Derenzo and Associates, Inc.

Environmental Consultants

November 19, 2007

Ms. Trina Vielhauer, Bureau Chief Bureau of Air Regulation Division of Air Resource Management Department of Environmental Protection STATE OF FLORIDA 2600 Blair Stone Road, MS 5505 Tallahassee, FL 32399-2400 RECEIVED

NOV 21 2007

PUREAU OF AIR REGULATION

Subject: Brevard Energy, LLC, File No. 0090069-004-AC

PSD Air Construction Permit Application for Significant Modification to landfill gas fueled

electricity generation facility

Dear Ms. Vielhauer:

Derenzo and Associates, Inc. (Derenzo and Associates), on behalf of Brevard Energy, LLC, is submitting to the Florida Department of Environmental Protection, Division of Air Resource Management four (4) copies of an Air Construction Permit application for significant modifications to the permitted landfill gas (LFG) fueled internal combustion (IC) engine electricity generation facility at the Brevard County Central Disposal Facility in Brevard County Florida (Air Construction Permit 0090069-004-AC, PSD-FL-378).

A check payable to the Florida Department of Environmental Protection for \$7,500 is attached to this cover letter with an original set of signed permit application forms. This fee is required to cover the Air Construction Permit application review services for a facility that is subject to Prevention of Significant Deterioration rules.

Appendix A of the enclosed documents provides copies of the completed Department of Environmental Protection Division of Air Resources Management Application for Air Permit - Long Form (original signed documents are attached to this cover letter).

Sincerely,

DERENZO AND ASSOCIATES, INC.

Robert L. Harvey

Engineering Services Manager

enclosures

c: Scott Salisbury, Brevard Energy, w/enclosure



Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit - Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option)

- Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

1.	Facility Owner/Company Name:	Brevard E	nergy	, LLC	
2.	Site Name: Brevard Energy				
3.	Facility Identification Number: 00	90069-00	4-A(C, PSD-FL-378	}
4.	Facility Location				
	Street Address or Other Locator: 2	2250 Adar	nson	Road	
	City: Cocoa	County: B	reva	rd	Zip Code: 32926
5.	Relocatable Facility?		6.	Existing Title	V Permitted Facility?
	Yes X No			Yes	\overline{X} No (landfill – yes)

Identification of Facility

<u>Ar</u>	<u>Application Contact</u>					
1.	Application Contact Name: David I	Derenzo				
2.	Application Contact Mailing Address	SS				
	Organization/Firm: Derenzo and As	ssociates, I	nc.			
	Street Address: 39395 Schoolcr	aft Road				
	City: Livonia	State	: MI	Zip Code: 48150		
3.	Application Contact Telephone Nun	nbers		_		
	Telephone: (734) 464 - 3880	ext.	Fax: (734) 46	4 - 4368		
4.	Application Contact Email Address:	dderenzo	@derenzo.com			

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	11-21-07
2. Project Number(s):	0090069-006-AC
3. PSD Number (if applicable):	PSD-FL-318A
4. Siting Number (if applicable):	

DEP Form No. 62-210.900(1) - Form

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit X Air construction permit.
Air Operation Permit Initial Title V air operation permit. Title V air operation permit revision. Title V air operation permit renewal. Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required. Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.
Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing) Air construction permit and Title V permit revision, incorporating the proposed project. Air construction permit and Title V permit renewal, incorporating the proposed project.
Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:
☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.
Application Comment

Brevard Energy, LLC has been issued a PSD Air Construction Permit for the operation of a landfill gas fired electricity generation facility. Analysis of the landfill gas (fuel) generated at the Central Disposal Facility for its sulfur content indicate the calculated sulfur dioxide (SO₂) emission factors exceed the existing permit limit for SO₂ of 27.5 lb/MMscf.

Therefore, Brevard Energy requests that conditions of Permit PSD-FL-378 be modified to increase the SO₂ emission factor and emission rate that is allowed for the permitted facility. The magnitude of the SO₂ emission rate increase that is proposed for the permitted facility exceeds the Prevention of Significant Deterioration (PSD) significant emission rate threshold for SO₂ of 40 tons per year (TpY).

In addition, Brevard Energy is requesting modifications to the compliance demonstration requirements specified in the permit for determination of PM_{10} emissions.

