Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

Best Available Control Technology (BACT) Determination
Mosaic Fertilizer, LLC
Polk County
Construction Permit No. 1050046-030-AC

Mosaic Fertilizer, LLC has submitted an application dated 12/03/2010 for a construction permit to install a new 75 mmBtu/hr boiler at Mosaic Green Bay - A part of Mosaic Bartow Facility. The boiler is fired with natural gas and distillate # 2 oil having a maximum sulfur content of 0.05 percent, by weight as back up, at a maximum heat input rate of 75 million BTU per hour (mmBtu/hr.).

This BACT determination is required for the source as set forth in Rule 62-296.406, Florida Administrative Code - Emission Standards for Fossil Fuel Fired Steam Generators with Less Than 250 million BTU/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 distillate # 2 oil with a maximum sulfur content not to exceed 0.05 percent, by weight.

Date of Receipt of BACT Application: 12/03/2010

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 distillate # 2 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 modeling analyses on small natural gas/low sulfur oil fired boilers typical of those recently permitted in Florida. These analyses show that all standards and increments will be met with the use of natural gas or distillate # 2 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:

Cindy Zhang-Torres

Cindy Zhang-Torres, P.E.
Air Permitting Supervisor
Southwest District

March 14, 2011

Approved by:

Mara Grace Nasca

Mara Grace Nasca
District Air Program Administrator
Southwest District

March 14, 2011