, and March 17, 1994, requesting approval of customized fuel monitoring schedules for the above referenced projects. These requests were jointly transmitted to the U.S. Environmental Protection Agency (EPA), and to you. Since the authority for implementing §60.334(b) of 40 CFR Part 60, Subpart GG has not been delegated to the State of Florida, we have reviewed KBN's custom fuel monitoring schedules.

Based on our review we have determined that the proposed schedules are acceptable, as long as each source also complies with items 2(d), 3, and 4 of the attachment to the custom fuel monitoring guidance memo issued by EPA Headquarters on August 14, 1987. A copy of this memo was included in KBN's request as attachment.

If you have any questions regarding this letter, please contact Mr. Mirza P. Baig of my staff at 404/347-5014.

Sincerely yours,

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, & Toxics
Management Division

cc: Kennard F. Kosky
KBN Engineering

PERMITTEE:
Central Florida Power, L.P.

Permit Number: AC53-214903
PSD-FL-190
Expiration Date: January 1, 1996

SPECIFIC CONDITIONS:

18. Sulfur and nitrogen content and lower heating value of the fuel being fired in the combustion turbines shall be determined as specified in 40 CFR 60.334(b). Any request for a future custom monitoring schedule shall be made in writing and directed to the Southwest District office. Any custom schedule approved by DER pursuant to 40 CFR 60.334(b) will be recognized as enforceable provisions of the permit, provided that the holder of this permit demonstrates that the provisions of the schedule will be adequate to assure continuous compliance. The records of distillate fuel oil usage shall be kept by the company for a two-year period for regulatory agency inspection purposes. For sulfur dioxide, periods of excess emissions shall be reported if the fuel being fired in the gas turbine exceeds 0.05 percent sulfur by weight.

Rule Requirements

19. This source shall comply with all applicable provisions of Chapter 403, Florida Statutes, Chapters 17-210, 212, 275, 296, 297 and 17-4, Florida Administrative Code and 40 CFR 60 (July, 1992 version).

20. The sources shall comply with all requirements of 40 CFR 60, Subpart GG and Subpart Dc, and F.A.C. Rule 17-296.800, (2)(a), Standards of Performance for Stationary Gas Turbines and Standards of Performance for Industrial, Commercial, and Institutional Steam Generating Units.

21. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (F.A.C. Rule 17-210.300(1)).

22. This source shall be in compliance with all applicable provisions of F.A.C. Rules 17-210.650: Circumvention; 17-210.700: Excess Emissions; 17-296.800: Standards of Performance for New Stationary Sources (NSPS); 17-297: Stationary Sources-Emissions Monitoring; and, 17-4.130: Plant Operation-Problems.

23. If construction does not commence within 18 months of issuance of this permit, then the permittee shall obtain from the Department a review and, if necessary, a modification of the control technology and allowable emissions for the unit(s) on which construction has not commenced (40 CFR 52.21(r)(2)).

24. Quarterly excess emission reports, in accordance with the July 1, 1992 version of 40 CFR 60.7 and 60.334 shall be submitted to the Department's Southwest District office.



July 22, 1994

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

Mr. Bill Thomas
Administrator - Air Program
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619

**RE: Custom Fuel Schedule For Sulfur and Nitrogen Content
and Lower Heating Value
Permit Nos. AC53-214903 and PSD-FL-190
Tiger Bay Limited Partnership
Tiger Bay Cogeneration Facility**

Dear Mr. Thomas:

On behalf of Tiger Bay Limited Partnership, we request that your department approve the following custom fuel monitoring schedule for sulfur and nitrogen content and lower heating value for natural gas firing pursuant to 40 CFR 60.334(b). We propose that the natural gas be sampled once during the first 20 days of each quarter for each calendar year (e.g., January, April, July, and October). Enclosed for your review is a copy of FGT's sulfur content for natural gas and a copy of Specific Condition 18.

Thank you for your prompt review of our request, and please provide in writing your decision.

Sincerely,

A handwritten signature in black ink that reads 'Robert S. Chatham'.

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

RSC:ko
Enclosure

cc: Chuck Cook
File 1253

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

PATTY ADAMS

AIR REGULATIONS
TALLAHASSEE

Initial

Date

2.

RECEIVED

Initial

Date

3.

AUG 5 1994

Initial

Date

4.

