FLORIDA DEPARTMENT OF Environmental Protection

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PERMITTEE

Amelia Island Energy, LLC
780 Amelia Island Energy Parkway
Fernandina Beach, Florida 32034

Authorized Representative:
Jim Flowers, Manager Generation

Air Permit No. 0890447-001-AC
Permit Expires: December 31, 2022
Minor Air Construction Permit
Amelia Island Energy
Cogeneration Combustion Turbine

PROJECT

This is the final air construction permit, which authorizes the construction of Amelia Island Energy, a cogeneration combustion turbine with support equipment that will supply power to the local electrical grid and steam to WestRock's Fernandina Beach Mill. The proposed work will be conducted at the new Amelia Island Energy, which is a power plant categorized under Standard Industrial Classification No. 4911. The new facility will be in Nassau County at 801 North 14th Street in Fernandina Beach, Florida. The UTM coordinates are Zone 17, 456.77 kilometers (km) East and 3,394.28 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this 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.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. 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.

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

David Lyle Read, P.E.

Digitally signed by David Read
Date: 2020.10.22 14:07:31 -04'00'

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

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Construction Permit package 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 following persons.

Mr. Jim Flowers, Amelia Island Energy, LLC: jflowers@chpk.com
Mr. David Buff, P.E., Golder Associates, Inc.: Dave_Buff@golder.com
Mr. Tom Kallemeyn, Northeast District Office: Tom.Kallemeyn@floridadep.gov
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Ms. Lynn Scearce, DEP OPC: lynn.scearce@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.

Digitally signed by Elizabeth Walker
Date: 2020.10.22 15:11:47 -04'00'

PROPOSED PROJECT

The proposed facility, designated as Amelia Island Energy (AIE), will be constructed on the grounds of the Fernandina Beach Mill (Facility ID 0890003), a pulp and paper mill owned by WestRock. AIE will be a cogeneration facility, which will primarily consist of one 22.15 megawatt (MW) Solar Turbines Titan 250-31900S combustion turbine (CT)-electric generator (EG) and heat recovery steam generator (HRSG) with duct burners. Both the CT and HRSG duct burners will only fire pipeline natural gas. The CT-EG will produce electricity for the local electrical grid. Waste heat from the CT as well as supplemental heat from the duct burners will be used to produce process steam and hot water for the WestRock Fernandina Beach Mill. WestRock, in turn, will deliver feedwater and demineralized water to AIE via pipelines to produce steam and hot water, respectively.

Support equipment for AIE includes a natural gas heater, a chilled water plant with a cooling tower, an emergency generator and substation. The natural gas heater will fire a small amount of natural gas to preheat incoming natural gas from the pipeline prior to combustion in the CT or duct burners. The chilled water plant will provide chilled water to cool the CT inlet air and maintain an inlet temperature of approximately 60 degrees Fahrenheit (°F). The emergency generator will be a mobile, standby diesel fueled EG used to provide emergency power to the facility in the event of a black start or power failure. AIE will construct the dedicated substation to deliver its electricity to the local electric power provider.

This project will add the following emissions units (EUs).

EU No.	Emission Unit Description
001	Gas Turbine Generator and HRSG
002	Mechanical Draft Cooling Tower

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400, F.A.C. for the PSD of Air Quality.
- The facility operates units subject to the New Source Performance Standards (NSPS) of Title 40 Part 60 of the Code of Federal Regulations (40 CFR 60).

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address 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 Department Northeast District at: 8800 Baymeadows Way West, Suite 100, Jacksonville, Florida 32256.

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); Appendix D (Common Testing Requirements); Appendix E (NSPS Subpart A – General Provisions); and Appendix F (NSPS Subpart KKKK – Standards of Performance for Stationary Combustion Turbines).

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 and 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) and 62-212.300(1)(a), F.A.C.]

7. Construction and Expiration: The expiration date shown on the first page of this permit provides time to complete the physical construction activities authorized by this permit, complete any necessary compliance testing, and obtain an operation permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that a permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires. [Rules 62-4.070(3) & (4), 62-4.080 & 62-210.300(1), F.A.C.]

8. Source Obligation:

   a. 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.

   b. 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 exceeding its projected actual emissions, 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.]

9. Application for Air Operating Permit: Subsequent to any construction, reconstruction or modification of a facility or emissions unit authorized by an air construction permit, and demonstration of compliance with the conditions of such air construction permit, the owner or operator of such facility or emissions unit shall obtain an initial air operation permit or revision of an existing air operation permit, whichever is appropriate, in accordance with all applicable provisions of this chapter and Chapter 62-4, F.A.C. [Rule 62-210.300(2), F.A.C.]