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
EU No. 004- 009	Six (6) identical landfill gas fueled IC engines and electricity generators (Caterpillar Model G3520C)	AC1A	\$7,500
-			

Application Process	sing Fee	
Check one: X Att	ached - Amount: \$ 7,500	Not Applicable

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name:

David R. Derenzo

2. Owner/Authorized Representative Mailing Address:

Organization/Firm: Derenzo and Associates, Inc.

Street Address: 39395 Schoolcraft Road

City: Livonia

State: Michigan

Zip Code: 48150

3. Owner/Authorized Representative Telephone Numbers...

Telephone: (734) 464 – 3880 ext. Fax: (734) 464 – 4368

- 4. Owner/Authorized Representative Email Address: dderenzo@derenzo.com
- 5. Owner/Authorized Representative Statement:

I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.

Signature

November 7, 2007

Date

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Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1.	Application Responsible Official Name:					
	Scott Salisbury (Managing Member)					
2.	Application Responsible Official Qualification (Check one or more of the following					
	options, as applicable):					
	For a corporation, the president, secretary, treasurer, or vice-president of the corporation in					
	charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such					
	person if the representative is responsible for the overall operation of one or more					
	manufacturing, production, or operating facilities applying for or subject to a permit under					
	Chapter 62-213, F.A.C.					
	X For a partnership or sole proprietorship, a general partner or the proprietor, respectively.					
	For a municipality, county, state, federal, or other public agency, either a principal executive					
	officer or ranking elected official. The designated representative at an Acid Rain source.					
3.	Application Responsible Official Mailing Address					
٥.	Organization/Firm: Brevard Energy, L.L.C.					
	Street Address: 29261 Wall Street					
	A					
4.	Application Responsible Official Telephone Numbers Telephone: (248) 380 - 3920 ext. Fax: (248) 380 - 2038					
	Application Responsible Official Email Address: Scott.Salisbury@landfillenergy.com					
6.	Application Responsible Official Certification:					
	I, the undersigned, am a responsible official of the Title V source addressed in this air permit					
	application. I hereby certify, based on information and belief formed after reasonable inquiry, that					
	the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable					
	techniques for calculating emissions. The air pollutant emissions units and air pollution control					
	equipment described in this application will be operated and maintained so as to comply with all					
	applicable standards for control of air pollutant emissions found in the statutes of the State of					
	Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I					
	understand that a permit, if granted by the department, cannot be transferred without authorization					
	from the department, and I will promptly notify the department upon sale or legal transfer of the					
	facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit					
	are in compliance with all applicable requirements to which they are subject, except as identified in compliance plants) submitted with this application					
	in compliance plan(s) submitted with this application.					
لسر	November 8, 2007					
	Signature Date					

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Pr	ofessional Engineer Certification			
1.	Professional Engineer Name: Jeffery L. Pope, P.E.			
	Registration Number: 53815			
2.	Professional Engineer Mailing Address.			
	Organization/Firm: Burns & McDonnell			
	Street Address: 1431 Opus Place, Suite 400			
	City: Downers Grove State: IL Zip Code: 60515-1164			
3.	Professional Engineer Telephone Numbers.			
	Telephone: (630) 724-3328 ext. Fax: (630) 724 - 3201			
	Professional Engineer Email Address: jpope@burnsmcd.com			
5.	Professional Engineer Statement:			
	I, the undersigned, hereby certify, except as particularly noted herein*, that:			
	(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions			
	unit(s) and the air pollution control equipment described in this application for air permit, when			
	properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental			
	Protection; and			
	(2) To the best of my knowledge, any emission estimates reported or relied on in this application			
	are true, accurate, and complete and are either based upon reasonable techniques available for			
	calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an			
	emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.			
	(3) If the purpose of this application is to obtain a Title V air operation permit (check here \square , if			
	so), I further certify that each emissions unit described in this application for air permit, when			
	properly operated and maintained, will comply with the applicable requirements identified in this			
	application to which the unit is subject, except those emissions units for which a compliance plan			
	and schedule is submitted with this application.			
	(4) If the purpose of this application is to obtain an air construction permit (check here \mathbb{X} , if so)			
	or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here \square , if			
	so), I further certify that the engineering features of each such emissions unit described in this			
	application have been designed or examined by me or individuals under my direct supervision and			
	found to be in conformity with sound engineering principles applicable to the control of emissions			
	of the air pollutants characterized in this application.			
	(5) If the purpose of this application is to obtain an initial air operation permit or operation			
	permit revision or renewal for one or more newly constructed or modified emissions units (check here \square , if so), I further certify that, with the exception of any changes detailed as part of this			
	application, each such emissions unit has been constructed or modified in substantial accordance			
	with the information given in the corresponding application for air construction permit and with			
	all provisions contained in such permit.			
	11/16/07			
	Signature Date			
	No. 53815			
	(seal)			

