

## Attachment F

### Permits

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**This Page Intentionally Left Blank Below; Attachment Follows.**

Buddy Garcia, *Chairman*  
Larry R. Soward, *Commissioner*  
Bryan W. Shaw, Ph.D., *Commissioner*  
Mark R. Vickery, P.G., *Executive Director*



**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**  
*Protecting Texas by Reducing and Preventing Pollution*

March 18, 2009

MR JUSTIN KENNARD  
PROJECT MANAGER  
EAST TEXAS RENEWABLES LLC  
PO BOX 60480  
MIDLAND TX 79711-0480

Permit by Rule Registration Number: 87612  
Location/City/County: 12920 FM 2767, Tyler, Smith County  
Project Description/Unit: Greenwood Farms Landfill Gas to Energy Facility  
Regulated Entity Number: RN102533171  
Customer Reference Number: CN603446568  
New or Existing Site: New  
Affected Permit (if applicable): None

East Texas Renewables, LLC, has registered the emissions associated with the Greenwood Farms Landfill Gas to Energy Facility under Title 30 Texas Administrative Code §§ 106.261 and 106.262.

For rule information see [www.tceq.state.tx.us/permitting/air/nav/numerical\\_index.html](http://www.tceq.state.tx.us/permitting/air/nav/numerical_index.html).

Planned MSS emissions for 60 plant maintenance shutdowns per year have been reviewed. These authorized MSS emissions are included on the emissions table. No other planned MSS emissions will be authorized under this registration. The company is also reminded that these facilities may be subject to and must comply with other state and federal air quality requirements.

All analytical data generated by a mobile or stationary laboratory to support the compliance with an air permit must be obtained from a NELAC (National Environmental Laboratory Accreditation Conference) accredited laboratory. For additional information regarding the laboratory accreditation program, please see the following website which includes the accreditation and exemption information:

[http://www.tceq.state.tx.us/compliance/compliance\\_support/qa/env\\_lab\\_accreditation.html](http://www.tceq.state.tx.us/compliance/compliance_support/qa/env_lab_accreditation.html)

This registration is taken under the authority delegated by the Executive Director of the TCEQ. If you have questions, please contact Mr. Thomas Moeller at (512) 239-1423.

Sincerely,

A handwritten signature in black ink, appearing to read "Anne M. Inman".

Anne M. Inman, P.E., Manager  
Rule Registrations Section  
Air Permits Division

Represented Emissions:

VOCs	3.07	tpy
HAPs (included in VOCs)	0.58	tpy
NO <sub>x</sub>	1.20	tpy
CO	0.60	tpy
PM <sub>10</sub>	0.22	tpy
SO <sub>2</sub>	1.46	tpy

cc: Air Section Manager, Region 5 - Tyler

Project Number: 144892

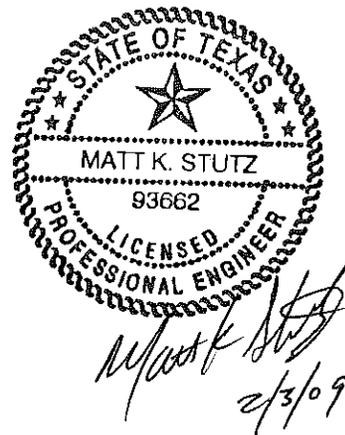
**TYPE IX REGISTRATION  
LANDFILL GAS TREATMENT FACILITY**

**GREENWOOD FARMS LANDFILL GAS TREATMENT  
FACILITY  
SMITH COUNTY, TEXAS**

Prepared for

East Texas Renewables, LLC

February 2009



Prepared by

**Weaver Boos Consultants, LLC-Southwest**  
6420 Southwest Blvd, Suite 206  
Fort Worth, Texas 76109  
817-735-9775

Project No. 3079-351-11-01-02

**WEAVER  
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Denver, CO  
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Columbus, OH  
Fort Worth, TX

February 3, 2009  
Project No. 3079-351-11-01-02

Dr. Richard Carmichael, PhD, PE, CIH  
MC-124  
Section Manager  
Waste Permits Division  
Texas Commission on Environmental Quality  
12100 Park 35 Circle, Bldg. F  
Austin, Texas 78753

Re: Type IX Registration  
Greenwood Farms Landfill Gas Treatment Facility  
Smith County, Texas

Dear Dr. Carmichael:

On behalf of our client, East Texas Renewables, LLC (ETXR), Weaver Boos Consultants LLC-Southwest (WBC) is submitting this Type IX Registration for the beneficial use of the landfill gas. ETXR is proposing to install and operate a landfill gas treatment facility at the Greenwood Farms Landfill (TCEQ Permit No. 1972A) located in Smith County, Texas.

