~~Trail Ridge Energy, LLC~~
~~Trail Ridge Landfill, City of Jacksonville~~
~~PSD-FL-374/0310358-004-AC~~
~~Baldwin, Duval County~~

~~Trail Ridge Energy, LLC has applied to modify Trail Ridge Landfill, owned by the city of Jacksonville, by installing six (6) lean-burn internal combustion (IC) Caterpillar (CAT) Model G3520C gas IC engines and electricity generators. The electricity generation plant will also consist of landfill gas (LFG) treatment equipment (gas dewatering, filtration and compression equipment and processes) and ancillary equipment that supports the electricity generation operations (e.g., engine oil storage tanks and LFG temperature and moisture conditioning equipment).~~

~~The six lean-burn IC engines will be connected to individual electricity generators. Each gas IC engine will be connected to a 1,600 kilowatt electricity generator. The plant will have the potential to generate 9.6 megawatts of electricity under base load operating conditions and will be interconnected to the Jacksonville Electric Authority distribution network through a nearby power line.~~

~~The LFG fueled IC engines will be housed in a single building constructed near the existing LFG collection system header and control system flare. A gas transmission line will be connected to the header of the existing LFG collection system and a dedicated gas blower/compressor will be used to draw methane-rich gas (fuel) from the existing LFG collection system to the proposed electricity generation plant.~~

~~The Trail Ridge Landfill is a major source of air pollution or a Title V source based on Rule 62-210.200(184), Florida Administrative Code (F.A.C.). Additionally, based on this modification, potential emissions of carbon monoxide (CO) will be greater than 250 tons per year (TPY) making the facility a Major Stationary Source for Prevention of Significant Deterioration (PSD) review with respect to Rule 62-210.200(185)(a)2., F.A.C. The increases in emissions of nitrogen oxide (NOx) and particulate matter less than or equal to 10 microns (PM_{10}) will exceed the significant emission rates listed in Rule 62-210.200(264), F.A.C. A Best Available Control Technology (BACT) determination is part of the review required for CO, NOx and PM_{10} by Rule 62-210.200(39), F.A.C.~~

~~Descriptions of the process, project, BACT determination, air quality effects, and rule applicability are given in the Technical Evaluation and Preliminary Determination, accompanying the Department's Intent to Issue.~~

~~The Department proposes the following as BACT for each engine:~~

~~POLLUTANT~~	~~EMISSION LIMIT~~	~~CONTROL TECHNOLOGY~~
~~CO~~	~~2.75 g/bhp-hr and 13.54 lb/hr and 59.30 TPY~~	~~Combustor design and good combustion practices~~
~~NOx~~	~~0.6 g/bhp-hr and 2.95 lb/hr and 12.94 TPY~~	~~Combustor design and good combustion practices~~
~~PM_{10}~~	~~0.24 g/bhp-hr and 1.18 lb/hr and 5.17 TPY~~	~~Pretreatment of landfill gas and proper engine maintenance~~

~~Compliance with the emission limits shall be in accordance with the following EPA Reference Methods as contained in 40 CFR 60, Appendix A or as otherwise approved by the Department:~~

~~EMISSION UNIT~~	~~POLLUTANT~~	~~EPA REFERENCE METHOD~~
~~Six (6) Caterpillar Model G 3520C Landfill gas fueled Internal Combustion Engines~~	~~PM_{10}~~	~~201~~
	~~NOx~~	~~7 or 7E~~
	~~CO~~	~~10~~
	~~VE~~	~~9~~

Trail Ridge Energy, LLC
Trail Ridge Landfill, City of Jacksonville
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