TECHNICAL EVALUATION

APPLICANT

Duke Energy Florida, Inc.
299 First Avenue, North, CN77
St. Petersburg, Florida 33701

Crystal River Power Plant
Facility ID No. 0170004

PROJECT

Project No. 0170004-041-AC
Application for Air Construction Permit Conditional Exemption
Replacement of Coal Barge Un-loader Crane
Conditional Exemption Project

COUNTY

Citrus County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road, MS#5505
Tallahassee, Florida 32399-2400

October 16, 2013

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Chapters 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations in Rule 62-204.800, F.A.C.

Facility Description and Location

The Crystal River Power Plant is an existing fossil fuel fired steam electric power plant, which is categorized under Standard Industrial Classification Code No. 4911. The existing facility is located in Citrus County at 15760 W. Power Line Street in Crystal River, Florida. The UTM coordinates of the existing facility are Zone 17, 334.3 kilometers (km) East and 3204.5 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to Ambient Air Quality Standards (AAQS).

Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act.
- 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, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility is identified as a major source of green house gas (GHG) pollutants.

Project Description

Duke Energy Florida, Inc. (DEF) has a need to replace the hydraulic crane-operated coal barge un-loader component of the overall "material handling activities for coal-fired steam units" (EU No. 016). The current un-loader was installed as part of an overall coal handing system modification project originally authorized by air construction permit No. 017000-014-AC. The previous modification was required to be permitted due to requested increases in overall material handling rates, including increasing the coal unloading rate to 2,500 tons/hour. The new coal un-loader project will replace the existing crane-operated clamshell un-loader, rated at 2,500 tons/hour, with two new clamshell un-loaders (ZPMC Corporation, Bulk Material Clamshell), each rated at 1,250 tons/hour. No other portions of the overall material handling system will be affected by this change-out of the coal unloading system; therefore, there will be no increase in throughput capacity or change in the overall emissions profile.

Processing Schedule

10/15/13 Received request for conditional exemption from the requirement to obtain an air pollution construction permit.

10/16/13 Issued Exemption pursuant to Rule 62-4.040(1)(b), F.A.C.

2. DEPARTMENT REVIEW

Emissions unit 016 (EU016) consists of a crane-operated clam-shell bucket mounted on a traveling gantry (used to unload coal from barges), enclosed conveyor belts, coal crushers and storage bunkers. This equipment is used for the storage and transport of coal for Fossil Fuel Steam Generating Units 1, 2, 4 and 5. The barge unloading capabilities are 2,500 tons per hour and 32,000 tons per day. The speed of the conveyors and the crusher associated with boilers 1 and 2 is 900 tons per hour.

This emissions unit is regulated partially under Power Plant Siting Certification PA 77-09 (Units 4 and 5 only) and is subject to NSPS 40 CFR 60, Subpart Y - Standards of Performance for Coal Preparation and Processing Plants. To the extent possible, the equipment that comprises the coal processing equipment at this facility (crushers, conveyors, drop points, and storage bunkers) is covered or enclosed at all times when the equipment is in operation. However, because the barge un-loading crane is required by design to be open and moveable, that portion of the coal handling facility is not specifically subject to regulation under 40 CFR 60 Subpart Y.

The emissions of air pollutants resulting from the operation of the un-loading crane are related to the dust on the coal being unloaded, which is an existing permitted activity at the site. The replacement of the existing 2,500 tons per hour crane with two smaller cranes capable of processing 1,250 tons per hour each is not expected to result in any changes in the potential or actual emissions related to the un-loading activity. While this is a physical change at the facility, it is a change that does not result in an increase in actual emissions. Pursuant to Rule 62-210.200(205), F.A.C., this change is not considered a "modification" for which an air construction permit must be required.

The replacement of the single existing crane with two smaller new cranes is acceptable provided all other operational requirements contained in the existing Title V air operation permit, as established in the underlying air construction permits and Power Plant Siting Conditions of Certification continue to be complied with.

3. CONCLUSION

Pursuant to Rule 62.4.040(1)(b) of the Florida Administrative Code (F.A.C.) and for the reasons previously stated, the Office of Permitting and Compliance determines that the activity will not emit air pollutants, "… in sufficient quantity, with respect to its character, quality or content, and the circumstances surrounding its location, use and operation, as to contribute significantly to the pollution problems within the State, so that the regulation thereof is not reasonably justified." Therefore, the project is exempt from the requirement to obtain an air construction permit. This determination may be revoked if the proposed activity is substantially modified or the basis for the exemption is determined to be materially incorrect. Jon Holtom, P.E., is the project engineer responsible for reviewing the application and drafting the exemption. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Office of Permitting and Compliance at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.