Best Available Control Technology (BACT) Determination
Lakeland Regional Medical Center
Polk County

Lakeland Regional Medical Center has submitted an application dated April 30, 2000 for a Title V permit to operate a Hospital/Medical/Infectious Waste Incinerator & 2 boilers (1-regulated boiler, 1-unregulated boiler). As part of that application, the regulated boiler is subject to Rule 62-296.406, F.A.C. This regulated boiler is a 750 HP Johnson boiler, which has a maximum heat input rate of 25 MMBTU/hr. The boiler is fired with either natural gas or new fuel oil having a maximum sulfur content of 0.05% by weight. The Johnson boiler is also subject to the requirements of 40 CFR 60, Subpart Dc.

This BACT determination is required for the source as set forth in Rule 62-296.406, Florida Administrative Code - Fossil Fuel Steam Generators With Less Than 250 MMBTU/hr. Heat Input, New and Existing Sources.

BACT Determination Requested by Applicant:

Particulate matter and sulfur dioxide emissions are to be controlled by the firing of natural gas or new fuel oil with a maximum sulfur content not to exceed 0.05 percent, by weight.

Date of Receipt of BACT Application: May 1, 2000

BACT Determination by DEP:

The amount of particulate matter and sulfur dioxide emissions from the boiler shall be limited by the firing of natural gas or new fuel oil with a maximum sulfur content not to exceed 0.05 percent, by weight.

BACT Determination Rationale:

Sulfur in fuel is a primary air pollution concern, since most of the fuel's sulfur becomes sulfur dioxide. Also, particulate matter emissions from fuel burning are related to the sulfur content. The Department has performed air dispersion modelling analyses on small natural gas/oil fired boilers typical of this boiler. These analyses show that all standards and increments will be met with the use of natural gas or new fuel oil containing a maximum sulfur content of 0.05 percent, by weight. Distillate fuel oils containing 0.05 percent sulfur, by weight, or less are available and cost only a few cents per gallon more than fuel oils with 0.5 percent sulfur, by weight.

Details of the Air Dispersion Analysis May be Obtained by Contacting:

A. A. Linero, P.E. Supervisor, New Source Review Section
Department of Environmental Protection
Bureau of Air Regulation
Twin Towers Office Building
2600 Blair Stone Road, MS #5505
Tallahassee, Florida 32399-2400

Recommended by:

Gerald Kissel, P.E.
SW District Air Engineer

November 8, 2000

Approved by:

William C. Thomas, P.E.
SW District Air Program Administrator

November 8, 2000