

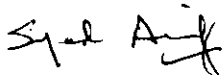
Florida Department of
Environmental Protection

Memorandum

12/11/06

TO: Joseph Kahn

THRU: Trina Vielhauer
Jeff Koerner

FROM: Syed Arif  12/7

DATE: December 7, 2006

SUBJECT: Trail Ridge Energy, LLC
DEP File No. 0310358-004-AC; PSD-FL-374

Attached for your approval and signature is the final construction permit for Trail Ridge Energy, LLC to install six (6) lean burn Caterpillar Model G3520C landfill gas fueled internal combustion engines at Trail Ridge Landfill facility owned by the City of Jacksonville located in Baldwin, Duval County. A Best Available Control Technology (BACT) determination was required for nitrogen oxide (NO_x), carbon monoxide (CO) and particulate matter less than or equal to 10 microns (PM₁₀) pursuant to Rule 62-212.400, F.A.C.

Trail Ridge Energy, LLC applied on February 24, 2006 (complete on August 15, 2006) to install the six engines for generating electricity by combusting landfill gas that is currently being flared at the Trail Ridge Landfill facility. Due to this modification potential emissions of CO will be greater than 250 tons per year (TPY) making the facility a Major Stationary Source for PSD review. The increases in emissions of NO_x and PM₁₀ will exceed the significant emission rates. The total annual increases due to the proposed project are approximately 356 TPY of CO, 78 TPY of NO_x and 31 TPY of PM₁₀. CO and NO_x emissions will be controlled through combustor design (lean burn engine) and good combustion practices (air to fuel ratio control). PM₁₀ emissions will be minimized through the pretreatment of the landfill gas prior to combustion and proper equipment maintenance of the engines.

The Public Notice was published on November 1, 2006 in the Florida Times-Union. Comments were submitted by the applicant and Waste Management which were entertained in the final determination. No comments were received from the public, EPA Region IV or National Park Service.

We recommend your approval and signature.

JK/sa

Attachments

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF FINAL PERMIT

In the Matter of an
Application for Permit

Mr. Scott Salisbury, Managing Member
Trail Ridge Energy, LLC
29261 Wall Street
Wixom, Michigan 48393

DEP File No. 0310358-004-AC
PSD-FL-374

Enclosed is the FINAL Permit Number PSD-FL-374 for the installation of six (6) lean burn Caterpillar Model G3520C landfill gas fueled internal combustion engines at Trail Ridge Landfill owned by the City of Jacksonville in Baldwin, Duval County. This permit is issued pursuant to Chapter 403, Florida Statutes and in accordance with Rule 62-212.400., F.A.C. - Prevention of Significant Deterioration (PSD).

Any party to this order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Legal Office; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 (thirty) days from the date this Notice is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.



Trina L. Vielhauer, Chief
Bureau of Air Regulation

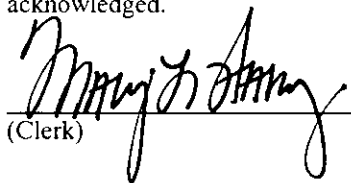
CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF FINAL PERMIT (including the FINAL permit) and all copies were sent by electronically (with Received Receipt) before the close of business on 12/11/06 to the person(s) listed:

Scott Salisbury, Trail Ridge Energy, LLC (Scott. Salisbury@landfillenergy.com)
Chris Pearson, Acting Division Chief, ERM/SWD (ChrisP.SW1.CH4@coj.net)
Gregg Worley, EPA (worley.gregg@epa.gov)
John Bunyak, NPS (john_bunyak@nps.gov)
Chris Kirts, DEP-NED (Christopher.Kirts@dep.state.fl.us)
Richard Robinson, ERM/AQB (ROBINSON@coj.net)
Jeff Pope, P.E., Clayton Group Services, Inc. (jeff.pope@us.bureauveritas.com)
Derenzo, Derenzo & Associates, Inc. (dderenzo@derenzo.com)
Dorley Thorley, Waste Management (dthorley@wm.com)
Heather Abrams, Georgia Department of Natural Resources (heather_abrams@dnr.state.ga.us)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.



