TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Florida State University
990 Learning Way
Tallahassee, Florida 32306
Central Utilities Plant
Facility ID No. 0730010

PROJECT

Project No. 0730010-005-AC
Application for Minor Source Air Construction Permit
Boiler No. 2 Replacement

COUNTY

Leon, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Section
Northwest District Office
160 W. Government Street, Room 308
Pensacola, Florida 32502-5740

May 25, 2011

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); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 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 on a quarterly basis in Rule 62-204.800, F.A.C.

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of this permit.

Facility Description and Location

Florida State University is an existing State University, which is categorized under Standard Industrial Classification Code No. 8221. The facility is located in Leon County at 990 Learning Way in Tallahassee, Florida. The UTM coordinates of the existing facility are Zone 16, 759.5 km East, and 3370.9 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

Facility Regulatory Categories

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act.
- The facility is not a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Project Description

The proposed project will replace Emissions Unit (EU) 004, a 46 MMBtu/hr boiler capable of producing 39,000 lb/hr of saturated 125 psig steam with EU012, a new 94.68 MMBtu/hr boiler capable of producing 80,000 lb/hr of saturated 125 psig steam. Emissions units EU002 and EU010, each with a heat input of 83.5 MMBtu/hr, will be combined into a new emission unit, EU013, and the hours of operation will be restricted to keep NOx emissions below 100TPY and avoid Title V. The time restriction for EU013 will be of combined boiler operating hours to allow for operational flexibility.

Processing Schedule

4/15/2011 Received the application for a minor source air pollution construction permit.

5/3/2011 Notified of insufficient fee.

5/18/2011 Received sufficient fee; application complete.

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following pollutants: carbon monoxide (CO); nitrogen oxides (NO_X); sulfur dioxide (SO_2); particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM_{10}); volatile organic compounds (VOC); lead (Pb); fluorides (Fl); sulfuric acid mist (SAM); hydrogen sulfide (H_2S); total reduced sulfur (TRS), including H_2S; reduced sulfur compounds, including H_2S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as particulate matter; municipal waste combustor acid gases measured as SO_2 and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as non-methane organic compounds (NMOC); and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 $\mu g/m^3$, 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

<u>PSD Applicability for Project</u>

The new combination of fossil fuel boilers has a heat input capacity of greater than 250 MMBtu/hr (261 MMBtu/hr) and a PTE of more than 100TPY for NOx. The facility would become a major stationary source for PSD if not for the limits placed on the hours of operation of the existing boilers to limit the combined facility NOx emissions to less than 100 TPY

As provided in the application, the following table summarizes potential emissions and PSD applicability for the project.

Table A. Potential Emissions (Tons/Year) and PSD Applicability

Pollutant (TPY)	Pre-Project Potential Emissions	Contempo-raneous Emissions	Post Project Potential Emissions	Total Emissions Change	Significant Emissions Rate	Subject to PSD
CO	78.4	NA	75.2	-3.2	250	NO
NO_X	94.7	NA	90.8	-3.9	250	NO
PM/PM_{10}	7.2	NA	6.9	-0.3	250	NO
SO_2	6.9	NA	6.7	-0.2	250	NO
VOC	5.1	NA	4.9	-0.2	250	NO

The existing facility is currently not a major stationary source for PSD because its potential to emit a regulated pollutant is less than 100 TPY NOx and its heat input capacity is 213 MMBtu/hr. PSD review is not necessary because the project's emissions increase does not reach or exceed the 250 TPY significant emissions rate.

3. APPLICATION REVIEW

Application Fee

Due to the two existing boilers taking a restriction on hours of operation the net emission increase is less than 5 tons per year, and the project is an AC1F with a fee of $250.00.

Discussion of Emissions

The potential emissions for the facility with the new boiler exceeded 100 TPY of NOx; therefore, the permittee requested a restriction on the hours of operation of the existing boilers to escape Title V. With the restriction on hours of operation, the facility remains 10% below the Title V trigger level of 100 TPY for NOx.

State Requirements

The new boiler and the existing boilers are subject to Rule 62-296.406, F.A.C.

Federal NSPS Provisions

The new boiler and the existing boilers are subject to 40 CFR 60 subpart Dc.

Federal NESHAP Provisions

The new boiler is not subject to any currently promulgated NESHAP.

Other Draft Permit Requirements

The total fuel oil that can be burned at the facility is reduced by this permit from 180,000 gallons per year to 172,900 gallons per year and the existing Boilers Nos. 1 and 3 are restricted to a combined total of 11,400 hours per year of operation. The new Boiler No. 2 will be permitted to operate 8,760 hours per year.

4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. Additional details of this analysis may be obtained by contacting Armando Sarasua at 850/595-0639 or armando.sarasua@dep.state.fl.us.