Bureau of
Air Regulation

Initial

Date

REMARKS:

The attached request was submitted to SWD. After talking with Teresa Heron I believe that it should have been submitted to Air Regulations.

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

Bill Proses

DATE

8/1/94

PHONE SC 542-6100
EXT 417

01/03/91

Sulfur Content, Heat Content, and SO₂ Emission Factors for Natural Gas

Date	Sulfur Content (gr/100 cf)	Heat Content (Btu)	SO ₂ Emission Factor (lb/10 ⁶ Btu)	SO ₂ Emission Factor (lb/10 ⁶ cf)
2/6/90	0.30	1,031	0.00083	0.857
2/13/90	0.05	1,028	0.00014	0.143
2/20/90	0.35	1,025	0.00098	1.000
2/27/90	0.45	1,024	0.00126	1.286
3/6/90	0.45	1,025	0.00125	1.286
3/13/90	0.30	1,026	0.00084	0.857
3/20/90	0.35	1,026	0.00097	1.000
3/27/90	0.35	1,025	0.00098	1.000
4/3/90	0.60	1,026	0.00167	1.714
4/10/90	0.25	1,022	0.00070	0.714
4/17/90	0.40	1,026	0.00111	1.143
4/24/90	0.30	1,022	0.00084	0.857
5/1/90	0.40	1,020	0.00112	1.143
5/8/90	0.25	1,034	0.00069	0.714
5/15/90	0.20	1,023	0.00056	0.571
6/5/90	0.45	1,020	0.00126	1.286
6/12/90	0.40	1,018	0.00112	1.143
6/19/90	0.70	1,017	0.00197	2.000
6/26/90	0.45	1,019	0.00126	1.286
7/3/90	0.55	1,022	0.00154	1.571
7/10/90	0.35	1,022	0.00098	1.000
7/17/90	0.45	1,021	0.00126	1.286
7/30/90	0.30	1,021	0.00084	0.857
8/7/90	0.50	1,024	0.00140	1.429
8/14/90	0.45	1,022	0.00126	1.286
8/21/90	0.40	1,022	0.00112	1.143
8/28/90	0.70	1,022	0.00196	2.000
9/4/90	0.55	1,029	0.00153	1.571
9/11/90	0.40	1,025	0.00111	1.143
9/18/90	0.45	1,026	0.00125	1.286
9/25/90	0.40	1,026	0.00111	1.143
10/2/90	0.45	1,029	0.00125	1.286
10/9/90	0.45	1,025	0.00125	1.286
10/16/90	0.70	1,028	0.00195	2.000
10/28/90	0.80	1,024	0.00223	2.286
Average:	0.43	1,024	0.00119	1.216
Maximum:	0.80	1,034	0.00223	2.286
Minimum:	0.05	1,017	0.00014	0.143
Std. Dev.	0.15	4	0.00042	0.427

Source: Florida Gas Transmission Company, 1990.

PERMITTEE:
Central Florida Power, L.P.

Permit Number: AC53-214903
PSD-FL-190
Expiration Date: January 1, 1996

SPECIFIC CONDITIONS:

18. Sulfur and nitrogen content and lower heating value of the fuel being fired in the combustion turbines shall be determined as specified in 40 CFR 60.334(b). ~~Any request for a future custom monitoring schedule shall be made in writing and directed to the Southwest District office.~~ Any custom schedule approved by DER pursuant to 40 CFR 60.334(b) will be recognized as enforceable provisions of the permit, provided that the holder of this permit demonstrates that the provisions of the schedule will be adequate to assure continuous compliance. The records of distillate fuel oil usage shall be kept by the company for a two-year period for regulatory agency inspection purposes. For sulfur dioxide, periods of excess emissions shall be reported if the fuel being fired in the gas turbine exceeds 0.05 percent sulfur by weight.

Rule Requirements

19. This source shall comply with all applicable provisions of Chapter 403, Florida Statutes, Chapters 17-210, 212, 275, 296, 297 and 17-4, Florida Administrative Code and 40 CFR 60 (July, 1992 version).

20. The sources shall comply with all requirements of 40 CFR 60, Subpart GG and Subpart Dc, and F.A.C. Rule 17-296.800, (2)(a), Standards of Performance for Stationary Gas Turbines and Standards of Performance for Industrial, Commercial, and Institutional Steam Generating Units.

21. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (F.A.C. Rule 17-210.300(1)).

22. This source shall be in compliance with all applicable provisions of F.A.C. Rules 17-210.650: Circumvention; 17-210.700: Excess Emissions; 17-296.800: Standards of Performance for New Stationary Sources (NSPS); 17-297: Stationary Sources-Emissions Monitoring; and, 17-4.130: Plant Operation-Problems.

23. If construction does not commence within 18 months of issuance of this permit, then the permittee shall obtain from the Department a review and, if necessary, a modification of the control technology and allowable emissions for the unit(s) on which construction has not commenced (40 CFR 52.21(r)(2)).

24. Quarterly excess emission reports, in accordance with the July 1, 1992 version of 40 CFR 60.7 and 60.334 shall be submitted to the Department's Southwest District office.



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

July 25, 1994

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

RECEIVED
JUL 28 1994

Department of Environmental Protection
SOUTHWEST DISTRICT
BY _____

**RE: Custom Fuel Sampling Schedule
Permit Nos. AC53-214903 and PSD-FL-190
Tiger Bay Limited Partnership
Tiger Bay Cogeneration Facility**

Dear Mr. Proses,

On July 25, 1994, we spoke about the NSPS requirement for natural gas sampling. Based on a previous custom fuel monitoring schedule (Polk Power Partners, L.P.), Tiger Bay Limited Partnership requests that the FDEP approve a similar custom fuel schedule that will require the facility to submit representative sulfur analyses each quarter over the first six quarters of gas turbine operation. After this time period, sulfur analyses would be sampled and supplied during the first and third quarters of each year. This should satisfy the EPA and FDEP that the NSPS is being achieved. The sampling and determination of the nitrogen content and daily heating value in natural gas should not be required as referenced in Specific Condition 18.

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

Sincerely,

Robert S. Chatham

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

RSC:kro

cc: Chuck Cook
David Zell
File 1253



Lawton Chiles
Governor

Florida Department of Environmental Protection

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

Virginia B. Wetherell
Secretary

April 22, 1994

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Kevin Fullerton
Project Manager, Air Programs
Lake Cogen Limited
Post Office Box 2562
Tampa, Florida 33601

Dear Mr. Fullerton:

RE: Amendment to Construction Permit
AC 35-196459 (PSD-FL-176)
NSPS Custom Fuel Monitoring Schedule
Lake Cogen Limited

The Department has reviewed your March 17, 1994 letter, with supporting data, requesting an NSPS Custom Fuel Monitoring Schedule for sulfur dioxide (SO₂) and nitrogen oxide (NO_x) at the subject facility (refer to Attachment No. 1). The facility is required by the permit to comply with Subpart GG of the New Source Performance Standards (NSPS) 40 CFR 60. NSPS 40 CFR 60.334(b) and 60.334(b)(2) of Subpart GG state that for sources utilizing pipeline quality natural gas a custom fuel monitoring schedule, if supported by data which demonstrates compliance with NSPS emission limits, may be approved by the Administrator of EPA. This authority has been delegated to EPA's regional offices and a copy of the subject request was jointly submitted to EPA Region IV for their determination. The Department received a letter from EPA, by fax on April 15, 1994, stating that a custom fuel monitoring schedule for this facility was acceptable if it complied with specific items of a custom fuel monitoring guidance memo issued by EPA Headquarters on August 14, 1987 (Refer to attachment No. 2). Since monitoring data was provided by the applicant which demonstrated compliance with the requirements of 2.a and 2.b in the EPA guidance memo, 2.a and 2.b were deleted from the custom fuel monitoring schedule. In compliance with the EPA determination, the permit specific conditions will be amended as follows:

A. Specific Condition Number;

20. From

This source shall comply with all requirements of 40 CFR 60, Subparts GG and Dc and F.A.C. Rule 17-296.800(2)(a), Standard of Performance for Stationary Gas Turbines and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

Mr. Kevin Fullerton
AC 35-196459 (PSD-FL-176)
Permit Amendment
April 22, 1994
Page 2 of 4

To

This source shall comply with all requirements of 40 CFR 60, Subparts GG and Dc and F.A.C. Rule 17-296.800(2)(a), Standard of Performance for Stationary Gas Turbines and Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. 40 CFR 60.334(b)(2) requires that a custom fuel monitoring schedule shall be followed for natural gas fired at this facility, as follows:

