Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

September 5, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Farzie Shelton, Ch.E.
Environmental Coordinator
City of Lakeland
Department of Water and Electric Utilities
501 East Lemon Street
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

This is in reply to your August 10 letter requesting a refund of the $250 fee paid for pending permit modifications.

Both the statute you referred to (Section 403.0872(11)(a)(10), F.S.) and the applicable rule (F.A.C. Rule 62-4.050(4)(a)2.), state that to be exempt from the fee, the Title V permit must already be issued. Therefore, since the Title V permit has not been issued, the $250 fee will be required.

We trust that this clears up any misunderstanding that may have arisen about fees.

Sincerely,

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

CHF/aal/t

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

4APT-AEB

AUG 28 1995

RECEIVED

SEP 1 1995

Bureau of
Air Regulation

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

SUBJ: Approval of NSPS Custom Fuel Monitoring Schedule for Lakeland Electric & Water Plant Larsen (LEPL), Unit 8, Combined Cycle Gas Turbine System, Permit Nos. AC53-190437 and PSD-FL-166

Dear Mr. Fancy:

This is to acknowledge receiving a copy of June 27, 1995, letter from Ms. Farzie Shelton of LEPL (this letter was addressed to you), requesting approval of a customized fuel monitoring schedule for the above referenced project.

Since the authority for approving custom fuel monitoring plans under 40 CFR Part 60, Subpart GG has not been delegated to the State of Florida, we have reviewed LEPL's custom fuel monitoring schedule. Based on our review, we have determined that the proposed schedule is acceptable, since it complies with all items 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 with LEPL's request as an enclosure.

However, please note that in the proposed monitoring plan the reference methods were incorrectly listed as: ASTM D3245-81, and ASTM D4048-82. The approved methods are: ASTM D3246-81, and ASTM D4084-82, respectively. In their August 10, 1995, letter, the company acknowledged incorrectly identifying these methods, but failed to make the necessary correction in the attached revised monitoring plan.

If you have any questions regarding this letter, please contact Mr. Mirza P. Baig of my staff at 404/347-3555, vmn 4147.

Sincerely yours,

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

LAKELAND
ELECTRIC & WATER

Excellence Is Our Goal, Service Is Our Job

(813) 499-6603

Farzie Shelton
ENVIRONMENTAL COORDINATOR, Ch E.

August 10, 1995

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

Re: Charles Larsen Power Plant Unit No. 8--Combined Cycle Gas Turbine System
Permit Nos. PSD-FL-166; AC53-190437; AO53-219296; Customized Fuel
Monitoring Schedule and Sulfur Dioxide/Sulfuric Acid Mist Limits

Dear Clair:

On June 27, 1995, the City of Lakeland submitted a request for approval of a customized fuel monitoring schedule under 60 CFR §60.335, based on a U.S. Environmental Protection Agency guidance memorandum, for the above-referenced unit. Two typographical errors have been identified in the monitoring schedule proposed by the City and a corrected schedule is attached.

Specifically, two ASTM test methods were incorrectly identified. Test method "ASTM D3245-81" should be "ASTM D3246-81," and ASTM D4048-82" should be ASTM D4084-82."

We apologize for any inconvenience that these inadvertent errors may have caused. Thank you for your careful review and attention to the City's request, and please call me if you have any questions at (941) 499-6603.

Sincerely,

Farzie Shelton

Farzie Shelton
Environmental Coordinator
Department of Electric and Water Utilities

Attachment

cc: John Reynolds, FDEP (via fax)
Bill Thomas, FDEP Southwest District
David McNeal, Region IV, EPA
Mirza Baig, Region IV, EPA (via fax)
Angela Morrison, HGSS

LAKELAND
ELECTRIC & WATER

(813) 499-6603

Excellence Is Our Goal, Service Is Our Job

Farzie Shelton
ENVIRONMENTAL COORDINATOR, Ch E.

August 10, 1995

RECEIVED
AUG 10 1995
Bureau of
Air Regulation

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

RE: Charles Larsen Power Plant Unit No. 8--Combined-Cycle Gas Turbine System
Permit Nos. PSD-FL-166; AC53-190437; AO53-219296; Customized Fuel
Monitoring Schedule and Sulfur Dioxide/Sulfuric Acid Mist Limits

Dear Clair:

The City of Lakeland recently requested approval of a customized fuel monitoring schedule for the Charles Larsen Power Plant combined-cycle gas turbine system and approval of two minor permit corrections for the three permits identified above. These requests were made by letter dated June 27, 1995. The City understands that the Department has reviewed the requests and is in the process of preparing a response. The City appreciates the Department's timely review of the requests, but the City would like for the Department to reconsider the fee submitted by the City along with the requests.