Based on Title 30 of the Texas Administrative Code (30 TAC) §330.5(a)(7), Classification of Municipal Solid Waste Facilities, it states that "Registration by rule requirements from facilities that recover landfill gas from beneficial use are prescribed in §330.9(k) of this title (relating to Registration Required). Therefore, this Registration by rule has been submitted to the Texas Commission on Environmental Quality (TCEQ) in accordance with 30 TAC §330.9(k). Please note that drawings included in Attachment 3 are confidential. An applicant certification consistent with 30 TAC §305.44 and §305.70(f) is included on Page 10 of the Part I Form in Attachment 8 of this submittal.

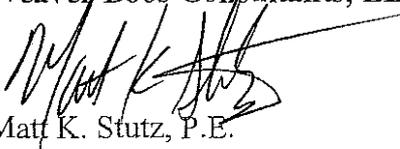
In accordance with 30 TAC §330.59(h)(1), a \$150 application fee has been submitted to TCEQ as documented on Page 8 of the Part I Form.

One original and one copy of the Type IX Registration are provided for your use and distribution. In addition, one copy has been provided to the appropriate regional office.

Dr. Richard Carmichael  
February 3, 2009  
Page 2

Please call if you have any questions or need additional information.

Sincerely,  
**Weaver Boos Consultants, LLC-Southwest**



Matt K. Stutz, P.E.  
Senior Engineer- Principal

Attachments: Type IX Registration, Landfill Gas Treatment Facility

cc: TCEQ Region 5  
Justin Kennard, East Texas Renewables, LLC  
Chris Alderete, Greenwood Farm Landfill TX, LP

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**ATTACHMENT 8**

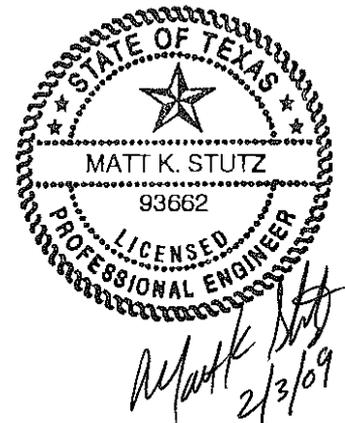
Part I Form

**ATTACHMENT 9**

Adjacent Property Owners Map

**ATTACHMENT 10**

Manufacturer Information on Explosive-Proof Fixtures



# 1 INTRODUCTION

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## 1.1 Introduction

Greenwood Farm Landfill TX, LP owns the Greenwood Farms Landfill located in Smith County, Texas. It currently hold MSW Permit No. 1972A. East Texas Renewables, LLC (ETXR) is proposing to develop a landfill gas treatment facility at the Greenwood Farms Landfill to process gas for sale and distribution use as a fuel to the customers.

Under this application, ETXR will utilize the facility's landfill gas (LFG) collection and control system (GCCS) to recover LFG generated by the landfill. The recovered LFG will then be cooled, filtered, compressed, and conveyed to off-site users. This document serves as ETXR's submittal for a Type IX Registration by Rule in accordance with Texas Commission on Environmental Quality (TCEQ) requirements under Title 30 of the Texas Administrative Code (30 TAC) §330.9(k) and §330.5(a)(7).

According to the EPA, municipal solid waste landfills are one of the largest human-generated source of methane emissions in the United States. Therefore, the EPA encourages the development of LFGTE projects for the following environmental benefits:

- LFGTE projects help destroy methane, a potent heat-trapping gas.
- LFGTE projects offset the use on non-renewable resources such as coal, natural gas, and oil, which reduces power plant emissions.
- LFGTE projects help reduce local air pollution by reducing volatile organic compound emissions.

The EPA states "...the overall environmental improvement from a landfill gas electricity generation project is significant because of the large methane reductions, hazardous air pollutant (HAP) reductions, and the avoidance of the use of limited non-renewable resources such as coal and oil that are more polluting than LFG."

For these reasons along with the fact that it is a relatively cost-effective way to provide new renewable energy generation capacity to supply the local community with power, Southtex is proposing this project. Please note that TCEQ Core Data Forms for LFGTE operator and landfill property owner are included in Attachment 1. A signed applicant's statement and certification have been included in Attachment 8.

## 2 SITE BACKGROUND INFORMATION

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### 2.1 Landfill Background

The Greenwood Farms Landfill is located in Smith County, Texas. A General Site Plan of the landfill facility depicting its permit boundary and the proposed location for the Type IX LFG treatment facility is included as Drawing 2.

The 122.6 acres waste fill area of the landfill began receiving municipal solid waste (MSW) under TCEQ MSW Permit No. 1972 in 1987. The site submitted a Major Permit Amendment Application MSW Permit No. 1972A to the TCEQ for the expansion of the landfill and approved by the TCEQ on February 3, 2006. The approved expansion increases the waste fill area to approximately 400 acres. With the approved expansion waste fill capacity of 277.4 acres, it is projected that the landfill will continued to accept MSW wastes until year 2141.