10. Annual Operating Report: The information required by the Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be submitted by April 1 of each year, for the previous calendar year, to the Department of Environmental Protection's (DEP) Northeast District Office. All synthetic non-Title V sources shall submit a completed DEP Form 62-210.900(5) unless the annual operating report is submitted using the DEP's electronic annual operating report software. Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C. [Rule 62-210.370(3), F.A.C.]

    {Permitting Note: Resources to help you complete your AOR are available on the electronic AOR (EAOR) website at: http://www.dep.state.fl.us/air/emission/eaor. If you have questions or need assistance after reviewing the information posted on the EAOR website, please contact the Department by phone at (850) 717-9000 or email at eaor@dep.state.fl.us.}

A. Gas Turbine Generator and HRSG

This section of the permit addresses the following emissions units.

EU No.	Emission Unit Description
001	Gas Turbine Generator and HRSG

The proposed EU is a 22.15 MW Solar Turbines Titan 250-31900S CT-EG and HRSG with duct burners used for cogeneration. The CT will fire natural gas at a maximum heat input rate of 218.23 million British thermal units per hour (MMBtu/hr), based on the higher heating value (HHV) of natural gas, a CT inlet temperature of 60°F and 100 percent (%) load. The HRSG duct burners will fire natural gas at a maximum heat input rate of 225.0 MMBtu/hr, based on the HHV of natural gas.

Waste heat from the CT will be used to generate process steam and hot water for the WestRock Fernandina Beach Mill. Exhaust from the CT will pass through the HRSG where it indirectly transfers heat to water in the HRSG before exiting via a HRSG stack. Supplemental heat from the duct burners can be used to generate additional steam for WestRock. The cogeneration system can produce up to 250,000 pounds per hour (lb/hr) of process steam and 250,000 lb/hr of hot water. Feedwater and demineralized water will be supplied to the cogeneration system by WestRock via pipelines.

The CT uses lean premix technology known as *SoLoNO$_X$*^{TM} to minimize nitrogen oxide (NO_X) emissions. Dry low-NO_X burners are used to minimize NO_X emissions from the duct burners. Sulfur dioxide (SO_2) and particulate matter (PM) emissions are minimized by firing pipeline natural gas with a maximum sulfur content of 2 grains (gr) per 100 standard cubic feet (scf) of natural gas.

When process steam and hot water are not needed by WestRock or when the HRSG is unavailable due to maintenance or downtime, the CT exhaust will exit via a bypass stack. The proposed bypass stack is expected to be 50 feet (ft) tall and 8.5 ft in diameter. CT exhaust gas is expected to exit the bypass stack at a temperature of 877°F and a flow rate of 313,686 actual cubic feet per minute (acfm). The proposed HRSG stack is expected to be 60 ft tall and 8 ft in diameter. While both the CT and duct burners are operating at maximum capacity, exhaust gas is expected to exit the HRSG stack at a temperature of 253°F and a flow rate of 172,276 acfm.

{Permitting Note: This emission unit is regulated under 40 CFR 60, Subpart A – General Provisions and 40 CFR 60, Subpart KKKK – Standards of Performance for Stationary Combustion Turbines, adopted by Reference in Rules 62-204.800(8)(c) and (8)(b)84., F.A.C., respectively; and Rule 62-212.400, F.A.C., which established enforceable limits to classify the facility as a PSD minor source.}

EQUIPMENT

1. Combustion Turbine: The permittee is authorized to install one Solar Turbines Titan 250-31900S with a nominal generating capacity of 22.15 MW. [Application No. 0890447-001-AC]

2. Heat Recovery Steam Generator: The permittee is authorized to install one HRSG equipped with duct burners, a steam drum, an evaporator, an economizer, a superheater and hot water heater. [Application No. 0890447-001-AC]

PERFORMANCE RESTRICTIONS

3. Permitted Capacity:

   a. *Combustion Turbine*: The maximum heat input rate to each CT shall not exceed 218.23 MMBtu/hr when firing natural gas, based on 100% load, an inlet temperature of 60°F and the HHV of the fuel. Heat input rates will vary depending on CT characteristics, ambient conditions and evaporative cooling. Operating data may be adjusted for appropriate site conditions in accordance with the performance curves and/or equations on file with the Department (see Specific Condition **33** of this subsection).

   b. *HRSG*: The maximum heat input rate to the HRSG duct burners shall not exceed 225.0 MMBtu/hr when firing natural gas, based on the HHV of the fuel.

