

Florida Department of Environmental Protection

Bob Martinez Center 2600 Blair Stone Road Tallahassee, Florida 32399-2400 Charlie Crist Governor

Jeff Kottkamp Lt. Governor

Michael W. Sole Secretary

October 30, 2007

Electronically Sent - Received Receipt Requested

Mr. Allen Czerkiewicz R.O. and Plant Manager Orange Cogeneration L.P. Orange Cogeneration Facility P.O. Box 782 Bartow, Florida 33831

Re:

PROPOSED Title V Air Operation Permit Renewal

Project No. 1050231-010-AV Orange Cogeneration Facility

Dear Mr. Czerkiewicz:

One copy of the PROPOSED Determination for the Title V permit renewal for the Orange Cogeneration Facility located at 1901 Clear Springs Mine Road, Bartow, Polk County, is enclosed. This letter is only a courtesy to inform you that the DRAFT Title V permit has become a PROPOSED Title V permit.

An electronic version of this determination has been provided to the United States Environmental Protection Agency (USEPA) Region 4 office for their review.

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the PROPOSED Title V permit is made by the USEPA within 45 days, the PROPOSED Title V permit will become a FINAL Title V permit no later than 55 days after the date on which the PROPOSED Title V permit was mailed (posted) to USEPA. If USEPA has an objection to the PROPOSED Title V permit, the FINAL Title V permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

If you should have any questions, please contact Bruce Mitchell at 850/413-9198.

Sincerely,

Trina L. Vielhauer

Chief

Bureau of Air Regulation

& Vielhaun

TLV/jfk/rbm

Enclosures

Copy furnished to:

Allen Czerkiewicz, Orange Cogeneration Facility (<u>allen.czerkiewicz@nsgen.com</u>)

Gwynne Johnson, Orange Cogeneration Facility (gwynne.johnson@nsgen.com)

David Kellermeyer, Northern Star Generation Services Company, LLC (dave.kellermeyer@nsgen.com)

Scott Osbourn, Golder Associates, Inc. (sosbourn@golder.com)

Mara Nasca, Southwest District (Mara.Nasca@dep.state.fl.us)

Posted for U.S. EPA Region 4 Review

PROPOSED Determination

Orange Cogeneration L.P. Orange Cogeneration Facility

Title V Permit Renewal PROPOSED Title V Permit Project No. 1050231-010-AV

1. Public Notice.

An Intent to Issue Title V Air Operation Permit Renewal to the Orange Cogeneration L.P. for the Orange Cogeneration Facility located at 1901 Clear Springs Mine Road, Bartow, Polk County, was clerked on September 21, 2007. The Public Notice of Intent to Issue Title V Air Operation Permit Renewal was published in The Polk County Democrat on September 27, 2007. The DRAFT Permit was available for public inspection at the permitting authority's office in Tallahassee. Proof of publication of the Public Notice of Intent to Issue Title V Air Operation Permit Renewal was received on October 10, 2007.

II. Public Comment(s).

Ms. Gwynne Johnson, Alternate Designated Representative with the Orange Cogeneration Facility, submitted comments on behalf of the facility on October 26, 2007, via e-mail. Ms. Johnson requested that we change the Permit Applicant and Owner of the facility to: Orange Cogeneration L.P., Orange Cogeneration Facility, 1901 Clear Springs Road, Bartow 33930; and, the mailing address to: Orange Cogeneration L.P., P.O. Box 782, Bartow, Florida 33831.

III. Conclusion.

The permitting authority will issue the PROPOSED Title V Operation Permit Renewal, No. 1050231-010-AV, with any changes noted above.

Statement of Basis

Title V Air Operation Permit Renewal No. 1050231-010-AV
Orange Cogeneration L.P.
Orange Cogeneration Facility
Polk County

This Title V Air Operation Permit Renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213, and 62-214. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

The existing facility consists of two combined cycle combustion turbine units and an auxiliary boiler. The combined cycle units consist of two combustion turbine—electrical generator sets, two heat recovery steam generators (HRSG), two exhaust stacks, and a common steam turbine-electrical generator set. The facility also includes miscellaneous unregulated and insignificant emissions units and activities.

Combined cycle Units 1 and 2 are identical systems. The combined cycle units began commercial operation in 1995. Each unit consists of a General Electric Model LM6000 combustion turbine with dry low emission combustor technology and an unfired HRSG. Each combustion turbine-electrical generator set is rated at 41.4 megawatts (MW) based on a compressor inlet temperature of 47°F. The maximum heat input rate to each unit is 377.0 MMBtu per hour from firing natural gas and/or biogas based on the lower heating value (LHV) of these fuels. Steam produced in each HRSG is delivered to a common steam turbine-electrical generator set rated at 37 MW. Steam is then extracted and delivered to the adjacent juice processing facility. Exhaust from each HRSG is ducted to a separate stack that is 11 feet in diameter and 100 feet tall.

Combined cycle gas turbines Unit 1 and Unit 2 are regulated under: Acid Rain, Phase II; Rule 62-212.400(PSD), F.A.C.; Permit No. AC53-233851/PSD-FL-206, and subsequent amendments (A thru D); and, 40 CFR 60, Subpart GG, Standards of Performance for New Stationary Gas Turbines. Each unit underwent a revised BACT determination dated March 7, 1995. Nitrogen oxides (NOx) emissions are controlled by the use of dry low emissions (DLE) combustors and compliance is determined by a continuous emissions monitoring system (CEMS). Since there are no post-combustion controls associated with the two combined cycle combustion turbine units and compliance for NOx is by CEMS, then continuous assurance monitoring (CAM) does not apply.