The General Topography Map depicting the Greenwood Farms Landfill and the proposed Type IX LFG treatment facility is included in Drawing 1. The Greenwood Farms Type IX facility can be accessed from the intersection of Interstate 20 (I-20) and US-271. From I-20, exit on 571A then driving south on US-271 approximately 2.3 miles. Then turn left onto FM 2908 and proceed approximately 4.1 miles. Turn right onto FM 2767/Kilgore Road approximately 1.8 miles and the entrance of the landfill is on the left. The adjacent property owner map and the mailing address is included in Attachment 9.

An active GCCS has been installed for environmental control and reduce emissions of greenhouse gases. The system conveys the extracted LFG to an existing blower/flare facility located near the western perimeter of the landfill. The GCCS will be expanded within the landfill areas as the landfill continues to be developed over time.

Based on mathematical modeling the 2009 LFG generation rate from the Greenwood Farms Landfill waste fill is approximately 1,286 standard cubic feet per minute (scfm). The site's maximum LFG generation in 2141 was approximately 9,178 scfm.

### 2.2 Existing Landfill Gas Collection and Control System

The landfill has an existing active GCCS for the environmental control and greenhouse gas reductions. The system consists of vertical gas extraction wells and high density polyethylene (HDPE) collection piping system that conveys the extracted LFG to a blower/flare facility located near the western perimeter of the landfill. The flare facility is

currently authorized by TCEQ Standard Air Permit (SAP) Number 79014, to operate up to 2,000 standard cubic feet per minute (scfm). The condensate collected from existing GCCS is drained into the condensate collection sumps. The collected condensate will be pumped from the sumps into the site's existing forcemain system which terminates at a leachate storage tank located adjacent to the existing flare facility and then removed from the site for disposal.

A site plan of the GCCS layout as currently approved by the TCEQ is shown on Drawing 2.

### **2.3 Proposed Landfill Gas Treatment Facility**

The proposed LFG treatment facility will involve utilizing the extracted LFG to process gas for sale and distribution as a fuel to the customers. The proposed LFG treatment facility location is northwest of the existing blower/flare facility as shown on Drawing 2.

At times when LFG is not being used by the LFG treatment facility (i.e., plant downtime and maintenance) it will be directed to the existing flare for combustion.

### **3 REQUIRED §330.9(k) REGISTRATION DOCUMENTATION**

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This section presents the requirements for a Type IX Registration by Rule in accordance with 30 TAC §330.5(a)(7), which requires the site comply with 30 TAC §330.9(k) for owners and operators of the facility that recovers landfill gas for beneficial use.

#### **3.1 §330.9(k)(1)**

In accordance with 30 TAC §330.9(k)(1) this Registration by Rule is being submitted 60 days prior to commencing operations.

##### **3.1.1 §330.9(k)(1)(A) – Plan Drawings of the Facility**

30 TAC §330.9(k)(1)(A)(i) requires a site plan depicting the facility boundaries (permit boundaries and/or boundaries and dimensions of tract or land or closed MSW landfill units on which the gas recovery system is to be developed).

A site plan depicting the proposed location of the LFG treatment facility and the landfill permit boundary is presented in Drawing 2. Drawing 4 presents the proposed dimensions of the tract of landfill on which the LFG treatment facility will be located.

30 TAC §330.9(k)(1)(A)(ii) requires a site plan depicting the landfill gas treatment, gas compression, electrical power generation equipment, and any other beneficial gas-use equipment, indicating limits of waste placement and additional easements required.

A site plan depicting the proposed LFG treatment facility layout and limits of waste placement is presented in Drawing 3. Attachment 3 depicts the proposed layout of the LFG treatment facility and equipment. No additional easements will be required for the proposed LFG treatment facility.

##### **3.1.2 §330.9(k)(1)(B) – Fire Control Facilities**

The proposed LFG treatment facility which will house the LFG treatment facility equipment will be equipped with portable fire extinguishers suitable for Class A, B and C fires located strategically throughout the facility. Emergency shut down buttons will be installed at each end of the pipe rack and inside control room. Any enclosed occupied structures will also be equipped with explosive-proof fixtures. All continuous sensors and fire extinguishers will be routinely inspected, tested and maintained in accordance with manufacturer's recommendations, or as required by state or local fire codes. Manufacturer information on explosion-proof fixtures are included in Attachment 10.

### **3.1.3 §330.9(k)(1)(C) – Condensate Management**

Condensate collected from the existing GCCS is currently being drained into the existing condensate sumps installed at low points along the piping. The collected condensate will be pumped from the sumps into the site's existing forcemain system which terminates at a leachate storage tank located adjacent to the existing flare facility and then removed from the site for disposal. The condensate generated by the proposed LFG treatment equipment will continue to be pumped into the existing leachate system for disposal. The condensate generation rate from the LFG treatment equipment is estimated to be approximately 500 gallons/day.

