Trail Ridge Energy, LLC
Trail Ridge Landfill, City of Jacksonville
BACT from PSD-FL-374C/0310358-012-AC
Baldwin, Duval County

PROJECT DESCRIPTION

EU No.	Emission Unit Description
004-009 and 012-015	Ten Caterpillar Model G3520C lean-burn reciprocating internal combustion engine/generator sets

The City of Jacksonville. operates the existing Trail Ridge Landfill, which is a municipal solid waste landfill located in Duval County at 5110 US Highway 301 South, Baldwin, Florida. Trail Ridge Energy proposes to install and operate four new Caterpillar Model No. G3520C engine generator sets and to modify the CO emissions standard as Best Available Control Technology (BACT) for the four proposed and six existing engine generator sets. Landfill gas will be used to fuel the ten lean-burn Caterpillar Model No. CAT G3520C engine/generator sets capable of producing a combined nominal 16 megawatts (MW) of power to the electrical grid. The two existing flares will be retained as additional combustion devices for the landfill gas. The landfill gas will be routed through a landfill gas treatment system and then to the landfill gas engines. If necessary, residual landfill gas will be routed to the flares. The landfill gas treatment system includes initial gas de-watering (moisture knock-out vessel), gas compressors and blowers, air-to-gas coolers and particulate filtration.

Exhaust gas from each engine will exit an individual stack (23 feet tall) equipped with a noise muffler. The six existing engines are housed in an enclosed building and the four proposed engines will be housed adjacent in an enclosed building. In accordance with Rule 62-212.400, F.A.C., the proposed project is subject to PSD major stationary source preconstruction review for emissions of CO, NO_X and PM/PM_{10}.

FINAL BACT DETERMINATIONS

In accordance with Rule 62-212.400, F.A.C., the Department specifies the following BACT determinations for each engine.

Pollutant	BACT Standard	Control Technology	Compliance Method
CO	3.5 g/bhp-hour and 17.2 lb/hour	Combustion design combined with good combustion and maintenance practices.	EPA Method 10
NO_X	0.6 g/bhp-hour and 3.0 lb/hour		EPA Method 7 or 7E
PM/PM_{10}	*Work Practice Standard*: The landfill gas pretreatment system shall include a filtration system to remove particulate down to 1 micron.		Design and maintenance records
	Work Practice Standard: Visible emissions from each engine exhaust stack shall not exceed 10% opacity, based on a six-minute average.		EPA Method 9