



# Florida Department of Environmental Protection

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

Rick Scott  
Governor

Carlos Lopez-Cantera  
Lt. Governor

Jonathan P. Steverson  
Secretary

## PERMITTEE

Orange Cogeneration, L.P.  
Orange Cogeneration Facility

Authorized Representative:  
Mr. Allen Czerkiewicz, Plant Manager

Permit No. 1050231-013-AC  
Permit Expires: December 31, 2017

Air Construction Permit

Project: Minor Source Air Construction Permit  
Polk County, Florida

## PROJECT

This is the final air construction (AC) permit, which authorizes heat input increases for combined cycle combustion turbine Units 1 and 2 at the existing Orange Cogeneration Facility (Project). This facility is an existing electric power generation facility categorized under Standard Industrial Classification No. 4911. The existing Orange Cogeneration Facility is located in Polk County at 1901 Clear Springs Mine Road in Bartow, Florida. UTM coordinates are: Zone 17, 418.7 km East and 3083.0 km North; Latitude: 27° 52' 15" North and Longitude: 81° 49' 31" West.

This final permit is organized into the following sections: Section I (General Information), Section II (Requirements); and, Section III (Emission(s) Unit(s) Specific Conditions). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section IV of this permit. [As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.]

## STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. A copy of this permit modification shall be filed with the referenced permit and shall become part of the permit.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

*For:*

Syed Arif, P.E., Program Administrator  
Office of Permitting and Compliance  
Division of Air Resource Management

SA/dlr/sms

## PERMIT

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### CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the persons listed below.

Mr. Allen Czerkiewicz, Plant Manager: [allen.czerkiewicz@nsgen.com](mailto:allen.czerkiewicz@nsgen.com)

Ms. Kristen Albritton, EHS Manager: [kristen.albritton@nsgen.com](mailto:kristen.albritton@nsgen.com)

Mr. Michael Ballenger, P.E.: [mballenger@trinityconsultants.com](mailto:mballenger@trinityconsultants.com)

Mr. A.J. Harborough: [ahansborough@trinityconsultants.com](mailto:ahansborough@trinityconsultants.com)

U.S. EPA Region 4: [NSRsubmittals@epa.gov](mailto:NSRsubmittals@epa.gov)

Mr. Steve Morgan, DEP SWD: [steve.morgan@dep.state.fl.us](mailto:steve.morgan@dep.state.fl.us)

Ms. Lynn Scarce, DEP OPC: [lynn.scarce@dep.state.fl.us](mailto:lynn.scarce@dep.state.fl.us)

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

## SECTION I. GENERAL INFORMATION

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### FACILITY DESCRIPTION

This 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 at this facility are miscellaneous insignificant emissions units and/or activities.

This project will affect the following *existing* permitted emissions units:

E.U. ID 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

### FACILITY REGULATORY CLASSIFICATION

- This facility is a not major source of hazardous air pollutants (HAP).
- This facility operates units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.

### PROPOSED PROJECT

This project is for a minor source air construction permit. The minor source air construction permit is for heat input increases for combined cycle combustion turbine Units 1 and 2. Specifically, the applicant is requesting that the current permitted heat input capacity of the turbines of 377 MMBtu/hr on a lower heating value (LHV) basis at 47 degrees Fahrenheit (°F) be increased to a maximum permitted heat input capacity of 410 MMBtu/hr LHV at 47°F.

### PROCESSING SCHEDULE AND RELATED DOCUMENTS

Minor Source Air Construction Permit Application received on December 11, 2015 (complete).

## SECTION II. REQUIREMENTS

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1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.
2. Compliance Authority: All documents related to compliance activities, such as reports, tests, and notifications, shall be submitted to the Compliance Authority. The Compliance Authority is listed on the cover page of the Title V air operation permit.
3. Appendices. The following Appendices are attached as part of this permit:
  - a. Appendix A. Citation Formats and Definitions;
  - b. Appendix B. General Conditions;
  - c. Appendix C. Common Conditions;
  - d. Appendix D. Common Testing Requirements;
  - e. Appendix E. 40 CFR 60, Appendix C - Determination of Emission Rate Change; and,
  - f. Appendix F. Student's *t* test Table.
4. Applicable Regulations, Forms and Application Procedures. Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and, Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 & 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions. For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications. The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) & 62-212.300(1)(a), F.A.C.]
7. Source Obligation. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification. [Rule 62-212.400(12), F.A.C.]
8. Construction. This permit authorizes the proposed project and the initial operation after the replacement to determine compliance with Department rules. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Office of Permitting and Compliance prior to the expiration of this permit. [Rules 62-210.300(1), 62-4.070(4) 62-4.080, and 62-4.210, F.A.C.]
9. Application for Title V Permit. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

## SECTION II. REQUIREMENTS

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10. Actual Emissions Reporting. This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions as described in **Section 3, Specific Condition No. 5.**
11. NSPS, Subpart KKKK Applicability Determination. The permittee shall submit an applicability analysis related to 40 CFR 60, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines with the Title V Permit application required by **Section 2, Condition No. 9** above. A compliance schedule and methodology shall be submitted with the Title V permit application for the emissions unit(s) that have not completed the required testing. The report shall include information as detailed in **Section 3, Specific Condition Nos. 6 and 7.**

SECTION III. EMISSION(S) UNIT(S) SPECIFIC CONDITIONS

Subsection A. Units 1 and 2 Combined Cycle Combustion Turbines (Emission Units 001 & 002)

This subsection of the permit addresses the following emissions units:

E.U. ID 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

This subsection of the permit is for authorizing an increase in the heat inputs and an administrative correction to the excess emissions provisions for combined cycle combustion turbine Units 1 & 2.

