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 one process hot water boiler (Emission Unit No. 018) rated at a maximum heat input of 3.8 million Btu per hour. There are also two existing boilers designated Emission Unit Nos. 013 and 014. These boilers are located at the JEA Buckman Street Wastewater Treatment Plant, 2221 Buckman Street, Jacksonville, FL. These three 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, May 27, 2004 and December 6, 2010

BACT Determination by the Permitting Authority:

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 three anaerobic digesters at the facility which are part of the bio-solids process. 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 only 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:

Gloria Hunter-Barnes
Environmental Engineer
Environmental and Compliance Department
Environmental Quality Division
407 North Laura Street, Third Floor
Jacksonville, FL 32202

Approved by:

Richard S. Robinson 1/20/11

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