* Attach any exception to certification statements STATE OF

DEP Form No. 62-2 Po. 906(1) RFORM

Effective: 06/16/03

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1.	1. Facility UTM Coordinates		2.	Facility Latitude/Lo	ngitude
	Zone 17 East (km) 516.749		Latitude (DD/MM/SS) 28/23/35.63		
North (km) 3140.571			Longitude (DD/MM/SS) 80/49/43.80		
3.	Governmental	4. Facility Status	5.	Facility Major	6. Facility SIC(s):
	Facility Code: Code:			Group SIC Code:	
	0	С		49	4953

7. Facility Comment:

Electricity generation facility is located on leased land at the Central Disposal Facility (east of landfill).

Facility Contact

1. Facility Contact Name:

Michael Laframboise

2. Facility Contact Mailing Address...

Organization/Firm: Landfill Energy Systems

Street Address: 29261 Wall Street City: Wixom

3. Facility Contact Telephone Numbers:

Telephone: (248) 380-3920 Fax: ext. (284) 380-2038

4. Facility Contact Email Address: Michael.laframboise@landfillenergy.com

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

State: MI

Zip Code: 48393

1. Facility Primary Responsible Official Name:

Scott Salisbury

2. Facility Primary Responsible Official Mailing Address...

Organization/Firm: Brevard Energy, LLC

Street Address: 29261 Wall Street

City: Wixom State: MI

Zip Code: 48393

3. Facility Primary Responsible Official Telephone Numbers...

Telephone: (248) 380 - 3920ext. Fax: (248) 380 - 2038

4. Facility Primary Responsible Official Email Address: Scott.Salisbury@landfillenergy.com

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FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. Small Business Stationary Source	x Unknown			
2. Synthetic Non-Title V Source				
3. X Title V Source				
4. X Major Source of Air Pollutants, Other than Hazardous	Air Pollutants (HAPs)			
5. Synthetic Minor Source of Air Pollutants, Other than HA	APs			
6. Major Source of Hazardous Air Pollutants (HAPs)				
7. X Synthetic Minor Source of HAPs				
8. X One or More Emissions Units Subject to NSPS (40 CF	R Part 60)			
9. One or More Emissions Units Subject to Emission Guid	elines (40 CFR Part 60)			
10. X One or More Emissions Units Subject to NESHAP (40	CFR Part 61 or Part 63)			
11. Title V Source Solely by EPA Designation (40 CFR 70	3(a)(5))			
12. Facility Regulatory Classifications Comment:				
The permitted Brevard Energy LFG fueled IC engine electricity source of carbon monoxide (CO) under State and federal PSD p	-			

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FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
СО	Α	N
NOX	В	N
VOC	В	Y
PM10	В	N
SO2	В	N
HAPS	В	N
H106	SM	Y

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B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions	2. Facility Wide Cap	3. Emissions Unit ID No.s Under Cap	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap
Cap	[Y or N]? (all units)	(if not all units)			
VOC	Y			36	ESCPSD
H106	Y			10	ESCMACT
_					
		_			

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

The 36 ton per year (TpY) gas engine total VOC emission is based on a voluntary limitation that is 90% of the 40 TpY significant emission threshold. The CAT® G3520C engine is designed to produce low NO_X emissions. These lower emissions are produced in part based on the high carbon dioxide content of LFG fuels that results in cooler combustion temperatures, which influence VOC destruction and control efficiencies. Therefore, flexibility in establishing an allowable limit is required to ensure ongoing compliance over all engine fuel quality and mechanical operating conditions.