When the requests were submitted in late June, a check in the amount of $250 was enclosed based on the Department's Rule 62-4.050(4)(q)5, Florida Administrative Code, because revisions were being requested to an air construction permit. Since then, the City of Lakeland has learned that the Department's fee rule regarding air construction permit revisions for Title V sources has been superseded by a fairly recent statutory amendment. Specifically, Section 403.0872(11)(a)10, Florida Statutes, as amended in 1994 (copy attached), provides that the Department may not require fees for changes or additions to a Title V source unless the activity triggers federal new source review. The statutory amendment provides that the costs for reviewing such changes or additions will be covered by the annual air emission fees paid by Title V sources. The City of Lakeland has requested only minor corrections to its air construction permit, and the changes do not trigger new source review. Since the City of Lakeland's Larsen Power Plant is a Title V source and new source review is not triggered, no fee should be required for the requested corrections to the Plant's air construction permit. The City of Lakeland therefore requests a refund of the $250 paid on June 27, 1995.

Thank you for your continued assistance and cooperation in this matter. If you have any questions or would like any additional information, please do not hesitate to contact me at (941) 499-6603.

Sincerely,

Farzie Shelton/am

Farzie Shelton
Environmental Coordinator
Department of Electric and Water Utilities

August 24, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Farzie Shelton
Environmental Coordinator
Department of Electric and Water Utilities
City of Lakeland
501 East Lemon Street
Lakeland, Florida 33801-5050

Dear Ms. Shelton:

This is in reply to your August 10 letter requesting a refund of the $250 fee paid for pending permit modifications.

Both the statute you referred to (Section 403.0872(11)(a)(10), F.S.) and the applicable rule (F.A.C. Rule 62-4.050(4)(a)2.) state that to be exempt from the fee, the Title V permit must already be issued. Therefore, since the Title V permit has not been issued, the $250 fee will be required.

We trust that this clears up any misunderstanding that may have arisen about fees.

Sincerely,

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

CHF/aal/t

sions monitoring method which has been approved by the United States Environmental Protection Agency under the regulations implementing 42 U.S.C. ss. 7651 et seq., or from a method approved by the department for purposes of this section.

6. The amount of each regulated air pollutant in excess of 4,000 tons per year allowed to be emitted by any source, or group of sources belonging to the same Major Group as described in the Standard Industrial Classification Manual, 1987, may not be included in the calculation of the fee. Any source, or group of sources, which does not emit any regulated air pollutant in excess of 4,000 tons per year, is allowed a one-time credit not to exceed 25 percent of the first annual licensing fee for the prorated portion of existing air-operation permit application fees remaining upon commencement of the annual licensing fees.

7. If the department has not received the fee by February 15 of the calendar year, the permittee must be sent a written warning of the consequences for failing to pay the fee by March 1. If the department has not received the fee by March 1 of the calendar year, the department shall impose, in addition to the fee, a penalty of 50 percent of the amount of the fee, plus interest on such amount computed in accordance with s. 220.807. The department may revoke any major air pollution source operation permit if it finds that the permitholder has failed to timely pay any required annual operation license fee, penalty, or interest.

8. During the years 1993 through 1999, inclusive, no fee shall be required to be paid under this section with respect to emissions from any unit which is an affected unit under 42 U.S.C. s. 7651c.

9. Notwithstanding the computational provisions of this subsection, the annual operation license fee for any source subject to this section shall not be less than $250, except that the annual operation license fee for sources permitted solely through general permits issued under s. 403.814 shall not exceed $50 per year.

10. Notwithstanding the provisions of s. 403.087(5)(a)4.a., authorizing air pollution construction permit fees, the department may not require such fees for changes or additions to a major source of air pollution permitted pursuant to this section, unless the activity triggers permitting requirements under Title I, Part C or Part D, of the federal Clean Air Act, 42 U.S.C. ss. 7470-7514a. Costs to issue and administer such permits shall be considered direct and indirect costs of the major stationary source air-operation permit program under s. 403.0873. The department shall, however, require fees pursuant to the provisions of s. 403.087(5)(a)4.a. for the construction of a new major source of air pollution that will be subject to the permitting requirements of this section once constructed and for activities triggering permitting requirements under Title I, Part C or Part D, of the federal Clean Air Act, 42 U.S.C. ss. 7470-7514a.