[Rule 62-210.200(PTE), F.A.C.; and, Application No. 0890447-001-AC]

4. Duct Burning Restriction: The HRSG duct burners shall only operate when the CT is operating and waste heat from the CT is being fed into the HRSG. [Application No. 0890447-001-AC]

5. Authorized Fuel: The CT and HRSG duct burners shall be fired exclusively with natural gas. The HRSG duct burners shall not fire more than 1,778.66 million standard cubic feet per year (MMscf/yr), based on a 12-month rolling total. [Rules 62-210.200(PTE) & 62-212.400(PSD Avoidance), F.A.C.; and, Application No. 0890447-001-AC]

   {Permitting Note: The natural gas limit for the HRSG duct burners is equivalent to approximately 8,000 hours of duct burner operation per year at maximum capacity.}

6. Hours of Operation: The hours of operation for the CT and HRSG duct burners are not limited. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

CONTROL TECHNOLOGY

7. $SoLoNO_X$™ Combustion System: The CT shall be equipped with a *$SoLoNO_X$™* combustion system. The *$SoLoNO_X$™* combustion system shall be installed, operated and maintained in accordance with manufacturer specifications to minimize carbon monoxide (CO) and NO_X emissions. [Rule 62-4.070(3), F.A.C.; and, Application No. 0890447-001-AC]

8. Dry Low NO_X Burners: The HRSG duct burners shall be equipped with dry low-NO_X combustion technology. The dry low-NO_X combustors shall be installed, operated and maintained in accordance with manufacturer specifications to minimize CO and NO_X emissions. [Rule 62-4.070(3), F.A.C.; and, Application No. 0890447-001-AC]

EMISSIONS STANDARDS

9. NO_X Emissions: NO_X emissions shall not exceed the following limits:

   a. *CT Operation without Duct Burning*. As determined by stack test (3-run average), NO_X emissions shall not exceed 9 parts per million by volume, dry (ppmvd) at 15% oxygen (O_2) while the CT operates without duct burning.

   b. *CT Operation with Duct Burning*. As determined by stack test (3-run average), NO_X emissions shall not exceed 17.7 ppmvd at 15% O_2 while the CT and duct burners are operating simultaneously.

   [Rules 62-4.070(3) & 62-212.400(PSD Avoidance), F.A.C.; and, Application No. 0890447-001-AC]

   {Permitting Note: Compliance with these NO_X emissions limits will demonstrate compliance with the NO_X emissions limits in NSPS Subpart KKKK, provided that the permittee elects to comply with the concentration-based limits using performance testing conducted in accordance with the procedures in 40 CFR 60.4400.}

10. NSPS NO_X Emissions: The following NO_X emission limits must be met:

    a. *Normal Operation*. While operating at 75% of peak load or higher, NO_X emissions from the CT and/or HRSG duct burners shall not exceed 25 ppmvd at 15% O_2 or 150 nanograms per Joule (ng/J)/1.2 pounds per megawatt-hour (lb/MWh) of useful output.

    b. *Low Load Operation*. While operating at less than 75% of peak load, NO_X emissions from the CT and/or HRSG duct burners shall not exceed 150 ppmvd at 15% O_2 or 1,100 ng/J (i.e., 8.7 lb/MWh) of useful output.

    [40 CFR 60.4305(a), 60.4320 & 40 CFR 60, Subpart KKKK, Table 1]

11. SO_2 Emissions: As determined by the compliance provisions in Specific Condition **29** of this subsection, the fuel sulfur content of the natural gas fired by the CT and HRSG duct burners shall not exceed 2 grains per 100

standard cubic feet of natural gas. [Rules 62-4.070(3) & 62-212.400(PSD Avoidance), F.A.C.; and, Application No. 0890447-001-AC]

{Permitting Note: This fuel sulfur limit effectively limits CT SO_2 emissions to 1.24 lb/hr and 5.42 tons per year (TPY) and duct burner emissions to 1.27 lb/hr and 5.08 TPY.}

12. NSPS SO_2 Emissions: The permittee shall comply with either of the following SO_2 emissions standards:

    a. The permittee must not cause to be discharged into the atmosphere from the CT and/or HRSG duct burners any gases which contain SO_2 in excess of 110 ng/J (i.e., 0.90 lb/MWh) gross output; or

    b. The permittee must not burn in the CT and/or HRSG duct burners any fuel which contains total potential sulfur emissions in excess of 26 ng SO_2/J (i.e., 0.060 lb SO_2/MMBtu) heat input.

    [40 CFR 60.4305(a) & 60.4330]

13. CO Emissions: CO emissions shall not exceed the following limits:

    a. *CT Operation without Duct Burning*. As determined by stack test (3-run average), CO emissions shall not exceed 12 ppmvd at 15% O_2 while the CT operates without duct burning.

    b. *CT Operation with Duct Burning*. As determined by stack test (3-run average), CO emissions shall not exceed 35 ppmvd at 15% O_2 while the CT and duct burners operate simultaneously.