Custom Fuel Monitoring Schedule for Natural Gas

1. Monitoring of fuel nitrogen content shall not be required since natural gas is the only fuel being fired in the gas turbines.
2. Sulfur Monitoring
 - a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are ASTM D1072-80, ASTM D3031-81, ASTM D3246-81, and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).
 - b. This custom fuel monitoring schedule shall become effective on the date this permit becomes valid. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters. If monitoring data is provided by the applicant which demonstrates consistent compliance with the requirements herein the applicant may begin monitoring as per the requirements of 2(c).
 - c. If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
 - d. Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the Department of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
3. If there is a change in fuel supply, the owner or operator must notify the Department of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall

Mr. Kevin Fullerton
AC 35-196459 (PSD-FL-176)
Permit Amendment
April 22, 1994
Page 3 of 4

be conducted weekly during the interim period when this custom schedule is being re-examined.

4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

B. Attachments to be Incorporated;

- KBN letter received March 21, 1994
- EPA letter received April 15, 1994

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the applicant of the amendment request/application and the parties listed below must be filed within 14 days of receipt of this amendment. Petitions filed by other persons must be filed within 14 days of the amendment issuance or within 14 days of their receipt of this amendment, whichever occurs first. 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;
- (g) A statement of the relief sought by petitioner, stating precisely the action the 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 amendment. Persons whose substantial interests will be affected by any decision

Mr. Kevin Fullerton
AC 35-196459 (PSD-FL-176)
Permit Amendment
April 22, 1994
Page 4 of 4

of the Department with regard to the request/application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this amendment 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.

This letter amendment must be attached to Construction Permit No. AC 35-196459 (PSD-FL-176), and shall become part of the permit.

Sincerely,



Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/CSL

Attachments

cc: A. Zahm, CD
J. Harper, EPA
J. Bunyak, NPS
K. Kosky, KBN

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this AMENDMENT and all copies were mailed by certified mail before the close of business on 5/2/94 to the listed persons.

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

Barbara V. Portuella 5/2/94
Clerk Date



March 17, 1994

Ms. Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta GA 30365

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

Re: Lake and Pasco Cogeneration Projects
FDEP File Nos. AC35-196459, PSD-FL-176; ACS1-196460, PSD-FL-177
NSPS Custom Fuel Monitoring Schedule

RECEIVED
MAR 21 1994
Bureau of
Air Regulation

Dear Ms. Harper and Mr. Fancy:

This correspondence is submitted on behalf of Lake Cogen Limited and Pasco Cogen Limited to request approval of a custom fuel monitoring schedule for the determination of sulfur content required under the New Source Performance Standards (NSPS) for Stationary Gas Turbines [40 Code of Federal Regulations (CFR) Part 60, Subpart GG). This request is made necessary by Section 60.334(b) and (b)(2) of Subpart GG, which states:

(b) The owner or operator of any stationary gas turbine subject to the provisions of this subpart shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:

(2) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with paragraph (b) of this section.

It is my understanding that the U.S. Environmental Protection Agency (EPA) has not delegated the authority to implement Section 60.334(4) to the Florida Department of Environmental Protection (FDEP). Therefore, a copy of this request has been transmitted jointly to EPA Region IV and FDEP.



As indicated by Section 60.344(b)(2), the NSPS imply that daily sampling be performed when there is not an intermediate bulk storage tank, even if the fuel is pipeline natural gas. Discussions with EPA's Office of Air Quality Planning and Standards (OAQPS) confirm this interpretation of the rule and offer the attached memorandum as guidance. Specifically, a custom fuel monitoring schedule must be developed and approved for pipeline natural gas. The schedule should address the sulfur content of the fuel; the nitrogen content in natural gas is not required.