(Clerk)

12/11/06
(Date)



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

PERMITTEE:

Trail Ridge Energy, LLC
29261 Wall Street
Wixom, Michigan 48393

File No.	0310358-004-AC
Permit No.	PSD-FL-374
SIC No.	4953
Project:	Trail Ridge Energy, LLC – Landfill Gas Engines
Expires:	October 1, 2008

Secondary Responsible Official (Energy Section):

Mr. Scott Salisbury
Managing Member

Primary Responsible Official (City of Jacksonville, Solid Waste Division):

Mr. L. Chris Pearson
Acting Division Chief
City of Jacksonville, Solid Waste Division

PROJECT AND LOCATION:

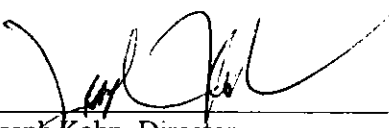
This permit covers the installation and operation of six (6) Caterpillar, Model G3520C, 2,233 brake-horsepower landfill gas-fired engines for the generation of up to a total of 9.6 megawatts (nominal rating) of electricity. The project is located at the Trail Ridge Landfill owned by the City of Jacksonville at 5110 US Highway 301 South, Baldwin, Duval County. UTM coordinates are Zone 17; 399.765 km E; 3344.919 km N.

STATEMENT OF BASIS:

This construction permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297. The above named permittee is authorized to modify the facility in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

ATTACHMENTS MADE A PART OF THIS PERMIT:

Appendix BD BACT Determination
Appendix GC Construction Permit General Conditions



Joseph Kahn, Director
Division of Air Resource Management

"More Protection, Less Process"

Printed on recycled paper.

FINAL DETERMINATION

Trail Ridge Energy, LLC

Permit No. 0310358-004-AC, PSD-FL-374

Trail Ridge Landfill, City of Jacksonville

An Intent to Issue an air construction permit to Trail Ridge Energy, LLC for the installation of six landfill gas-fired engines at Trail Ridge Landfill, owned by the City of Jacksonville in Duval County, was distributed on October 26, 2006. The Notice of Intent was published in the Florida Times-Union on November 1, 2006. Copies of the draft construction permit were available for public inspection at the Department offices in Jacksonville and Tallahassee.

No comments were received from the public, EPA Region IV or the National Park Service. Comments were received from the applicant and Waste Management (operator of Trail Ridge Landfill).

The applicant's comment was related to the inclusion of additional EPA test methods for volatile organic compound emissions compliance demonstration. The Department will add the additional EPA test methods as requested by the applicant.

Waste Management's comments related primarily to reflecting the fact that although the Trail Ridge Energy, LLC location is on a small parcel of land at Trail Ridge Landfill, ownership is the City of Jacksonville, Solid Waste Division and not Trail Ridge Landfill, Inc. All references to Trail Ridge Landfill, Inc., in the Permit, Technical Evaluation and Preliminary Determination, Best Available Control Technology (BACT) determination and all attachments and appendices should be changed to read Trail Ridge Landfill, City of Jacksonville. Additionally, all correspondence should be directed to, Trail Ridge Energy, LLC as permittee, and/or the City of Jacksonville since the City of Jacksonville, Solid Waste Division is the owner and primary responsible official. The Department concurs with these changes and will change the appropriate documents accordingly. The applicant Trail Ridge Energy, LLC, is in agreement with this change.

The final action of the Department is to issue the permit and BACT with the changes noted above.

SECTION I – FACILITY INFORMATION

FACILITY DESCRIPTION

Trail Ridge Landfill, Inc. operates a municipal solid waste (MSW) landfill that is owned by the City of Jacksonville near Baldwin, Duval County consisting of 176 acres which are allocated for Class I MSW. Methane-rich landfill gas produced from the decomposition of disposed waste materials is being collected by a gas recovery system. The collected gas is currently being diverted to the flaring system for control. Trail Ridge Energy, LLC plans to construct and operate an electricity generation plant on a parcel of land segregated from the Trail Ridge Landfill, Inc. operations, as depicted in the permittee's filings. In order to reduce the amount of landfill gas (LFG) wasted by flaring, all available LFG from the landfill will be supplied to Trail Ridge Energy for use as fuel to power the proposed internal combustion (IC) engine electricity generation plant. As a result of these changes, significant emission increases will occur for carbon monoxide (CO), particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) and nitrogen oxides (NO_x).

