



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

September 28, 2011

Sent by Electronic mail – Received Receipt Requested

Ms. Kerri Stewart, Chief Administrative Officer
City of Jacksonville
Public Works Department
117 West Duval Street, St. James Building, 4th Floor
Jacksonville, FL 32202

Re: Trail Ridge Landfill, Trail Ridge Energy, LLC
Landfill Gas-to-Energy Expansion
Final Permit No. No. 0310358-012-AC/PSD-FL-374C, Air Construction Permit Revision
Proposed Permit No. 0310358-013-AV, Title V Air Operation Permit Revision

Dear Ms. Stewart:

One copy of the final air construction permit revision and proposed permit determination for the revision of the Title V air operation permit for Trail Ridge Energy, LLC located at 5110 US Highway 301 South, Baldwin, Florida, Duval County, is enclosed. This letter is a courtesy to inform you that the draft Title V permit has become a proposed permit. **To simplify review and distribution, only the pages with the changes made to the Title V air operation permit as a result of the revisions are provided.**

An electronic version of the Title V determination has been posted on the Division of Air Resource Management's world wide web site for the United States Environmental Protection Agency (USEPA) Region 4 office's review. The web site address is:

["http://www.dep.state.fl.us/air/eproducts/apds/default.asp"](http://www.dep.state.fl.us/air/eproducts/apds/default.asp)

Pursuant to Section 403.0872(6), Florida Statutes, if no objection to the proposed Title V air operation permit is made by the USEPA within 45 days, the proposed permit will become a final permit no later than 55 days after the date on which the proposed permit was mailed (posted) to USEPA. If USEPA has an objection to the proposed permit, the final permit will not be issued until the permitting authority receives written notice that the objection is resolved or withdrawn.

Please submit any written comments you wish to have considered concerning the permitting authority's proposed action to the Title V permit to Mr. Syed Arif, P.E., Environmental Administrator, at the above letterhead address. If you have any questions, please contact the project engineer, Christy DeVore, by telephone at 850/717-9085 or by email at christy.devore@dep.state.fl.us.

Sincerely,

Jeffery F. Koerner, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

Enclosures

JFK/scd

NOTICE OF AIR PERMIT

Copies sent by electronic mail (return receipt requested) to the following:

Ms. Kerri Stewart, City of Jacksonville(kerris@coj.net)
Mr. Scott Salisbury, Trail Ridge Energy, LLC (scott.salisbury@landfillenergy.com)
Mr. Robert Harvey, P.E., Derenzo and Associates, Inc. (rharvey@derenzo.com)
Mr. Chris Kirts, Northeast District (christopher.kirts@dep.state.fl.us)
Mr. Richard Robinson, Duval County Environmental Resources Management (robinson@coj.net)
Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
Ms. Ana Oquendo, US EPA Region 4 (oquendo.ana@epa.gov)
Ms. Barbara Friday, DEP OPC (barbara.friday@dep.state.fl.us) (for posting with U.S. EPA, Region 4)
Ms. Lynn Scarce, DEP OPC Reading File (lynn.scarce@dep.state.fl.us)

FINAL DETERMINATION

PERMITTEE

City of Jacksonville
Public Works Department
117 West Duval Street, St. James Building, 4th Floor
Jacksonville, FL 32202

PERMITTING AUTHORITY

Florida Department of Environmental Protection (Department)
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road, MS #5505
Tallahassee, Florida 32399-2400

PROJECT

Air Permit No. 0310358-012-AC
PSD-FL-374C, Air Construction Permit
Trail Ridge Energy, LLC

The permittee proposes the installation and operation of four new Caterpillar Model No. G3520C or equivalent engine generator sets and modifies the CO emissions standard as Best Available Control Technology (BACT) for the proposed and existing engine generator sets. In addition, the applicant requested a concurrent revision of the Title V air operation permit.

NOTICE AND PUBLICATION

The Department distributed a draft minor air construction permit package on August 19, 2011. The applicant published the Public Notice in the Financial News and Daily Record on August 26, 2011. The Department received the proof of publication on September 6, 2011. No requests for administrative hearings or requests for extensions of time to file a petition for administrative hearing were received.

COMMENTS

Applicant

On August 30, 2011, the Department received comments from the applicant. The following summarizes the comments and the Department's response.

1. *Comment:* Section 3.A EU004-009 (Existing Engines) Condition 1, each CAT® G3520C engine has 20 cylinders.

Response: The condition has been changed as follows:

Landfill Gas Engine/Generator Sets: The permittee is authorized to install and operate six (Caterpillar Model G3520C or equivalent) spark-ignited reciprocating internal combustion engines. Each engine is a 4 20-cylinder engine with a total displacement of 86.3 liters. Each engine has a maximum rating of 2,233 bhp and is coupled to a 1,600 kW generator (nominal rating) for the generation of up to a total of 9.6 MW of electricity. The maximum rating when coupled to the electrical generator is 2,233 bhp. Each engine will fire LFG. The LFG will pass through a gas treatment system prior to combustion in the engines.

2. *Comment:* Condition 1.b specifies that *Excess landfill gas not fired in the engines shall be flared in accordance with the requirements of Subpart WWW in 40 CFR 60.* The flares are under the control of the City of Jacksonville and Trail Ridge Landfill, Inc. Trail Ridge Energy requests that this be removed as the

FINAL DETERMINATION

landfill gas (LFG) collection and control requirements are addressed in Title V air operation permit issued to Trail Ridge Landfill, Inc.

Response: This condition has been changed as follows:

b. Each engine shall be equipped with an automatic fail-safe block valve which must be designed to stop the flow of landfill gas in the event of an engine failure. ~~Excess landfill gas not fired in the engines shall be flared in accordance with the requirements of Subpart WWW in 40 CFR 60.~~

3. *Comment:* Condition 2 specifies that *LFG shall be directed to the new engines, the existing flares or some other appropriate treatment or control system.* Trail Ridge Energy requests that this be removed from the permit. LFG collection and control requirements are adequately addressed in Title V air operations permit issued to the landfill owner/operator.

Response: This condition has been changed as follows:

LFG Treatment System: The permittee shall design, install, operate and maintain a LFG Treatment System including equipment for: gas compression (blowers/compressors), de-watering (knock-out and chilling system) and particulate removal (filtration). Specifically, the permittee shall design, install, maintain and operate 1 micron primary and polishing filters to remove particulate matter from the LFG prior to combustion in the engines. The LFG treatment system shall not be equipped with atmospheric vents. ~~LFG shall be directed to the new engines, the existing flares or some other appropriate treatment or control system.~~ [Application No. 0310358-004-AC; and Rule 62-212.400, F.A.C.]

4. *Comment:* Condition 3, LFG Flaring, requires that the permittee *install and maintain an automatic fail-safe block valve on each engine*, and that excess LFG be *flared or directed to some other appropriate treatment or control system.* The requirement to install an automatic fail-safe block valve on each engine is already specified in Condition 1.b and the requirement to route excess LFG to an alternate control device is the responsibility of the landfill owner/operator and is adequately addressed in Title V air operation permit issued to the landfill owner/operator.

Response: The conditions have been changed to show this requirement only in Condition 1.b. and the requirement for the flares has been removed.

5. *Comment:* Condition 3 on page 8 of 19 specifies that the *permittee shall set the air-to-fuel ratio for each engine based on the most recent emissions tests.* The air-to-fuel ratio is adjusted electronically based on constantly monitoring the inlet gas methane content (i.e., heat value) and other engine parameters that indicate efficient fuel combustion. A more accurate requirement is to operate each engine within 0.5% of the exhaust gas oxygen (O₂) content measured during the performance test.

Response: The condition regarding operating each engine within 0.5% of the exhaust gas oxygen has been added as follows:

Operating Requirements: The permittee shall set the air-to-fuel ratio for each engine based on the most recent emissions tests or each engine shall be operated within 0.5 percent of the oxygen content in the exhaust gas at the air-to-fuel ratio operated at during the most recent performance test demonstrating compliance with the standards specified in this permit and other operating conditions. [Rule 62-212.400(BACT), F.A.C. ; Appendix F of Construction Permit Application; Construction Permit No. 0310358-004-AC/PSD-FL-374]

6. *Comment:* The engines are fueled exclusively with treated LFG and references to diesel and biodiesel fuels should be deleted from Condition 6.

Response: The references to diesel/biodiesel have been removed.

7. Please modify Condition 9.a for consistency with the annual chlorine sampling requirement.

Response: The sampling of the chlorine content is to be done semiannually while the reporting of HCl emissions is to be done annually. The HCl emissions limit are close to the hazardous air pollutant (HAP) threshold, therefore the conditions were clarified to be consistent with the requirement for a 12-month rolling total.

FINAL DETERMINATION

8. *Comment:* Trail Ridge Energy requests that VOC testing be removed from Condition 14 or that Condition 14 include the option to use USEPA alternate method 78 (ALT-078) for the direct measurement of VOC emissions from internal combustion engine exhausts..

Response: The alternative method, USEPA-ALT-078, is acceptable and has been added to the condition as follows:

<u>ALT-078</u>	<u>Clarification of Approval of an Alternative to Method 18 for 40 CFR Part 60, Subpart JJJ</u>
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The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. ALT-078 method is included in the Appendices. [Rules 62-204.800, 62-212.400(BACT) and Appendix A of 40 CFR 60]

9. Condition 15.a specifies ASTM Method D3588 or equivalent for measuring LFG Lower Heating Value (LHV). Please remove this condition referencing LHV and ASTM Method D3588.

Response: The requirement to determine lower heating value has been removed.