The auxiliary boiler is a two drum bent tube boiler manufactured by Zurn Nepco. The boiler began commercial operation in 1995. The maximum heat input rate is 100 MMBtu/hr from the firing of natural gas and/or biogas based on the higher heating value (HHV) of the fuel. The firing of natural gas is considered BACT for the emissions of particulate matter and sulfur dioxide. The emissions unit underwent a revised BACT Determination dated March 7, 1995. NOx Emissions are controlled with low-NOx burners. The exhaust is vented through a stack that is 3.7 feet in diameter and 65 feet tall.

The auxiliary boiler is subject to only the recordkeeping requirements of 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, because it combusts only natural gas and/or biogas. It is also subject to Rule 62-296.406, F.A.C., Fossil Fuel Steam Generators with Less Than 250 Million Btu Per Hour Heat Input, New and Existing Emissions Units. Since there are no post-combustion controls, then CAM does not apply.

Based on the Title V permit renewal application received July 5, 2007, this facility is not a major source of hazardous air pollutants (HAPs).

Regarding the permit, the following changes were made for permit improvements:

For permit text reduction and readability, all identical and repeated requirements related to
notification, testing, recordkeeping and reporting for performance testing contained in Rule 62297.310, F.A.C., were moved and consolidated into Appendix STR, Standard Testing
Requirements.

- All references of the Appendices were consolidated from the permit and listed only once in the Table of Contents. They are referenced and made a part of the permit in Section II., Facility-wide Conditions, Condition 1.
- The latest version of the Title V Conditions, Appendix TV-6, was updated in the affected permit's conditions.
- CAM plan requirements were clarified for the combined cycle combustion turbines and the auxiliary boiler in Section I., Facility Information., Subsection A., Facility Description. No CAM Plans are required.
- The combined cycle combustion turbines (CCCTs) have a required fuel sulfur analysis frequency of once per six months and the auxiliary boiler had a required fuel sulfur analysis frequency of once each calendar quarter (1050231-009-AV) and using the same ASTM Methods. Since the CCCTs and the auxiliary boiler fire the same natural gas and biogas fuels, the testing frequency for the analysis of the sulfur content of the natural gas and biogas for the CCCTs and the auxiliary boiler have been changed so that they are identical and in accordance with the Custom Fuel Monitoring Schedule (see Appendix CFMS) for the CCCTs. In addition, the changes include amendments made to the NSPS Subpart GG, including the updated ASTM Methods and who can perform the analysis. See specific conditions A.18. and B.13.
- Since the NSPS Subpart GG requirements do not allow for excess emissions and the exclusion of NOx data during startup, shutdown and malfunction, then the following statement in specific condition A.10 (1050231-009-AV) is removed because of the conflict with 40 CFR 60.334(j):
 - (1) <u>Startup, Shutdown, and Malfunction</u>. CEMS data of startup/shutdown or malfunction shall not be used to calculate emission averages for compliance pursuant to 40 CFR 60.8(c).

Orange Cogeneration L.P.
Orange Cogeneration Facility
Facility ID No. 1050231
Polk County

Title V Air Operation Permit Renewal PROPOSED Permit Project No. 1050231-010-AV

Permitting Authority:

State of Florida
Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
Permitting North Section
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: 850/488-0114

Fax: 850/922-6979

Compliance Authority:

Department of Environmental Protection
Southwest District Office
Air Resource Section
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926

Phone: (813) 632-7600 Fax: (813) 632-7668

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Permittee:

Orange Cogeneration L.P. 1901 Clear Springs Road Bartow, Florida 33830 PROPOSED Permit No. 1050231-010-AV Orange Cogeneration Facility Facility ID No. 1050231 SIC No. 4911

The purpose of this permitting action is to renew the Title V air operation permit. The existing facility is located at 1901 Clear Springs Mine Road, Bartow, Polk County; UTM Coordinates: Zone 17, 418.7 km East and 3083.0 km North; Latitude: 27° 52' 15" North and Longitude: 81° 49' 31" West.

This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, 62-213 and 62-214. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Effective Date: January 1, 2008

Renewal Application Due Date: July 5, 2012

Expiration Date: December 31, 2012

Joseph Kahn, Director Division of Air Resource Management

Subsection A. Facility Description.

The existing facility consists of two combined cycle combustion turbine units. The combined cycle units consist of two combustion turbine—electrical generator sets, two heat recovery steam generators (HRSG), two exhaust stacks, and a common steam turbine-electrical generator set. The facility also includes an auxiliary boiler fired with natural gas and biogas with an associated stack. Also included in this permit are miscellaneous unregulated and insignificant emissions units and activities.

For combined cycle combustion turbine Units 1 and 2, there are no post-combustion controls; therefore, the Compliance Assurance Monitoring (CAM) provisions do not apply. Since there are no post-combustion controls associated with the auxiliary boiler, then the CAM provisions do not apply.

Based on the Title V permit renewal application received July 5, 2007, this facility is not a major source of hazardous air pollutants (HAPs).

Subsection B. Summary of Emissions Units

EU No.	Brief Description
001	Combined Cycle Combustion Turbine with an Unfired HRSG, Unit 1
002	Combined Cycle Combustion Turbine with an Unfired HRSG, Unit 2
003	Auxiliary Boiler

Please reference the Permit No., Facility ID No., and appropriate Emissions Units on all correspondence, test report submittals, applications, etc.