REGULATORY CLASSIFICATION

The Trail Ridge Landfill is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter (PM/PM₁₀), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), or volatile organic compounds (VOC) exceed 100 tons per year (TPY). The landfill facility is also classified as a Title V source since the design capacity of the landfill is greater than 2.5 million cubic meters and megagrams.

The provisions of 40 CFR 60, Subpart A, General Provisions, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills, 40 CFR 63, Subpart A, General Provisions, 40 CFR 63, Subpart AAAA, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills and 40 CFR 63, Subpart ZZZZ, NESHAP for Stationary Reciprocating Internal Combustion Engines applies to the six internal combustion engines.

The proposed landfill gas fueled IC engine electricity generation plant will be subject to Prevention of Significant Deterioration (PSD) review with respect to Rule 62-210.200(164)(a)2, F.A.C. due to its potential CO emissions being greater than 250 TPY. Best Available Control Technology (BACT) determinations are required for each pollutant emitted in excess of the Significant Emission Rates listed in Rule 62-210.200(242), F.A.C. For this project, the permit specifies BACT emissions standards for CO, NO_x and PM₁₀ emissions.

RELEVANT DOCUMENTS:

The documents listed below are specifically related to this permitting action and form the basis of the permit. They are on file with the Department:

- Application received 02-24-2006
- Department letters dated 03-15-2006, 04-27-2006, 07-05-2006 and 07-31-2006
- Applicant's letters received 04-12-2006, 05-10-2006, 07-25-2006 and 08-15-2006
- Technical Evaluation and Preliminary Determination dated 10-16-2006
- Best Available Control Technology determination (issued concurrently with permit)

SECTION II – EMISSION UNIT(S) ADMINISTRATIVE REQUIREMENTS

1. Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted by Trail Ridge Energy, LLC to the Department's Northeast District Office, 7825 Baymeadows Way, Suite 200 B, Jacksonville, Florida 32256-7590. All applications for permits to construct or modify emissions unit(s) subject to the Prevention of Significant Deterioration or Nonattainment (NA) review requirements should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP), 2600 Blair Stone Road, MS 5505, Tallahassee, Florida 32399-2400 (phone number 850/488-0114).
2. General Conditions: The owner and operator are subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]
3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, 62-297 and the Code of Federal Regulations Title 40, Parts 60 and 63, adopted by reference in the Florida Administrative Code (F.A.C.) regulations. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]
5. Expiration: The permittee may, for good cause, request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit. However, the permittee shall promptly notify the Department's Northeast District Office of any delays in completion of the project which would affect the startup day by more than 90 days. [Rule 62-4.090, F.A.C.]
6. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213.420, F.A.C.]
7. Source Obligation: Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between constructions of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Department in the permit. [Rule 62-212.400(12)(a), F.A.C.]
8. BACT Determination: For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source. [40 CFR 52.21(j)(4)]

SECTION II – EMISSION UNIT(S) ADMINISTRATIVE REQUIREMENTS

9. Annual Reports: Pursuant to Rule 62-210.370(2), F.A.C., Annual Operation Reports, the permittee is required to submit annual reports on the actual operating rates and emissions from this facility. Annual operating reports using DEP Form 62-210.900(4) shall be sent to the DEP's Northeast District office by March 1st of each year.
10. Stack Testing Facilities: Stack sampling facilities shall be installed in accordance with Rule 62-297.310(6), F.A.C.
11. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

SECTION III – EMISSION UNIT(S) SPECIFIC CONDITIONS

SUBSECTION A. SPECIFIC CONDITIONS

The Specific Conditions listed in this section apply to the following emission units:

EMISSION UNIT NO.	EMISSION UNIT DESCRIPTION
004 - 009	Six Caterpillar Model G3520C landfill gas fueled internal combustion engines and electricity generators. Each engine has a power generation rating of 2,233 brake horsepower at 100 percent load. The generator has a power output rating of 1,600 kilowatt. The engines will be fueled exclusively with landfill gas generated by and received from the Trail Ridge landfill facility. The landfill gas will go through a gas treatment system prior to combustion in the engines.