10. Condition 17 requires that engine operating data and emission calculations be recorded in a written log. Trail Ridge Energy requests that this be modified (or clarified) to allow the information to be stored electronically.

Response: This condition has been changed as follows:

Monthly Records: Within ten calendar days following each month, the permittee shall observe and record the following information in a written log or electronic format accessible to a compliance inspector: number of hours of operation of each engine; total monthly landfill gas flow rate to all engines combined; and HCl and SO₂ emissions for the month and previous 12 months, rolling total. Emissions of HCl and SO₂ shall be calculated from the monthly fuel consumption as well as the analytical results for the chlorine and sulfur contents of the landfill gas representative of the given month of operation. [Rule 62-210.200 (232), F.A.C.]

11. Section 3.B EU012-015 (Proposed Engines) The comments and requests for Section 3.B for the proposed new CAT® G3520C engines (emission units EU012-015) are largely the same as those for Section 3.A for the existing engines (EU004-009) and are summarized in the following text.

Response: Section 3.B. has been changed to conform to changes requested in Section 3.A.

The Department

The Department made corrections to clerical errors and the following changes.

1. *Comment:* In condition 8 in Section 2, number 5) was removed as it is included in paragraph c.
2. *Comment:* Recording the HCl and SO₂ emissions has been made consistent for 12 months, rolling total, as these pollutants are PSD pollutants. Also, condition 20 in Section 3.A. and condition 24 in Section 3.B. has been clarified as follows:

Monthly Records: Within ten calendar days following each month, the permittee shall observe and record the following information in a written log: number of hours of operation of each engine; total monthly landfill gas flow rate to all engines combined; and HCl and SO₂ emissions for the month and previous 12 months, rolling total. Emissions of HCl and SO₂ shall be calculated from the monthly fuel consumption as well as the analytical results for the chlorine and sulfur contents of the landfill gas representative of the given month of operation based on the semiannual sampling for that period. [Rule 62-210.200 (232), F.A.C.]

CONCLUSION

The final action of the Department is to issue the permit with the minor changes, corrections and clarifications as described above.



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
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Lt. Governor

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Secretary

PERMITTEE

City of Jacksonville
Public Works Department
117 West Duval Street, St. James Building, 4th Floor
Jacksonville, FL 32202

Air Permit No. 0310358-012-AC/ PSD-FL-374C
Permit Expires: October 1, 2016
Trail Ridge Energy, LLC
Facility ID No. 0310358
Landfill Gas-to-Energy Project

Authorized Representative:

Ms. Kerri Stewart, Chief Administrative Officer

PROJECT

This is the final air construction permit, which authorizes the installation and operation of four new Caterpillar Model No. G3520C or equivalent engine generator sets and modifies the CO emissions standard as Best Available Control Technology (BACT) for the proposed and existing engine generator sets. In addition, the applicant requested a concurrent revision of the Title V air operation permit. The proposed work will be conducted at the existing Trail Ridge Energy Landfill, which is a landfill categorized under Standard Industrial Classification No. 4953. The existing facility is located in Duval County at 5110 US Highway 301 South, Baldwin, Florida. The UTM coordinates are Zone 17, 399.765 km East, and 3344.919 km North.

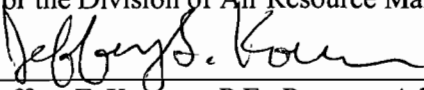
This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit. As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) 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 must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida
For the Division of Air Resource Management


Jeffery F. Koerner, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

9-28-11

(Date)

FINAL PERMIT

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on 9-28-11 to the persons listed below.

- Ms. Kerri Stewart, City of Jacksonville(kerris@coj.net)
- Mr. Scott Salisbury, Trail Ridge Energy, LLC (scott.salisbury@landfillenergy.com)
- Mr. Robert Harvey, P.E., Derenzo and Associates, Inc. (rharvey@derenzo.com)
- Mr. Chris Kirts, Northeast District (christopher.kirts@dep.state.fl.us)
- Mr. Richard Robinson, Duval County Environmental Resources Management (robinson@coj.net)
- Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
- Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
- Ms. Ana Oquendo, US EPA Region 4 (oquendo.ana@epa.gov)
- Ms. Barbara Friday, DEP OPC (barbara.friday@dep.state.fl.us) (for posting with U.S. EPA, Region 4)
- Ms. Lynn Scarce, DEP OPC Reading File (lynn.scarce@dep.state.fl.us)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Lynn Scarce
(Clerk)

September 28, 2011
(Date)

SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

The Trail Ridge Landfill operates a 176 acre, Class I municipal solid waste (MSW) landfill in Baldwin, Duval County which is allocated for Class I MSW. The landfill gas (LFG) is produced from both active and capped cells. The gas is collected by an active, landfill gas collection system and routed to a treatment system that treats the landfill gas for subsequent use as fuel to power the six reciprocating internal combustion engines (RICE)-generator sets at the Trail Ridge Energy, LLC electricity generation plant. Trail Ridge Energy, LLC electricity generation operations are under contract with the landfill and the operations will be fueled with the landfill gas provided by the landfill. Any excess landfill gas that exceeds the volume that the Trail Ridge Energy LLC Plant is able to accept will be diverted to open flares for control. The existing facility consists of the following emissions units.

Facility ID No. 0310358	
ID No.	Emission Unit Description
001	Municipal Solid Waste Landfill
002	Fugitive Dust Emissions
004-009	Six Caterpillar Model G3520C landfill gas fueled internal combustion engines and electricity generators
010	5,000 scfm open, non-assisted flare
011	1,600 scfm open, non-assisted flare

PROPOSED PROJECT

This draft permit approves the installation of four new Caterpillar Model No. G3520C sets or equivalent engine generator and sets the CO emissions standard at 3.5 grams per brake horsepower per hour (g/bhp-hour) as Best Available Control Technology (BACT). Since this is higher than the BACT determination for CO emissions for the originally installed engines, the draft permit revises the CO BACT standard from 2.75 g/bhp-hour to 3.5 g/bhp-hour for the six existing, lean-burn Caterpillar Model No. G3520C engines. The addition to the existing electrical generation plant will consist of:

- LFG treatment equipment for dewatering, filtration and compression.
- Four new reciprocating internal combustion engines, each coupled to a 1,600 kilowatt (kW) electrical generator. Under base load operating conditions, the plant will generate a total of 16 megawatts (MW, nominal) of electricity and will be interconnected to the JEA distribution network through a nearby power line.
- Unregulated ancillary equipment that supports the electric generation plant consists of:
 - A stand-alone fan-cooled radiator for each IC engine.
 - Drums for the engine radiator coolant.
 - One used lube oil tank (approximately 1,000 gallons) and moisture conditioning equipment.
 - One new lube oil tank (approximately 2,000 gallons) and moisture conditioning equipment.

This project will add following emissions units.

Facility ID No. 0310358	
ID No.	Emission Unit Description
012-015	Four Caterpillar Model G3520C or equivalent landfill gas fueled internal combustion engines and electricity generators.

SECTION 1. GENERAL INFORMATION

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.
- The facility operates or will operate units subject to the following applicable New Source Performance Standards (NSPS) in Title 40, Part 60 of the Code of Federal Regulations (40 CFR 60): Subpart A (General Provisions), Subpart WWW (MSW Landfills). In addition the four proposed engine/generator sets, Emission Unit ID Nos. 012-015, are subject to Subpart JJJJ (Spark Ignition Reciprocating Internal Combustion Engines). The existing engine/generator sets, Emission Unit ID Nos. 004-009, are not subject to Subpart JJJJ.
- The facility operates or will operate units subject to the following applicable National Emissions Standards for Hazardous Air Pollutants (NESHAP) in Title 40, Part 63 of the Code of Federal Regulations (40 CFR 63): Subpart AAAA (MSW Landfills) and initial notification, reporting and recordkeeping requirement of the subpart applicable NESHAP provisions in 40 CFR 63 for Subpart A (General Provisions). In addition the four proposed engine/generator sets, Emission Unit ID Nos. 012-015, are subject to Subpart ZZZZ (Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). The existing engine/generator sets, Emission Unit ID Nos. 004-009, are not subject to Subpart ZZZZ.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance (OPC), Division of Air Resource Management, Florida Department of Environmental Protection (Department). The OPC's mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the Northeast District Office at: 7825 Baymeadows Way, Suite B-200, Jacksonville, FL 32256-7590.
2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Northeast District Office at: 7825 Baymeadows Way, Suite B-200, Jacksonville, FL 32256-7590.
3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); Appendix D (Common Testing Requirements); Appendix E (Final BACT Determinations); Appendix ICE (NSPS and NESHAP Provisions) and Appendix ALT-078.
4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units 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 Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. 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.]
6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]
7. Source Obligation:
 - (a) 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 construction 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.
 - (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
 - (c) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-12.400(4)

SECTION 2. ADMINISTRATIVE REQUIREMENTS

through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

8. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.
- a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 10 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.
 - b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 10-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:
 - 1) The name, address and telephone number of the owner or operator of the major stationary source;
 - 2) The annual emissions calculations pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
 - 3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
 - 4) Any other information that the owner or operator wishes to include in the report.
 - c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

For this project, the permit requires the annual reporting of actual sulfur dioxide (SO₂) and hydrogen chloride (HCl) emissions from the flares and landfill gas engines. *{Permitting Note: Baseline SO₂ emissions were reported as 25 tons/year. Baseline HCl emissions from the flares were reported as 2.5 tons/year.}*
[Application 0310358-012-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

9. Title V Permit: This permit authorizes new construction of the proposed emissions units as well as initial operation to determine compliance with conditions of this permit. 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 of this permit, but no later than 180 days after completing the required work and 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 each Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. EU 004-009

This section of the permit addresses the modification of the following emissions units.