(b) Annual operation license fees collected by the department must be sufficient to cover all reasonable direct and indirect costs required to develop and administer the major stationary source air-operation permit program, which shall consist of the following elements to the extent that they are reasonably related to the regulation of major stationary air pollution sources, in accordance with United States Environmental Protection Agency regulations and guidelines:

1. Reviewing and acting upon any application for such a permit.

2. Implementing and enforcing the terms and conditions of any such permit, excluding court costs or other costs associated with any enforcement action.

3. Emissions and ambient monitoring.

4. Preparing generally applicable regulations or guidance.

5. Modeling, analyses, and demonstrations.

6. Preparing inventories and tracking emissions.

7. Implementing the Small Business Stationary Source Technical and Environmental Compliance Assistance Program.

8. The study conducted under subparagraph (a)1. and any audits conducted under paragraph (c).

(c) An audit of the major stationary source air-operation permit program must be conducted 2 years after the United States Environmental Protection Agency has given full approval of the program, or by the end of 1996, whichever comes later, to ascertain whether the annual operation license fees collected by the department are used solely to support any reasonable direct and indirect costs as listed in paragraph (b). A program audit must be performed biennially after the first audit.

(12) Permits issued under this section must allow changes within a permitted facility without requiring a permit revision, if the changes are not physical changes in, or changes in the method of operation of, the facility which increase the amount of any air pollutant emitted by the facility or which result in the emission of any air pollutant not previously emitted by the facility, and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions), provided that the facility provides the administrator and the department with 30 days' written, advance notice of the proposed changes. The department shall adopt rules implementing this flexibility requirement.

(13)(a) In order to ensure statewide consistency in the implementation of the national Acid Deposition Control Allowance Transfer System, a department district office or local pollution control program may not issue or administer permits under this section for any electrical power plant or any source that participates in the allowance transfer system.

(b) For emission units that are subject to continuous monitoring requirements under 42 U.S.C. ss. 7661-7661f or 40 C.F.R. part 75, compliance with nitrogen oxides emission limits shall be demonstrated based on a 30-day rolling average, except as specifically provided by 40 C.F.R. part 60 or part 76.

(14) In order to ensure statewide consistency in the permitting of major sources, a local pollution control program may not issue permits under this section for sources that belong to Major Group 26, Paper and Allied Products; for sources that belong to Major Group 28, Chemicals and Allied Products; or for sources that belong to Industry Number 2061, Cane Sugar, Except Refining, as defined in the Standard Industrial Classification Manual, 1987. This subsection expires July 1, 1997.

sions monitoring method which has been approved by the United States Environmental Protection Agency under the regulations implementing 42 U.S.C. ss. 7651 et seq., or from a method approved by the department for purposes of this section.

6. The amount of each regulated air pollutant in excess of 4,000 tons per year allowed to be emitted by any source, or group of sources belonging to the same Major Group as described in the Standard Industrial Classification Manual, 1987, may not be included in the calculation of the fee. Any source, or group of sources, which does not emit any regulated air pollutant in excess of 4,000 tons per year, is allowed a one-time credit not to exceed 25 percent of the first annual licensing fee for the prorated portion of existing air-operation permit application fees remaining upon commencement of the annual licensing fees.

7. If the department has not received the fee by February 15 of the calendar year, the permittee must be sent a written warning of the consequences for failing to pay the fee by March 1. If the department has not received the fee by March 1 of the calendar year, the department shall impose, in addition to the fee, a penalty of 50 percent of the amount of the fee, plus interest on such amount computed in accordance with s. 220.807. The department may revoke any major air pollution source operation permit if it finds that the permitholder has failed to timely pay any required annual operation license fee, penalty, or interest.

8. During the years 1993 through 1999, inclusive, no fee shall be required to be paid under this section with respect to emissions from any unit which is an affected unit under 42 U.S.C. s. 7651c.

9. Notwithstanding the computational provisions of this subsection, the annual operation license fee for any source subject to this section shall not be less than $250, except that the annual operation license fee for sources permitted solely through general permits issued under s. 403.814 shall not exceed $50 per year.

10. Notwithstanding the provisions of s. 403.087(5)(a)4.a., authorizing air pollution construction permit fees, the department may not require such fees for changes or additions to a major source of air pollution permitted pursuant to this section, unless the activity triggers permitting requirements under Title I, Part C or Part D, of the federal Clean Air Act, 42 U.S.C. ss. 7470-7514a. Costs to issue and administer such permits shall be considered direct and indirect costs of the major stationary source air-operation permit program under s. 403.0873. The department shall, however, require fees pursuant to the provisions of s. 403.087(5)(a)4.a. for the construction of a new major source of air pollution that will be subject to the permitting requirements of this section once constructed and for activities triggering permitting requirements under Title I, Part C or Part D, of the federal Clean Air Act, 42 U.S.C. ss. 7470-7514a.

