



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Orlando Utilities Commission (OUC)
Reliable Plaza at 100 West Anderson Street
P.O. Box 3193
Orlando, Florida 32802

Authorized Representative:
Mr. Jan C. Aspuru, Vice President, Power Resources

Air Permit No. 0950137-041-AC
Permit Expires: December 31, 2014
Minor Air Construction Permit

Stanton Energy Center

Replacement of the HP/IP Turbine on Unit 2

PROJECT

This is the final air construction permit, which authorizes the replacement of the high pressure and intermediate pressure (HP/IP) portions of the Stanton Energy Center Unit 2 steam turbine with improved blade technology. It is expected that this turbine replacement effort will increase the efficiency of Unit 2, providing an increase in power generation output capability without a corresponding increase in fuel consumption or annual generation potential. Unit No. 2 consists of a Babcock and Wilcox boiler/steam generator (Model RB 621) and steam turbine, which drives a generator with a nameplate rating of 468 MW. The proposed work will be conducted at the existing Stanton Energy Center, which is a electric generation facility categorized under Standard Industrial Classification No. 4911. The plant is located in Orange County at 5100 South Alafaya Trail, Orlando. The UTM Coordinates are: Zone 17, 483.6 km East and 3151.1 km North. Latitude is: 28° 29' 17" North; and, Longitude is: 81° 10' 03" West.

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. As noted in the Final Determination provided with this final permit, no changes or 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.). 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

for Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

FINAL PERMIT

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 with Appendices) 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. Jan C. Aspuru, OUC (jaspruru@ouc.com)
Mr. Michael L. Kyhos, OUC (mkyhos@ouc.com)
Mr. Larry Todd Newland, P.E., Black & Veatch (newlandt@bv.com)
Ms. Cindy Mulkey, Siting Coordination Office (cindy.mulkey@dep.state.fl.us)
Mr. Thomas Lubozynski, Central District Office (tom.lubozynski@dep.state.fl.us)
Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Heather Ceron, EPA Region 4 (ceron.heather@epa.gov)
Ms. Barbara Friday, DEP OPC (barbara.friday@dep.state.fl.us)
Ms. Lynn Scarce, DEP OPC (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 1. GENERAL INFORMATION

FACILITY DESCRIPTION

The existing facility includes the following emissions units and other equipment as listed below.

Facility ID No. 0570039	
ID No.	Emission Unit Description
001	Fossil Fuel Fired Steam Electric Generator No. 1
002	Fossil Fuel Fired Steam Electric Generator No. 2
003	Auxiliary Boiler
025	Stanton Unit A- Combined-Cycle Combustion Turbine
026	Stanton Unit A- Combined-Cycle Combustion Turbine

This facility consists of two fossil fuel fired steam electric generating stations, emissions unit (E.U.) identification (ID) No. 001 (Unit No. 1) and 002 (Unit No. 2); also, there are storage and handling facilities for solid fuels, fly ash, limestone, gypsum, slag, and bottom ash. Unit No. 1 consists of a Babcock and Wilcox boiler/steam generator (Model RB 611) and steam turbine, which drives a generator with a nameplate rating of 468 megawatts (MW). Unit No. 2 consists of a Babcock and Wilcox boiler/steam generator (Model RB 621) and steam turbine, which drives a generator with a nameplate rating of 468 MW. The auxiliary boiler is fired with No. 2 distillate fuel oil. Units 1 and 2 are each equipped with low NO_x burners and overfire air equipment. Emission Units 025 and 026 (Stanton Unit A) are nominal 170 MW, General Electric "F" Class (PG7241FA) combustion turbine-electrical generators, fired with pipeline natural gas or diesel fuel oil and equipped with evaporative coolers on the inlet air system, two supplementary fired heat recovery steam generators (HRSG), each with a 160 ft. stack, and one steam turbine-electrical generator rated at approximately 300 MW. Units 25 and 26 have a total nominal capacity of 640 MW and will achieve approximately 700 MW during extreme winter peaking conditions.

PROPOSED PROJECT

This project is for the replacement of the high pressure and intermediate pressure (HP/IP) portions of the Stanton Energy Center Unit 2 steam turbine blades with improved technology. Unit No. 2 consists of a Babcock and Wilcox boiler/steam generator (Model RB 621) and steam turbine, which drives a generator with a nameplate rating of 468 MW. It is expected that this turbine replacement effort will increase the efficiency of Unit 2, providing an increase in power generation output capability without a corresponding increase in fuel consumption or annual generation potential. The turbine blades on the Unit 2 turbine generator harness the energy of the steam from the boiler and convert it to rotational energy, which in turn generates electricity. The turbine project involves replacing the existing HP/IP turbine blades with a new turbine blade design that features several thermal performance and mechanical design improvements, including better blade materials, maximized aerodynamics, and advanced steam pressure and flow control. The Unit 2 turbine project is expected to increase operating efficiency, resulting in approximately 15.1 MW additional generation capacity, without any additional fuel usage or increase in energy output by the boiler. Because there will be no increase in heat input or annual hours of operation, air pollutant emissions from Unit 2 will see no increase after the turbine replacement relative to historical levels.

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does operate 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 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

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 Blairstone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the Central District Air Program at: 3319 Maguire Blvd., Suite 232, Orlando, Florida 32803-3767.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Central District Air Program at: 3319 Maguire Blvd., Suite 232, Orlando, FL 32803-3767.
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) and Appendix C (Common Conditions).
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 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(4), 62-4.080 & 62-210.300(1), F.A.C.]

SECTION 3. EMISSIONS ACTIVITY SPECIFIC CONDITIONS

A. REPLACEMENT OF HP/IP TURBINE ON UNIT 2

This section of the permit addresses the following emissions activity.

ID No.	Emission Unit Description
002	Fossil Fuel Fired Steam Electric Generator No. 2

The Unit 2 turbine project is expected to increase operating efficiency, resulting in approximately 15.1 MW of additional generation capacity, without any additional fuel usage or increase in energy output by the boiler. Because there will be no increase in heat input or annual hours of operation, it is expected that air pollutant emissions from Unit 2 will not increase as compared to historical levels.

EQUIPMENT

1. High Pressure and Intermediate Pressure Portions of the Unit 2 Steam Turbine: The permittee is authorized to replace the high pressure and intermediate pressure portions of the Stanton Energy Center Unit 2 steam turbine with improved technology. It is expected that this turbine blade replacement effort will increase the efficiency of Unit 2, providing an increase in power generation output capability without a corresponding increase in fuel consumption or annual generation potential. [Application No. 0950137-041-AC; and Rule 62-210.300, F.A.C.]

PERFORMANCE RESTRICTIONS

2. Hours of Operation: There is no restriction on the daily hours of operation of the turbine blade replacement effort during the construction phase of the project. [Application No. 0950137-041-AC; and Rule 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

3. Common Conditions: See Specific Conditions 6 through 9 in Appendix C.

RECORDS AND REPORTS

4. Notification: The Department’s Central District Office shall be notified by the permittee two weeks prior to start of construction work on this project. [Rule 62-4.070(3), F.A.C.]