ID 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.

EQUIPMENT

1. **Landfill Gas Engine/Generator Sets:** The permittee is authorized to install and operate six (Caterpillar Model G3520C) spark-ignited reciprocating internal combustion engines. Each engine is a 20-cylinder engine with a total displacement of approximately 86.3 liters. Each engine has a maximum rating of 2,233 bhp and is coupled to a 1,600 kW generator (nominal rating) for the generation of up to a total of 9.6 MW of electricity. The maximum rating when coupled to the electrical generator is 2,233 bhp. Each engine will fire LFG. The LFG will pass through a gas treatment system prior to combustion in the engines.
 - a. Each engine shall be equipped with an air-to-fuel ratio controller and ignition timing to maintain efficient fuel combustion.
 - b. Each engine shall be equipped with an automatic fail-safe block valve which must be designed to stop the flow of landfill gas in the event of an engine failure.
 - c. Each engine shall be equipped with a non-resettable elapsed time meter to indicate the elapsed engine operating time in cumulative hours.
 - d. A gas flow meter shall be installed to monitor the total flow rate to all of the landfill gas engines.
{Permitting Note: The heat input rate is based on 100% load (2,233 bhp), a nominal landfill gas heating value of 500 British thermal units (Btu) per scf and an approximate landfill gas firing rate of 580 scfm per engine.} [Application No. 0310358-004-AC; and Rules 62-4.070(3), 62-210.200(PTE) and 62-212.400(PSD), F.A.C.]
2. **LFG Treatment System:** The permittee shall design, install, operate and maintain a LFG Treatment System including equipment for: gas compression (blowers/compressors), de-watering (knock-out and chilling system) and particulate removal (filtration). Specifically, the permittee shall design, install, maintain and operate 1 micron primary and polishing filters to remove particulate matter from the LFG prior to combustion in the engines. The LFG treatment system shall not be equipped with atmospheric vents. [Application No. 0310358-004-AC; and Rule 62-212.400, F.A.C.]

PERFORMANCE RESTRICTIONS

3. **Permitted Capacity:** Each landfill gas engine has a maximum power rating of 2,233 bhp at 100% load (approximately 17.6 MMBtu/hour). The electrical generator set has a nominal power rating of 1,600 kilowatts. [Rule 62-210.200(PTE), F.A.C.]
4. **Authorized Fuel:** Each engine shall fire only landfill gas. [Application No. 0310358-004-AC and Rule 62-210.200(PTE), F.A.C.]
5. **Restricted Operation:** The hours of operation are not limited (8760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. EU 004-009

6. Operating Requirements: The permittee shall set the air-to-fuel ratio for each engine based on the most recent emissions tests or each engine shall be operated within 0.5 percent of the oxygen content in the exhaust gas at the air-to-fuel ratio operated at during the most recent performance test demonstrating compliance with the standards specified in this permit and other operating conditions. [Rule 62-212.400(BACT), F.A.C. ; Appendix F of Construction Permit Application; Construction Permit No. 0310358-004-AC/PSD-FL-374]

EMISSIONS STANDARDS

7. 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 3.0 pounds per hour (lb/hr). [Rule 62-212.400(12), F.A.C.]
8. Carbon Monoxide (CO): The emission rate of CO from each engine/generator set exhaust shall not exceed 3.5 g/bhp-hr and a maximum of 17.2 lb/hr. [Rule 62-212.400(12), F.A.C.]
9. Particulate Matter/Particulate Matter less than 10 microns (PM/PM₁₀): Emissions of PM/PM₁₀ shall be minimized by the following work practice standards: installing, maintaining and operating the LFG Treatment System that meets the filtration specification; and, as determined by EPA Method 9, visible emissions from each engine exhaust shall not exceed 10% opacity. *{Permitting Note: Based on these work practice standards, the expected maximum PM/PM₁₀ emissions from each engine is 0.24 g/bhp-hr and a maximum of 1.2 lb/hr.}* [Rule 62-212.400(BACT), F.A.C.]
10. 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 1.4 lb/hr. *{Permitting Note: Project avoids PSD review for VOC based on emission limits.}* [Rules 62-204.800 and 62-212.400(12), F.A.C.]
11. Sulfur Dioxide (SO₂): Sulfur dioxide emissions from all six engines shall not exceed 25.0 tons during any rolling 12 months. Emissions shall be calculated based on the representative sulfur content of each fuel and the actual monthly fuel consumption rate of each fuel based on the following:
- LFG: The representative sulfur content for a given month shall be the sulfur content determined from sampling and analysis within the same semiannual period.
 - Fuel Consumption: The monthly fuel consumption shall be determined from the fuel flow monitors.
- Compliance with the SO₂ emissions cap shall be determined by summing the calculated monthly SO₂ emissions from each fuel based on stoichiometry for a rolling 12-month period. *{Permitting Note: The project avoids PSD review based on this emissions cap.}* [Rule 62-212.400(12)(Source Obligation), F.A.C.]
12. Hydrogen Chloride (HCl): Hydrogen chloride emissions from the facility shall not exceed 9.0 tons during any rolling 12 months. Emissions shall be calculated based on the representative chlorine content of LFG and the actual monthly fuel consumption rate of the engines and the amount flared based on the following:
- LFG: The representative chlorine content for a given month shall be the chlorine content determined from sampling and analysis within the same semiannual period.
 - Fuel Consumption: The monthly fuel consumption shall be determined from the fuel flow monitors on the engines as well as the flares.
- Compliance with the HCl emissions cap shall be determined by summing the calculated monthly HCl emissions from LFG based on stoichiometry for a rolling 12-month period. *{Permitting Note: This emissions cap ensures that the facility remains an area source of HAP emissions with regard to NESHA}*

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. EU 004-009

Subpart ZZZZ in 40 CFR 63 (less than 10 tons per year of any single HAP and less than 25 tons per year for the combination of all HAPs). [Applicant Request and Rule 62-4.070(3), F.A.C.]

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

EXCESS EMISSIONS

14. **Excess Emissions Allowed:** Excess CO and NOx emissions (as specified in this subsection) resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing best operational practices to minimize emissions are adhered to and:
- To the extent practicable, the operator shall strive to complete engines startups within 30 minutes; and
 - The duration of excess emissions due to malfunctions shall be minimized but in no case exceed two hours in any 24-hour period.
- [Rule 62-210.700(1), F.A.C.]

TESTING REQUIREMENTS

15. **Performance Tests:** 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.
16. **Test Requirements:** During each required compliance stack test, the permittee shall operate a tested landfill gas engine at permitted capacity (90% to 100% of 2,233 bhp). The permittee shall notify the Compliance Authority in writing at least 15 days prior to any scheduled stack tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. *{Permitting Note: Although the NSPS provides for a 30-day test notification, a 15-day notice is sufficient in Florida.}* [Rule 62-297.310(7)(a)9, F.A.C.]
17. **Test Methods:** Tests required by this permit shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1 - 4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7 or 7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources {Note: The method shall be based on a continuous sampling train.}
19	Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.)
18	Measurement of Gaseous organic Compound Emissions by Gas Chromatography <i>{Note: the emission standards are based on VOC measured as methane.}</i>
25A	Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer <i>{Note: the emission standards are based on VOC measured as methane.}</i>
ALT-078	Clarification of Approval of an Alternative to Method 18 for 40 CFR Part 60, Subpart JJJJ

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

A. EU 004-009

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. ALT-078 method is included in the Appendices. [Rules 62-204.800, 62-212.400(BACT) and Appendix A of 40 CFR 60]

18. LFG Composition Analysis: The following methods shall be used to satisfy the sampling/analysis of LFG:
- Sulfur Content: ASTM Method D5504-01 or equivalent.
 - Chlorine Content: Modified EPA Method TO-15 or equivalent.
 - The LFG shall be collected and transported in an appropriate canister (e.g. SUMMA®, Bottle-Vac Sampler or equivalent).

[Rule 62-4.070(3), F.A.C.]

MONITORING REQUIREMENTS

19. Landfill Gas Sampling/Analysis: At least semiannually, the permittee shall obtain the following representative samples of landfill gas: a sample taken during each required compliance stack test; and a sample taken during the next semiannual period. A representative sample shall be taken in each calendar semiannual period (January – June and July – December) approximately six months apart. Each gas sample shall be collected under normal operating conditions (i.e., with valves open for all operating cells) by appropriate canister (e.g. SUMMA®, Bottle-Vac Sampler or equivalent). Each sample shall have an ultimate analysis conducted for at least sulfur and chlorine. Results shall also be reported as SO₂ and HCl emission factors in terms of lb/million standard cubic feet (lb/MMscf) of landfill gas. Based on the sampling results and Rule 62-297.310(7)(b)(Special Compliance Tests), F.A.C., the Compliance Authority may request additional gas sampling and analyses. [Rules 62-210.200 and 62-212.400, F.A.C.]
20. Monthly Records: Within ten calendar days following each month, the permittee shall observe and record the following information in a written log or electronic format accessible to a compliance inspector: number of hours of operation of each engine; total monthly landfill gas flow rate to all engines combined; and HCl and SO₂ emissions for the month and previous 12 months, rolling total. Emissions of HCl and SO₂ shall be calculated from the monthly fuel consumption as well as the analytical results for the chlorine and sulfur contents of the landfill gas representative of the given month of operation based on the semiannual sampling for that period. [Rule 62-210.200 (232), F.A.C.]

