Best Available Control Technology (BACT) Determination
JEA
Buckman Street Wastewater Treatment Plant
Duval County

This BACT determination is required for the source as set forth in Rules 62-296.400, Florida Administrative Code (FAC), - Specific Emissions Limiting and Performance Standards, and Rule 62-296.406, FAC, - Fossil Fuel Steam Generators with less than 250 Million Btu per hour Heat Input, New and Existing Sources.

The applicant has applied for an air construction permit to modify the bio-solids process at the plant. The modification includes the installation of three process hot water boilers rated at a maximum heat input of 5 million Btu per hour each. The three boilers are designated Emission Unit Nos. 012, 013, and 014 (Boiler Nos. 1, 2, and 3 respectively). These boilers are located at the JEA Buckman Street Wastewater Treatment Plant, 2221 Buckman Street, Jacksonville, FL. These boilers require a BACT determination.

BACT Determination Requested by Applicant:

Particulate matter and sulfur dioxide emissions shall be controlled by the firing of natural gas or bio-gas.

Date of Receipt of BACT Application:

May 3, 2000 and May 27, 2004

BACT Determination by the Department:

Particulate matter emissions and sulfur dioxide emissions shall be controlled by the firing of natural gas and/or bio-gas.

BACT Determination Rationale:

Sulfur in fuel is a primary air pollution concern since most of the fuel sulfur becomes sulfur dioxide. The bio-gas shall be produced in two new anaerobic digesters at the facility which are part of the bio-solids modification project. The bio-gas is renewable resource which will offset the use of natural gas, a non-renewable resource. The boilers will use the bio-gas as a back-up fuel, typically if the sludge drum dryer is not able to burn the bio-gas. The expected emission rate of sulfur dioxide has been computer modeled and limits established in the permit to insure that ambient air quality standards for sulfur dioxide are not adversely impacted.

Details of the Analysis May be Obtained by Contacting:

Jerry E. Woosley
Environmental Engineer
Environmental Resource Management Department
Environmental Quality Division
117 West Duval Street, Suite 225
Jacksonville, FL 32202

Approved by:

11/9/05

Richard Robinson, P.E., Manager
Air Pollution Source Permitting Section

Date