### **3.1.4 §330.9(k)(1)(D and E) – Estimates of Gas Production**

Based on mathematical modeling, the 2009 LFG generation rate from the Greenwood Farms Landfill waste fills is approximately 1,286 standard cubic feet per minute (scfm), or 1.85 million standard cubic feet per day (scfd), of LFG. The site's possible maximum design daily LFG generation potential in 2141 was projected to be approximately 9,178 scfm, or 13.22 million scfd. The average daily LFG generation based on a 20-year period beginning in 2009 is projected to be 1,961 scfm, or 2.82 million scfd. The LFG generation results for the Greenwood Farms Landfill are presented in Attachment 4.

### **3.1.5 §330.9(k)(1)(F) – Description of the Process Units**

The Greenwood Farms LFG treatment facility treats or process the LFG from the landfill by cooling, filtering, and compressing LFG in specifically designed LFG treatment equipment.

The LFG is collected by vertical wells within the refuse and conveyed by a piping system to the LFG treatment facility. The treatment facility will utilize the existing blower/flare at the site and supplement with electric driven screw and reciprocating compressors to take the LFG to pipeline pressure. Hydrogen sulfide will be removed via a solid bed and trace components will be removed in a pre-treat solvent system. After the pre-treat system, the carbon dioxide and remaining water vapor will be removed in the main system by a chilled physical solvent. The gas will then be transported to the pipeline for sale.

The process flow diagram of the facility operation is included on Attachment 3.

The LFG treatment facility components are designed to operate 24 hours per day, except during planned and unplanned outages. The entire facility is designed to operate primarily on an automated basis with minor adjustments, monitoring, and routine surveillance being performed by facility personnel. When the LFG treatment facility is offline, LFG will be diverted to the existing flare facility.

### **3.1.6 §330.9(k)(1)(G and H) – Closure Cost Estimate and Financial Assurance**

ETXR will be responsible for maintaining financial assurance to provide for any closure care for the Type IX facility should this project be terminated. This may include the dismantling and removal of the facility equipment and facilities, and any environmental remediation activities within the Type IX registration boundary.

A Closure Plan, Cost Estimate, and Financial Assurance information for the proposed Type IX facility can be found in Attachment 5.

## **3.2 §330.9(k)(2)**

The owner or operator for the facility shall acquire all authorizations regarding air emissions. In accordance with the TCEQ requirements of 30 TAC §116, before installing any new or modifying any existing emission source that has the potential to increase unit emissions, the proposed change must be approved by the TCEQ Air Permits Section. As such, ETXR has submitted to the TCEQ Air Permits Section an application for a Standard Permit for LFG treatment facility for the proposed treatment equipment on February 3, 2009.

### **3.2.1 §330.9(k)(2)(A) – Subchapter E (Operational Standards for MSW Storage and Processing Units)**

During the operation of the Greenwood Farms LFG treatment facility, ETXR agrees to comply with all of the applicable requirements of Subchapter E.

### **3.2.2 §330.9(k)(2)(B) – Section 330.459 and 330.461 (Closure Requirements for MSW Storage and Processing Units and Certification of Final Facility Closure)**

During the operation of the Greenwood Farms LFG treatment facility, ETXR agrees to comply with all of the applicable requirements of Sections 330.459 and 330.461.

### **3.2.3 §330.9(k)(2)(C) – Section 330.505**

During the operation of the Greenwood Farms LFG treatment facility, ETXR agrees to comply with all of the applicable requirements of Section 330.505 pertaining to closure cost estimates and financial assurance.

A Closure Plan, Cost Estimate, and Financial Assurance information for the proposed Type IX facility can be found in Attachment 5.

**ATTACHMENT 1**  
**TCEQ CORE DATE FORMS**



TCEQ Use Only

# TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

## SECTION I: General Information

<b>1. Reason for Submission</b> (If other is checked please describe in space provided)			
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application)			
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other	
<b>2. Attachments</b> Describe Any Attachments: (ex. Title V Application, Waste Transporter Application, etc.)			
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Type IX Registration Landfill Gas for Beneficial Use	
<b>3. Customer Reference Number (if issued)</b>		<b>4. Regulated Entity Reference Number (if issued)</b>	
CN		RN	