The sulfur content for natural gas submitted in the application was developed from data supplied by the natural gas pipeline company in Florida, i.e., Florida Gas Transmission Company (FGT). The data are summarized in Table 1. The emission limit proposed in the application was based on 1 grain sulfur per 100 cubic feet of gas (1 grain/100 cf) which is equivalent to about 0.003 percent sulfur by weight. This sulfur concentration was based on the highest recorded value over the 8-month study period (see Table 1) with a margin of 25 percent (i.e., 0.8 grains/100 cf times 1.25). The pipeline company (i.e., FGT) regularly samples for total sulfur in the natural gas to assure that the hydrogen sulfide content is low and that the concentrations of mercaptan are sufficient for safety reasons. Mercaptan is added to natural gas to assure that the gas has an odor that can be perceived if mistakenly released; otherwise natural gas would have no odor. Please note that the NSPS require that the sulfur content of the fuel be no more than 0.8 percent by weight; a difference of over two orders of magnitude from the basis of the emission limit. Thus, there is significant margin in complying with the NSPS limit.

The EPA guidance memorandum suggests that sampling be conducted twice monthly over the first six months, quarterly over the next six quarters and then during the first and third quarters of each calendar year. The 8 months of data listed in Table 1 (3 to 4 samples per month) demonstrate that the sulfur content meets the NSPS and is less than the basis of the emission limit for natural gas, i.e., 1 grain per 100 cf. FGT was recently contacted and supplied the following data from random analyses:

<u>Analyses Date</u>	<u>Sulfur Content (grains/100cf)</u>
03/10/92	0.50
06/30/92	0.40
09/29/92	0.26
01/05/93	0.31
03/02/93	0.27
06/01/93	0.16
09/28/93	0.12
12/14/93	0.42
02/09/94	0.04

Clearly, the data over that last several years have demonstrated that the NSPS limit is easily met. Thus, it is requested that EPA approve a custom fuel monitoring schedule that requires the facility to submit representative sulfur analyses supplied by the pipeline company each quarter over the first six quarters of turbine operation with the excess emissions report required under Section 60.7(c) of the CFR. After this

Ms. Jewell Harper and Mr. Clair Fancy
March 17, 1994
Page 3



time period, sulfur analyses would be supplied during the first and third quarters of each calendar year. This would provide assurance to EPA and FDEP that the NSPS was being achieved.

Please call if you have any questions.

Sincerely,

Kennard F. Kosky, P.E.
President

KFK/lcb

cc: Kevin Fullerton, Lake Cogen Limited
Bruce Miller, Pasco Cogen Limited
Harry Kerns, FDEP Southwest District
Chuck Collins, FDEP Central District
File (2)

Table 1. Sulfur Content, Heat Content, and SO₂ Emission Factors for Natural Gas

Date	Sulfur Content (gr/100 cf)	Heat Content (Btu)	SO ₂ Emission Factor (lb/10 ⁶ Btu)	SO ₂ Emission Factor (lb/10 ⁶ cf)
2/6/90	0.30	1,031	0.00083	0.857
2/13/90	0.05	1,028	0.00014	0.143
2/20/90	0.35	1,025	0.00098	1.000
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3/27/90	0.35	1,025	0.00098	1.000
4/3/90	0.60	1,026	0.00167	1.714
4/10/90	0.25	1,022	0.00070	0.714
4/17/90	0.40	1,026	0.00111	1.143
4/24/90	0.30	1,022	0.00084	0.857
5/1/90	0.40	1,020	0.00112	1.143
5/8/90	0.25	1,034	0.00069	0.714
5/15/90	0.20	1,023	0.00056	0.571
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7/17/90	0.45	1,021	0.00126	1.286
7/30/90	0.30	1,021	0.00084	0.857
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8/21/90	0.40	1,022	0.00112	1.143
8/28/90	0.70	1,022	0.00196	2.000
9/4/90	0.55	1,029	0.00153	1.571
9/11/90	0.40	1,025	0.00111	1.143
9/18/90	0.45	1,026	0.00125	1.286
9/25/90	0.40	1,026	0.00111	1.143
10/2/90	0.45	1,029	0.00125	1.286
10/9/90	0.45	1,025	0.00125	1.286
10/16/90	0.70	1,028	0.00195	2.000
10/28/90	0.80	1,024	0.00223	2.286
Average:	0.43	1,024	0.00119	1.216
Maximum:	0.80	1,034	0.00223	2.286
Minimum:	0.05	1,017	0.00014	0.143
Std. Dev.	0.15	4	0.00042	0.427

Source: Florida Gas Transmission Company, 1990.