RECORDS AND REPORTS

21. Test Reports: The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA test, shall provide the applicable information identified in Rule 62-297.310(8)(c). [Rule 62-297.310(8), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. EU 012-015

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
012-015	Four Caterpillar Model G3520C or equivalent 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

{Permitting Note: Emission Unit ID Nos. 012 and 013 are planned to be installed once the permit is issued and Emission Unit ID Nos. 014 and 015 will be installed at a later date.}

EQUIPMENT

1. Landfill Gas Engine/Generator Sets: The permittee is authorized to install and operate four (Caterpillar Model G3520C or equivalent) spark-ignited reciprocating internal combustion engines. Each engine is a 20-cylinder engine with a total displacement of approximately 86.3 liters. Each engine has a maximum rating of 2,233 bhp and is coupled to a 1,600 kW generator (nominal rating) for the generation of up to a total of 6.4 MW of electricity. The maximum rating when coupled to the electrical generator is 2,233 bhp. Each engine will fire LFG. The LFG will pass through a gas treatment system prior to combustion in the engines.
 - a. Each engine shall be equipped with an air-to-fuel ratio controller and ignition timing to maintain efficient fuel combustion.
 - b. Each engine shall be equipped with an automatic fail-safe block valve which must be designed to stop the flow of landfill gas in the event of an engine failure.
 - c. Each engine shall be equipped with a non-resettable elapsed time meter to indicate the elapsed engine operating time in cumulative hours.
 - d. A gas flow meter shall be installed to monitor the total flow rate to all of the landfill gas engines.

{Permitting Note: The heat input rate is based on 100% load (2,233 bhp), a nominal landfill gas heating value of 500 British thermal units (Btu) per scf and an approximate landfill gas firing rate of 580 scfm per engine.} [Application No. 0310358-012-AC; and Rules 62-4.070(3), 62-210.200(PTE) and 62-212.400(PSD), F.A.C.]
2. LFG Treatment System: The permittee shall design, install, operate and maintain a LFG Treatment System including equipment for: gas compression (blowers/compressors), de-watering (knock-out and chilling system) and particulate removal (filtration). Specifically, the permittee shall design, install, maintain and operate 1 micron primary and polishing filters to remove particulate matter from the LFG prior to combustion in the engines. The LFG treatment system shall not be equipped with atmospheric vents. [Application No. 0310358-012-AC; and Rule 62-212.400, F.A.C.]
3. Construction Milestones: The permittee shall submit to the Office of Permitting and Compliance a construction schedule and any changes to the schedule for the first two engines (Emission Unit ID Nos. 012 and 013) within 90 days of the permit issuance. For the remaining two engines (Emission Unit ID Nos. 014 and 015), the permittee shall submit the construction schedule within one year of issuance of the permit. [Rule 62-212.400(12), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. EU 012-015

PERFORMANCE RESTRICTIONS

4. Permitted Capacity: Each landfill gas engine has a maximum power rating of 2,233 bhp at 100% load (approximately 17.6 MMBtu/hour). The electrical generator set has a nominal power rating of 1,600 kilowatts. [Rule 62-210.200(PTE), F.A.C.]
5. Authorized Fuel: Each engine shall fire only landfill gas. [Application No. 0310358-012-AC and Rule 62-210.200(PTE), F.A.C.]
6. Restricted Operation: The hours of operation are not limited (8760 hours per year). [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
7. Operating Requirements: The permittee shall set the air-to-fuel ratio for each engine based on the most recent emissions tests or each engine shall be operated within 0.5 percent of the oxygen content in the exhaust gas at the air-to-fuel ratio operated at during the most recent performance test demonstrating compliance with the standards specified in this permit and other operating conditions identified in NSPS 40 CFR 60, Subpart JJJJ. [Rule 62-212.400(BACT), F.A.C., Construction Permit No. 0310358-004-AC/PSD-FL-374 and NSPS Subpart JJJJ in 40 CFR 60]
8. Applicable NSPS Provisions: The landfill gas engines are subject to, and shall comply with, the applicable provisions in NSPS Subpart A (General Provisions) and NSPS Subpart JJJJ (Stationary Spark Ignition Internal Combustion Engines) of 40 CFR 60, which are identified in Appendix ICE of this permit. [NSPS Subparts A and JJJJ in 40 CFR 60 and Rule 62-204.800, F.A.C.]
9. Applicable NESHAP Provisions: The landfill gas engines are subject to, and shall comply with, initial notification, reporting and recordkeeping requirement of the subpart applicable NESHAP provisions in 40 CFR 63 for Subpart A (General Provisions) and Subpart ZZZZ (Reciprocating Internal Combustion Engines) of 40 CFR 63, which are identified in Appendix ICE of this permit. Pursuant to 40 CFR 63.6590, the landfill gas engines complies with NESHAP Subpart ZZZZ by complying with NSPS Subpart JJJJ. [NESHAP Subparts A and ZZZZ in 40 CFR 63 and Rule 62-204.800, F.A.C.]

EMISSIONS STANDARDS

10. 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 3.0 pounds per hour (lb/hr). [Rule 62-212.400(12), F.A.C.]
11. Carbon Monoxide (CO): The emission rate of CO from each engine/generator set exhaust shall not exceed 3.5 g/bhp-hr and a maximum of 17.2 lb/hr. [Rule 62-212.400(12), F.A.C.]
12. Particulate Matter/Particulate Matter less than 10 microns (PM/PM₁₀): Emissions of PM/PM₁₀ shall be minimized by the following work practice standards: installing, maintaining and operating the LFG Treatment System that meets the filtration specification; and, as determined by EPA Method 9, visible emissions from each engine exhaust shall not exceed 10% opacity. {*Permitting Note: Based on these work practice standards, the expected maximum PM/PM₁₀ emissions from each engine is 0.24 g/bhp-hr and a maximum of 1.2 lb/hr.*} [Rule 62-212.400(BACT), F.A.C.]
13. 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 1.4 lb/hr. {*Permitting Note: 1.0 g/bhp-hour limit is the NSPS Subpart JJJJ standard, however the "g/bhp-hour" and "lb/hour" limits allow the project to avoid PSD preconstruction review for VOC emissions.*} [NESHAP Subparts A and JJJJ in 40 CFR 63 and Rules 62-204.800 and 62-212.400(12), F.A.C.]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. EU 012-015

14. Sulfur Dioxide (SO₂): Sulfur dioxide emissions from all four engines shall not exceed 16.6 tons during any rolling 12 months. Emissions shall be calculated based on the representative sulfur content of each fuel and the actual monthly fuel consumption rate of each fuel based on the following:

- a. LFG: The representative sulfur content for a given month shall be the sulfur content determined from sampling and analysis within the same semiannual period.
- b. Fuel Consumption: The monthly fuel consumption shall be determined from the fuel flow monitors.

Compliance with the SO₂ emissions cap shall be determined by summing the calculated monthly SO₂ emissions from each fuel based on stoichiometry for a rolling 12-month period. *{Permitting Note: The project avoids PSD review based on this emissions cap.}* [Rule 62-212.400(12)(Source Obligation), F.A.C.]

15. Hydrogen Chloride (HCl): Hydrogen chloride emissions from the facility shall not exceed 9.0 tons during any rolling 12 months. Emissions shall be calculated based on the representative chlorine content of LFG and the actual monthly fuel consumption rate of the engines and the amount flared based on the following:

- a. LFG: The representative chlorine content for a given month shall be the chlorine content determined from sampling and analysis within the same semiannual period.
- b. Fuel Consumption: The monthly fuel consumption shall be determined from the fuel flow monitors on the engines as well as the flares.

Compliance with the HCl emissions cap shall be determined by summing the calculated monthly HCl emissions from LFG based on stoichiometry for a rolling 12-month period. *{Permitting Note: This emissions cap ensures that the facility remains an area source of HAP emissions with regard to NESHAP Subpart ZZZZ in 40 CFR 63 (less than 10 tons per year of any single HAP and less than 25 tons per year for the combination of all HAPs).}* [Applicant Request and Rule 62-4.070(3), F.A.C.]

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

EXCESS EMISSIONS

17. Excess Emissions Allowed: Excess CO and NO_x emissions (as specified in this subsection) resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing best operational practices to minimize emissions are adhered to and:

- a. To the extent practicable, the operator shall strive to complete engines startups within 30 minutes; and
- b. The duration of excess emissions due to malfunctions shall be minimized but in no case exceed two hours in any 24-hour period.

[Rule 62-210.700(1), F.A.C.]