## SECTION II: Customer Information

<b>5. Effective Date for Customer Information Updates (mm/dd/yyyy)</b>		02/03/2009	
<b>6. Customer Role</b> (Proposed or Actual) – as it relates to the <u>Regulated Entity</u> listed on this form. Please check only <u>one</u> of the following:			
<input type="checkbox"/> Owner	<input type="checkbox"/> Operator	<input checked="" type="checkbox"/> Owner & Operator	
<input type="checkbox"/> Occupational Licensee	<input type="checkbox"/> Responsible Party	<input type="checkbox"/> Voluntary Cleanup Applicant	<input type="checkbox"/> Other: _____
<b>7. General Customer Information</b>			
<input checked="" type="checkbox"/> New Customer		<input type="checkbox"/> Update to Customer Information	<input type="checkbox"/> Change in Regulated Entity Ownership
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State)		<input type="checkbox"/> No Change**	
<b>**If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.</b>			
<b>8. Type of Customer:</b>		<input checked="" type="checkbox"/> Corporation	<input type="checkbox"/> Individual
<input type="checkbox"/> City Government	<input type="checkbox"/> County Government	<input type="checkbox"/> Federal Government	<input type="checkbox"/> Sole Proprietorship- D.B.A
<input type="checkbox"/> Other Government	<input type="checkbox"/> General Partnership	<input type="checkbox"/> Limited Partnership	<input type="checkbox"/> Other: _____
<b>9. Customer Legal Name</b> (If an individual, print last name first: ex: Doe, John)		If new Customer, enter previous Customer End Date:	
East Texas Renewables, LLC			
<b>10. Mailing Address:</b>			
P.O. Box 60480			
City	Midland	State	TX
ZIP	79711	ZIP + 4	
<b>11. Country Mailing Information</b> (if outside USA)		<b>12. E-Mail Address</b> (if applicable)	
		justin@southtex.com	
<b>13. Telephone Number</b>		<b>14. Extension or Code</b>	<b>15. Fax Number</b> (if applicable)
( 432 ) 563-2766			( 432 ) 563-1729
<b>16. Federal Tax ID</b> (9 digits)	<b>17. TX State Franchise Tax ID</b> (11 digits)	<b>18. DUNS Number</b> (if applicable)	<b>19. TX SOS Filing Number</b> (if applicable)
900341029			
<b>20. Number of Employees</b>			<b>21. Independently Owned and Operated?</b>
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

## SECTION III: Regulated Entity Information

<b>22. General Regulated Entity Information</b> (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)			
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information <input type="checkbox"/> No Change** (See below)			
<b>**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.</b>			
<b>23. Regulated Entity Name</b> (name of the site where the regulated action is taking place)			
Greenwood Farms Landfill Gas Treatment Facility			

24. Street Address of the Regulated Entity: (No P.O. Boxes)	12920 FM Road 2767						
	City	Tyler	State	TX	ZIP	75708	ZIP + 4
25. Mailing Address:	P.O. Box 60480						
	City	Midland	State	TX	ZIP	79711	ZIP + 4
26. E-Mail Address:	justin@southtex.com						
27. Telephone Number	28. Extension or Code		29. Fax Number (if applicable)				
( 432 ) 563-2766	121		( 432 ) 563-1729				
30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)		33. Secondary NAICS Code (5 or 6 digits)			
4922		486210					
34. What is the Primary Business of this entity? (Please do not repeat the SIC or NAICS description.)							
Renewable Energy Production from Landfill Gas.							

Questions 34 – 37 address geographic location. Please refer to the instructions for applicability.

35. Description to Physical Location:	From I-20, exit on 571A South. Turn left onto FM 2908. Turn right onto FM2767/Kilgore Road and the entrance of the landfill is on the left.						
36. Nearest City	County		State		Nearest ZIP Code		
Tyler	Smith		TX		75708		
37. Latitude (N) In Decimal:	32.371971		38. Longitude (W) In Decimal:	-95.187018			
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
32	22	18.68	95	11	13.23		

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Industrial Hazardous Waste	<input type="checkbox"/> Municipal Solid Waste
<input checked="" type="checkbox"/> New Source Review – Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS	<input type="checkbox"/> Sludge
To be Submitted				
<input type="checkbox"/> Stormwater	<input type="checkbox"/> Title V – Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil	<input type="checkbox"/> Utilities
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

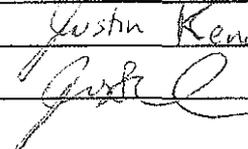
#### SECTION IV: Preparer Information

40. Name:	Angie S. Vandergriff		41. Title:	Project Scientist	
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address		
( 817 ) 735-9770		( 817 ) 735-9775	avandergriff@weaverboos.com		

#### SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 9 and/or as required for the updates to the ID numbers identified in field 39.

(See the Core Data Form instructions for more information on who should sign this form.)