No new equipment is authorized under this permit.

PREVIOUS APPLICABLE REQUIREMENTS

1. Effect on Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for these emissions units. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070(1)&(3), Reasonable Assurance, F.A.C.]

AUTHORIZATION TO INCREASE HEAT INPUTS FOR UNITS 1 AND 2

This permit allows the increase of the heat inputs for the existing combined cycle combustion turbine Units 1 & 2.

2. Authorization to Increase Heat Inputs for the Existing Units 1 & 2: The permittee is authorized to increase the heat inputs for the existing combined cycle combustion turbine Units 1 & 2. [Applicant Request; and, Rules 62-4.160(2) and 62-210.200, Definitions - Potential to Emit (PTE), F.A.C.]
3. Permit No. 1050231-007-AC/PSD-FL-206D is modified as follows:

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

E.U. ID Nos.	MMBtu/hr Heat Input	Fuel Type
001 and 002	377.0410.0 <sup>1</sup>	Natural Gas and/or Biogas

<sup>1</sup> Maximum heat input at 47°F and LHV of the fuel.

[Applicant Request; and, Rules 62-4.160(2) and 62-210.200, Definitions - Potential to Emit (PTE), F.A.C.]

4. Permit No. 1050231-008-AC is administratively corrected as follows:

A.6. 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 the excess emissions exceed 72 hours in any calendar year. A “tuning session” would occur after a combustor change-out, 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. [Application No. 1050231-024-AC/PSD-FL-206E; and, Rules 62-210.700(1) & (5), F.A.C.]

REPORTING REQUIREMENTS

5. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.
  - a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 10 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.

### SECTION III. EMISSION(S) UNIT(S) SPECIFIC CONDITIONS

#### Subsection A. Units 1 and 2 Combined Cycle Combustion Turbines (Emission Units 001 & 002)

- b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 10-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
  - (1) The name, address and telephone number of the owner or operator of the major stationary source;
  - (2) The annual emissions calculations pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
  - (3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
  - (4) Any other information that the owner or operator wishes to include in the report.
- c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.
- d. For this project, the permittee estimated the following baseline actual emissions: 45.44 tons/year of CO; 73.14 tons/year of NO<sub>x</sub>; 0.87 tons/year of SO<sub>2</sub>; 8.01 tons/year of VOC; 3.83 tons/year of PM/PM<sub>10</sub>/PM<sub>2.5</sub>; 0.07 tons/year of sulfuric acid mist (SAM); and 173,155 of GHG (CO<sub>2</sub>e).
- e. The Department has identified NO<sub>x</sub> as the only PSD-pollutant that could reasonably increase as a result of this modification. For the purpose of comparisons with baseline actual emissions, the permittee shall use the installed CEMS to determine and report the actual annual emissions of NO<sub>x</sub>.

*{Permitting Note: Continuous compliance with the NO<sub>x</sub> standard will be demonstrated by CEMS. Other required stack tests may be conducted during the next scheduled period in accordance with existing permit conditions.}*

[Application 0850001-036-AC; and Rules 62-212.300(1)(e) & 62-210.370, F.A.C.]

#### NSPS 40 CFR 60, SUBPART KKKK APPLICABILITY DETERMINATION

6. NSPS 40 CFR 60, Subpart KKKK Applicability Determination: The permittee shall conduct tests in accordance with 40 CFR 60, Appendix C - Determination of Emission Rate Change. The permittee shall submit the data with the Title V air operation permit application required by **Section 2, Condition No. 9** above. The submittal shall include a preliminary inference whether the short-term NO<sub>x</sub> emission rates (in pounds per hour), while operating in the normal combined cycle mode and burning natural gas, after the change are greater than before the change with 95% confidence and an analysis regarding the applicability of 40 CFR 60, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines. The tests shall be conducted using the installed NO<sub>x</sub> CEMS with the units operated as if a manual test were being performed. Valid data using the averaging time which would be required if a manual emission test were being conducted shall be used. The number (n) of runs shall be between 20 and 29. If test data shows NO<sub>x</sub> emissions for any combustion turbine increases, the permittee will become subject to 40 CFR 60, Subpart KKKK, and shall immediately begin complying with all of the provisions applicable to the unit. In such case, the applicable provisions of 40 CFR 60, Subpart KKKK will be incorporated into the Title V air operation permit during the next revision or renewal whichever is earlier.

[Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; and, Application No. 1050231-024-AC/PSD-FL-206E.]

7. Existing NO<sub>x</sub> CEMS Data: In lieu of testing required by **Specific Condition 6** above, the permittee may submit already available NO<sub>x</sub> CEMS data with a preliminary inference whether the emission rates after the change are greater than before the change with 95% confidence and whether NSPS 40 CFR 60 Subpart KKKK applies. The Department will determine whether the submit available NO<sub>x</sub> CEMS data is sufficient to meet the requirements of 40 CFR 60, Appendix C or whether actual testing required by **Specific Condition 6** above will have to take place.

[Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; and, Application No. 1050231-024-AC/PSD-FL-206E.]