A. FUEL SPECIFICATIONS AND WORK PRACTICES

1. This permit authorizes the installation and operation of six (6) Caterpillar, Model G3520C, 2,233 brake-horsepower landfill gas-fired engines for the generation of up to a total of 9.6 megawatts (nominal rating) of electricity. The power generation rating of each engine shall be 2,233 brake horsepower (bhp). **[Rule 62-212.400, F.A.C.]**
{Permitting Note: The power generation rating of 2,233 bhp is based on a minimum fuel heating value requirement of 467 BTU/scf and landfill gas usage of 580 scfm per engine.}
2. This permit authorizes the installation of a LFG Treatment System including gas compression (via blowers), liquids removal (via knock-out and chilling), and particulate removal (via 1 micron primary and polishing filters). The gas treatment system shall not be equipped with atmospheric vents. **[Rule 62-212.400, F.A.C., 40 CFR 60.752 and Appendix J of the application]**
3. Emissions Units Nos. 004-009 are subject to 40 CFR 60 Subpart WWW and certain sections of 40 CFR 63 Subparts AAAA and ZZZZ adopted by the Department at Rule 62-204.800(8)(b) and 62-204.800(11)(b), F.A.C. **[Rules 62-204.800 and 62-210.300, F.A.C.]**
4. Unless otherwise indicated, the modification/construction and operation of the six Caterpillar internal combustion engines shall be in accordance with the capacities and specifications stated in the application. **[Rule 62-210.300, F.A.C.]**
5. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. **[Rule 62-296.320, F.A.C.]**
6. No person shall circumvent any air pollution control device, or allow the emission of air pollutants without the applicable air pollution control device operating properly. **[Rule 62-210.650, F.A.C.]**
7. Fuel fired in the engines is limited to LFG. The use of any other fuel will require an amendment to this permit. **[Rule 62-212.400, F.A.C.]**
8. The permittee shall operate each engine at the air-to-fuel ratio that the tested engine operated at during the performance test required by Specific Condition C.2 or the most recent performance test if a subsequent performance test is conducted. **[Rule 62-212.400, F.A.C.]**
9. The permittee shall operate each engine within 0.5% of the O₂ content in the exhaust gas at the air-to-fuel ratio that the tested engine operated at during the performance test required by Specific Condition C.2 or the

SECTION III – EMISSION UNIT(S) SPECIFIC CONDITIONS

most recent performance test if a subsequent performance test is conducted. [Rule 62-212.400, F.A.C. and Appendix F of the application]

10. The permittee shall install and maintain an automatic fail-safe block valve on each engine. The fail-safe block valve must stop the flow of LFG in the event of an engine failure. [Rule 62-4.070, F.A.C.]
11. Excess LFG not used as fuel in an engine must be flared in accordance with the requirements of 40 CFR 60 Subpart WWW. [Rule 62-4.070, F.A.C.]
12. Each engine/generator set may operate up to 8,760 hours per year. [Rule 62-210.200(232), F.A.C.]
13. The subject emissions units shall be subject to the following:
 - a. Excess emissions resulting from startup, shutdown or malfunction of any source shall be permitted providing (1) best operational practices to minimize emissions are adhered to, including permittee's return of LFG to the Trail Ridge Landfill flares and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700, F.A.C.]
 - b. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. [Rule 62-210.700, F.A.C.]
 - c. In case of excess emissions resulting from malfunctions, each source shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700, F.A.C.]