- 1. <u>Appendices</u>. The Appendices identified in the Table of Contents are attached as an enforceable part of the permit unless otherwise indicated.
- 2. Prevention of Accidental Releases (Section 112(r) of CAA).
- a. The permittee shall submit its Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center when, and if, such requirement becomes applicable. Any Risk Management Plans, original submittals, revisions or updates to submittals, should be sent to: RMP Reporting Center, Post Office Box 1515, Lanham-Seabrook, MD 20703-1515; and telephone: 301/429-5018. and.
- b. The permittee shall submit to the permitting authority Title V certification forms or a compliance schedule in accordance with Rule 62-213.440(2), F.A.C. [40 CFR 68]
- 3. Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3)(a)2., F.A.C., shall be submitted to the Department and EPA within 60 (sixty) days after the end of the calendar year using DEP Form No. 62-213.900(7), F.A.C. This condition implements the requirements of Rules 62-213.440(3)(a)2. & 3., F.A.C. See Condition 51. of Appendix TV-6, Title V Conditions. [Rules 62-213.440(3) and 62-213.900, F.A.C.]
- 4. Compliance Authority. The permittee shall submit all compliance related notifications and reports required of this permit to: Department of Environmental Protection, Southwest District Office, Air Resource Section, 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926. The District telephone number is 813/632-7600 and facsimile number is 813/632-7668.
- 5. U.S. EPA Region 4. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to: United States Environmental Protection Agency, Region 4, Air, Pesticides & Toxics Management Division, Air & EPCRA Enforcement Branch, Air Enforcement Section, 61 Forsyth Street, Atlanta, Georgia 30303-8960. The telephone number is 404/562-9155 and the facsimile number is 404/562-9163.
- 6. Certification by Responsible Official (RO). In addition to the professional engineering certification required for applications by Rule 62-4.050(3), F.A.C., any application form, report, compliance statement, compliance plan and compliance schedule submitted pursuant to Chapter 62-213, F.A.C., shall contain a certification signed by a responsible official that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Any responsible official who fails to submit any required information or who has submitted incorrect information shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary information or correct information. [Rule 62-213.420(4), F.A.C.]

EU Nos.	Brief Description
001 and 002	Combined cycle Units 1 and 2 are identical systems. The combined cycle units began commercial operation in 1995. Each unit consists of a General Electric Model LM6000 combustion turbine with dry low emission combustor technology and an unfired HRSG. Each combustion turbine-electrical generator set is rated at 41.4 megawatts (MW) based on a compressor inlet temperature of 47°F. The maximum heat input rate to each unit is 377.0 MMBtu per hour from firing natural gas and/or biogas based on the lower heating value (LHV) of these fuels. Steam produced in each HRSG is delivered to a common steam turbine-electrical generator set rated at 37 MW. Steam is then extracted and delivered to the adjacent juice processing facility. Exhaust from each HRSG is ducted to a separate stack that is 11 feet in diameter and 100 feet tall.

Combined cycle gas turbines Unit 1 and Unit 2 are regulated under: Acid Rain, Phase II; Rule 62-212.400(PSD), F.A.C.; Permit No. AC53-233851/PSD-FL-206, and subsequent amendments (A thru D); and, 40 CFR 60, Subpart GG, Standards of Performance for New Stationary Gas Turbines. Each unit underwent a revised BACT determination dated March 7, 1995. Nitrogen oxides (NOx) emissions are controlled by the use of dry low emissions (DLE) combustors and compliance is determined by a continuous emissions monitoring system (CEMS). Since there are no post-combustion controls associated with the two combined cycle combustion turbine units, then CAM does not apply.

ESSENTIAL POTENTIAL TO EMIT (PTE) PARAMETERS

A.1. Permitted Capacity. The maximum operation heat input rates are as follows:

EU Nos.	MMBtu/hr Heat Input	Fuel Type
001 and 002	377.0 1	Natural Gas and/or Biogas

¹ Maximum heat input at 47°F and LHV of the fuel.

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and 1050231-007-AC/PSD-FL-206D]

- **A.2.** Emissions Units Operating Rate Limitation After Testing. The operating rate of an emissions unit may be restricted based on compliance testing. See Appendix STR (Stack Testing Requirements). [Rule 62-297.310(2), F.A.C.]
- **A.3.** Methods of Operation Fuels. Any combination of natural gas and biogas shall be fired in the combustion turbine. [Rule 62-213.410, F.A.C.]
- **A.4.** Hours of Operation. The emissions units may operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

EMISSION LIMITATIONS AND STANDARDS

{Permitting Note: Unless otherwise specified, the averaging times for specific condition **A.6.** are based on the specified averaging time of the applicable test method.}

A.5. <u>Sulfur Dioxide (SO₂) - Sulfur Content</u>. The natural gas and biogas sulfur content shall not exceed 1 grain per hundred cubic feet (standard conditions). This fuel sulfur limitation is more stringent than the NSPS sulfur dioxide limitation and thus assures compliance with 40 CFR 60.333. [Rules 62-4.070(3) and 62-213.440, F.A.C.; and AC53-233851B/PSD-FL-206B]

A.6. Emission Limits.

a. The maximum allowable emissions from each emissions unit are as follows:

Pollutant	Emissions Limits			
Foliutant	Natural Gas and/or Biogas	lbs/hr	TPY	Basis
NOx	15 ppmvd at 15% oxygen ³	22.1 3	97.0	BACT
Carbon Monoxide (CO)	30 ppmvd	27.8	127.0	BACT
Particulate Matter (PM/PM ₁₀ ¹)		5 ²	21.9 ²	BACT
Volatile Organic Compounds (VOC)	10 ppmvd	4 2	17.4^{2}	BACT
Visible Emissions (VE)	10% opacity, 6-minute average			BACT

¹ All PM is assumed to be PM₁₀ (PM with an aerodynamic diameter less than or equal to 10 microns).

b. <u>Alternate Standard for Startup and Shutdown</u>. The maximum allowable NOx emissions resulting from a startup or shutdown of either combustion turbine shall not exceed 22.1 lbs/hr, based on a simple 4-hour moving average commencing with the beginning of a startup or ending at the conclusion of a shutdown of the unit. The simple 4-hour moving average shall be based on all available data excluding calibration data and periods of emissions due to malfunction during the startup or shutdown period. A fuel switch is not considered a startup.

