

Best Available Control Technology (BACT) Determination
Griffin Industries of Florida
Bradford County

Griffin Industries of Florida has three boilers (units #1, #2 and #3) located the City of Hampton in Bradford County. Units #1 and #2 are applying for renewal of their operating permit. All the boilers fire No. 6 fuel oil and operate 12 hours/day, 5 1/2 days/week and 52 weeks/year.

This BACT determination is required for the source as set forth in the Florida Administrative Code Rule 17-2.600(6) - Emission Limiting and Performance Standards.

BACT Determination Requested by the Applicant:

The applicant did not request a BACT determination.

History of BACT Application:

Unit #3, a new 26000 lbs/hr auxiliary boiler, BACT issued October 21, 1988. Determined that #6 fuel oil with 1.5% sulfur be used.

Review Group Members:

The determination was based upon comments received from the Permitting and Standards Section and the Northeast Florida District.

BACT Determination by DER:

The amount of particulate and sulfur dioxide emissions from the boilers (units #1 and #2) will be limited by the firing of new (1) No. 6 fuel oil containing 1.5 percent sulfur by weight.

(1) The term "new" means an oil which has been refined from crude oil and has not been used.

BACT Determination Rationale:

Sulfur in fuel is a primary air pollution concern, since most of the fuel sulfur becomes sulfur dioxide and particulate emissions from oil burning are related to sulfur content.

The amount of particulate emissions when firing the 2.5 percent sulfur content fuel will have a minimal impact on air quality. However, the sulfur dioxide emissions could exceed the Ambient Air Quality Standard (AAQS) for sulfur dioxide.

Using the stack parameters given by the applicant, the sulfur dioxide impacts can be obtained by using the Toxic Screen Model.

Assuming maximum design firing rate and 12 hours/day operation the total sulfur dioxide concentrations for the three boilers are expected to be as follows:

1-hour maximum - 772 ug/m³
3-hour maximum - 695 ug/m³
24-hour maximum - 309 ug/m³

The 24-hour maximum impact, excluding the background concentration, will exceed the AAQS of 260 ug/m³. Therefore, the applicants proposal to use No. 6 fuel oil with 2.5 percent sulfur on Units #1 and #2 is not acceptable.


It has been estimated that the sulfur content should be limited to 1.5 percent on units #1 and #2 to provide assurance that the 24-hour sulfur dioxide AAQS will not be exceeded by the three units in combination.

Limiting the No. 6 fuel oil to 1.5% on Units #1 and #2 is consistent with previous BACT determinations for boilers of this type including Unit #3 in this same facility.

Details of the Analysis May be Obtained by Contacting:

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Bureau of Air Quality Management
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Recommended By:




C. H. Fancy, P.E., Chief
Bureau of Air Regulation

January 25, 1991

Date

Approved by:



STEVE SMALLWOOD, P.E., Director
Division of Air Resources Management

January 25, 1991

Date