05 07-92 11:45AM FROM EPA RPS/SSCD



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

AUG 14 1987

OFFICE OF
AIR AND SOLID WASTE

MEMORANDUM

SUBJECT: Authority for Approval of Custom Fuel Monitoring
Schedules Under NSPS Subpart GG

FROM: John B. Resnic, Chief *John B. Resnic*
Compliance Monitoring Branch

TO: Air Compliance Branch Chiefs
Regions II, III, IV, V, VI and IX

Air Programs Branch Chiefs
Regions I-X

The NSPS for Stationary Gas Turbines (Subpart GG) at 40 CFR 60.314(b)(2) allows for the development of custom fuel monitoring schedules as an alternative to daily monitoring of the sulfur and nitrogen content of fuel fired in the turbines. Regional Offices have been forwarding custom fuel monitoring schedules to the Stationary Source Compliance Division (SSCD) for consideration since it was understood that authority for approval of these schedules was not delegated to the Regions. However, in consultation with the Emission Standards and Engineering Division, it has been determined that the Regional Offices do have the authority to approve subpart GG custom fuel monitoring schedules. Therefore it is no longer necessary to forward those requests to Headquarters for approval.

Over the past few years, SSCD has issued over twenty custom schedules for sources using pipeline quality natural gas. In order to maintain national consistency, we recommend that any schedules Regional Offices issue for natural gas be no less stringent than the following: sulfur monitoring should

05 07-92 11:45AM FROM EPA FFS/SSCD

TO 29195413170

PG36/007

be bimonthly, followed by quarterly, then semiannual, given at least six months of data demonstrating little variability in sulfur content and compliance with (60.133) at each monitoring frequency; nitrogen monitoring can be waived for pipeline quality natural gas, since there is no fuel-bound nitrogen and since the free nitrogen does not contribute appreciably to NO_x emissions. Please see the attached sample custom schedule for details. Given the increasing trend in the use of pipeline quality natural gas, we are investigating the possibility of amending Subpart GG to allow for less frequent sulfur monitoring and a waiver of nitrogen monitoring requirements where natural gas is used.

Where sources using oil request custom fuel monitoring schedules, Regional Offices are encouraged to contact SSCD for consultation on the appropriate fuel monitoring schedule. However, Regions are not required to send the request itself to SSCD for approval.

If you have any questions, please contact Sally K. Farnell at FTS 382-2875.

Attachment

- cc: John Cronshaw
- George Walsh
- Robert Ajax
- Earl Salo

05-07-92 11:45AM FROM EPA FPS/SSCO

TO 89195413470

P007/007

Enclosure

Conditions for Custom Fuel Sampling Schedule for Stationary Gas Turbines

1. Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine.
2. Sulfur Monitoring
 - a. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2).
 - b. Effective the date of this custom schedule, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.
 - c. If after the monitoring required in item 2(b) above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
 - d. Should any sulfur analysis as required in items 2(b) or 2(c) above indicate noncompliance with 40 CFR 60.333, the owner or operator shall notify the State Air Control Board of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
3. If there is a change in fuel supply, the owner or operator must notify the State of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
4. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

US ENVIRONMENTAL PROTECTION AGENCY
Region IV



TO: Name: CHARLES LOGAN
Company: DEP - Tallahassee
Phone: _____ FAX: 404-622-6979
Date: 4-15-94 Pages (incl. cover) 2

FROM: Air Enforcement Branch Phone: (404) 347-5014
345 Courtland Street, NE
Atlanta, GA 30065 FAX: (404) 347-3059

Sender's Name: MIRZA P. BAIG

Subject: Mulberry / Lake / Paoco Gas Turbine

COMMENTS: Custom Fuel Monitoring Schedules

Dear Charles:

I am faxing you the letter that approves custom fuel monitoring for the above referenced gas turbines.

The hard copy should get to you next week.

If you need anything else please let me know.

Thanks,

Mirza



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30363

4APT-AEB

Clair H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of
Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Approval of NSPS Custom Fuel Monitoring Schedules for:
Mulberry Cogeneration Project, PSD-FL-187 (AC53-211670);
Lake Cogeneration Project, PSD-FL-176 (AC15-196459); and
Pasco Cogeneration Project, PSD-FL-177 (ACS1-196460).