(b) Annual operation license fees collected by the department must be sufficient to cover all reasonable direct and indirect costs required to develop and administer the major stationary source air-operation permit program, which shall consist of the following elements to the extent that they are reasonably related to the regulation of major stationary air pollution sources, in accordance with United States Environmental Protection Agency regulations and guidelines:

1. Reviewing and acting upon any application for such a permit.

2. Implementing and enforcing the terms and conditions of any such permit, excluding court costs or other costs associated with any enforcement action.

3. Emissions and ambient monitoring.

4. Preparing generally applicable regulations or guidance.

5. Modeling, analyses, and demonstrations.

6. Preparing inventories and tracking emissions.

7. Implementing the Small Business Stationary Source Technical and Environmental Compliance Assistance Program.

8. The study conducted under subparagraph (a)1. and any audits conducted under paragraph (c).

(c) An audit of the major stationary source air-operation permit program must be conducted 2 years after the United States Environmental Protection Agency has given full approval of the program, or by the end of 1996, whichever comes later, to ascertain whether the annual operation license fees collected by the department are used solely to support any reasonable direct and indirect costs as listed in paragraph (b). A program audit must be performed biennially after the first audit.

(12) Permits issued under this section must allow changes within a permitted facility without requiring a permit revision, if the changes are not physical changes in, or changes in the method of operation of, the facility which increase the amount of any air pollutant emitted by the facility or which result in the emission of any air pollutant not previously emitted by the facility, and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions), provided that the facility provides the administrator and the department with 30 days' written, advance notice of the proposed changes. The department shall adopt rules implementing this flexibility requirement.

(13)(a) In order to ensure statewide consistency in the implementation of the national Acid Deposition Control Allowance Transfer System, a department district office or local pollution control program may not issue or administer permits under this section for any electrical power plant or any source that participates in the allowance transfer system.

(b) For emission units that are subject to continuous monitoring requirements under 42 U.S.C. ss. 7661-7661f or 40 C.F.R. part 75, compliance with nitrogen oxides emission limits shall be demonstrated based on a 30-day rolling average, except as specifically provided by 40 C.F.R. part 60 or part 76.

(14) In order to ensure statewide consistency in the permitting of major sources, a local pollution control program may not issue permits under this section for sources that belong to Major Group 26, Paper and Allied Products; for sources that belong to Major Group 28, Chemicals and Allied Products; or for sources that belong to Industry Number 2061, Cane Sugar, Except Refining, as defined in the Standard Industrial Classification Manual, 1987. This subsection expires July 1, 1997.

sions monitoring method which has been approved by the United States Environmental Protection Agency under the regulations implementing 42 U.S.C. ss. 7651 et seq., or from a method approved by the department for purposes of this section.

6. The amount of each regulated air pollutant in excess of 4,000 tons per year allowed to be emitted by any source, or group of sources belonging to the same Major Group as described in the Standard Industrial Classification Manual, 1987, may not be included in the calculation of the fee. Any source, or group of sources, which does not emit any regulated air pollutant in excess of 4,000 tons per year, is allowed a one-time credit not to exceed 25 percent of the first annual licensing fee for the prorated portion of existing air-operation permit application fees remaining upon commencement of the annual licensing fees.

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10. Notwithstanding the provisions of s. 403.087(5)(a)4.a., authorizing air pollution construction permit fees, the department may not require such fees for changes or additions to a major source of air pollution permitted pursuant to this section, unless the activity triggers permitting requirements under Title I, Part C or Part D, of the federal Clean Air Act, 42 U.S.C. ss. 7470-7514a. Costs to issue and administer such permits shall be considered direct and indirect costs of the major stationary source air-operation permit program under s. 403.0873. The department shall, however, require fees pursuant to the provisions of s. 403.087(5)(a)4.a. for the construction of a new major source of air pollution that will be subject to the permitting requirements of this section once constructed and for activities triggering permitting requirements under Title I, Part C or Part D, of the federal Clean Air Act, 42 U.S.C. ss. 7470-7514a.

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2. Implementing and enforcing the terms and conditions of any such permit, excluding court costs or other costs associated with any enforcement action.