    [Rules 62-4.070(3) & 62-212.400(PSD Avoidance), F.A.C.; and, Application No. 0890447-001-AC]

14. VOC Emissions: As determined by compliance with CO emissions limits, VOC emissions shall not exceed 25 ppmvd at 15% O_2 from the CT and/or HRSG duct burners. [Rules 62-4.070(3) & 62-212.400(PSD Avoidance), F.A.C.; and, Application No. 0890447-001-AC]

15. Visible Emissions: As determined by a visible emissions (VE) test, VE shall not exceed 10% opacity. [Rule 62-4.070(3), F.A.C.]

EXCESS EMISSIONS

Rule 62-210.700 (Excess Emissions), F.A.C. cannot vary any requirement of an NSPS, NESHAP or Acid Rain program provision.

16. General Work Practice Standards: The permittee must operate and maintain the CT, HRSG, air pollution control equipment and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown and malfunction. [40 CFR 60.4333]

17. NSPS NO_X Excess Emissions: If the permittee elects to user combustion parameter monitoring for compliance with NO_X standards in NSPS Subpart KKKK, as described in 40 CFR 60.4340(2)(ii), then excess emissions and monitor downtime are defined as follows:

    a. *Excess Emissions*. Excess emissions are defined as a 4-hour rolling unit operating hour average in which any monitored parameter does not achieve the target value or is outside the acceptable range defined in the parameter monitoring plan for the unit.

    b. *Monitor Downtime*. A period of monitor downtime is a unit operating hour in which any of the required parametric data are either not recorded or are invalid.

    [40 CFR 60.4380(c)]

18. NSPS SO_2 Excess Emissions: If the permittee elects to monitor the sulfur content of natural gas for the purpose of compliance with the SO_2 standards in NSPS Subpart KKKK (see Specific Condition **12** of this subsection), excess emissions and monitor downtime are defined as follows:

    a. *Excess Emissions*. An excess emission occurs during each unit operating hour included in the period beginning on the date and hour of any sample for which the sulfur content of the fuel being fired in the

combustion turbine exceeds the applicable limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit.

b. *Monitor Downtime*. A period of monitor downtime begins when a required sample is not taken by its due date. A period of monitor downtime also begins on the date and hour of a required sample, if invalid results are obtained. The period of monitor downtime ends on the date and hour of the next valid sample.

[40 CFR 60.4385(a) & (c)]

TESTING REQUIREMENTS

19. Initial Compliance Tests: The emissions unit shall be tested to demonstrate initial compliance with the emissions standards for NO_X, CO and VE. A stack test shall be performed for NO_X, CO and VE while only the CT operates and while the CT and HRSG duct burners operate. The initial tests shall be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial operation of the unit. Compliance with the NO_X emission limits in NSPS Subpart KKKK must be demonstrated by measuring emissions from the CT combined with emissions from the HRSG duct burners. Initial and ongoing compliance with NSPS Subpart KKKK shall be established using one of the following methods:

a. *Performance Testing*. If the permittee elects to comply with NSPS Subpart KKKK NO_X emissions limits using performance testing, then testing is to be conducted in accordance with the applicable provisions of 40 CFR 60.4400 (see Specific Condition **20** of this subsection). [40 CFR 60.4340(a), (b)(2) & 60.4400]

b. *Continuous Parametric Monitoring*. If the permittee elects to comply with NSPS Subpart KKKK NO_X emissions limits using continuous parameter monitoring, then the initial performance test must be conducted in accordance with 40 CFR 60.4400. A parameter monitoring plan must be developed in accordance with the applicable provisions of 40 CFR 60.4355 using this performance test data. The appropriate parameters must be continuously monitored and recorded during each run of the initial performance test to establish acceptable operating ranges for the purposes of the parameter monitoring plan (see Specific Condition **34**). [40 CFR 60.4335(b), 60.4340(a), 60.4355, 60.4400 & 60.4410]

[Rules 62-4.070(3) & 62-297.310(8)(b)1, F.A.C.; and, 40 CFR 60.4333(b)(1) & 60.8]

20. NSPS NO_X Performance Test Procedure: For the purpose of demonstrating compliance with NSPS Subpart KKKK using performance testing, performance tests are to be conducted as follows:

a. There are two general methodologies that may be used to conduct performance tests. For each test run:

(1) Measure the NO_X concentration (in ppm), using EPA Method 7E or EPA Method 20 in appendix A of 40 CFR 60. For units complying with the output-based standard, concurrently measure the stack gas flow rate, using EPA Methods 1 and 2 in 40 CFR 60, Appendix A, and measure and record the electrical and thermal output from this emissions unit. Then, use the following equation to calculate the NO_X emission rate:

$$E = \frac{1.194\times10^{-7} * (NO_X)_c * Q_{std}}{P}$$

Where:

E = NO_X emission rate, in lb/MWh

1.194×10^{-7} = conversion constant, in lb/dscf-ppm

$(NO_X)_C$ = average NO_X concentration for the run, in ppm

Q_{std} = stack gas volumetric flow rate, in dscf/hr

P = gross electrical and mechanical energy output of the combustion turbine, in MW (for simple-cycle operation), for combined-cycle operation, the sum of all electrical and mechanical output from the combustion and steam turbines, or, for combined heat and power operation, the sum of all electrical and mechanical output from the combustion and steam turbines plus all useful

recovered thermal output not used for additional electric or mechanical generation, in MW, calculated according to 40 CFR 60.4350(f)(2) (see Appendix F); or

(2) Measure the NO_X and diluent gas concentrations, using either EPA Methods 7E and 3A, or EPA Method 20 in appendix A of this part. Concurrently measure the heat input to the unit, using a fuel flowmeter (or flowmeters), and measure the electrical and thermal output of the unit. Use EPA Method 19 in appendix A of this part to calculate the NO_X emission rate in lb/MMBtu. Then, use Equations 1 and, if necessary, 2 and 3 in 40 CFR 60.4350(f) (see Appendix F) to calculate the NO_X emission rate in lb/MWh.

(3) Notwithstanding paragraph **a(2)** of this specific condition, the permittee may test at fewer points than are specified in EPA Method 1 or EPA Method 20 in appendix A of this part if the following conditions are met:

(a) A stratification test for NO_X and diluent may be performed pursuant to the procedures specified in 40 CFR 75, Appendix A, section 6.5.6.1(a) through (e).

(b) Once the stratification sampling is completed, the following alternative sample point selection criteria may be used for the performance test:

i. If each of the individual traverse point NO_X concentrations is within ±10 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±5 ppm or ±0.5 percent CO_2 (or O_2) from the mean for all traverse points, then you may use three points (located either 16.7, 50.0 and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The three points must be located along the measurement line that exhibited the highest average NO_X concentration during the stratification test; or

ii. For turbines with a NO_X standard greater than 15 ppm @ 15% O_2, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO_X concentrations is within ±5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±3ppm or ±0.3 percent CO_2 (or O_2) from the mean for all traverse points; or

iii. For turbines with a NO_X standard less than or equal to 15 ppm @ 15% O_2, you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid if each of the individual traverse point NO_X concentrations is within ±2.5 percent of the mean concentration for all traverse points, or the individual traverse point diluent concentrations differs by no more than ±1ppm or ±0.15 percent CO_2 (or O_2) from the mean for all traverse points.

b. The performance test must be done at any load condition within plus or minus 25 percent of 100 percent of peak load. Testing may be performed at the highest achievable load point, if at least 75 percent of peak load cannot be achieved in practice. You must conduct three separate test runs for each performance test. The minimum time per run is 20 minutes.

(1) If the stationary combustion turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel.

(2) For a combined cycle and CHP turbine systems with supplemental heat (duct burner), you must measure the total NO_X emissions after the duct burner rather than directly after the turbine. The duct burner must be in operation during the performance test.

(3) Compliance with the applicable emission limit in 40 CFR 60.4320 (see Specific Condition **10**) must be demonstrated at each tested load level. Compliance is achieved if the three-run arithmetic average NO_X emission rate at each tested level meets the applicable emission limit in 40 CFR 60.4320.

(4) The ambient temperature must be greater than 0°F during the performance test.

[40 CFR 60.4400(a) & (b)]

21. Annual Compliance Tests: During each calendar year (January 1st to December 31st), the emissions unit shall be tested to demonstrate compliance with the emissions standards for NO_X, CO and VE. A stack test shall be performed for NO_X, CO and VE while only the CT operates and while the CT and HRSG duct burners operate simultaneously. NO_X compliance testing at less than 75% of peak load shall only be required when the CT operates at less than 75% of peak load for 400 hours or more per calendar year. Testing is not required for any pollutant for which a rule, permit or other order requires that the pollutant emissions be measured by a CEMS that meets the performance specifications and quality assurance and quality control measures of 40 CFR 60 or 40 CFR 75. [Rules 62-4.070(3) & 62-297.310, F.A.C.]