Dear Mr. Fancy:

This is to acknowledge letters from KBN Engineering and Applied Sciences, Inc. (KBN) dated March 7, 1994, and March 17, 1994, requesting approval of customized fuel monitoring schedules for the above referenced projects. These requests were jointly transmitted to the U.S. Environmental Protection Agency (EPA), and to you. Since the authority for implementing §60.334(b) of 40 CFR Part 60, Subpart GG has not been delegated to the State of Florida, we have reviewed KBN's custom fuel monitoring schedules.

Based on our review we have determined that the proposed schedules are acceptable, as long as each source also complies with items 2(d), 3, and 4 of the attachment to the custom fuel monitoring guidance memo issued by EPA Headquarters on August 14, 1987. A copy of this memo was included in KBN's request as attachment.

If you have any questions regarding this letter, please contact Mr. Mirza P. Baig of my staff at 404/347-5014.

Sincerely yours,

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, & Toxics
Management Division

cc: Kennard F. Kosky
KBN Engineering

File Copy



Florida Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

April 11, 1994

Mr. Robert S. Chatham, P.E.
Destec Energy, Inc.
2500 Citywest Blvd., Suite 150
Houston, Texas 77210-4411

Dear Mr. Chatham:

Re: Tiger Bay Cogeneration Facility
FDEP Permit No. AC53-214903 & PSD-FL-190

This is in response to your March 16, 1994, letter notifying the Department of several design changes to your proposed Tiger Bay Cogeneration Facility. These design changes, as stated in your letter, will neither increase emissions nor result in a different ambient air impact. However, it is required that this and all other substantive changes in the final design and construction be reported in the operation permit application.

Thank you for the opportunity to review and comment on this letter.

Sincerely,

for *John Brown Jr*
C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/TH/bjb

cc: Robert Taylor
Harry Kerns - FDEP, Southwest District
Ken Kosky - KBN

March 16, 1994

Mr. Preston Lewis, P.E.
Florida Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED

MAR 18 1994

**Bureau of
Air Regulation**

Re: FDER Permit No. AC53-214903 & PSD-FL-190
Tiger Bay cogeneration facility
Tiger Bay Limited Partnership

Dear Mr. Lewis:

Since the Florida Department of Environmental Regulation (now the Florida Department of Environmental Protection, FDEP) issued the above-referenced permit to construct the Tiger Bay cogeneration facility, Destec on behalf of the Tiger Bay Limited Partnership has been finalizing the design details of the facility. Since our last update, several design changes have been identified which differ from information supplied to the FDEP; the purpose of this letter is to apprise you of these changes in accordance with the requirements of general condition 2 and specific condition 6 of the permit. We do not anticipate these changes, the addition of a waste water tank and two fuel oil tanks (the original application referenced four fuel oil tanks), will have any significant impact to your agency and, in that respect, we are asking for your concurrence.

Thank you in advance for your prompt consideration of this information. Should you need additional information, or have any questions, please feel free to contact me at your convenience at (713) 735-4087. Written confirmation of the conclusion reached in this correspondence is respectfully requested.

Sincerely,



Robert S. Chatham, P.E.

Enclosures
RSC

cc: Harry Kerns - FDEP, Southwest District
Robert Taylor
Ken Kosky - KBN

A:\CONST3.WPR

A. Waste Water Tank

During August 1993, Tiger Bay Limited Partnership (TBLP) notified the Florida Department of Environmental Protection (FDEP), Industrial Waste Water Section, that our steam host had requested that TBLP route any water USAC considers usable to USAC for use rather than unnecessarily sending it to the zero liquid discharge system (ZLD). This option is not intended to void the use of the ZLD.

In conjunction to the routing of waste water to USAC, TBLP proposes to construct and operate an open-top 1,400,000 gallon waste water tank. The tank dimensions are 92 feet diameter and 32 feet tall. This system has been designed to continuously transfer the 120 gpm (normal operation) flow of waste water from this waste water tank to the steam host. The tank is design to hold a minimum of five days (at maximum flow conditions) of waste water. This volume includes appropriate freeboard to account for the 8 inch storm event, therefore, the tank should have no significant impact on storm water flow.

The tank will normally operate near empty, between low level (30") and high level (54"), in order to provide the maximum amount of storage capacity in the event of an interruption of USAC's demand. Protection from an overflow event is provided by automatic closure of a block valve on the influent line, upon a high-high level (30 feet) alarm. A low-low level (18") alarm will shut down the export pumps for protection against operating dry. The current site plan, SK-1253-G-100.14 Rev A, reflects the most recent design information (see Attachment A).