{Permitting Note: The limitations of specific condition A.6. are more stringent than the NSPS NOx limitation and thus ensure compliance with 40 CFR 60.332.}

[AC53-233851B/PSD-FL-206B; 1050231-002-AC; 1050231-007-AC/PSD-FL-206D, Table 1; and 1050231-008-AC, Table 1]

EXCESS EMISSIONS

{Permitting Note: The Excess Emissions Rule at Rule 62-210.700, F.A.C., cannot vary any requirement of an NSPS or NESHAP provision.}

- A.7. Excess Emissions. For excess emissions with regard to the BACT limits in specific condition A.6., see Appendix CC (Common Conditions). For excess emissions regarding the NSPS Subpart GG provisions, see Appendix NA (NSPS Subpart A General Provisions) and Appendix NGG (NSPS Subpart GG Stationary Gas Turbines). [Rules 62-210.700(1) & (4), F.A.C.; and 40 CFR 60.7]
- A.8. Excess Emissions Combustor Tuning. Excess emissions resulting from a combustor tuning session shall be permitted provided the tuning session is performed in accordance with the manufacturer's specifications and in no case shall exceed 72 hours in any calendar year. A "tuning session" would occur after a combustor changeout, a repair to a combustor, or as required to maintain compliance. Prior to performing any tuning session, the permittee shall provide the Compliance Authority with an advance notice that details the activity and proposed tuning schedule. The notice may be made by telephone, facsimile transmittal, or electronic mail. [Rules 62-210.700(1) & (5), F.A.C.; and 1050231-008-AC]
- **A.9.** Excess Emissions by CEMS. The CEMS for NOx shall be used to determine periods of excess emissions. Excess emissions are defined for each emissions unit as any simple 4-hour moving average period during which the average emissions exceed the emission limits of specific condition **A.6.** Periods of malfunction and other excess emission events shall be monitored, recorded and reported with excess emissions following the format and requirements of 40 CFR 60.7. [Rules 62-4.070(3), 62-210.700(1) & (5), and 62-213.440, F.A.C.; and applicant request]

² For informational purposes only.

³ Based on a simple 4-hour moving average.

TEST METHODS AND PROCEDURES

- **A.10.** Testing Requirements. See Appendix STR (Stack Testing Requirements) of this permit for notification, testing, recordkeeping and reporting requirements regarding a performance test. Compliance tests shall be conducted on both natural gas and biogas fuels (provided biogas fuels become available) unless previous test results or fuel analysis documents that the emissions are independent of fuel fired, in which case tests may be conducted on either fuel. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report. [Chapter 62-297, F.A.C.; AC53-233851B/PSD-FL-206B; and 1050231-002-AC]
- **A.11.** Testing for NO_X . Compliance with the NO_X limits shall be continuously demonstrated using the CEMS data. [1050231-007-AC/PSD-FL-206D]
- A.12. <u>Test Methods</u>. For PM tests, EPA Method 5 shall be used or EPA Method 17 may be used if the stack flue gas temperature is less than 320°F. CO tests shall be conducted using EPA Method 10. VOC tests shall be conducted using EPA Method 18 or 25A. VE tests shall be conducted using EPA Method 9. [Chapter 62-297, F.A.C.; 40 CFR 60, Appendix A; Rules 62-204.800 and 62-297.401, F.A.C.; and AC53-233851B/PSD-FL-206B]
- **A.13.** Testing Frequency. Compliance testing for emissions of PM, CO and VOC shall be performed in the *year prior to renewal* of this permit. VE tests shall be conducted annually. [Rule 62-297.310(7), F.A.C.; and AC53-233851B/PSD-FL-206B]

MONITORING OF OPERATIONS

- A.14. Alternate Monitoring Plan: Use of NOx CEMS For Continuous Compliance. Pursuant to 40 CFR 64.2(b)(1)(vi), the applicant has elected to use the existing certified Acid Rain NOx CEMS for continuous compliance in order to be exempted from the CAM requirements contained in 40 CFR 64. The following alternate monitoring may be used to demonstrate compliance with the ppmvd and the lbs/hr standards for NOx.
 - (a) The NOx CEMS data shall be used in lieu of the monitoring system for water-to-fuel ratio and the reporting of excess emissions in accordance with 40 CFR 60.334(b). The calibration of the water-to-fuel ratio-monitoring device required in 40 CFR 60.335(c)(2) will be replaced by the 40 CFR 75 certification tests of the NOx CEMS.
 - (b) When requested by the Department, the CEMS emission rates for NOx on these units shall be corrected to ISO conditions to demonstrate compliance with the NOx standards established in 40 CFR 60.332. With regard to NSPS Subpart GG, the NOx CEMS data shall also be used to report excess emissions in accordance with 40 CFR 60.334(j)(1)(iii) and 40 CFR 60.7(c).
- A.15. NOx CEMS Data Exclusion. Exclusion of monitoring data is allowed for specifically defined periods of combustor tuning only if operators employ the best operational practices to minimize the amount and duration of emissions during such episodes. NOx data (1-hour emission rate values) collected during authorized combustor tuning may be excluded in accordance with specific condition A.8.
- **A.16.** NOx CEMS Requirements. For each gas turbine, the permittee shall calibrate, maintain, and operate CEMS to measure and record NOx emissions and oxygen in a manner sufficient to demonstrate compliance with the standards of this permit. A monitor for carbon dioxide (CO₂) may be used in place of the oxygen monitor, but the system shall comply with 40 CFR 60.334(b) for correcting the emissions to 15% oxygen.
 - (a) Performance Specifications. Each monitor shall be installed in a location that will provide emissions measurements representative of actual stack emissions. Each CEMS shall comply with the corresponding performance specifications that identify location, installation, design, performance, and reporting requirements.