B. EMISSION AND PERFORMANCE REQUIREMENTS

1. **Nitrogen oxides (NO_x):** The emission rate of NO_x from each engine/generator set exhaust shall not exceed 0.6 gram per brake horsepower hour (g/bhp-hr) and a maximum of 2.95 pounds per hour (lb/hr) and 12.94 tons per year (TPY). [Rule 62-212.400(12), F.A.C.]
2. **Carbon Monoxide (CO):** The emission rate of CO from each engine/generator set exhaust shall not exceed 2.75 g/bhp-hr and a maximum of 13.54 lb/hr and 59.30 TPY. [Rule 62-212.400(12), F.A.C.]
3. **Particulate Matter less than 10 microns (PM₁₀):** The emission rate of PM₁₀ from each engine/generator set exhaust shall not exceed 0.24 g/bhp-hr and a maximum of 1.18 lb/hr and 5.17 TPY. [Rule 62-212.400(12), F.A.C.]
4. **Volatile Organic Compounds (VOC):** The emission rate of total VOC from each engine/generator set exhaust shall not exceed 0.28 g/bhp-hr and a maximum of 1.37 lb/hr and 5.99 TPY. [Rule 62-212.400(12), F.A.C.]
 {Permitting Note: Project avoids PSD review for VOC based on emission limits.}
5. **Hydrogen Chloride (HCl):** The emission rate of HCl from each engine/generator set shall not exceed 10.9 lb/MMscf and 1.66 TPY. [Rule 62-210.200(184), F.A.C.]
 {Permitting Note: Facility remains a minor source of HAP emissions based on permit limits.}
6. **Sulfur Dioxide (SO₂):** The emission rate of SO₂ from each engine/generator set shall not exceed 27.5 lb/MMscf. [Rule 62-212.400(12), F.A.C.]

SECTION III – EMISSION UNIT(S) SPECIFIC CONDITIONS

{Permitting Note: Project avoids PSD review based on permit limits.}

7. Visible emissions from each engine/generator set exhaust shall not exceed 10% opacity. **[Rule 62-212.400, F.A.C.]**

C. TEST METHODS AND PROCEDURES

1. Sampling Facilities

The permittee shall design the internal combustion engine stack to accommodate adequate testing and sampling locations in order to determine compliance with the applicable emission limits specified by this permit. **[Rule 62-297.310(6), F.A.C.]**

2. Performance Test Methods

Initial (I), Annual (A) and permit renewal (R) compliance tests shall be performed in accordance with the following reference methods as described in 40 CFR 60, Appendix A and 40 CFR 51 Appendix M, adopted by reference in Chapter 62-204.800, F.A.C. Initial, annual and renewal compliance tests shall be conducted on only one of the six engines. A different engine shall be tested each year such that all engines are tested during the six year cycle.

- (a) EPA Method 7 or 7E – Determination of NO_x Emissions from Stationary Sources (I,A);
- (b) EPA Method 9 – Visual Determination of the Opacity of Emissions from Stationary Sources (I,A);
- (c) EPA Method 10 – Determination of CO Emissions from Stationary Sources (I,A);
- (d) EPA Method 18, 25, 25A or 25C – Measurement of Gaseous Organic Compounds Emissions (I,R);
- (e) EPA Method 26 – Determination of HCl Emissions from Stationary Sources (I,A);
- (f) EPA Method 201 – Determinations of PM₁₀ Emissions (I,A)

EPA Methods 1 through 4 shall be used as necessary to support other test methods. No other test methods may be used for compliance testing unless prior DEP approval is received, in writing, from the Department. **[Rule 62-297.310(7), F.A.C.]**

3. The permittee shall comply with the following requirements to monitor the sulfur and chlorine content of the landfill gas:
- a. At least 180 days prior to commercial startup of the engines, the permittee shall sample and analyze the landfill gas for sulfur and chlorine content. The gas sample collected for the analyses shall be a composite sample and collected under normal operating conditions (i.e., with valves open for all operating cells). The gas sample collection and analyses for sulfur and chlorine content shall be done semi-annually. Based on the sampling results and Rule 62-297.310(7)(b), F.A.C., the Department may request additional gas sampling and analyses. Results shall be reported as SO₂ and HCl emission factors in terms of lb/MMscf of landfill gas.
 - b. During each required compliance test conducted for HCl, the permittee shall sample and analyze the landfill gas for the chlorine content. Results for the compliance test shall be reported in terms of HCl

SECTION III – EMISSION UNIT(S) SPECIFIC CONDITIONS

emissions in lb/hr and the sample analysis result shall be reported as HCl emission factor in terms of lb/MMscf of landfill gas.