Brevard Energy experience (based on emission testing performed by Landfill Energy Systems on similar LFG fueled engines) indicates that the AP-42 default LFG constituent concentrations overestimate the potential HCl content of the gas generated at the Central Disposal Facility. Therefore, Brevard Energy will restrict the allowed HCl emissions from the proposed engine operations to less than 10 TpY through appropriate permit limits.

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C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1.	Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) X Attached, Document ID: Appendix D Previously Submitted, Date:
2.	Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) X Attached, Document ID: Appendix D Previously Submitted, Date:
3.	Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) X Attached, Document ID: Page 12a Previously Submitted, Date:
<u>A</u> (dditional Requirements for Air Construction Permit Applications
1.	Area Map Showing Facility Location: X Attached, Document ID: Appendix D Not Applicable (existing permitted facility)
2.	Description of Proposed Construction or Modification: X Attached, Document ID: Technical Document, Section 2
3.	Rule Applicability Analysis: X Attached, Document ID: Technical Document, Sections 5 - 7
4.	List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): X Attached, Document ID: Page 12a Not Applicable (no exempt units at facility)
5.	Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): Attached, Document ID: X Not Applicable
6.	Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.): X Attached, Document ID: Appendix G Not Applicable
7.	Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.): X Attached, Document ID: Appendix G Not Applicable
8.	X Attached, Document ID: Appendix G Not Applicable
9.	Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.): X Attached, Document ID: Technical Document, Section 8 Not Applicable
10	Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): Attached, Document ID: X Not Applicable

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FACILITY INFORMATION

Additional Requirements for FESOP Applications

1.	List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):				
	Attached, Document ID: Not Applicable (no exempt units at facility)				
Additional Requirements for Title V Air Operation Permit Applications					
1.	List of Insignificant Activities (Required for initial/renewal applications only): Attached, Document ID: Not Applicable (revision application)				
	Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought): Attached, Document ID: Not Applicable (revision application with no change in applicable requirements)				
2					
	Compliance Report and Plan (Required for all initial/revision/renewal applications): Attached, Document ID: Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.				
	List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only): Attached, Document ID: Equipment/Activities On site but Not Required to be Individually Listed				
	☐ Not Applicable				
	Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only):				
	Attached, Document ID: Not Applicable				
6.	Requested Changes to Current Title V Air Operation Permit: Attached, Document ID: Not Applicable				
Additional Requirements Comment					
An Air Operation Permit (modification of the Central Disposal Facility Title V Permit) will be pursued as a separate permitting activity (as recommended by Mr. Jeff Koerner of the FDEP-DARM).					

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C. FACILITY ADDITIONAL INFORMATION

ATTACHMENT (12a)

Precautions to Prevent Emissions of Unconfined Particulate Matter

- (4) General Particulate Emission Limiting Standards ...
- (b) General Visible Emission Standard.
- 1. No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than ...(20 percent opacity).

Experience obtained by manufacturers and operators of LFG fueled IC engines indicates that visible emissions from the CAT® G3520C gas IC engines will be insignificant (emissions are not expected to be visible during normal engine operations).

- (c) Unconfined Emissions of Particulate Matter.
- 1. No person shall cause, let, permit, suffer or allow the emission of unconfined particulate matter from any activity ...without taking reasonable precautions to prevent such emissions...
 - 3. Reasonable precautions include the following:
 - a. Paving and maintenance of roads, parking areas and yards.
- b. Application of water or chemicals to control emissions from such activities as ... grading roads, construction, and land clearing.

Brevard Energy will take appropriate precautions to prevent unconfined emissions of particulate emissions during the construction and operating activities of the proposed LFG fueled electricity generation facility.

Exempt Emission Units

The IC engine lube oil (new and used) storage tanks are permit exempt emission units based on the type and quantities of stored material (and its very low vapor pressures).