Company:	East Texas Renewables, LLC		Job Title:	Project Manager	
Name (In Print):	Justin Kennard			Phone:	( 432 ) 563-2766
Signature:				Date:	1-30-09



TCEQ Use Only

# TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

## SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided)			
<input type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application)			
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input checked="" type="checkbox"/> Other	<b>Type IX Registration</b>
2. Attachments Describe Any Attachments: (ex. Title V Application, Waste Transporter Application, etc.)			
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
3. Customer Reference Number (if issued)		Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number (if issued)
CN 602847071			RN 102533171

## SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)		02/03/2009	
6. Customer Role (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check only one of the following:			
<input type="checkbox"/> Owner	<input type="checkbox"/> Operator	<input type="checkbox"/> Owner & Operator	
<input type="checkbox"/> Occupational Licensee	<input type="checkbox"/> Responsible Party	<input type="checkbox"/> Voluntary Cleanup Applicant	<input checked="" type="checkbox"/> Other: Property Owner
7. General Customer Information			
<input type="checkbox"/> New Customer		<input type="checkbox"/> Update to Customer Information	<input type="checkbox"/> Change in Regulated Entity Ownership
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State)		<input checked="" type="checkbox"/> No Change**	
<b>**If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.</b>			
8. Type of Customer:		<input type="checkbox"/> Corporation	<input type="checkbox"/> Individual
		<input type="checkbox"/> Sole Proprietorship- D.B.A	
<input type="checkbox"/> City Government	<input type="checkbox"/> County Government	<input type="checkbox"/> Federal Government	<input type="checkbox"/> State Government
<input type="checkbox"/> Other Government	<input type="checkbox"/> General Partnership	<input type="checkbox"/> Limited Partnership	<input type="checkbox"/> Other: _____
9. Customer Legal Name (If an individual, print last name first: ex: Doe, John)		If new Customer, enter previous Customer below	
		End Date:	
10. Mailing Address:			
City	State	ZIP	ZIP + 4
11. Country Mailing Information (if outside USA)		12. E-Mail Address (if applicable)	
13. Telephone Number		14. Extension or Code	15. Fax Number (if applicable)
( ) -			( ) -
16. Federal Tax ID (9 digits)	17. TX State Franchise Tax ID (11 digits)	18. DUNS Number (if applicable)	19. TX SOS Filing Number (if applicable)
20. Number of Employees		21. Independently Owned and Operated?	
<input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher		<input type="checkbox"/> Yes <input type="checkbox"/> No	

## SECTION III: Regulated Entity Information

22. General Regulated Entity Information (If 'New Regulated Entity' is selected below this form should be accompanied by a permit application)			
<input type="checkbox"/> New Regulated Entity		<input type="checkbox"/> Update to Regulated Entity Name	<input type="checkbox"/> Update to Regulated Entity Information
		<input checked="" type="checkbox"/> No Change** (See below)	
<b>**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.</b>			
23. Regulated Entity Name (name of the site where the regulated action is taking place)			

24. Street Address of the Regulated Entity: (No P.O. Boxes)							
	City		State		ZIP		ZIP + 4
25. Mailing Address:							
	City		State		ZIP		ZIP + 4
26. E-Mail Address:							
27. Telephone Number	28. Extension or Code		29. Fax Number (if applicable)				
( ) -			( ) -				
30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)		33. Secondary NAICS Code (5 or 6 digits)			
34. What is the Primary Business of this entity? (Please do not repeat the SIC or NAICS description.)							

Questions 34 – 37 address geographic location. Please refer to the instructions for applicability.

35. Description to Physical Location:							
36. Nearest City	County		State		Nearest ZIP Code		
37. Latitude (N) In Decimal:			38. Longitude (W) In Decimal:				
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Industrial Hazardous Waste	<input type="checkbox"/> Municipal Solid Waste
<input type="checkbox"/> New Source Review – Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS	<input type="checkbox"/> Sludge
<input type="checkbox"/> Stormwater	<input type="checkbox"/> Title V – Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil	<input type="checkbox"/> Utilities
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

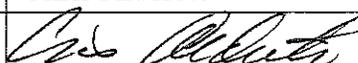
#### SECTION IV: Preparer Information

40. Name:	Shekhar Regmi	41. Title:	Environmental Scientist
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(817) 735-9770	118	(817) 735-9775	sregmi@weaverboos.com

#### SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 9 and/or as required for the updates to the ID numbers identified in field 39.

(See the Core Data Form instructions for more information on who should sign this form.)

Company:	Greenwood Farm Landfill TX, LP	Job Title:	Environmental Manager
Name (In Print):	Chris Alderete	Phone:	(903) 983-1095
Signature:		Date:	11/25/08



# PERMIT TO OPERATE

## EASTERN KERN AIR POLLUTION CONTROL DISTRICT

Administrative Office: 2700 "M" Street Suite 302, Bakersfield, CA 93301  
Phone: (661) 862-5250 • Fax: (661) 862-5251 • [ekapcd@co.kern.ca.us](mailto:ekapcd@co.kern.ca.us)  
Tehachapi Field Office: Phone: (661) 823-9264 • Fax: (661) 823-0167

PERMIT NUMBER: **0274001**

PERMIT TO OPERATE IS HEREBY GRANTED TO: **CLEAN ENERGY LNG, LLC.**

FOR EQUIPMENT LOCATED AT: **14436 CONTRACTOR ROAD, BORON**

EQUIPMENT OR PROCESS DESCRIPTION: **LIQUEFIED NATURAL GAS PRODUCTION FACILITY**

OPERATIONAL CONDITIONS LISTED BELOW.