22. NSPS Annual Performance Testing: If the permittee elects to comply with the NO_X emissions limits in NSPS Subpart KKKK (see Specific Condition **10** of this subsection) using annual performance testing, then annual performance tests are to be conducted in accordance with 40 CFR 60.4400 (see Specific Condition **20** of this subsection) to demonstrate continuous compliance. If the NO_X emission result from the performance test is less than or equal to 75% of the NO_X emission limit for this emissions unit, the frequency of subsequent performance tests may be reduced to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75% of the NO_X emission limit for the turbine, annual performance tests must be resumed. [40 CFR 60.4340(a)]

23. VOC Emissions Compliance: Annual VOC compliance testing and VOC compliance testing prior to Title V air operation permit renewal are only required if the annual CO tests indicate an exceedance of the CO emissions standards in Specific Condition **13** of this subsection. [Rule 62-4.070(3), F.A.C.]

24. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit, except that the annual emissions testing exclusion in Rule 62-297.310(8)(a)1.b. shall not apply. [Rule 62-297.310(9), F.A.C.]

    {Permitting Note: Air compliance test notifications can now be completed online in the Department's Business Portal. To access this online process, go to http://www.fldepportal.com/go/home and sign in (or register if you're a new user) from the link in the upper right corner of the page. On the Welcome page select the Submit option, then select Registration/Notification, and then click on Air Compliance Test Notifications. Once in the process, just carefully read the instructions on each screen (and under the Help tabs) to complete the notification.}

25. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources *{Note: The method shall be based on a continuous sampling train.}*
18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography
20	Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines
25A	Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rules 62-204.800, F.A.C.; and Appendix A of 40 CFR 60]

26. NSPS Fuel Sulfur Test Methods: If the permittee elects to comply with NSPS Subpart KKKK sulfur monitoring requirements by periodically determining the sulfur content of natural gas, then a representative fuel sample would be collected following ASTM D5287. The sulfur content of natural gas must be determined using ASTM D129, or alternatively D3246, D4084, D4468, D4810, D6228, D6667 or Gas Processors Association Standard 2377. Alternatively, if the total sulfur content of the natural gas during the most recent performance test was less than half the applicable limit, ASTM D4084, D4810, D5504 or D6228 or Gas Processors Association Standard 2377, which measure the major sulfur compounds, may be used. The fuel analyses may be performed by the permittee, a service contractor retained by the permittee, the fuel vendor or any other qualified agency. [40 CFR 60.4360 & 60.4415(a)(1)(ii)]

MONITORING REQUIREMENTS

27. NO_X Continuous Parameter Monitoring: For the purpose of demonstrating compliance with NSPS Subpart KKKK NO_X emissions limits (see Specific Condition **10** of this subsection), the permittee may install, calibrate, maintain and operate a continuous parameter monitoring system that continuously monitors the appropriate parameters to determine whether the emissions unit is operating in low-NO_X mode. [40 CFR 60.4340(b)(2)(ii); and, Application No. 0890447-001-AC]

28. NSPS Fuel Sulfur Monitoring: Unless the permittee elects not to demonstrate fuel sulfur content using options in 40 CFR 60.4365 (see Specific Condition **28** of this subsection), the permittee must determine and record the sulfur content of natural gas once per unit operating day or the purpose of complying with the SO_2 emissions limits in NSPS Subpart KKKK (see Specific Condition **12** of this subsection). Alternatively, the permittee may develop custom schedules for determining the natural gas sulfur content, based on the design and operation of this EU and the characteristics of the fuel supply. Custom schedules shall be substantiated with data and shall be approved by the Department before they can be used to comply with Specific Condition **12** of this subsection. The custom sulfur monitoring schedules set forth in the following paragraphs are acceptable, without prior Department approval:

    a. *Daily Sulfur Sampling.*

        (1) The permittee shall obtain daily total sulfur content measurements for 30 consecutive unit operating days, using the methods in Specific Condition **25** of this section. Based on the results of the 30 daily samples, the required frequency for subsequent monitoring of the natural gas total sulfur content shall be as specified in subparagraphs **(2)**, **(3)** and **(4)**, as applicable.

        (2) If none of the 30 daily measurements of the fuel's total sulfur content exceeds half the applicable standard, subsequent sulfur content monitoring may be performed at 12-month intervals. If any of the samples taken at 12-month intervals has a total sulfur content greater than half but less than the applicable limit, follow the procedures in subparagraph **(3)**. If any measurement exceeds the applicable limit, follow the procedures in subparagraph **(4)**.