Section [1]

of [1]

A. GENERAL EMISSIONS UNIT INFORMATION

<u>Title V Air Operation Permit Emissions Unit Classification</u>

1.	Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)								
	 ☐ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit. ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit. 								
En	nissions Unit			atus					
1.			Unit Addresse		this Section	on: (Check one)		
	This Emi	ssions r produ	Unit Informat	ion S activ	Section ad vity, which	dress h pro	es, as a single em duces one or more		
	process o	r produ		nd ac	tivities wl	nich l	nas at least one de		ons unit, a group of ble emission point
							es, as a single em		
2.	Description of	of Emis	ssions Unit Ac	ddres	sed in thi	s Sec	tion:		
Six	x (6) CAT G35	520C I	C engine elect	tricit	y generato	r set	s (each with its ov	vn e	xhaust stack)
3.	Emissions U	nit Ider	ntification Nu	mbei	r: EU 004	thou	gh 009		
4.	Emissions Unit Status Code: C	C	Commence Construction Pate:	6.	Initial Startup Date:	7.	Emissions Unit Major Group SIC Code: 49	8.	Acid Rain Unit? Yes No
9.	Package Unit								_
10	Manufacturer: Caterpillar, Inc. Model Number: G3520C								
10. Generator Nameplate Rating: 1.6 MW (each engine generator set, 9.6 MW total capacity) 11. Emissions Unit Comment:									
11. Emissions Out Comment.									
EU004: ICE1 – stack1 (1.6 MW) EU007: ICE4 – stack4 (1.6 MW)									
	J005 : ICE2 — J006 : ICE3 —		,				stack5 (1.6 MVstack6 (1.6 MV	,	
	i i								
							i i		

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Section [1] of [1]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
Add-on air pollutant emission controls will not be installed on the proposed electricity generation facility IC engines.
The CAT® G3520C gas IC engine 2.75 g/bhp-hr CO emission rate is based on the results of Best Available Control Technology (BACT) analyses (presented with the initial construction permit application in June 2006).
The CAT® G3520C gas IC engine 0.60 g/bhp-hr NO _X emission rate is based on the results of BACT analyses (presented with the initial construction permit application in June 2006).
The CAT® G3520C gas IC engine 0.24 g/bhp-hr PM10 emission rate is based on the results of BACT analyses (presented with the initial construction permit application in June 2006).
2. Control Device or Method Code(s):

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Section [1] of [1]

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

2. Maximum Production Rate: 9.6 MW

3. Maximum Heat Input Rate: 87.84 million Btu/hr (LHV)

4. Maximum Incineration Rate: pounds/hr

tons/day

5. Requested Maximum Operating Schedule:

hours/day 24

days/week 7

weeks/year 52

hours/year 8,760

6. Operating Capacity/Schedule Comment:

14.64 MMBtu (LHV)/hr/engine maximum heat input

1.6 MW/hr/engine maximum electricity generation

34,860 scf/hr/engine maximum LFG fuel use

Base load (100% design capacity) engine –generator operations. The proposed facility will not produce electricity under partial load engine – generator operating conditions.

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Section [1] of [1]

C. EMISSION POINT (STACK/VENT) INFORMATION (Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on I		2. Emission Point Type Code:				
Flow Diagram: ICE1 – IC		1				
3. Descriptions of Emission I	3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:					
Six (6) identical IC engine generators, each engine has an exhaust stack (6 exhaust stacks, 1 for each engine).						
4. ID Numbers or Description	ns of Emission Ur	nits with this Emission	n Point in Common:			
·	U007 = ICE4 stac					
EU005 = ICE2 stack 2	U008 = ICE5 stac	k 5				
	U009 = ICE6 stac					
5. Discharge Type Code:	6. Stack Height	:	7. Exit Diameter:			
V	feet 20		feet 1.5			
8. Exit Temperature:		netric Flow Rate:	10. Water Vapor:			
°F 900	acfm 12,050		%			
11. Maximum Dry Standard F dscfm 4,150	low Rate:	12. Nonstack Emission Point Height: feet				
13. Emission Point UTM Coo	rdinates	14. Emission Point Latitude/Longitude				
Zone: 17 East (km):	516.749	Latitude (DD/MM/SS) 28/23/35.63				
North (km)	: 3140.571	Longitude (DD/MM/SS) 80/49/43.80				
15. Emission Point Comment:						
Stack1-ICE1 Stack2-ICE2 Stack3-ICE3 Stack4-ICE4 Stack5-ICE5 Stack6-ICE6						

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Section [1]

of [1]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type):

Landfill gas used exclusively to fuel 6 IC engines

Air pollutant emissions (g/bhp-hr) are related to engine base load horsepower (2233 hp/hr) or maximum fuel use pound per million cubic feet of gas consumed (lb/MMscf).