B. Fuel Oil Tanks

The above referenced site plan shows the location of the two fuel oil storage tanks. The capacity of each tank is approximately 150,000 gallons. The original application, permit and SPCC plan referenced four fuel oil tanks. These fuel oil tanks will comply with the applicable sections of the application, permit and Florida Chapter 17-762.



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

March 16, 1994

Mr. Preston Lewis, P.E.
Florida Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED

MAR 18 1994

**Bureau of
Air Regulation**

Re: FDER Permit No. AC53-214903 & PSD-FL-190
Tiger Bay cogeneration facility
Tiger Bay Limited Partnership

Dear Mr. Lewis:

Since the Florida Department of Environmental Regulation (now the Florida Department of Environmental Protection, FDEP) issued the above-referenced permit to construct the Tiger Bay cogeneration facility, Destec on behalf of the Tiger Bay Limited Partnership has been finalizing the design details of the facility. Since our last update, several design changes have been identified which differ from information supplied to the FDEP; the purpose of this letter is to apprise you of these changes in accordance with the requirements of general condition 2 and specific condition 6 of the permit. We do not anticipate these changes, the addition of a waste water tank and two fuel oil tanks (the original application referenced four fuel oil tanks), will have any significant impact to your agency and, in that respect, we are asking for your concurrence.

Thank you in advance for your prompt consideration of this information. Should you need additional information, or have any questions, please feel free to contact me at your convenience at (713) 735-4087. Written confirmation of the conclusion reached in this correspondence is respectfully requested.

Sincerely,

Robert S. Chatham, P.E.

Enclosures
RSC

cc: Harry Kerns - FDEP, Southwest District
Robert Taylor
Ken Kosky - KBN

A:\CONST3.WPR



A. Waste Water Tank

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In conjunction to the routing of waste water to USAC, TBLP proposes to construct and operate an open-top 1,400,000 gallon waste water tank. The tank dimensions are 92 feet diameter and 32 feet tall. This system has been designed to continuously transfer the 120 gpm (normal operation) flow of waste water from this waste water tank to the steam host. The tank is design to hold a minimum of five days (at maximum flow conditions) of waste water. This volume includes appropriate freeboard to account for the 8 inch storm event, therefore, the tank should have no significant impact on storm water flow.

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B. Fuel Oil Tanks

The above referenced site plan shows the location of the two fuel oil storage tanks. The capacity of each tank is approximately 150,000 gallons. The original application, permit and SPCC plan referenced four fuel oil tanks. These fuel oil tanks will comply with the applicable sections of the application, permit and Florida Chapter 17-762.

ATTACHMENT A



Party, copy/file

RECEIVED
SEP 16 1993
Division of Air
Resources Management

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

September 15, 1993

Mr. Preston Lewis, P.E.
Florida Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: FDER Permit No. AC53-214903, PSD-FL-190, and AC53-230744
Tiger Bay cogeneration facility
Tiger Bay Limited Partnership

Dear Mr. Lewis:

The purpose of this letter is to notify you on behalf of Tiger Bay Limited Partnership that construction of the Tiger Bay cogeneration plant commenced on August 16, 1993.

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

Sincerely,

Robert S. Chatham, P.E.

Enclosures
RSC/tk

cc: Harry Kerns - FDEP, Southwest District
Robert Taylor
Ken Kosky - KBN

A:\CONST2.WPR

July 27, 1994

Mr. Cleveland Holladay
Bureau of Air Regulations
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED

JUL 29 1994

Bureau of
Air Regulation

**RE: Stack Diameter Change
Permit Nos. PSD-FL-190 and AC53-214903
Tiger Bay Limited Partnership
Tiger Bay Cogeneration Plant**

Dear Mr. Holladay,

Yesterday I spoke with Teresa Heron and mentioned that the as-built diameter for the gas turbine/heat recovery steam generator stack is 19 feet. The permit application stated that the proposed stack diameter would be 18 feet. Ms. Heron suggested that I contact you about this change. It is our opinion that this change is minor and we respectfully request your concurrence.

Should you have questions or comments about this matter, please contact me at (713) 735-4087.

Sincerely,

Robert S. Chatham

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

RSC:kro

cc: Ms. Teresa Heron - FDEP
File 1253

Hollaway.WPR