3. Emissions and ambient monitoring.

4. Preparing generally applicable regulations or guidance.

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8. The study conducted under subparagraph (a)1. and any audits conducted under paragraph (c).

(c) An audit of the major stationary source air-operation permit program must be conducted 2 years after the United States Environmental Protection Agency has given full approval of the program, or by the end of 1996, whichever comes later, to ascertain whether the annual operation license fees collected by the department are used solely to support any reasonable direct and indirect costs as listed in paragraph (b). A program audit must be performed biennially after the first audit.

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(13)(a) In order to ensure statewide consistency in the implementation of the national Acid Deposition Control Allowance Transfer System, a department district office or local pollution control program may not issue or administer permits under this section for any electrical power plant or any source that participates in the allowance transfer system.

(b) For emission units that are subject to continuous monitoring requirements under 42 U.S.C. ss. 7661-7661f or 40 C.F.R. part 75, compliance with nitrogen oxides emission limits shall be demonstrated based on a 30-day rolling average, except as specifically provided by 40 C.F.R. part 60 or part 76.

(14) In order to ensure statewide consistency in the permitting of major sources, a local pollution control program may not issue permits under this section for sources that belong to Major Group 26, Paper and Allied Products; for sources that belong to Major Group 28, Chemicals and Allied Products; or for sources that belong to Industry Number 2061, Cane Sugar, Except Refining, as defined in the Standard Industrial Classification Manual, 1987. This subsection expires July 1, 1997.

CUSTOMED FUEL MONITORING SCHEDULE

1. Monitoring of natural gas nitrogen content shall not be required in accordance with page 2 of the EPA guidance memorandum, attached.

2. Sulfur Monitoring

   a. Analysis for sulfur content of the natural gas shall be conducted using one of the EPA-approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternate method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3245-81; and ASTM D4048-82 as referenced in 40 CFR § 60.335(b)(2).

   b. Effective on the approval date of the customized fuel monitoring schedule, sulfur monitoring shall be conducted twice a month for six months. If this monitoring shows little variability in the 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 the sulfur content monitoring required for natural gas by 2(b) above shows little variability and the calculated sulfur dioxide emissions represent consistent compliance with the sulfur dioxide emission limits specified under 40 CFR § 60.333, sample analysis shall be conducted twice per year. This monitoring shall be conducted during the first and third quarters of each calendar year.

   d. Should any sulfur analysis as required by items 2(b) or 2(c) above indicate noncompliance with 40 CFR § 60.333, the City will notify the Department of Environmental Protection of such excess emission and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while this monitoring schedule is being reexamined.

3. The City will notify the Department of Environmental Protection of any change in natural gas supply for reexamination of this monitoring schedule. A substantial change in natural gas quality (i.e., sulfur content varying greater than 10 grains/1000 cf gas) shall be considered as a change in natural gas supply. Sulfur content of the natural gas will be monitored weekly during the interim period when this monitoring schedule is being reexamined.

4. Records of sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by the City for a period of three years, and shall be available for inspection by appropriate regulatory personnel.

5. The City will obtain the sulfur content of the natural gas from Florida Gas Transmission Company. (The data presented in Attachment B is based upon representative samples of natural gas taken by Florida Gas Transmission.)

ATTACHMENT

LAKELAND
ELECTRIC & WATER

Excellence Is Our Goal, Service Is Our Job

(813) 499-6603

Farzie Shelton
ENVIRONMENTAL COORDINATOR, Ch E.

June 27, 1995

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

RE: Charles Larsen Power Plant Unit No. 8--Combined Cycle Gas Turbine System
Permit Nos. PSD-FL-166; AC53-190437; AO53-219296; Customized Fuel
Monitoring Schedule and Sulfur Dioxide/Sulfuric Acid Mist Limits

Dear Clair:

As you may recall, the City of Lakeland's Charles Larsen Power Plant Unit No. 8 is a new 120-megawatt combined cycle gas turbine system that was permitted in 1991 under Rule 17-2.500, Florida Administrative Code (now Chapter 62-212, Florida Administrative Code). After the unit was constructed and the initial performance tests had been conducted, an air operation permit was issued by the Southwest District, as referenced above.

The Unit No. 8 gas turbine is subject to New Source Performance Standard (NSPS) Subpart GG (40 CFR §§ 60.330-60.335), which requires the owner or operator to monitor the sulfur and nitrogen content of the fuel it burns. By this letter, the City of Lakeland (the City) is requesting a customized fuel monitoring schedule for the natural gas it burns in the Larsen Unit No. 8 gas turbine. The City is also requesting that the sulfur dioxide and sulfuric acid mist limits be changed. In addition, the City is requesting clarification of the nitrogen oxides compliance testing requirements as set forth in the construction permit. In support of its requests, the City provides the following information.