2. Source Classification Code 20100802	e (SCC):	3. SCC Units: MMcf of ga	
4. Maximum Hourly Rate: 0.2092	5. Maximum <i>A</i> 1,832	Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.051	8. Maximum 9	% Ash:	9. Million Btu per SCC Unit: 420 (LHV)

10. Segment Comment:

Hourly and annual maximum fuel use rates for the operation of 6 IC engines based on fuel heating value of 420 Btu/scf (LHV). Sulfur content based on LFG containing 455 ppmv as H_2S .

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E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
СО			EL
NOX			EL
VOC			EL
PM10			EL
SO2			EL
HAPS			EL
H106			EL
_			
-			

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F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Pollutant Emitted: CO	2. Total Percent Efficie	ency of Control:			
3. Potential Emissions:	4. Synth	netically Limited?			
81.24 lb/hour 355.5	8 tons/year Y	es X No			
5. Range of Estimated Fugitive Emissions (as	applicable):				
to tons/year					
6. Emission Factor:		7. Emissions			
		Method Code:			
2.75 g/bhp-hr Reference: BACT		5			
8. Calculation of Emissions:					
(2.75 g/bhp-hr) (2233 bhp/ICE) / (453.6 g/lb) =	13.54 lb/hr per ICE				
(13.54 lb/hr/ICE) (6 ICE) = 81.24 lb/hr for facil	ity				
(81.24 lb/hr) (8760 hr/yr) / (2000 lb/ton) = 355.	8 tons/yr for facility				
9. Pollutant Potential/Estimated Fugitive Emissions Comment:					
13.54 lb/hour/engine, 59.3 tons/year/engine					

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F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Pollutant Emitted: NOX	2. Total Percent Efficiency of Control:				
3. Potential Emissions:		netically Limited?			
17.72 lb/hour 77.	6 tons/year Y	es X No			
5. Range of Estimated Fugitive Emissions (as	applicable):				
to tons/year					
6. Emission Factor:		7. Emissions			
		Method Code:			
0.60 g/bhp-hr Reference: BACT		5			
8. Calculation of Emissions:					
(0.60 g/bhp-hr) (2233 bhp/ICE) / (453.6 g/lb) = 2.95 lb/hr per ICE (2.95 lb/hr/ICE) (6 ICE) = 17.72 lb/hr for facility (17.72 lb/hr) (8760 hr/yr) / (2000 lb/ton) = 77.62 tons/yr for facility					
9. Pollutant Potential/Estimated Fugitive Emissions Comment:					
2.95 lb/hour/engine, 12.9 tons/year/engine					

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F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Pollutant Emitted: VOC	2. Total Perce	ent Efficie	ency of Control:		
3. Potential Emissions: 4. Synth			netically Limited? Yes		
5. Range of Estimated Fugitive Emissions (as to tons/year	applicable):				
6. Emission Factor: Reference: 90% of 40 ton/year	significance thre	eshold	7. Emissions Method Code: 0		
8. Calculation of Emissions:	- 1 27 lb/b	ICE			
(0.278 g/bhp-hr) (2233 bhp/ICE) / (453.6 g/lb) = (1.37 lb/hr/ICE) (6 ICE) = 8.22 lb/hr for facility	•	ICE			
(8.21 lb/hr) (8760 hr/yr) / (2000 lb/ton) = 36.0 tons/yr for facility					
9. Pollutant Potential/Estimated Fugitive Emissions Comment:					
1.37 lb/hour/engine, 6.0 tons/year/engine					

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F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM10	2. Total Percent Efficiency of Control:				
3. Potential Emissions: 7.08 lb/hour 31.0		netically Limited? Yes X No			
5. Range of Estimated Fugitive Emissions (as to tons/year	applicable):				
6. Emission Factor:0.24 g/bhp-hr Reference: BACT		7. Emissions Method Code: 5			
8. Calculation of Emissions:	4.40.11.11				
(0.24 g/bhp-hr) (2233 bhp/ICE) / (453.6 g/lb) = 1.18 lb/hr per ICE (1.18 lb/hr/ICE) (6 ICE) = 7.08 lb/hr for facility					
(7.08 lb/hr) (8760 hr/yr) / (2000 lb/ton) = 31.0 tons/yr for facility					
9. Pollutant Potential/Estimated Fugitive Emissions Comment:					
1.18 lb/hour/engine, 5.17 tons/year/engine					

