

Revised
Best Available Control Technology (BACT) Determination
Anheuser-Busch, Inc. - Duval County
Gas Turbine and Heat Recovery Boiler

Projects

The applicant proposes to install an 95.7 MMBtu/hr natural gas-fired turbine to operate an 9,114 kilowatt electric generator and an 80,000 lbs steam/hr heat recovery boiler with a 38 MMBtu/hr natural gas-fired burner for supplementary heat input. Because of the increase in nitrogen oxides (NOx) emissions associated with these projects, the allowable emissions from these sources are established by a BACT determination.

Review Group Members

This determination is based on the proposal by the applicant, EPA documents, and the Stationary Source Control Section.

BACT Determined by DER

SOURCE	POLLUTANT	EMISSION LIMIT
Turbine	Nitrogen Oxides	STD = 0.0150 (14.4/Y) + F

Where:

STD = allowable NOx emission (percent by volume at 15 percent oxygen and on dry basis)

Y = manufacturer's rated heat rate at manufacturer's rated peak load (kilojoules per watt hour)

F = NOx emission allowance for fuel-bound nitrogen as described in 40 CFR 60, Subpart GG

Visible Emiss. 5% opacity (6 min. avg.)

Heat Recov. Boiler contribution to emissions.	Nitrogen Oxides	0.1 lbs NOx/MMBtu heat input
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Visible Emiss. 5% opacity (6 min. avg.)

Compliance test shall be by Reference Methods 9 and 20 or other EPA approved alternative methods as described in 40 CFR 60, Appendix A.

BACT Determination Rationale

Turbine - The applicant proposes to meet the new source performance standards (NSPS) for gas turbine (40 CFR 60, Subpart

GG) by operational controls and limiting the unit to natural gas fuel only. NOx emissions from turbines can also be controlled by water or steam injection. On the proposed turbine, this would increase capital cost by \$250,000 and require 14 days annual downtime for maintenance. There is no assurance that the NOx emissions would be lower than the NSPS. Therefore, the BACT for this unit is determined to be operational controls and natural gas fuel that result in the unit complying with NSPS for stationary gas turbines.


Heat Recovery Boiler - Low excess air (LEA) operations and limiting the unit to natural gas fuel will minimize the emissions of air pollutants from this source. The heated combustion air (hot gases from turbine) will cause NOx emissions to be higher than similar units using ambient air. According to the development work performed for the Standards of Performance for New Stationary Sources; Industrial Commercial-Institutional Steam Generating Units (June 19, 1984, Federal Register) NOx emissions from steam generating units employing combustion air preheat can meet a standard of 0.1 lb/MMBtu heat input. This standard is adopted as the BACT determination for this unit.

Turbine and Boiler - Proper combustion of natural gas fuel should cause no visible emissions.

Details of the Analysis May be Obtained by Contacting:

Barry Andrews, P.E., BACT Coordinator
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Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

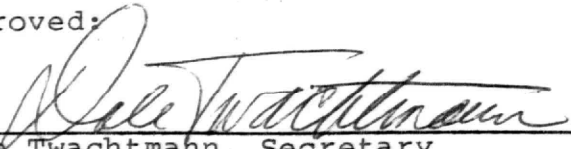
Recommended By:


C. H. Fancy, P.E., Deputy Bureau Chief

Date:

4/22/87

Approved:


Dale Twachtman, Secretary

Date:

27 April 87