Customized Fuel Monitoring Schedule-- NSPS Subpart GG requires that the sulfur and nitrogen content of fuel be monitored as follows. (1) If the turbine fuel is supplied by a bulk storage tank, then the sulfur and nitrogen content are to be determined whenever new fuel is transferred into the bulk storage tank. (2) If the turbine fuel is supplied without an intermediate bulk storage tank, then daily monitoring of the sulfur and nitrogen contents of the fuel is required. 40 CFR § 60.334(b). Since the natural gas used by the gas turbine does not pass through an intermediate bulk storage tank, the City is hereby requesting a customized fuel monitoring schedule as allowed by 40 CFR § 60.334(b)(2) for the Larsen Unit No. 8 gas turbine, while firing natural gas. Therefore, the City requests the following customized fuel

monitoring schedule that was developed based on an EPA guidance memorandum (Attachment A):

1. Monitoring of natural gas nitrogen content shall not be required in accordance with page 2 of the EPA guidance memorandum, attached.

2. Sulfur Monitoring

   a. Analysis for sulfur content of the natural gas shall be conducted using one of the EPA-approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternate method. The reference methods are: ASTM D1072-80; ASTM D3031-81; ASTM D3245-81; and ASTM D4048-82 as referenced in 40 CFR § 60.335(b)(2).

   b. Effective on the approval date of the customized fuel monitoring schedule, sulfur monitoring shall be conducted twice a month for six months. If this monitoring shows little variability in the 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 the sulfur content monitoring required for natural gas by 2(b) above shows little variability and the calculated sulfur dioxide emissions represent consistent compliance with the sulfur dioxide emission limits specified under 40 CFR § 60.333, sample analysis shall be conducted twice per year. This monitoring shall be conducted during the first and third quarters of each calendar year.

   d. Should any sulfur analysis as required by items 2(b) or 2(c) above indicate noncompliance with 40 CFR § 60.333, the City will notify the Department of Environmental Protection of such excess emission and the customized fuel monitoring schedule shall be reexamined. The sulfur content of the natural gas will be monitored weekly during the interim period while this monitoring schedule is being reexamined.

3. The City will notify the Department of Environmental Protection of any change in natural gas supply for reexamination of this monitoring schedule. A substantial change in natural gas quality (i.e., sulfur content varying greater than 10 grains/1000 cf gas) shall be considered as a change in natural gas supply. Sulfur content of the natural gas will be monitored weekly during the interim period when this monitoring schedule is being reexamined.

4. Records of sampling analysis and natural gas supply pertinent to this monitoring schedule shall be retained by the City for a period of three years, and shall be available for inspection by appropriate regulatory personnel.

5. The City will obtain the sulfur content of the natural gas from Florida Gas Transmission Company. (The data presented in Attachment B is based upon representative samples of natural gas taken by Florida Gas Transmission.)

Annual Sulfur Dioxide Limit--As a result of recent information, the City has identified the need to change the annual sulfur dioxide limit for the combined cycle gas turbine when firing natural gas. The City has obtained information which suggests that the sulfur content of 2 grains per 1000 cubic feet (cf) of natural gas, used in permitting the gas turbine, represented only the hydrogen sulfide in the gas and not the total sulfur. The total sulfur content includes the sulfur from the mercaptans which are added for safety reasons. The City is therefore requesting that the annual sulfur dioxide emission limit for the gas turbine emissions from the combustion of natural gas be changed from 2.6 tons per year to 8.6 tons per year, based on a sulfur content of 10 grains per 1000 cf in the natural gas.

While the maximum amount of sulfur allowed by the Department of Energy regulations is 10 grains per 100 cf (i.e., 100 grains per 1000 cf) of natural gas, natural gas in Florida rarely contains this amount of sulfur. In 1990, KBN Engineering and Applied Sciences, Inc., obtained eight months of sulfur data from Florida Gas Transmission Company. (Attachment C). The total sulfur ranged from 0.05 to 0.8 grains per 100 cf (i.e., 0.5 to 8 grains per 1000 cf) of gas. Because of the potential variability of sulfur concentrations from both hydrogen sulfide and mercaptan, KBN has suggested using 1 grain per 100 cf (i.e., 10 grains per 1000 cf) as a maximum value representative of natural gas in Florida. Reviews of data since 1990 indicate that while the average sulfur content may vary, individual maximum sulfur concentrations from year-to-year fall within 1 grain per 100 cf (i.e., 10 grains per 1000 cf).