TESTING REQUIREMENTS

18. Initial Compliance Tests: Each landfill gas engine shall be tested to demonstrate initial compliance with the emissions standards for CO, NO_x and VOC under 40 CFR 60, Subpart JJJJ as well as the BACT standards of this permit. In addition, each unit shall be tested for opacity in accordance with EPA Method 9. The initial performance test must be conducted within 60 days after achieving permitted capacity, but not later than 180 days after initial startup of each unit. *{Permitting Note: Since the BACT emission standards are more stringent than 40 CFR 60, Subpart JJJJ emission standards, compliance with the BACT emission standards will satisfy compliance with the 40 CFR 60, Subpart JJJJ emission standards.}* [Rules 62-212.400(BACT), 62-297.310(7)(a)1, F.A.C. and NSPS Subpart JJJJ in 40 CFR 60]

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. EU 012-015

19. **Periodic Compliance Tests:** Every 8,760 engine hours or at least once every three years, whichever comes first, each landfill gas engine shall be tested to demonstrate compliance with the emissions standards for CO, NOx and VOC under 40 CFR 60, Subpart JJJJ as well as the BACT standards of this permit. During these periodic tests, at least one landfill gas engine shall also be tested for opacity in accordance with EPA Method 9. *{Permitting Note: Since the BACT emission standards are more stringent than 40 CFR 60, Subpart JJJJ emission standards, compliance with the BACT emission standards will satisfy compliance with the 40 CFR 60, Subpart JJJJ emission standards.}* [Rules 62-212.400(BACT), 62-297.310(7)(a)1 and 4, F.A.C., and NSPS Subpart JJJJ in 40 CFR 60]
20. **Test Requirements:** During each required compliance stack test, the permittee shall operate a tested landfill gas engine at permitted capacity (90% to 100% of 2,233 bhp). The permittee shall notify the Compliance Authority in writing at least 15 days prior to any scheduled stack tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. *{Permitting Note: Although the NSPS provides for a 30-day test notification, a 15-day notice is sufficient in Florida.}* [Rule 62-297.310(7)(a)9, F.A.C.]
21. **Test Methods:** Tests required by this permit shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1 - 4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7 or 7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources <i>{Note: The method shall be based on a continuous sampling train.}</i>
19	Determination of Sulfur Dioxide Removal Efficiency and Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides Emission Rates (Optional F-factor method may be used to determine flow rate and gas analysis to calculate mass emissions in lieu of Methods 1-4.)
18	Measurement of Gaseous organic Compound Emissions by Gas Chromatography <i>{Note: the emission standards are based on VOC measured as methane.}</i>
25A	Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer <i>{Note: the emission standards are based on VOC measured as methane.}</i>
ALT-078	Clarification of Approval of an Alternative to Method 18 for 40 CFR Part 60, Subpart JJJJ

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. ALT-078 method is included in the Appendices. [Rules 62-204.800, 62-212.400(BACT) and Appendix A of 40 CFR 60]

22. **LFG Composition Analysis:** The following methods shall be used to satisfy the sampling/analysis of LFG:
- a. Sulfur Content: ASTM Method D5504-01 or equivalent.
 - b. Chlorine Content: Modified EPA Method TO-15 or equivalent.
 - c. The LFG shall be collected and transported in an appropriate canister (e.g. SUMMA®, Bottle-Vac Sampler or equivalent).

SECTION 3. EMISSIONS UNIT SPECIFIC CONDITIONS

B. EU 012-015

[Rule 62-4.070(3), F.A.C.]

MONITORING REQUIREMENTS

23. Landfill Gas Sampling/Analysis: At least semiannually, the permittee shall obtain the following representative samples of landfill gas: a sample taken during each required compliance stack test; and a sample taken during the next semiannual period. A representative sample shall be taken in each calendar semiannual period (January – June and July – December) approximately six months apart. Each gas sample shall be collected under normal operating conditions (i.e., with valves open for all operating cells) by appropriate canister (e.g. SUMMA®, Bottle-Vac Sampler or equivalent). Each sample shall have an ultimate analysis conducted for at least sulfur and chlorine. Results shall also be reported as SO₂ and HCl emission factors in terms of lb/million standard cubic feet (lb/MMscf) of landfill gas. Based on the sampling results and Rule 62-297.310(7)(b)(Special Compliance Tests), F.A.C., the Compliance Authority may request additional gas sampling and analyses. [Rules 62-210.200 and 62-212.400, F.A.C.]
24. Monthly Records: Within ten calendar days following each month, the permittee shall observe and record the following information in a written log: number of hours of operation of each engine; total monthly landfill gas flow rate to all engines combined; and HCl and SO₂ emissions for the month and previous 12 months, rolling total. Emissions of HCl and SO₂ shall be calculated from the monthly fuel consumption as well as the analytical results for the chlorine and sulfur contents of the landfill gas representative of the given month of operation based on the semiannual sampling for that period. [Rule 62-210.200 (232), F.A.C.]

RECORDS AND REPORTS

25. Test Reports: The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA test, shall provide the applicable information identified in Rule 62-297.310(8)(c). [Rule 62-297.310(8), F.A.C.]

SECTION 4. APPENDICES

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- Appendix A. Citation Formats and Glossary of Common Terms
- Appendix B. General Conditions
- Appendix C. Common Conditions
- Appendix D. Common Testing Requirements
- Appendix E. Final BACT Determinations
- Appendix ICE. NSPS and NESHAP Provisions
- Appendix ALT-078. Direct Measurement of VOC Emissions

SECTION 4. APPENDIX A
Citation Formats and Glossary of Common Terms

CITATION FORMATS

The following illustrate the formats used in the permit to identify applicable requirements from permits and regulations.

Old Permit Numbers

Example: Permit No. AC50-123456 or Permit No. AO50-123456

Where: “AC” identifies the permit as an Air Construction Permit
“AO” identifies the permit as an Air Operation Permit
“123456” identifies the specific permit project number

New Permit Numbers

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: “099” represents the specific county ID number in which the project is located
“2222” represents the specific facility ID number for that county
“001” identifies the specific permit project number
“AC” identifies the permit as an air construction permit
“AF” identifies the permit as a minor source federally enforceable state operation permit
“AO” identifies the permit as a minor source air operation permit.
“AV” identifies the permit as a major Title V air operation permit

PSD Permit Numbers

Example: Permit No. PSD-FL-317

Where: “PSD” means issued pursuant to the preconstruction review requirements of the Prevention of Significant Deterioration of Air Quality
“FL” means that the permit was issued by the State of Florida
“317” identifies the specific permit project number

Florida Administrative Code (F.A.C.)

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

Code of Federal Regulations (CFR)

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

GLOSSARY OF COMMON TERMS

° F: degrees Fahrenheit

µg: microgram

AAQS: Ambient Air Quality Standard

acf: actual cubic feet

acfm: actual cubic feet per minute

ARMS: Air Resource Management System
(Department’s database)

BACT: best available control technology

bhp: brake horsepower

Btu: British thermal units

CAM: compliance assurance monitoring

SECTION 4. APPENDIX A

Citation Formats and Glossary of Common Terms

CEMS: continuous emissions monitoring system	NESHAP: National Emissions Standards for Hazardous Air Pollutants
cfm: cubic feet per minute	NO_x: nitrogen oxides
CFR: Code of Federal Regulations	NSPS: New Source Performance Standards
CAA: Clean Air Act	O&M: operation and maintenance
CMS: continuous monitoring system	O₂: oxygen
CO: carbon monoxide	OPC: Office of Permitting and Compliance
CO₂: carbon dioxide	Pb: lead
COMS: continuous opacity monitoring system	PM: particulate matter
DARM: Division of Air Resource Management	PM₁₀: particulate matter with a mean aerodynamic diameter of 10 microns or less
DEP: Department of Environmental Protection	ppm: parts per million
Department: Department of Environmental Protection	ppmv: parts per million by volume
dscf: dry standard cubic feet	ppmvd: parts per million by volume, dry basis
dscfm: dry standard cubic feet per minute	QA: quality assurance
EPA: Environmental Protection Agency	QC: quality control
ESP: electrostatic precipitator (control system for reducing particulate matter)	PSD: prevention of significant deterioration
EU: emissions unit	psi: pounds per square inch
F: fluoride	PTE: potential to emit
F.A.C.: Florida Administrative Code	RACT: reasonably available control technology
F.A.W.: Florida Administrative Weekly	RATA: relative accuracy test audit
F.D.: forced draft	RBLC: EPA's RACT/BACT/LAER Clearinghouse
F.S.: Florida Statutes	SAM: sulfuric acid mist
FGD: flue gas desulfurization	scf: standard cubic feet
FGR: flue gas recirculation	scfm: standard cubic feet per minute
ft²: square feet	SIC: standard industrial classification code
ft³: cubic feet	SIP: State Implementation Plan
gpm: gallons per minute	SNCR: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)
gr: grains	SO₂: sulfur dioxide
HAP: hazardous air pollutant	TPD: tons/day
Hg: mercury	TPH: tons per hour
I.D.: induced draft	TPY: tons per year
ID: identification	TRS: total reduced sulfur
kPa: kilopascals	UTM: Universal Transverse Mercator coordinate system
lb: pound	VE: visible emissions
MACT: maximum achievable technology	VOC: volatile organic compounds
MMBtu: million British thermal units	
MSDS: material safety data sheets	
MW: megawatt	

SECTION 4. APPENDIX B

General Conditions

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 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.
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.
3. As provided in subsections 403.987(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 this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and 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.
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.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and 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.
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 reasonable times, 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 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.
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 noncompliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. 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.
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 403.111 and 403.73, 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.

SECTION 4. APPENDIX B

General Conditions

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.
11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
 - a. Determination of Best Available Control Technology (landfill gas engines: CO, NO_x and PM/PM₁₀/PM_{2.5});
 - b. Determination of Prevention of Significant Deterioration (landfill gas engines: CO, NO_x and PM/PM₁₀/PM_{2.5}); and
 - c. Compliance with New Source Performance Standards (landfill gas engines: NSPS Subparts A and JJJJ in 40 CFR 60).
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.
 - c. Records of monitoring information shall include:
 - (a) The date, exact place, and time of sampling or measurements;
 - (b) The person responsible for performing the sampling or measurements;
 - (c) The dates analyses were performed;
 - (d) The person responsible for performing the analyses;
 - (e) The analytical techniques or methods used;
 - (f) The results of such analyses.
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 the 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.