Each NOx monitor shall be certified pursuant to 40 CFR Part 75 and shall be operated and maintained in accordance with the applicable requirements of 40 CFR Part 75, Subparts B and C. Record keeping and reporting shall be conducted pursuant to 40 CFR Part 75, Subparts F and G. The RATA tests required for the NOx monitor shall be performed using EPA Method 7E or 20 as defined in Appendix A of 40 CFR 60.

- (b) <u>Data Collection</u>. Each CEMS shall be designed and operated to sample, analyze, and record the emissions data evenly spaced over a 1-hour period during all periods of operation. Each 1-hour average shall be computed using at least one data point in each fifteen-minute quadrant of the 1-hour block during which the unit combusted fuel. If the NOx CEMS measures concentration on a wet basis, the permittee shall use DEP approved methods for correction of measured emissions to a dry basis (0% moisture). The oxygen (or CO₂) CEMS shall express the 1-hour emission rate values in terms of "percent oxygen by volume". The NOx CEMS shall express the 1-hour emission averages in terms of "ppmvd corrected to 15% oxygen" for compliance with the BACT standard and, when requested by the Department, ISO corrected at 15% oxygen for the NSPS standard.
- (c) Compliance Averages. Compliance with the simple 4-hour moving average NOx emissions standards shall be based on data collected by each required CEMS. For purposes of determining compliance with the emission standards of this permit, missing data shall not be substituted. If monitoring data is authorized for exclusion (due to startup, shutdown, malfunction, or tuning), the simple 4-hour moving average shall be the average of the remaining valid 1-hour emission averages collected during actual operation. A 1-hour emissions average that includes any amount of oil firing shall only be included in the compliance average for oil firing. The CEMS used shall comply with 40 CFR 60.334(B)(2) which requires a minimum of 1 data point for each quadrant of a full unit operating hour or at least 2 data points (one in each of the two quadrants) when required quality assurance or maintenance activities are performed on the system.
- (d) <u>Data Exclusion</u>. Except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, each CEMS shall record emissions data at all times including episodes of startup, shutdown, and malfunction. Emissions data recorded during periods of startup, shutdown, or malfunction may only be excluded from the compliance averages in accordance with the requirements previously specified in this permit. To the extent practicable, the permittee shall minimize the duration of data excluded for startup, shutdown and malfunctions, unless specifically authorized in writing by the Department for longer periods. Data recorded during startup, shutdown or malfunction shall not be excluded if the episode was caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented. Best operational practices shall be used to minimize hourly emissions that occur during startup, shutdown and malfunction. Emissions of any quantity or duration that occur entirely or in part from poor maintenance, poor operation, or any other equipment or process failure, which may reasonably be prevented, shall be prohibited. Excluded emissions data shall be summarized in the required quarterly report.

(e) Monitor Availability. Monitor availability shall not be less than 95% in any calendar quarter. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit.

[Rules 62-4.070(3), 62-4.130, and 62-4.160(8), 62-204.800, 62-210.700, and 62-213.440, F.A.C.; 40 CFR 60.7; AC53-233851B/PSD-FL-206B; 1050231-007-AC/PSD-FL-206D; 1050231-008-AC; applicant request; and 1050231-010-AV]

RECORDKEEPING AND REPORTING REQUIREMENTS

- **A.17.** Excess Emissions. For additional recordkeeping, reporting and notification requirements, see Appendices CC and NA. [Rule 62-210.700(6), F.A.C.; and 40 CFR 60.7]
- **A.18.** Recordkeeping, Reporting and Notification Requirements. For additional recordkeeping, reporting and notification requirements, see Appendices CC, STR, NA and NGG. [Rule 62-4.070(3), F.A.C.]
- **A.19.** Fuel Sulfur Content Records Required. The owner or operator shall monitor and maintain records of sulfur content of natural gas (and biogas fuel, whenever such fuel becomes available and is burned) pursuant to the custom fuel monitoring schedule specified in Appendix CFMS (Custom Fuel Monitoring Schedule). The records shall report total sulfur content in terms of grains of sulfur per hundred cubic feet (standard conditions). The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency; and, if applicable, the supplier of the biogas fuel (when available). [Rules 62-4.070(3) and 62-213.440, F.A.C.; and 40 CFR 60.335(b)(10) & (11)]
- **A.20.** Additional Reports Required. The owner or operator shall report the following with the Air Operating Report (AOR): sulfur content and LHV of the fuel being fired, annual fuel consumption of natural gas and biogas, and hours of operation per fuel usage. See also Appendix CC. [Rule 62-210.370(3), F.A.C.; AC53-233851B/PSD-FL-206B; and 1050231-002-AC]

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS SUBSECTION B. AUXILIARY BOILER

	EU No.	Brief Description		
. [003	This emissions unit consists of an auxiliary boiler, a two drum bent tube boiler manufactured		
		by Zurn Nepco, with a maximum heat input of 100 MMBtu/hr from firing natural gas and/or		
		biogas and based on the higher heating value (HHV) of the fuel. The auxiliary boiler began		
		commercial operation in 1995.		