The City therefore believes that the requested 10 grains per 1000 cf is an appropriate basis upon which to establish an annual sulfur dioxide limit for the Larsen gas turbine. It should be noted that the increase in annual emissions when firing natural gas will in no way affect the air quality impact analysis previously performed, since it was performed based on sulfur dioxide emissions from the combustion of No. 2 fuel oil.

Since there will be no increase in the total annual emissions or an increase in fuel consumed by the Larsen gas turbine, no formal modification to the PSD permit is required for the change in the annual emission limit when natural gas is fired. The City therefore

respectfully requests that Table 1 of Permit No. PSD-FL-166 be revised to reflect the more accurate limit for annual sulfur dioxide emissions from natural gas, as follows:

	Gas Turbine and HRSG Tons Per Year	
	Gas	Oil
SO_2 . . .	~~2.6~~ 8.6	307

The City also requests that the same type of revision be made to Specific Condition 5 of Permit No. AO53-219296, as follows:

	Tons Per Year	
	Gas	Oil
SO_2	~~2.6~~ 8.6	307

Sulfuric Acid Mist Annual Limits--When the PSD permit was originally issued, a typographical error was apparently made in the annual emission limits for sulfuric acid mist, for both natural gas and oil. This error was subsequently repeated when the operation permit was issued. Both the application submitted by the City *and* the "Best Available Control Technology" (BACT) determination attached to and made a part of the PSD permit provide for sulfuric acid mist limits of 0.8 tons per year for gas and 27.4 tons per year for oil. Because oil use was ultimately limited to one-third of the annual capacity factor, the appropriate limit for oil would be 9.13 tons per year. It is unclear how limits of "__" for gas and "0.0032" tons per year for oil were established in Table I of the PSD permit. (Copies of excerpts from the PSD permit are included as Attachment D.) All of the analyses for permit issuance were based on the higher limits. Because this was apparently a simple typographical error and oversight, and no physical or operational change is being made that would result in increased emissions, the City respectfully requests that the PSD and operation permits be corrected to include the appropriate sulfuric acid mist limits, as follows:

PSD Permit Table I:

	Gas Turbine and HRSG Tons Per Year		
	Gas		Oil
Sulfuric Acid Mist . . .	~~----~~ 0.8	~~3.2 x 10^{-3}~~	9.13

Air Operation Permit Specific Condition 5:

	Tons Per Year			
	Gas			Oil
S. Acid Mist	~~----~~	0.8	~~0.0032~~	9.13

Correction of NOx Emissions to ISO Conditions--Specific condition 13 of the PSD permit requires that when performance tests are conducted to determine compliance with the nitrogen oxides (NOx) standard, the measured NOx must be adjusted to ISO ambient atmospheric conditions according to a specified correction factor. This correction to ISO conditions is only required under NSPS Subpart GG to determine compliance with the NSPS limit and is not required to determine compliance with the much lower BACT limit of 25 ppm for gas and 42 ppm for oil. The City therefore respectfully requests that Specific Condition 13 be revised to clarify that the correction must be done only for the initial performance test to determine compliance with the NSPS limit, as follows:

> During the initial performance tests, to determine compliance with the ~~proposed~~ NSPS NOx standard, . . .

As required under Rule 62-4.050(4)(q)5., Florida Administrative Code, we have enclosed a check in the amount of $250. In addition, four copies of the request are enclosed for use by the Department. Thank you for your consideration of this request. If you or you staff have any questions about this request please call me at (941) 499-6603.

Sincerely,

Farzie Shelton/arm

Farzie Shelton
Environmental Coordinator
Department of Electric and Water Utilities

cc: Bill Thomas, FDEP Southwest District
David McNeal, Region IV, EPA
Angela Morrison, HGSS

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
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

be biweekly, followed by quarterly, then semiannual, given at least six months of data demonstrating little variability in sulfur content and compliance with §60.333 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 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 382-2675.

Attachment

cc: John Cronshaw
George Walsh
Robert Ajax
Earl Salo

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 measuremant 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 anaylsis 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.