- c. Analysis of the chlorine content shall be used to track changes in the landfill gas. Based on the analysis, the Compliance Authority may require additional stack testing for HCl emissions to determine compliance with the emissions standard.
- d. Compliance with the fuel sulfur specification shall be determined based on each analysis for the sulfur content of the landfill gas.

[Rules 62-210.200(184), 62-210.200(232) and 62-212.400(12), F.A.C.]

4. Within 60 days of achieving the permitted capacity, but no later than 180 days after initial startup, and annually, the subject emissions units as described in Specific Condition C.2 shall be tested for compliance with the applicable emission limits. For the duration of all tests the emission units shall be operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the emission unit may be tested at less than permitted capacity (i.e., 90% of the maximum operating rate allowed by the permit); in this case, subsequent emission unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emission unit is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit. **[Rule 62-297.310, F.A.C.]**

D. RECORDKEEPING, REPORTING AND MONITORING REQUIREMENTS

1. Total landfill gas flow to the engines shall be continuously measured and recorded. **[Rule 62-210.200 (232), F.A.C.]**
2. Gross electrical power generation (kw-hrs) shall be continuously measured and recorded for each engine individually and for the six engines combined. **[Rule 62-210.200(232), F.A.C.]**
3. Each engine/generator set shall be equipped with a non-resettable elapsed time meter to indicate, in cumulative hours, the elapsed engine operating time. **[Rule 62-210.200(232), F.A.C.]**
4. The permittee shall maintain the following records on a monthly basis:
 - a. The hours of operation of each engine/generator set, including any start-up, shutdown or malfunction in the operations of the engine/generator set.
 - b. The total landfill gas flow to each engine.
 - c. Gross electrical power generation in kw-hr for each engine and the six engines combined.**[Rule 62-210.200(232), F.A.C.]**
5. The permittee shall submit the results and the corresponding data of the site specific HCl emission factor and the SO₂ emission factor within 45 days of gas sampling to the Bureau of Air Regulation. The results shall also be submitted to the Northeast District and the Local Program. **[Rules 62-210.200(232) and 62-210.200(264), F.A.C.]**

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

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 (NO_x) and particulate matter less than or equal to 10 microns (PM₁₀) 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, NO_x and PM₁₀ 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
NO _x	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

APPENDIX BD
BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATION (BACT)

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
	NO _x	7 or 7E
	CO	10
	VE	9

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- G.1 The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to sections 403.161, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
- G.2 This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
- G.3 As provided in Subsections 403.087(6) and 403.722(5), F.S. the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
- G.4 This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
- G.5 This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
- G.6 The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
- G.7 The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
- a. Have access to and copy any records that must be kept under the conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
- Reasonable time may depend on the nature of the concern being investigated.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- G.8 If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
- a. a description of and cause of non-compliance; and
 - b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.
- The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
- G.9 In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by sections 403.73 and 403.111, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of civil Procedure and appropriate evidentiary rules.
- G.10 The permittee agrees to comply with changes in Department rules and F.S. after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida statutes or Department rules.
- G.11 This permit is transferable only upon Department approval in accordance with Rules 62-4.120, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
- G.12 This permit or a copy thereof shall be kept at the work site of the permitted activity.
- G.13 This permit also constitutes:
- (X) Determination of Best Available Control Technology (BACT)
 - (X) Determination of Prevention of Significant Deterioration (PSD)
 - (X) Compliance with New Source Performance Standards (NSPS). Subpart WWW requirements and
 - (X) Compliance with National Emission Standards for Hazardous Air Pollutants (NESHAP). Subpart AAAA and ZZZZ requirements
- G.14 The permittee shall comply with the following:
- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

APPENDIX GC
GENERAL PERMIT CONDITIONS [F.A.C. 62-4.160]

- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurements;
 - the dates analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

G.15 When requested by the Department, the permittee shall within a reasonable time furnish any information required by law, which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.