This emissions unit is regulated under Rule 62-296.406, F.A.C., Fossil Fuel Steam Generators with Less Than 250 Million Btu Per Hour Heat Input, New and Existing Emissions Units. This emissions unit is also subject to only the recordkeeping requirements of 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, because it combusts only natural gas and/or biogas. This unit underwent a revised BACT Determination dated March 7, 1995. The firing of natural gas is considered BACT for the emissions of PM and SO₂. The exhaust is vented through a stack that is 3.7 feet in diameter and 65 feet tall. Emissions are controlled with low NO_x burners. Since there are no post-combustion controls, then CAM does not apply.

ESSENTIAL PTE PARAMETERS

- **B.1.** Permitted Capacity. When firing any combination of natural gas and biogas, the maximum heat input rate is 100 MMBtu per hour based on the HHV of each fuel. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.; and AC53-233852A/PSD-FL-206B]
- **B.2.** Emissions Unit Operating Rate Limitation After Testing. The operating rate of an emissions unit may be restricted based on compliance testing. See Appendix STR. [Rule 62-297.310(2), F.A.C.]
- **B.3.** Methods of Operation Fuels. The auxiliary boiler shall be fired with any combination of natural gas and biogas. [Rules 62-213.410 and 62-296.406, F.A.C.; and AC53-233852A/PSD-FL-206B]
- **B.4.** Hours of Operation. The emissions unit may operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

EMISSION LIMITATIONS AND STANDARDS

{Permitting Note: Unless otherwise specified, the averaging times for the emissions limitations are based on the specified averaging time of the applicable test method.}

B.5. Emission Limits. The maximum allowable emission limits are as follows:

Dollmtont	Emissions Limits				
Pollutant	Natural Gas and/or Biogas	lbs/hr	TPY		
NOx 0.13 lb/MMBtu 13.0					
CO	0.10 lb/MMBtu	10.0	43.8		
VOC	0.04 lb/MMBtu	4.3	18.8		
PM/PM ₁₀ ¹	0.01 lb/MMBtu	1.0	4.4		
SO ₂ ²	0.003 lb/MMBtu	0.3	1.3		

All PM is assumed to be PM₁₀; the PM limitation shall be considered to be met if visible emissions are not greater than 15% opacity.

[AC53-233852A/PSD-FL-206B]

² The sulfur dioxide limitation shall be considered to be met if the total sulfur content of the natural gas and biogas fuels does not exceed 1 grain per hundred cubic feet (standard conditions) based on the custom fuel monitoring schedule specified in Appendix CFMS.

SECTION III. EMISSIONS UNIT SPECIFIC CONDITIONS SUBSECTION B. AUXILIARY BOILER

- **B.6.** <u>VE</u>. VE shall not exceed 15% opacity. {Permitting Note: This case-by-case BACT limit is more stringent than that specified in Rule 62-296.406, F.A.C.} [AC53-233852A/PSD-FL-206B]
- **B.7.** SO₂ Sulfur Content. The natural gas and biogas sulfur content shall not exceed 1 grain per hundred cubic feet (standard conditions) based on the custom fuel monitoring schedule specified in Appendix CFMS. [Rules 62-4.070(3) and 62-213.440, F.A.C.; and AC53-233852A/PSD-FL-206B]

TEST METHODS AND PROCEDURES

- **B.8.** Testing Requirements. See Appendix STR of this permit for notification, testing, recordkeeping and reporting requirements regarding a performance test. Tests shall be conducted on both natural gas and biogas fuels (provided biogas fuels become available) unless previous test results or fuel analysis documents that emissions are independent of fuel fired, in which case tests may be conducted on either fuel. [Chapter 62-297, F.A.C.; and AC53-233852A/PSD-FL-206B]
- **B.9.** Test Methods. NOx tests shall be conducted using EPA Method 7E. For PM tests, EPA Method 5 shall be used or EPA Method 17 may be used if the stack flue gas temperature is less than 320°F. CO tests shall be conducted using EPA Method 10. VOC tests shall be conducted using EPA Method 18 or 25A. VE tests shall be conducted using EPA Method 9. [Chapter 62-297, F.A.C.; 40 CFR 60, Appendix A; Rules 62-4.070(3) and 62-213.440, F.A.C.; and AC53-233852A/PSD-FL-206B]
- **B.10.** Testing Frequency. Emission testing for NOx, PM, CO and VOC shall be performed in the year prior to the renewal of this permit. VE testing shall be conducted annually. Testing for PM is not required if VE are not greater than 15% opacity. If the unit is unable to be tested because of scheduled maintenance outages and emergency repairs, it shall be tested within thirty days of returning to service. [Rule 62-297.310(7)(a)4., F.A.C.; AC53-233852A/PSD-FL-206B; and 1050231-009-AV]

RECORDKEEPING AND REPORTING REQUIREMENTS

- **B.11.** Fuel Sulfur Content Records Required. The owner or operator shall monitor and maintain records of the sulfur content of natural gas (and biogas fuel, whenever such fuel becomes available and is burned) pursuant to the custom fuel monitoring schedule specified in Appendix CFMS. The records shall report total sulfur content in terms of grains of sulfur per hundred cubic feet (standard conditions). The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency; and, if applicable, the supplier of the biogas fuel (when available). [Rules 62-4.070(3) and 62-213.440, F.A.C.; and 40 CFR 60.335(b)(10) & (11)]
- **B.12.** Fuel Usage Records Required. The owner or operator shall record and maintain records of the amounts of each fuel combusted during each day. The owner or operator shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records. [40 CFR 60.7 and 60.48c(g); and Rule 62-213.440(1)(b)2.b., F.A.C.]
- **B.13.** Recordkeeping, Reporting and Notification Requirements. For additional recordkeeping, reporting and notification requirements, see Appendices CC and STR.
- **B.15.** Additional Reports Required. The owner or operator shall report the following with the AOR: sulfur content and HHV of the fuel being fired, annual fuel consumption of natural gas and biogas, and hours of operation per fuel usage. See also Appendix CC. [Rule 62-210.370(3), F.A.C.; and AC53-233852A/PSD-FL-206B]

SECTION IV. ACID RAIN PART

Operated by: Northern Star Generation Services Company, LLC

Facility: Orange Cogeneration Facility

ORIS code: 54365

SUBSECTION A. ACID RAIN UNITS

The emissions units listed below are regulated under Phase II of the Federal Acid Rain Program.

