TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT
Shands Jacksonville Medical Center
655 West 8th Street
Jacksonville, FL 32209-6511

FACILITY
Shands Jacksonville Medical Center
Facility ID No. 0310142

PROJECT
Project No. 0310142-006-AC
Application for Non-Title V Air Construction Permit

COUNTY
Duval, Florida

PERMITTING AND COMPLIANCE AUTHORITY
Environmental and Compliance Department
Environmental Quality Division
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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 (DEP) 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 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 DEP adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

In accordance with the terms of its Specific Operating Agreement, the City of Jacksonville, Environmental and Compliance Department, Environmental Quality Division has been delegated the Permitting and Compliance Authority (PCA) to process this application on behalf of the DEP.

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which will be defined in the permit.

Facility Description and Location

Shands Jacksonville Medical Center is a general medical and surgical hospital facility, which is categorized under Standard Industrial Classification Code No. 8069. The facility is located in Duval County at 655 West 8th Street in Jacksonville, Florida 32209-6511. The UTM coordinates of this facility are Zone 17, 436.50 km East, and 3357.25 km North. The latitude and longitude coordinates are 30˚24’54” North, 81˚39’56” West.

This facility is located in an area designated as; unclassifiable for the air pollutants particulate matter less than or equal to ten (10) micrometers (PM_{10}), sulfur dioxide (SO_2), and lead (Pb); an air quality maintenance area for ozone (O_3); and in the area of influence of an air quality maintenance area for particulate matter (PM); pursuant to state and federal Ambient Air Quality Standards (AAQS), Chapter 62-204, Florida Administrative Code (F.A.C.), and Rule 2.201, Jacksonville Environmental Protection Board (JEPB).

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 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 Prevention of Significant Deterioration (PSD) of Air Quality.

Project Description
Shands Jacksonville Medical Center, a general medical and surgical hospital facility located in Duval County at 655 West 8th Street in Jacksonville, Florida 32209-6511, proposes to install two (2) new natural gas fired steam generating boilers. Distillate No. 2 fuel oil may be used during periods of natural gas curtailment. The two (2) Hurst boilers, Model S5-X-400-150, are each rated at 13.4 MMBtu per hour heat input.

Shands Jacksonville Medical Center also proposes to remove two (2) natural gas fired steam generating boilers. The Cleaver Brooks Boiler, Model D52, is rated at 33.5 MMBtu per hour heat input. The Bryan Boiler, Model RW-1700-S-150-FDGO, is rated at 18.0 MMBtu per hour heat input.

Processing Schedule
- 06/03/2011 Received the application for a non-Title V air pollution construction permit

2. PSD APPLICABILITY

General PSD Applicability
For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the DEP 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 DEP 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.

PSD and Title V Applicability for Project

The Shands Jacksonville Medical Center is a general medical and surgical hospital facility. This facility proposes to install two (2) new natural gas fired steam generating boilers. Distillate No. 2 fuel oil may be used during periods of natural gas curtailment. The two (2) Hurst boilers, Model S5-X-400-150, are each rated at 13.4 MMBtu per hour heat input. These two boilers will be designated EU's 007 and 008.

The existing facility is not a major stationary source of air pollution for PSD purposes because the potential emissions of PSD air pollutants are less than 250 tons per year pursuant to Rule 62-210.200(189), F.A.C., and Rule 2.301, JEPB. This project is not subject to PSD preconstruction review requirements since the proposed project itself has potential emissions of PSD air pollutants that are less than 250 tons per year pursuant to Rule 62-210.200(189), F.A.C., and Rule 2.301, JEPB. The facility is not a major source of air pollution for Title V purposes because the potential emissions of regulated air pollutants are less than 100 tons per year and the potential emissions of Hazardous Air Pollutants (HAP) are less than 10 tons per year for a single HAP and less than 25 tons per year for total HAP pursuant to Rule 62-210.200(188), F.A.C., and Rule 2.301, JEPB.

3. APPLICATION REVIEW

Discussion of Emissions

Steam generating boilers (2) – Natural gas fired with distillate fuel No. 2 as backup, 13.4 MMBTU per hour heat input each. The following pollutants have the potential to be emitted in the following amounts to the atmosphere:

- CO – 9.6 tons/year
- NO_x – 11.6 tons/year
- PM – 0.8 tons/year
- SO_2 – 0.2 tons/year
- VOC – 0.6 tons/year
- HAP – 0.2 tons/year

There are two new emission units at the facility that require permitting under this project:

- The Hurst 13.4 MMBtu per hour Boiler (B-C-1). The emission unit will be permitted as EU 007.
- The Hurst 13.4 MMBtu per hour Boiler (B-C-3). The emission unit will be permitted as EU 008.

There are no units at the facility that will be included in the permit as unregulated emission units.

Local Requirements

This facility is subject to Chapter 360 [Environmental Regulation], Chapter 362 [Air and Water Pollution], Chapter 365 [Hazardous Regulated Substance Program], and Chapter 376 [Odor Control] of the Ordinance Code of the City of Jacksonville, Title X; and Rule 1 [Final Rules with Respect to Organization, Procedure, and Practice], and Rule 2, Part Numbers I through III and Part Numbers X through XIV [Air Pollution Control], JEPB.

State Requirements

This facility is subject to the applicable sections of Chapter 403, F.S. and Rules 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Federal NSPS Provisions
This facility is an "affected facility" therefore 40CFR60 Subpart A does apply.
40CFR60 Subpart Dc does apply as the heat input rate of the boilers at this facility are greater than or equal to ten (10) MMBtu per hour but less than or equal to 100 MMBtu per hour.

Federal NESHAP Provisions
This facility is not subject to 40CFR63 as the applicability requirements of Subpart JJJJJJ specifically excludes gas-fired boilers per 40CFR63, Section 63.11195 and the boilers at this facility meet that definition per 40CFR63, Section 63.11237.

Other Draft Permit Requirements

- This facility shall notify the PCA when construction begins, upon initial startup, prior to emissions compliance testing, of the results for emissions compliance testing, prior to any modifications which may affect plant emissions, and when plant operation permanently ends.
- The maximum heat input to each boiler is limited to 13.4 MMBtu per hour.
- The primary fuel is natural gas with Distillate No. 2 fuel oil used during periods of natural gas curtailment or for periodic testing purposes only. Periodic testing shall not exceed 48 hours per calendar year at 100 gallons per hour (4800 gal/yr) for each boiler.
- The Emission Units (EU's) at this facility are permitted to operate continuously.
- The boiler exhaust emission shall not exceed 20% opacity. Opacity of up to 40% is allowed for one (1) two (2) minute period per hour.
- Opacity testing shall be performed annually.
- The maximum sulfur content of the Distillate No. 2 fuel oil is limited to 0.05% by weight.
- This facility shall maintain all appropriate records as required by the PCA.

4. PRELIMINARY DETERMINATION

The PCA makes a preliminary determination that the proposed project will comply with all applicable local, 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. C. Blane Johnson is the project engineer responsible for reviewing the application and drafting the permit.