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F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SO2	2. Total Perce	ent Efficiency of Control:
3. Potential Emissions:		4. Synthetically Limited?
15.65 lb/hour 68.	7 tons/year	Yes X No
5. Range of Estimated Fugitive Emissions (as	applicable):	
to tons/year		
6. Emission Factor:		7. Emissions
75.65 lb/MMscf fuel burned (based on	455 ppm as H ₂ S	Method Code: 2
8. Calculation of Emissions:		'
(455 scf H ₂ S/MMscf) (scf SO ₂ /scf H ₂ S) (64.06	5 lb SO ₂ /mol) / (3	385 scf/mol) = 75.65 lb/MMscf
(75.65 lb/MMcf) (581 cf/min) (60 min/hr) / (1	$(x \ 10^6) = 2.64 \ lb/$	hr per ICE
(2.64 lb/hr/ICE) (6 ICE) = 15.82 lb/hr for facility	ty	
(15.82 lb/hr) (8760 hr/yr) / (2000 lb/ton) = 69.3	tons/yr for facil	lity
9. Pollutant Potential/Estimated Fugitive Emis	ssions Comment	t:
2.64 lb/hour/engine, 11.55 tons/year/engine		

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F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Pollutant Emitted: HAPS	2. Total Percent Effic	iency of Control:
3. Potential Emissions:		hetically Limited?
2.89 lb/hour 12.60	tons/year	Yes X No
5. Range of Estimated Fugitive Emissions (as	applicable):	
to tons/year		
6. Emission Factor:		7. Emissions
		Method Code:
13.8 lb/MMcf (AP-42 calculation)		3
8. Calculation of Emissions:		
(13.8 lb/MMcf) (581 cf/min) (60 min/hr) / (1 x (0.48 lb/hr/ICE) (6 ICE) = 2.89 lb/hr for facility (2.89 lb/hr) (8760 hr/yr) / (2000 lb/ton) = 12.6 to	ons/yr for facility	
9. Pollutant Potential/Estimated Fugitive Emis	sions Comment:	
0.48 lb/hour/engine, 2.11 tons/year/engine		

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F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H106	2. Total Percent Efficient	ency of Control:
3. Potential Emissions: lb/hour <10.0	4. Syntl 2 tons/year x	netically Limited? Yes No
5. Range of Estimated Fugitive Emissions (as to tons/year	applicable):	
6. Emission Factor: 10.9 lb/MMscf (permitted limit)		7. Emissions Method Code: 2
8. Calculation of Emissions: (10.9 lb/MMcf) (581 cf/min) (60 min/hr) / (1 x	10^6) = 0.38 lb/hr per ICE	
(0.38 lb/hr/ICE) (6 ICE) = 2.28 lb/hr for facility	•	
(2.28 lb/hr) (8760 hr/yr) / (2000 lb/ton) = 10.0 tons/yr for facility		
9. Pollutant Potential/Estimated Fugitive Emis	ssions Comment:	
<1.66 tons/yr/engine, total <10.0 tons/year/facil	ity	

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F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions 1 o	f <u>1</u>
Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions:
CO 2.75 g/bhp-hr	81.24 lb/hour 355.8 tons/year
5. Method of Compliance:	
Engine exhaust stack emissions testing (one engi	
6. Allowable Emissions Comment (Description	of Operating Method):
Rule 62-212.400	
Allowable Emissions 1 o	f <u>1</u>
Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions:
NOX 0.60 g/bhp-hr	17.72 lb/hour 77.6 tons/year
5. Method of Compliance:	
Engine exhaust stack emissions testing (one engi	• •
6. Allowable Emissions Comment (Description	of Operating Method):
Rule 62-212.400	
Allowable Emissions 1 o	f <u>1</u>
Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions:
VOC 35.5 ppmvd as hexane 3% O2	8.22 lb/hour 36.0 tons/year
5. Method of Compliance:	
Engine exhaust stack emissions testing (once eve	ery five years)

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Rule 62-212.400

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6. Allowable Emissions Comment (Description of Operating Method):