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR LOCATION, OR ANY ALTERATION. EQUIPMENT MODIFICATION REQUIRES AN APPLICATION FOR AUTHORITY TO CONSTRUCT.

**TESTING:** Permittee may be required to provide adequate sampling and testing facilities.

GLEN E. STEPHENS, P.E.  
AIR POLLUTION CONTROL OFFICER

**REVOCABLE:** This permit does not authorize emission of air contaminants in excess of those allowed by Rules and Regulations of EKAPCD.

By: \_\_\_\_\_

For Period: 09-30-13 To 09-30-14

### CONDITIONS OF APPROVAL:

Pursuant to Rule 209, "conditional approval" is hereby granted. Please be aware all conditions of approval imposed by any applicable Authority to Construct remain in effect for life of project, unless modified by application.

**EQUIPMENT DESCRIPTION:** Liquefied Natural Gas Production Facility, including following equipment:

#### **A. Amine System:**

1. Amine Contactor (2-T-600) 36" O.D x 63'-0"H;
2. Amine Regenerator (2-T-610) 30" O.D. x 52'-0" H;
3. 2,446 MM BTU/hr Lean/Rich Amine Exchanger (2-E-400) 22" OD x 16'-0" H;
4. 0.9 MM BTU/hr Amine Cooler (2-A-800) 18" OD x 16'0" L;
5. 2.7 MM BTU/hr Amine Reboiler (2-E-410) 24" OD x 29'-0" L;
6. 1.26 MM BTU/hr Reflux Condenser (2-A-801);
7. Amine Particulate Filter (2-F-500) 20" OD x 5';
8. Amine Charcoal Filter (2-F-510) 16" OD x 4'-0";
9. 50-hp (44-gpm) Lean Amine Circulation Pump #1 (2-P300 A);
10. 50-hp (44-gpm) Lean Amine Circulation Pump #2 (2-P300 B);
11. 7.5-hp (50-gpm) Amine Booster Pump #1 (2-P-330 A);
12. 7.5-hp (50-gpm) Amine Booster Pump #2 (2-P-330 B);

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13. 1-hp (5-gpm) Water/Amine Make-Up Pump (2-P-235);
14. 1.5-hp (1.7-gpm) Amine Reflux Pump #1 (2-P-320 A);
15. 1.5-hp (1.7-gpm) Amine Reflux Pump #2 (2-P-320 B);
16. Amine Make-Up Tank (2-T-235A) 30" OD x 8';
17. Sweet Gas After-Scrubber (2-V-110) 6'-0 x 6';
18. Amine Flash Separator (2-V-120) 42" OD x 8'; and
19. Reflux Accumulator (2-V-140) 30" OD x 5'-0" LG.

**B. LNG Liquefaction System:**

1. Natural Gas Water Cooling Heat Exchanger (3-HE-601) 18" OD x 15'-0" L (capacity to be determined);
2. G-S Liquid Separator G/S-26-F8C 950;
3. 295 cu. ft. Moisture Adsorber Bed #1 (3-D-301) 5'-0" OD x 15'-0" H;
4. 295 cu. ft. Moisture Adsorber Bed #2 (3-D-302) 5'-0" OD x 15'-0" H;
5. 12.6 cu. ft. Adsorption Bed Dust Filter (3-F-302) 24" OD x 48" H;
6. 50 cu. ft. Regeneration Heater (3-HE-303) 30" OD x 10" L;
7. 7 cu. ft. Regeneration Gas Cooler (3-HE-306) 10" OD x 12'-0" L;
8. Regeneration Gas Separator (3-SP-305) (size to be determined); and
9. Heavy Hydrocarbon Reboiler (3-HE-502) (size to be determined).

10. Train 1:

- a. 5,000-hp Nitrogen Recycle Compressor (3-C-151) 8'-8" x 18'-0" L;
- b. 6.5 cu. ft. Compressor After Cooler (3-HE-(TBD)) 10" OD x 12'-0";
- c. Cold Turbo Expander w/ Booster (3-TBX-400) 10" OD x 8'-0" L;
- d. Warm Turbo Expander w/ Booster (3-TBX-410) 10" OD x 8'-0" L;
- e. 3.5 cu. ft. Cold Turbo Booster After Cooler (3-HE-430) 8" OD x 12'-0" L;
- f. 3.5 cu. ft. Warm Turbo Booster After Cooler (3-HE-440) 8" OD x 12'-0" L;
- g. 5-hp Compressor Lube Oil Pump #1 (3-M-301);
- h. 5-hp Compressor Lube Oil Pump #2 (3-M-301A);
- i. 3-kW Compressor Lube Oil Heater(3-H-301);
- j. 125-hp Natural Gas Chiller Compressor (3-R-1651) 7'-6" x 14'-0";
- k. 2-hp Chiller Lube Oil Pump #1 (3-M- 201);
- l. 2-hp Chiller Lube Oil Pump #2 (3-M- 201A);
- m. 2-kW Chiller Lube Oil Heater (3-H-201);
- n. 5-kW Thaw Heater (3-H-102);
- o. Cold Box (size to be determined) 10'-0" x 8'-6" x 63'-0"H;
- p. Main Heat Exchanger (3-HE-501) 42" x 83" OD x 166" L; and
- q. Fractionation Column (3-C-501) (size to be determined).