        (3) If at least one of the 30 daily measurements of the fuel's total sulfur content is greater than half but less than the applicable limit, but none exceeds the applicable limit, then:

            (a) Collect and analyze a sample every 30 days for 3 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in subparagraph **(4)**. Otherwise, follow the procedures in subparagraph **(3)(b)** of this section.

            (b) Begin monitoring at 6-month intervals for 12 months. If any sulfur content measurement exceeds the applicable limit, follow the procedures in subparagraph **(4)**. Otherwise, follow the procedures in subparagraph **(3)(c)**.

(c) Begin monitoring at 12-month intervals. If any sulfur content measurement exceeds the applicable limit, follow the procedures in subparagraph **(4)**. Otherwise, continue to monitor at this frequency.

(4) If a sulfur content measurement exceeds the applicable limit, immediately begin daily monitoring according to subparagraph **(1)**. Daily monitoring shall continue until 30 consecutive daily samples, each having a sulfur content no greater than the applicable limit, are obtained. At that point, the applicable procedures of subparagraphs **(2)** or **(3)** shall be followed.

b. *720-Hour Sulfur Sampling*. The permittee may use the data collected from the 720-hour sulfur sampling demonstration described in 40 CFR 75, Appendix D, Section 2.3.6 to determine a custom sulfur sampling schedule, as follows:

(1) If the maximum fuel sulfur content obtained from the 720 hourly samples does not exceed 20 gr/100 scf, no additional monitoring of the sulfur content of the gas is required, for the purposes of NSPS Subpart KKKK.

(2) If the maximum fuel sulfur content obtained from any of the 720 hourly samples exceeds 20 gr/100 scf, but none of the sulfur content values (when converted to weight percent sulfur) exceeds half the applicable limit, then the minimum required sampling frequency shall be one sample at 12 month intervals.

(3) If any sample result exceeds half the applicable limit, but none exceeds the applicable limit, follow the provisions of paragraph **a**, subparagraph **(3)**.

(4) If the sulfur content of any of the 720 hourly samples exceeds the applicable limit, follow the provisions of **a**, subparagraph **(4)**.

[40 CFR 60.4370(b) & (c)]

29. NSPS Fuel Sulfur Monitoring Exemption: The permittee may elect not to monitor the total sulfur content of natural gas, if the fuel is demonstrated not to exceed potential sulfur emissions in Specific Condition **12**, paragraph **b** of this subsection. The permittee must use one of the following sources of information to make the required demonstration:

a. The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the total sulfur content for natural gas is 20 gr/100 scf or less and has potential sulfur emissions of less than less than 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input; or

b. Representative fuel sampling data which show that the sulfur content of the fuel does not exceed 26 ng SO_2/J (0.060 lb SO_2/MMBtu) heat input. At a minimum, the amount of fuel sampling data specified in 40 CFR 75, Appendix D, Section 2.3.1.4 or 2.3.2.4 is required.

[40 CFR 60.4365]

30. SO_2 Emissions Compliance: The permittee may demonstrate compliance with the limit in Specific Condition **11** of this subsection using the methodologies in Specific Condition **27** or **28** of this subsection, provided the chosen method demonstrates that the sulfur content of natural gas is 2 gr/100 scf or less. [Rules 62-4.070(3) & 62-212.400(PSD Avoidance), F.A.C.; and, Application No. 0890447-001-AC]

RECORDS AND REPORTS

31. HRSG Duct Burner Natural Gas Usage Report: The permittee shall record the daily amount of natural gas consumed by the HRSG duct burners and record and maintain records of monthly duct burner natural gas consumption on a 12-month rolling total basis. Such data shall be used to demonstrate compliance with the duct burner natural gas consumption limit in Specific Condition **5** of this subsection. Such records shall be kept for 5 years in a form available for Department inspection upon request. [Rules 62-4.070(3) & 62-212.400(PSD Avoidance), F.A.C.]

32. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. For each test run, the report shall also indicate the heat input rate to the CT and/or HRSG duct burners during the test. [Rules 62-4.070(3) & 62-297.310(10), F.A.C.]

33. NSPS Excess Emission Reports: For the purpose of compliance with NSPS Subpart KKKK, the permittee shall submit excess emissions reports as follows:

    a. *CEMS or Parametric Monitoring Compliance and Fuel Sulfur Monitoring*. If the permittee elects to demonstrate compliance using CEMS or continuous parameter monitoring or periodic determinations of fuel sulfur content, excess emissions and monitor downtime reports must be submitted in accordance with 40 CFR 60.7(c). Excess emissions must be reported for all periods of unit operation, including startup, shutdown and malfunction.

    b. *Performance Testing Compliance*. For each affected unit that performs annual performance tests in accordance with 40 CFR 60.4340(a) (see Specific Condition **19**, paragraph **a**), you must submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test.

    c. *Excess Emissions Report Deadline*. Excess emission reports must be postmarked by the 30th day following the end of each 6-month period.