SECTION 4. APPENDIX C

Common Conditions

Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

EMISSIONS AND CONTROLS

1. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify each Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]
2. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]
3. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed 2 hours in any 24-hour period unless specifically authorized by the Department for longer duration. Pursuant to Rule 62-210.700(5), F.A.C., the permit subsection may specify more or less stringent requirements for periods of excess emissions. Rule 62-210-700(Excess Emissions), F.A.C., cannot vary or supersede any federal NSPS or NESHAP provision. [Rule 62-210.700(1), F.A.C.]
4. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]
5. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Compliance Authority 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(6), F.A.C.]
6. VOC or OS Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]
7. Objectionable Odor Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(Definitions), F.A.C.]
8. General Visible Emissions: No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]
9. Unconfined Particulate Emissions: During the construction period, unconfined particulate matter emissions shall be minimized by dust suppressing techniques such as covering and/or application of water or chemicals to the affected areas, as necessary. [Rule 62-296.320(4)(c), F.A.C.]

RECORDS AND REPORTS

10. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 5 years following the date on which such measurements, records, or data are recorded. Records shall be made available to the Department upon request. [Rule 62-213.440(1)(b)2, F.A.C.]
11. Emissions Computation and Reporting:
 - a. Applicability. This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance

SECTION 4. APPENDIX C

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with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit. [Rule 62-210.370(1), F.A.C.]

- b. *Computation of Emissions.* For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.
- (1) **Basic Approach.** The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.
- (a) If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.
- (b) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
- (c) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.
- (2) **Continuous Emissions Monitoring System (CEMS).**
- (a) An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:
- 1) The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or
- 2) The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.
- (b) Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:
- 1) A calibrated flow meter that records data on a continuous basis, if available; or
- 2) The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
- (c) The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.
- (3) **Mass Balance Calculations.**
- (a) An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:
- 1) Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and

SECTION 4. APPENDIX C

Common Conditions

- 2) Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.
 - (b) Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.
 - (c) In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.
- (4) Emission Factors.
- (a) An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements.
 - 1) If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.
 - 2) Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.
 - 3) The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.
 - (b) If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.
- (5) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.
- (6) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.
- (7) Fugitive Emissions. In computing the emissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.
- (8) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the department for any regulatory purpose.

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[Rule 62-210.370(2), F.A.C.]

c. *Annual Operating Report for Air Pollutant Emitting Facility*

- (1) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year for the following facilities:
 - a. All Title V sources;
 - b. All synthetic non-Title V sources;
 - c. All facilities with the potential to emit ten (10) tons per year or more of volatile organic compounds or twenty-five (25) tons per year or more of nitrogen oxides and located in an ozone nonattainment area or ozone air quality maintenance area; and
 - d. All facilities for which an annual operating report is required by rule or permit.
- (2) Notwithstanding paragraph 62-210.370(3)(a), F.A.C., no annual operating report shall be required for any facility operating under an air general permit.
- (3) The annual operating report shall be submitted to the appropriate Department of Environmental Protection (DEP) division, district or DEP-approved local air pollution control program office by April 1 of the following year. If the report is submitted using the Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office.
- (4) Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C., for purposes of the annual operating report.
- (5) Facility Relocation. Unless otherwise provided by rule or more stringent permit condition, the owner or operator of a relocatable facility must submit a Facility Relocation Notification Form (DEP Form No. 62-210.900(6)) to the Department at least 30 days prior to the relocation. A separate form shall be submitted for each facility in the case of the relocation of multiple facilities which are jointly owned or operated.

[Rule 62-210.370(3), F.A.C.]

SECTION 4. APPENDIX D
Common Testing Requirements

Unless otherwise specified in the permit, the following testing requirements apply to all emissions units that require testing.

COMPLIANCE TESTING REQUIREMENTS

1. Required Number of Test Runs: For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]
2. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]
3. Calculation of Emission Rate: For each emissions performance test, the indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]
4. Applicable Test Procedures:
 - a. Required Sampling Time.
 - (1) Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
 - (2) Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - (a) For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
 - (b) The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
 - (c) The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
 - b. Minimum Sample Volume. Unless otherwise specified in the applicable rule or test method, the minimum sample volume per run shall be 25 dry standard cubic feet.

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Common Testing Requirements

- c. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, F.A.C.
- d. Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1.
- e. Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

TABLE 297.310-1 CALIBRATION SCHEDULE			
ITEM	MINIMUM CALIBRATION FREQUENCY	REFERENCE INSTRUMENT	TOLERANCE
Liquid in glass thermometer	Annually	ASTM Hg in glass ref. thermometer or equivalent or thermometric points	+/-2%
Bimetallic thermometer	Quarterly	Calibration liquid in glass	5° F
Thermocouple	Annually	ASTM Hg in glass ref. thermometer, NBS calibrated reference and potentiometer	5° F
Barometer	Monthly	Hg barometer or NOAA station	+/-1% scale
Pitot Tube	When required or when damaged	By construction or measurements in wind tunnel D greater than 16" and standard pitot tube	See EPA Method 2, Fig. 2-2 & 2-3
Probe Nozzles	Before each test or when nicked, dented, or corroded	Micrometer	+/- 0.001" mean of at least three readings; Max. deviation between readings, 0.004"
Dry Gas Meter and Orifice Meter	1. Full Scale: When received, when 5% change observed, annually	Spirometer or calibrated wet test or dry gas test meter	2%
	2. One Point: Semiannually		
	3. Check after each test series	Comparison check	5%

[Rule 62-297.310(4), F.A.C.]

5. Determination of Process Variables:

- a. *Required Equipment.* The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
- b. *Accuracy of Equipment.* Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

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[Rule 62-297.310(5), F.A.C.]

6. **Sampling Facilities:** The permittee shall install permanent stack sampling ports and provide sampling facilities that meet the requirements of Rule 62-297.310(6), F.A.C. Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must also comply with all applicable Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E.
- a. **Permanent Test Facilities.** The owner or operator of an emissions unit for which a compliance test, other than a visible emissions test, is required on at least an annual basis, shall install and maintain permanent stack sampling facilities.
 - b. **Temporary Test Facilities.** The owner or operator of an emissions unit that is not required to conduct a compliance test on at least an annual basis may use permanent or temporary stack sampling facilities. If the owner chooses to use temporary sampling facilities on an emissions unit, and the Department elects to test the unit, such temporary facilities shall be installed on the emissions unit within 5 days of a request by the Department and remain on the emissions unit until the test is completed.
 - c. **Sampling Ports.**
 - (1) All sampling ports shall have a minimum inside diameter of 3 inches.
 - (2) The ports shall be capable of being sealed when not in use.
 - (3) The sampling ports shall be located in the stack at least 2 stack diameters or equivalent diameters downstream and at least 0.5 stack diameter or equivalent diameter upstream from any fan, bend, constriction or other flow disturbance.
 - (4) For emissions units for which a complete application to construct has been filed prior to December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 15 feet or less. For stacks with a larger diameter, four sampling ports, each 90 degrees apart, shall be installed. For emissions units for which a complete application to construct is filed on or after December 1, 1980, at least two sampling ports, 90 degrees apart, shall be installed at each sampling location on all circular stacks that have an outside diameter of 10 feet or less. For stacks with larger diameters, four sampling ports, each 90 degrees apart, shall be installed. On horizontal circular ducts, the ports shall be located so that the probe can enter the stack vertically, horizontally or at a 45 degree angle.
 - (5) On rectangular ducts, the cross sectional area shall be divided into the number of equal areas in accordance with EPA Method 1. Sampling ports shall be provided which allow access to each sampling point. The ports shall be located so that the probe can be inserted perpendicular to the gas flow.
 - d. **Work Platforms.**
 - (1) Minimum size of the working platform shall be 24 square feet in area. Platforms shall be at least 3 feet wide.
 - (2) On circular stacks with 2 sampling ports, the platform shall extend at least 110 degrees around the stack.
 - (3) On circular stacks with more than two sampling ports, the work platform shall extend 360 degrees around the stack.
 - (4) All platforms shall be equipped with an adequate safety rail (ropes are not acceptable), toe board, and hinged floor-opening cover if ladder access is used to reach the platform. The safety rail directly in line with the sampling ports shall be removable so that no obstruction exists in an area 14 inches below each sample port and 6 inches on either side of the sampling port.
 - e. **Access to Work Platform.**
 - (1) Ladders to the work platform exceeding 15 feet in length shall have safety cages or fall arresters with a minimum of 3 compatible safety belts available for use by sampling personnel.
 - (2) Walkways over free-fall areas shall be equipped with safety rails and toe boards.

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f. Electrical Power.

- (1) A minimum of two 120-volt AC, 20-amp outlets shall be provided at the sampling platform within 20 feet of each sampling port.
- (2) If extension cords are used to provide the electrical power, they shall be kept on the plant's property and be available immediately upon request by sampling personnel.

g. Sampling Equipment Support.

- (1) A three-quarter inch eyebolt and an angle bracket shall be attached directly above each port on vertical stacks and above each row of sampling ports on the sides of horizontal ducts.
 - (a) The bracket shall be a standard 3 inch × 3 inch × one-quarter inch equal-legs bracket which is 1 and one-half inches wide. A hole that is one-half inch in diameter shall be drilled through the exact center of the horizontal portion of the bracket. The horizontal portion of the bracket shall be located 14 inches above the centerline of the sampling port.
 - (b) A three-eighth inch bolt which protrudes 2 inches from the stack may be substituted for the required bracket. The bolt shall be located 15 and one-half inches above the centerline of the sampling port.
 - (c) The three-quarter inch eyebolt shall be capable of supporting a 500 pound working load. For stacks that are less than 12 feet in diameter, the eyebolt shall be located 48 inches above the horizontal portion of the angle bracket. For stacks that are greater than or equal to 12 feet in diameter, the eyebolt shall be located 60 inches above the horizontal portion of the angle bracket. If the eyebolt is more than 120 inches above the platform, a length of chain shall be attached to it to bring the free end of the chain to within safe reach from the platform.
- (2) A complete monorail or dual rail arrangement may be substituted for the eyebolt and bracket.
- (3) When the sample ports are located in the top of a horizontal duct, a frame shall be provided above the port to allow the sample probe to be secured during the test.