TOTAL P.03

ANALYSIS

DATE: 06/14/85
TIME: 14:11
ANALYZER#: 1

ANALYSIS TIME: 345
CYCLE TIME: 360
MODE: RUN

STREAM SEQUENCE: 1
STREAM#: 1
CYCLE START TIME: 14:05

COMP NAME	COMP CODE	MOLE %	GAL/MCF**	B.T.U.*	REL DEN*
HEXANE +	151	0.060	0.0280	3.06	0.0018
PROPANE	152	0.384	0.1057	9.68	0.0058
I-BUTANE	153	0.099	0.0325	3.24	0.0020
N-BUTANE	154	0.078	0.0246	2.55	0.0016
IPENTANE	155	0.031	0.0112	1.23	0.0008
NPENTANE	156	0.018	0.0063	0.70	0.0004
NITROGEN	157	0.325	0.0358	0.00	0.0031
METHANE	158	96.188	16.3006	973.52	0.5327
CO2	159	0.802	0.1367	0.00	0.0122
ETHANE	160	2.036	0.5445	36.11	0.0211
TOTALS		100.000	17.2238	1030.06	0.5817

* @ 14.730 PSIA & UNCORRECTED FOR COMPRESSIBILITY

** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) = 1.0022
DRY B.T.U. @ 14.730 PSIA & 60 DEG. F CORRECTED FOR (1/Z) = 1032.3
REAL RELATIVE DENSITY = 0.5827
UNNORMALIZED TOTAL = 99.87
ANALOG INPUT CHANNEL 1 = H 2 S 140 = 7.9374 E-02
ANALOG INPUT CHANNEL 2 = WATER 144 = 4.8690

ACTIVE ALARMS

NONE

FLORIDA GAS TRANSMISSION CO.
BROOKER LAB- MAINLINE
STANDARD GAS 1042.0/0.5940
CERTIFIED VALUE BTU 1042.0 GRAV. 0.5940
TOTAL SULFUR 0.15 GR/CCF H^2S 0.06 GR/CCF
H^2O 4.5 #/MMCF BY [signature]
TOTAL SULFUR DOWNSTREAM 0.30 GR/CCF

Sulfur Content, Heat Content, and SO_2 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.

TABLE 1
ALLOWABLE EMISSION LIMITS
Combined Cycle Combustion Turbine

Pollutant	Standards: Gas Firing	Standards: No. 2 Fuel Oil Firing	Gas Turbine and HRSG[a] Tons Per Year: Gas	Gas Turbine and HRSG[a] Tons Per Year: Oil	Basis
NO_x	25 ppm at 15% oxygen on a dry basis	42 ppmv at 15 percent oxygen on a dry basis	425	244	BACT
SO_2	Natural gas as fuel	0.2 percent S by weight	2.6	307	BACT
PM/PM_{10}	0.006 lb/MMBtu	0.025 lb/MMBtu	22	22	BACT
VOC	-	-	9	6.7	BACT
CO	-	-	232	79	BACT
Mercury (Hg)	-	3.0×10^{-6} lbs/MMBtu	—	.003	Est. by Appl.
Lead (Pb)	-	2.8×10^{-5} lbs/MMBtu	—	0.03	" "
Beryllium (be)	-	2.5×10^{-6} lbs/MMBtu	—	.003	BACT
Sulfuric Acid Mist	Natural gas as fuel	Low sulfur content oil	—	3.2×10^{-3}	BACT *

(a) Emissions rates based on 100 percent capacity factor for natural gas and 1/3 capacity factor for oil firing.

Attachment D

Best Available Control Technology (BACT) Determination
City of Lakeland-Charles Larsen Power Plant
Polk County

The applicant proposes to install a combustion turbine generator at their facility in Lakeland. The generator system will consist of a single nominal 80 megawatt (MW) combustion turbine, and a single heat recovery steam generator (HRSG) which will be used to repower an existing nominal 40 MW steam turbine.

The combustion turbine will be capable of both combined cycle and simple cycle operation. The applicant requested that the combustion turbine use either natural gas or distillate oil. The applicant has indicated the maximum annual tonnage of regulated air pollutants emitted from the facility based on 100 percent capacity and type of fuel fired at ISO conditions to be as follows:

Pollutant	Potential Emissions (tons/yr)		PSD Significant Emission Rate (tons/yr)
	Natural Gas	Fuel Oil	
NOx	425	732	40
SO_2	2.6	920	40
PM	22.0	66	25
PM_{10}	22.0	66	15
CO	232	237	100
VOC	9	20.0	40
H_2SO_4	0.8	27.4	7 *
Be	0.0	0.01	0.0004
Hg	0.0	0.01	0.1
Pb	0.0	0.12	0.6

Florida Administrative Code Rule 17-2.500(2)(f)(3) requires a BACT review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in the previous table.

Date of Receipt of a BACT Application

December 17, 1990