EU No.	Brief Description	
001	Combined Cycle Gas Turbine, Unit 1	
002	Combined Cycle Gas Turbine, Unit 2	

- **A.1.** The Phase II Part application submitted for this facility, as approved by the Department, is a part of this permit. The owners and operators of these acid rain units must comply with the standard requirements and special provisions set forth in the application received on 07/20/2007. [Chapter 62-213, F.A.C.; and Rule 62-214.320, F.A.C.]
- **A.2.** <u>Summary of SO₂ Allowances</u>. SO₂ allowance allocations requirements for each Acid Rain unit are as follows:

ELIM	EPA ID		SO ₂ Allow	ances* for	Each Year	
EU No.	EPAID	2008	2009	2010	2011	2012
001	01	0*	0*	0*	. 0*	0*
002	02	0*	0*	0*	0*	0*

- *The number of allowances held by an Acid Rain source in a unit account may differ from the number allocated by the USEPA under Table 2 of 40 CFR 73.
- **A.3.** Emission Allowances. Emissions from sources subject to the Federal Acid Rain Program (Title IV) shall not exceed any allowances that the source lawfully holds under the Federal Acid Rain Program. Allowances shall not be used to demonstrate compliance with a non-Title IV applicable requirement of the Act.
 - 1. No permit revision shall be required for increase in emissions that are authorized by allowances acquired pursuant to the Federal Acid Rain Program, provided that such increases do not require a permit revision pursuant to Rule 62-213.400(3), F.A.C.
 - 2. No limit shall be placed on the number of allowances held by the source under the Federal Acid Rain Program.
 - 3. Allowances shall be accounted for under the Federal Acid Rain Program.

[Rule 62-213.440(1)(c), F.A.C.]

- **A.4.** Statement of Compliance. The annual statement of compliance pursuant to Rule 62-213.440(3), F.A.C., shall be submitted within 60 days after the end of the calendar year. [Rule 62-214.420(11), F.A.C.]
- A.5. Comments, Notes, and Justifications. None.

INTEROFFICE MEMORANDUM

TO:

Trina Vielhauer

THRU:

Jeff Koerner

FROM:

Bruce Mitchell

DATE:

October 29, 2007

SUBJECT:

Orange Cogeneration L.P. - Orange Cogeneration Facility

Title V Air Operation Permit Renewal

PROPOSED Permit Project No. 1050231-010-AV

Attached is the PROPOSED Permit Renewal for the Orange Cogeneration Facility located at 1901 Clear Springs Mine Road, Bartow, Polk County. Comments were received that requested that we change the Permit Applicant and Owner from Northern Star Generation Services Company to Orange Cogeneration L.P., and the address from 2929 Allen Parkway, Suite 2200, Houston, Texas 77019, to 1901 Clear Springs Road, Bartow Florida 33830, and mailing address to P.O. Box 782, Bartow, Florida 33831.

Attachments

TLV/jfk/bm

Letter classed for temorran (10/30)

Mitchell, Bruce

From:

Johnson, Gwynne [gwynne.johnson@northernstargen.com]

Sent:

Friday, October 26, 2007 4:15 PM

To:

Mitchell, Bruce; Holtom, Jonathan

Cc:

Czerkiewicz, Allen; Kellermeyer, Dave; sosbourn@golder.com Comment for Orange Cogeneration L.P. - Facility ID #1050231

Subject:

Importance: High

Bruce.

Per our conversation with Jonathan Holtom this afternoon, we are submitting an administrative comment for the Orange Cogeneration Facility DRAFT Title V Air Operation Permit Renewal via this email. This email will be followed up with hard copy to the Permitting Authority's office.

Please advise if this email comment procedure is acceptable.

Comment

The name of the Permit Applicant and Owner of the Facility should read:

Orange Cogeneration L.P. for the Orange Cogeneration Facility 1901 Clear Springs Road Bartow, Florida 33830

The mailing address is:

Orange Cogeneration L.P. P.O. Box 782 Bartow, Florida 33831

Signed,

Gwynne Johnson Alternate Responsible Official

The information contained in this email message may be privileged, confidential and protected from disclosure. If you think that you have received this email message in error, please notify the sender by reply email and delete the message and any attachments.

To:

allen.czerkiewicz@nsgen.com; gwynne.johnson@northernstargen.com;

dave.kellermeyer@northernstargen.com; 'sosbourn@golder.com'; Nasca, Mara

Cc:

Mitchell, Bruce

Subject:

PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange Cogeneration, L.P. -

Orange Cogeneration Facility

Attachments: 1050231.010.AV:P_pdf[1].zip

Dear Sir/Madam:

A copy of the "<u>PROPOSED PERMIT DETERMINATION</u>" and the related permit documents for the above referenced facility are attached. This e-mail is being provided as a courtesy to inform you that the DRAFT permit has become a PROPOSED permit, and that the PROPOSED permit has been transmitted to the USEPA for their review.