[Rule 62-297.310(6), F.A.C.]

7. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

- (1) The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.
- (2) For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid and/or solid fuel for more than 400 hours other than during startup.
- (3) The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to sub-subparagraph 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
 - (a) Did not operate; or
 - (b) In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours,

SECTION 4. APPENDIX D
Common Testing Requirements

- (4) During each federal fiscal year (October 1 – September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
 - (a) Visible emissions, if there is an applicable standard;
 - (b) Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
 - (c) Each NESHAP pollutant, if there is an applicable emission standard.
- (5) An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.
- (6) For fossil fuel steam generators on a semi-annual particulate matter emission compliance testing schedule, a compliance test shall not be required for any six-month period in which liquid and/or solid fuel is not burned for more than 200 hours other than during startup.
- (7) For emissions units electing to conduct particulate matter emission compliance testing quarterly pursuant to paragraph 62-296.405(2)(a), F.A.C., a compliance test shall not be required for any quarter in which liquid and/or solid fuel is not burned for more than 100 hours other than during startup.
- (8) Any combustion turbine that does not operate for more than 400 hours per year shall conduct a visible emissions compliance test once per each five-year period, coinciding with the term of its air operation permit.
- (9) The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.
- (10) An annual compliance test conducted for visible emissions shall not be required for units exempted from air permitting pursuant to subsection 62-210.300(3), F.A.C.; units determined to be insignificant pursuant to subparagraph 62-213.300(2)(a)1., F.A.C., or paragraph 62-213.430(6)(b), F.A.C.; or units permitted under the General Permit provisions in paragraph 62-210.300(4)(a) or Rule 62-213.300, F.A.C., unless the general permit specifically requires such testing.
 - (a) **Special Compliance Tests.** When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.
 - (b) **Waiver of Compliance Test Requirements.** If the owner or operator of an emissions unit that is subject to a compliance test requirement demonstrates to the Department, pursuant to the procedure established in Rule 62-297.620, F.A.C., that the compliance of the emissions unit with an applicable weight emission limiting standard can be adequately determined by means other than the designated test procedure, such as specifying a surrogate standard of no visible emissions for particulate matter sources equipped with a bag house or specifying a fuel analysis for sulfur dioxide emissions, the Department shall waive the compliance test requirements for such emissions units and order that the alternate means of determining compliance be used, provided, however, the provisions of paragraph 62-297.310(7)(b), F.A.C., shall apply.

[Rule 62-297.310(7), F.A.C.]

REPORTS

8. Test Reports:

- a. The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test.

SECTION 4. APPENDIX D
Common Testing Requirements

- b. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed.
- c. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA or DEP Method 9 test, shall provide the following information.
 - (1) The type, location, and designation of the emissions unit tested.
 - (2) The facility at which the emissions unit is located.
 - (3) The owner or operator of the emissions unit.
 - (4) The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.
 - (5) The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.
 - (6) The type of air pollution control devices installed on the emissions unit, their general condition, their normal operating parameters (pressure drops, total operating current and GPM scrubber water), and their operating parameters during each test run.
 - (7) A sketch of the duct within 8 stack diameters upstream and 2 stack diameters downstream of the sampling ports, including the distance to any upstream and downstream bends or other flow disturbances.
 - (8) The date, starting time and duration of each sampling run.
 - (9) The test procedures used, including any alternative procedures authorized pursuant to Rule 62-297.620, F.A.C. Where optional procedures are authorized in this chapter, indicate which option was used.
 - (10) The number of points sampled and configuration and location of the sampling plane.
 - (11) For each sampling point for each run, the dry gas meter reading, velocity head, pressure drop across the stack, temperatures, average meter temperatures and sample time per point.
 - (12) The type, manufacturer and configuration of the sampling equipment used.
 - (13) Data related to the required calibration of the test equipment.
 - (14) Data on the identification, processing and weights of all filters used.
 - (15) Data on the types and amounts of any chemical solutions used.
 - (16) Data on the amount of pollutant collected from each sampling probe, the filters, and the impingers, are reported separately for the compliance test.
 - (17) The names of individuals who furnished the process variable data, conducted the test, analyzed the samples and prepared the report.
 - (18) All measured and calculated data required to be determined by each applicable test procedure for each run.
 - (19) The detailed calculations for one run that relate the collected data to the calculated emission rate.
 - (20) The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit plus the test result in the same form and unit of measure.
 - (21) A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. When a compliance test is conducted for the Department or its agent, the person who conducts the test shall provide the certification with respect to the test procedures used. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C.]

MISCELLANEOUS

9. **Stack and Duct:** The terms stack and duct are used interchangeably in this rule. [Rule 62-297.310(9), F.A.C.]

SECTION 4. APPENDIX E
Final BACT Determinations

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/PM₁₀.

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	<i>Work Practice Standard:</i> The landfill gas pretreatment system shall include a filtration system to remove particulate down to 1 micron.		Design and maintenance records
	<i>Work Practice Standard:</i> Visible emissions from each engine exhaust stack shall not exceed 10% opacity, based on a six-minute average.		EPA Method 9

SECTION 4. APPENDIX ICE
NSPS and NESHAP Provisions

This section identifies the federal New Source Performance Standards (NSPS) in 40 CFR 60 that may be applicable to emissions units regulated by this project.

NSPS SUBPART A - GENERAL PROVISIONS

The following emission units are subject to applicable NSPS in 40 CFR 60, which are adopted by reference in Rule 62-204.800(8), F.A.C.

EU No.	Emission Unit Description
012-015	Four Caterpillar Model G3520C (CAT 3520) lean burn internal combustion engines

The affected emission units are subject to the applicable General Provisions in Subpart A of the New Source Performance Standards including: §60.1 (Applicability); §60.2 (Definitions); §60.3 (Units and Abbreviations); §60.4 (Address); §60.5 (Determination of Construction or Modification); §60.6 (Review of Plans); §60.7 (Notification and Record Keeping); §60.8 (Performance Tests); §60.9 (Availability of Information); §60.10 (State Authority); §60.11 (Compliance with Standards and Maintenance Requirements); §60.12 (Circumvention); §60.13 (Monitoring Requirements); §60.14 (Modification); §60.15 (Reconstruction); §60.16 (Priority List); §60.17 (Incorporations by Reference); §60.18 (General Control Device Requirements); §60.19 (General Notification and Reporting Requirements). The General Provisions are not included in this permit, but can be obtained from the Department upon request.

40 CFR PART 60, SUBPART JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Source: 73 FR 3591, Jan. 18, 2008, unless otherwise noted.

Emission limitations					
NOx (g/HP-hr)	CO (g/HP-hr)	VOC (g/HP-hr)	NOx (ppmvd at 15% O2)	CO (ppmvd at 15% O2)	VOC (ppmvd at 15% O2)
2	5	1	150	610	80

Emission limitations or	Compliance	Testing
<p>**May certify to the emission standards for new nonroad SI engines in 40 CFR part 1048 if you have a lean burn engine that uses LPG.</p> <p>**May certify to the emission standards for new nonroad SI engines in 40 CFR part 1048 applicable to engines that are not severe duty engines if you have an engine:</p> <p>a. $75 \leq x < 373$ KW ($100 < x < 500$ HP) manufactured prior to January 1, 2011; or</p> <p>b. $x \geq 373$ KW (500 HP) manufactured prior to July 1, 2010.</p>	<p>(1) Comply by purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified above in (1-3) (a-b) (i-iii).</p> <p>(2) Purchase a non-certified engine and demonstrate compliance with the emission standards according to testing requirement in this subpart and according to:</p> <p>a. Engines $25 \text{ HP} < x \leq 500 \text{ HP}$, must keep a maintenance plan and records of conducted maintenance and must maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test.</p> <p>b. Engines greater than 500 HP, same as above in item a. In addition, you must conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first.</p> <p>or Engines that are less than or equal to 500 HP and you purchase a non-certified engine or do not operate and maintain your certified engine:</p> <p>Perform initial performance testing as indicated in this section, but are not required to conduct subsequent performance testing unless the engine is rebuilt (defined in 40 CFR 94.11(a)) or undergoes major repair or maintenance.</p>	<p>(1) Must be conducted within 10% of 100% peak (or the highest achievable) load and according to the requirements in §60.8 and under the specific conditions that are specified by Table 2 to this subpart.</p> <p>(2) Cannot conduct performance tests during periods of startup, shutdown, or malfunction as specified in §60.8. If the engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.</p> <p>(3) Conduct 3 separate test runs for each performance test required, as specified in §60.8(f). Each test run must be conducted within 10% of 100% peak (or the highest achievable) load and last at least 1 hour.</p> <p>(4) Follow 40 CFR 60.4244 (d-g) to determine compliance with specific pollutants.</p>

SECTION 4. APPENDIX ICE
NSPS and NESHAP Provisions

40 CFR PART 63, SUBPART ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

In accordance with Rule 62-204.800, F.A.C., the following federal regulations in Part 63 of Title 40 of the Code of Federal Regulations were adopted by reference. The original federal rule numbering has been retained.