    [40 CFR 60.4375 & 60.4395]

34. Manufacturer's Performance Data Report: The permittee shall submit manufacturer's performance curves or equations that correct for site conditions to the Department's Compliance and Permitting Authorities within 45 days of completing the initial compliance testing required by this permit. [Rules 62-4.070(3) & 62-210.200(PTE), F.A.C.]

35. Combustion Parameter Monitoring Plan: The parameters continuously monitored during the initial performance test (see Specific Condition **19**, paragraph **b**) must be used to establish acceptable values and ranges. The performance test data may be supplemented with engineering analyses, design specifications, manufacturer's recommendations and other relevant information to define the acceptable parametric ranges more precisely. A parameter monitoring plan must be developed and kept onsite which explains the procedures used to document proper operation of the NO_X emission controls. The plan must:

    a. Include the indicators to be monitored and show there is a significant relationship to emissions and proper operation of the NO_X emission controls,

    b. Pick ranges (or designated conditions) of the indicators, or describe the process by which such range (or designated condition) will be established,

    c. Explain the process that shall be used to make certain that data obtained are representative of the emissions or parameters being monitored (such as detector location, installation specification if applicable),

    d. Describe quality assurance and control practices that are adequate to ensure the continuing validity of the data,

    e. Describe the frequency of monitoring and the data collection procedures which will be used (e.g., computerized data acquisition over a number of discrete data points with the average (or maximum value) being used for purposes of determining whether an exceedance has occurred), and

    f. Submit justification for the proposed elements of the monitoring. If a proposed performance specification differs from manufacturer recommendation, the reasons for the differences must be explained. Data supporting the justification must be submitted, but generally available sources of information may be used to support the justification. Engineering assessments and other data may be relied on, provided factors which assure compliance or explain why performance testing is unnecessary to establish indicator ranges

are demonstrated. When establishing indicator ranges, the process may be simplified by treating the parameters as if they were correlated. Using this assumption, testing can be divided into two cases:

(1) All indicators are significant only on one end of range (e.g., for a thermal incinerator controlling VOC it is only important to insure a minimum temperature, not a maximum). In this case, the study may be conducted so that each parameter is at the significant limit of its range while emissions testing is conducted. If the emissions tests show that the source is in compliance at the significant limit of each parameter, then as long as each parameter is within its limit, compliance is presumed.

(2) Some or all indicators are significant on both ends of the range. In this case, a study may be conducted so that each parameter that is significant at both ends of its range assumes its extreme values in all possible combinations of the extreme values (either single or double) of all of the other parameters. For example, if there were only two parameters, A and B, and A had a range of values while B had only a minimum value, the combinations would be A high with B minimum and A low with B minimum. If both A and B had a range, the combinations would be A high and B high, A low and B low, A high and B low, A low and B high. For the case of four parameters all having a range, there are 16 possible combinations.

[40 CFR 60.4355(a)]

36. Manufacturer's Operating Data: The permittee shall keep onsite all documentation from the manufacturer necessary for operating the CT and HRSG in a manner consistent with good air pollution control practices and minimization of emissions. [Rule 62-4.070(3), F.A.C.]

B. Mechanical Draft Cooling Tower

This section of the permit addresses the following emissions unit.

EU No.	Emission Unit Description
002	Mechanical Draft Cooling Tower

This EU will be a three-cell mechanical draft cooling tower that supports a chilled water facility. The chilled water plant and cooling tower will provide chilled water to cool the CT inlet air temperature to 60°F and maintain that air temperature. Only 2 out of 3 cells will be operating at any given time. The cell that is not operating will remain on standby for use when another cell is down for maintenance. Each cooling tower cell will have a design circulating water flow rate of 2,594 gallons per minute (gpm).

EQUIPMENT

1. Mechanical Draft Cooling Tower: The permittee is authorized to install one three-cell mechanical draft cooling tower with a design circulating water flow rate of 2,594 gpm per cell, total circulating water flow rate of 5,188 gpm during normal operation, total dissolved solids (TDS) concentration of 5,000 parts per million by weight (ppmw) and a drift rate of no more than 0.001% of the circulating water mass flow rate. [Application No. 0890447-001-AC]

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2. Drift Rate: The permittee shall submit certification that the cooling tower was constructed to achieve the drift rate of no more than 0.001% of the circulating water mass flow rate. [Rule 62-4.070(3), F.A.C.; and, Application No. 0890441-001-AC]