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F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions 1 of	f <u>1</u>
Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions:
PM10 0.24 g/bhp-hr	7.08 lb/hour 31.0 tons/year
5. Method of Compliance:	
Engine exhaust stack emissions testing (one engi	ne annually)
6. Allowable Emissions Comment (Description	of Operating Method):
Rule 62-212.400	
Allowable Emissions 1 or	f <u>1</u>
Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions:
SO2 75.65 lb/MMscf	15.82 lb/hour 69.3 tons/year
5. Method of Compliance:	
Engine fuel sulfur content analysis (semi-annual)	ly)
6. Allowable Emissions Comment (Description	of Operating Method):
Rule 62-212.400	
Allowable Emissions 1 or	f <u>1</u>
Basis for Allowable Emissions Code: ESCMACT	Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions:
HAPS 27.3 lb/MMscf	lb/hour <25.0 tons/year
5. Method of Compliance:	
Engine fuel HAPs content analysis (gas sample s	emi-annually)

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Rule 62-204.800

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6. Allowable Emissions Comment (Description of Operating Method):

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F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions 1 of 1

 Basis for Allowable Emissions Code: ESCMACT 	2. Future Effective Dat Emissions:	e of Allowable
3. Allowable Emissions and Units:	4. Equivalent Allowab	le Emissions:
H106 <10.9 lb/MMscf	lb/hour	<10.0 tons/year
5. Method of Compliance:		
Engine exhaust stack emissions testing (one eng	ine annually)	
6. Allowable Emissions Comment (Description	of Operating Method):	
Rule 62-204.800		

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G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

<u>Visible Emissions Limitation:</u> Visible Emissions Limitation <u>1</u> of <u>1</u>

1.	Visible Emissions Subtype:	2	2. Basis	for Allowable	Opacity:
	VE20		X	Rule	Other
3.	Allowable Opacity:				
	Normal Conditions: 20 %	Exce	eptional (Conditions:	%
	Maximum Period of Excess Opacit	/ Allowed	1:		min/hour
4.	Method of Compliance:				
En	gine exhaust stack emissions testing	(one engir	ne annua	lly)	
5.	Visible Emissions Comment:				
Ru	le 62-296.320				
_		•	CTT	30 C 1 110	
	perience obtained by manufacturers	-			•
	ible emissions from LFG fueled IC	_	iii be insi	gnificant (emis	sions are not expected
ιο	be visible during normal engine oper	ations).			

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I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1.	Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) X Attached, Document ID: Appendix D Previously Submitted, Date
2.	Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) X Attached, Document ID: Appendix C Previously Submitted, Date
3.	Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) X Attached, Document ID: Section 3 Previously Submitted, Date
4.	Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) Attached, Document ID: Previously Submitted, Date Not Applicable (construction application)
5.	Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) Attached, Document ID: Not Applicable The value of the permit applications, except Title V air operations of the permit applications, except Title V air operation of the permit applications, except Title V air operation of the permit applications, except Title V air operation of the permit applications, except Title V air operation of the permit applications, except Title V air operation of the permit applications, except Title V air operation of the permit applications, except Title V air operation of the permit applications, except Title V air operation of the permit applications of the permit a
6.	Compliance Demonstration Reports/Records Attached, Document ID: Test Date(s)/Pollutant(s) Tested: Previously Submitted, Date: Test Date(s)/Pollutant(s) Tested: To be Submitted, Date (if known): Test Date(s)/Pollutant(s) Tested: X Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7.	Other Information Required by Rule or Statute X Attached, Document ID: Sections 1 - 8 Not Applicable

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Additional Requirements for Air Construction Permit Applications

F.A.C.; 40 CFR 63.43(d) and (e))	s (Rules 62-212.400(6) and 62-212.500(7),
X Attached, Document ID: Section 6.0	Not Applicable
2. Good Engineering Practice Stack Height Rule 62-212.500(4)(f), F.A.C.)	Analysis (Rule 62-212.400(5)(h)6., F.A.C., and \Box Not Applicable
3. Description of Stack Sampling Facilities facilities only)	(Required for proposed new stack sampling
☐ Attached, Document ID:	X Not Applicable (submitted with initial
	construction permit application)
Additional Requirements for Title V Air C	Operation Permit Applications
Additional Requirements for Title V Air (1. Identification of Applicable Requirement Attached, Document ID:	
1. Identification of Applicable Requirement	
Identification of Applicable Requirement Attached, Document ID: Compliance Assurance Monitoring	ts