{Permitting Note: The engines covered by this permit, EU012– EU-015, are regulated as shown in the following table. Only the Section §63.6590 of Subpart ZZZZ is included because of the limited applicability and requirements.}

EU No.	Engine	Rule Applicability
012-015	Four lean burn internal combustion engine/generator sets (Caterpillar Model No. G3520C) that combust landfill or digester gas equivalent to 10% or more of the gross heat input on an annual basis	As defined in 40 CFR 63 NESHAP Subpart ZZZZ, the proposed engines are defined as “new units located at an area source”. To comply with the 40 CFR 63 NESHAP Subpart ZZZZ requirements, the installed engines must meet the 40 CFR 60 NSPS Subpart JJJJ requirements for spark ignition engines. No further requirements apply for such engines under 40 CFR 63 NESHAP Subpart ZZZZ.

SECTION 4. APPENDIX ALT-078
Direct Measurement of VOC Emissions



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

JUL 21 2010

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Howard Schiff
TRC Companies Inc.
650 Suffolk Street
Wannalancit Mills
Lowell, MA 01854

Dear Mr. Schiff:

In an alternative methods approval letter dated February 25, 2010, we granted Derenzo & Associates permission to use the TECO Model 55C analyzer in place of Method 18 to measure methane from internal combustion engines subject to 40 CFR Part 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. You brought to our attention that the proposed analyzer more appropriately measures non-methane organics and should be allowed as an alternative to the "cutter" analyzers already allowed by the regulation.

We see your point and appreciate your bringing it to our attention. This letter grants approval to use the TECO Model 55C analyzer to measure non-methane organic compounds from Subpart JJJJ engines. The analyzer may also be used by others at other Subpart JJJJ engines. We will announce this as broadly applicable to all stationary spark ignition combustion engines on EPA's web site (at <http://www.epa.gov/ttn/emc/methods.html#CatB>).

If you need further assistance, please contact Foston Curtis at (919) 541-1063 or Gary McAlister at (919) 541-1062.

Sincerely,

A handwritten signature in cursive script that reads "Connie B. Oldham".

Conniesue B. Oldham, Ph.D., Group Leader
Measurement Technology Group

cc: Michael Brack, Derenzo & Associates
Foston Curtis, E143-02
Gary McAlister E143-02

Internet Address (URL) = <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 25% Postconsumer)

Scearce, Lynn

From: Scearce, Lynn
Sent: Wednesday, September 28, 2011 10:06 AM
To: 'kerris@coj.net'
Cc: 'scott.salisbury@landfillenergy.com'; 'rharvey@derenzo.com'; Kirts, Christopher; 'robinson@coj.net'; 'forney.kathleen@epa.gov'; 'abrams.heather@epa.gov'; 'oquendo.ana@epa.gov'; DeVore, Christy; 'Arif, Syed'; Friday, Barbara; Scearce, Lynn
Subject: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit
Attachments: 0310358-012-AC-PSD-FL-374C, Trail Ridge Energy signature page.pdf; 0310358-013-AV, Trail Ridge Energy signature page.pdf

Tracking:	Recipient	Delivery	Read
	'kerris@coj.net'		
	'scott.salisbury@landfillenergy.com'		
	'rharvey@derenzo.com'		
	Kirts, Christopher	Delivered: 9/28/2011 10:06 AM	
	'robinson@coj.net'		
	'forney.kathleen@epa.gov'		
	'abrams.heather@epa.gov'		
	'oquendo.ana@epa.gov'		
	DeVore, Christy	Delivered: 9/28/2011 10:06 AM	
	'Arif, Syed'	Delivered: 9/28/2011 10:06 AM	
	Friday, Barbara	Delivered: 9/28/2011 10:06 AM	
	Scearce, Lynn	Delivered: 9/28/2011 10:06 AM	Read: 9/28/2011 10:06 AM
	Arif, Syed		Read: 9/28/2011 10:09 AM

Dear Ms. Stewart:

Attached is the official **Notice of Final Permit** and a **Notice of Proposed Permit** for the projects referenced below. Click on the link displayed below to access the permit project documents and send a "reply" message verifying receipt of the document(s) provided in the link; this may be done by selecting "Reply" on the menu bar of your e-mail software, noting that you can view the documents, and then selecting "Send".

Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

Owner/Company Name: CITY OF JACKSONVILLE
Facility Name: TRAIL RIDGE LANDFILL
Project Number: 0310358-012-AC-PSD-FL-374C / 0310358-013-AV
Permit Status: FINAL
Permit Activity: CONSTRUCTION
Facility County: DUVAL

Click on the following link to access the final permit project documents:
http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0310358.012.AC.F_pdf.zip

Click on the following link to access the proposed permit project documents:
http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0310358.013.AV.P_pdf.zip

The Office of Permitting and Compliance is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Access these documents by clicking on the link provided above, or search for other project documents using the "*Air Permit Documents Search*" website at <http://www.dep.state.fl.us/air/emission/apds/default.asp>.

Permit project documents addressed in this email may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible, and verify that they are accessible. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record. If you have any problems opening the documents or would like further information, please contact the Florida Department of Environmental Protection, Office of Permitting and Compliance.

Note: The attached document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <http://www.adobe.com/products/acrobat/readstep.html> .

Regards,

Lynn Searce

Office of Permitting and Compliance (OPC)

Division of Air Resources Management

850-717-9025

Scearce, Lynn

From: Scearce, Lynn
Sent: Wednesday, September 28, 2011 10:06 AM
To: Ana Oquendo; Friday, Barbara; Kathleen Forney; Scearce, Lynn
Cc: DeVore, Christy; Arif, Syed
Subject: 0310358-013-AV, Trail Ridge Energy, Notice of Proposed Permit

There is a proposed Title V Permit posted on Florida's website.

Click on the following link to access the permit project documents: Click on the following link to access the permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0310358.013.AV.P_pdf.zip

If you have any questions about the posting, please feel free to contact me at the phone number below. If you have questions about the project please contact the Division of Air Resource Management, Office of Permitting and Compliance, 850-717-9000.

Regards,

Lynn Scearce

Office of Permitting and Compliance (OPC)

Division of Air Resources Management

850-717-9025

Please take a few minutes to share your comments on the service you received from the department by clicking on this link [DEP Customer Survey](#).

Scearce, Lynn

From: Microsoft Exchange
To: kerris@coj.net; robinson@coj.net
Sent: Wednesday, September 28, 2011 10:06 AM
Subject: Relayed: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit

Delivery to these recipients or distribution lists is complete, but delivery notification was not sent by the destination:

kerris@coj.net

robinson@coj.net

Subject: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit

Sent by Microsoft Exchange Server 2007

Scearce, Lynn

From: Microsoft Exchange
To: scott.salisbury@landfillenergy.com
Sent: Wednesday, September 28, 2011 10:06 AM
Subject: Relayed: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit

Delivery to these recipients or distribution lists is complete, but delivery notification was not sent by the destination:

scott.salisbury@landfillenergy.com

Subject: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit

Sent by Microsoft Exchange Server 2007

Scearce, Lynn

From: Microsoft Exchange
To: rharvey@derenzo.com
Sent: Wednesday, September 28, 2011 10:06 AM
Subject: Relayed: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit

Delivery to these recipients or distribution lists is complete, but delivery notification was not sent by the destination:

rharvey@derenzo.com

Subject: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit

Sent by Microsoft Exchange Server 2007

Scearce, Lynn

From: Robert Harvey [rharvey@derenzo.com]
Sent: Wednesday, September 28, 2011 10:17 AM
To: Scearce, Lynn
Subject: Read: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit
Attachments: ATT00001

Scearce, Lynn

From: Robinson, Richard [ROBINSON@coj.net]
To: Scearce, Lynn
Sent: Wednesday, September 28, 2011 10:43 AM
Subject: Read: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit

Your message was read on Wednesday, September 28, 2011 10:43:26 AM (GMT-05:00) Eastern Time (US & Canada).

Scearce, Lynn

From: DeVore, Christy
Sent: Thursday, September 29, 2011 3:54 PM
To: Scearce, Lynn; kerris@coj.net
Cc: oquendo.ana@epa.gov
Subject: RE: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit

This is a reminder that they published the public notice at the draft permit Title V issuance, so the EPA 45-day time clock review began the day this proposed permit was issued. Thanks.

*Christy DeVore, P.E.
Bureau of Air Regulation
Telephone (850) 717-9085*

From: Scearce, Lynn
Sent: Wednesday, September 28, 2011 10:06 AM
To: kerris@coj.net
Cc: scott.salisbury@landfillenergy.com; rharvey@derenzo.com; Kirts, Christopher; robinson@coj.net; forney.kathleen@epa.gov; abrams.heather@epa.gov; oquendo.ana@epa.gov; DeVore, Christy; Arif, Syed; Friday, Barbara; Scearce, Lynn
Subject: 0310358-012-AC/ PSD-FL-374C, Trail Ridge Energy, Final Permit and 0310358-013-AV, Trail Ridge Energy, Proposed Permit

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Note: We must receive verification that you are able to access the documents. Your immediate reply will preclude subsequent e-mail transmissions to verify accessibility of the document(s).

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Click on the following link to access the proposed permit project documents:

http://ARM-PERMIT2K.dep.state.fl.us/adh/prod/pdf_permit_zip_files/0310358.013.AV.P_pdf.zip

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Regards,

Lynn Searce

Office of Permitting and Compliance (OPC)

Division of Air Resources Management

850-717-9025

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