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the PROPOSED permit is made by the USEPA within 45 days, the PROPOSED permit will become a FINAL permit no later than 55 days after the date on which the PROPOSED permit was mailed (posted) to USEPA. If USEPA has an objection to the PROPOSED permit, the FINAL permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

The attached document(s) is(are) in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: http://www.adobe.com/products/acrobat/readstep.html.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

From:

System Administrator

To:

Nasca, Mara

Sent:

Tuesday, October 30, 2007 10:23 AM

Subject:

Delivered: PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange Cogeneration,

L.P. - Orange Cogeneration Facility

Your message

To:

'allen.czerkiewicz@nsgen.com'; 'gwynne.johnson@northernstargen.com'; 'dave.kellermeyer@northernstargen.com'; .

'sosbourn@golder.com'; Nasca, Mara

Cc:

Mitchell, Bruce

Subject:

PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange Cogeneration, L.P. - Orange Cogeneration Facility

Sent:

10/30/2007 10:23 AM

was delivered to the following recipient(s):

Nasca, Mara on 10/30/2007 10:23 AM

From:

System Administrator

To:

Mitchell, Bruce

Sent:

Tuesday, October 30, 2007 10:23 AM

Subject:

Delivered: PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange Cogeneration,

L.P. - Orange Cogeneration Facility

Your message

To:

'allen.czerkiewicz@nsgen.com'; 'gwynne.johnson@northernstargen.com'; 'dave.kellermeyer@northernstargen.com';

'sosbourn@golder.com'; Nasca, Mara

Cc:

Mitchell, Bruce

Subject:

PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange Cogeneration, L.P. - Orange Cogeneration Facility

Sent:

10/30/2007 10:23 AM

was delivered to the following recipient(s):

Mitchell, Bruce on 10/30/2007 10:23 AM

From:

Mail Delivery System [MAILER-DAEMON@sophos.golder.com]

Sent:

Tuesday, October 30, 2007 10:23 AM

To:

Friday, Barbara

Subject:

Successful Mail Delivery Report

Attachments:

Delivery report; Message Headers





Delivery report.txt (461 B)

Headers.txt (2 KB)
This is the mail system at host sophos.golder.com.

Your message was successfully delivered to the destination(s) listed below. If the message was delivered to mailbox you will receive no further notifications. Otherwise you may still receive notifications of mail delivery errors from other systems.

The mail system

<sosbourn@golder.com>: delivery via 127.0.0.1[127.0.0.1]:10025: 250 OK, sent 47273E45 23604 103 3

From: Osbourn, Scott [Scott_Osbourn@golder.com]

Sent: Tuesday, October 30, 2007 10:23 AM

To: Friday, Barbara

Subject: Out of Office AutoReply: PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange

Cogeneration, L.P. - Orange Cogeneration Facility

I'll be out of the office on October 29 and 30, 2007 and returning on Wednesday October 31, 2007. Please contact me on my cell at (727) 278-3358 or Debra Groh at (813) 287-1717, should you require immediate assistance.

From:

System Administrator

To:

Czerkiewicz, Allen

Sent:

Tuesday, October 30, 2007 10:26 AM

Subject:

Delivered: PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange Cogeneration,

L.P. - Orange Cogeneration Facility

Your message

To:

allen.czerkiewicz@nsgen.com; gwynne.johnson@northernstargen.com; dave.kellermeyer@northernstargen.com;

sosbourn@golder.com; Nasca, Mara

Cc:

Mitchell, Bruce

Subject:

PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange Cogeneration, L.P. - Orange Cogeneration Facility

Sent:

10/30/2007 10:23 AM

was delivered to the following recipient(s):

Czerkiewicz, Allen on 10/30/2007 10:23 AM

From:

Nasca, Mara

To:

Friday, Barbara

Sent:

Tuesday, October 30, 2007 10:33 AM

Subject:

Read: PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange Cogeneration,

L.P. - Orange Cogeneration Facility

Your message

To:

'allen.czerkiewicz@nsgen.com'; 'gwynne.johnson@northernstargen.com'; 'dave.kellermeyer@northernstargen.com'; 'dave.kellermey

'sosbourn@golder.com'; Nasca, Mara

Cc:

Mitchell, Bruce

Subject:

PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange Cogeneration, L.P. - Orange Cogeneration Facility

Sent:

10/30/2007 10:23 AM

was read on 10/30/2007 10:33 AM.

BEST AVAILABLE COPY

Florida Department of

Charlie Crist Governor

Osbourn, Scent State Osbourn Scent State Osbourn Scent State Osbourn Sta

Jeff Kottkamp Lt. Governor

Read: PROPOSED Title V4990 Ripre hew april.: 1050231-010-AV - Orange Cogeneration, Sole P. - Orange Cogeneñatlom Sacilflorida 32399-2400

Your message

To:

Scott_Osbourn@golder.com

Subject:

was read on 10/30/2007 11:35 AM.

BEST AVAILABLE COPY

Florida Department of

Charlie Crist Governor

Jeff Kottkamp

Johnson, Gwynne Igwyn he johnson an orthernstargen com

undisclosed-recipients

Tuesday, October 30, 2007 1:06 PM

Read: PROPOSED Title V260 Bir Renewarks.: 1050231-010-AV - Orange Cogeneration, Sole P. - Orange Cogeneration, Sole Secretary

Your message

To:

gwynne.johnson@northernstargen.com

Subject:

was read on 10/30/2007 1:06 PM.

From:

Kellermeyer, Dave [dave.kellermeyer@northernstargen.com]

To:

undisclosed-recipients

Sent:

Tuesday, October 30, 2007 6:20 PM

Subject:

Read: PROPOSED Title V Permit Renewal No.: 1050231-010-AV - Orange Cogeneration,

L.P. - Orange Cogeneration Facility

Your message

To:

dave.kellermeyer@northernstargen.com

Subject:

was read on 10/30/2007 6:20 PM.