11. Train 2:

- a. 5,000-hp Nitrogen Recycle Compressor (3-C-151) 8'-8" x 18'-0" L;
- b. 6.5 cu. ft. Compressor After Cooler (3-HE-(TBD)) 10" OD x 12'-0";
- c. Cold Turbo Expander w/ Booster (3-TBX-400) 10" OD x 8'-0" L;
- d. Warm Turbo Expander w/ Booster (3-TBX-410) 10" OD x 8'-0" L;
- e. 3.5 cu. ft. Cold Turbo Booster After Cooler (3-HE-430) 8" OD x 12'-0" L;
- f. 3.5 cu. ft. Warm Turbo Booster After Cooler (3-HE-440) 8" OD x 12'-0" L;
- g. 5-hp Compressor Lube Oil Pump #1 (3-M-301);
- h. 5-hp Compressor Lube Oil Pump #2 (3-M-301A);
- i. 3-kW Compressor Lube Oil Heater(3-H-301);
- j. 125-hp Natural Gas Chiller Compressor (3-R-1651) 7'-6" x 14'-0";
- k. 2-hp Chiller Lube Oil Pump #1 (3-M- 201);
- l. 2-hp Chiller Lube Oil Pump #2 (3-M- 201A);
- m. 2-kW Chiller Lube Oil Heater (3-H-201);
- n. 5-kW Thaw Heater (3-H-102);
- o. Cold Box (size to be determined) 10'-0" x 8'-6" x 63'-0"H;

- p. Main Heat Exchanger (3-HE-501) 42" x 83" OD x 166" L; and
- q. Fractionation Column (3-C-501) (size to be determined).

**C. Heavy Hydrocarbon Removal:**

- 1. LP Separator (3-V-101) 4'-0" x 10'-0" L;
- 2. HP Separator (3-V-102) 5'-0" X 12'-6" L; and
- 3. 30,000 Gallon Heavy Hydrocarbon Storage Tank (3-V-103) 8'-0" OD x 24'-0" L (shared with 0274004).

**D. LNG Storage, Boil-Off Compressor, and Regeneration Gas Compressor:**

- 1. 1.5 MM Gallon LNG Storage Tank (4-TK-1) 88'-6" OD x 51'-0" H (shared with Permit 0274007);
- 2. 3.42 MM Btu/hr Preheater (4-E-6) 18" OD x 10'-0";
- 3. 0.1370 MM Btu/hr C2/C3 Aftercooler (4-E-8);
- 4. 200-hp (0.795 MM SCFD) Boil-Off /Flash Gas Compressor #1 (4-C -2 A);
- 5. 150-hp Boil-off/ Flash Gas Compressor # 2 (4-C-2 B);
- 6. 200-hp (0.795 MM SCFD) Boil-Off /Flash Gas Compressor #3 (4-C-3 A);
- 7. 150-hp Boil- Off/ Flash Gas Compressor #4 4-C- 3B;
- 8. 5-hp Boil-Off /Flash Gas Compressor Oil Pump #1 (4-P-4 A);
- 9. 5-hp Boil-Off /Flash Gas Compressor Oil Pump #2 (4-P-4 B);
- 10. 5-hp Boil-off/ Flash Gas Compressor Oil Pump #3 (4-P-5 A);
- 11. 5-hp Boil-Off/ Flash Gas Compressor Oil Pump #4 (4-P-5 B);
- 12. 25-hp (3.6 MM SCFD) Regeneration Gas Compressor (4-C -4);
- 13. 5-kW Regeneration Gas Heater #1 (4-E-9); and
- 14. 15-hp (100-gpm) Trailer Unloading LNG Pump (4-P-6).

**OPERATIONAL CONDITIONS:**

- 1. Liquefied natural gas (LNG) storage vessel shall be gas tight and vent to vapor recovery system or to flare. (Rule 210.1 BACT Requirement)
- 2. Permittee shall establish an inspection and maintenance program consistent with District Rules 414.1 and 414.5, and requirements described below. Where there are differences in the requirements, the more stringent requirement shall apply. (Rules 414.1, 414.5, 419 and 210.1 BACT Requirement)
  - a. All accessible pumps, compressors and pressure relief devices (pressure relief valves or rupture disks) shall be audio-visually inspected once during every eight-hour operating period.
  - b. All accessible valves, fittings, pressure relief devices (PRDs), hatches, pumps, compressors, etc. shall be inspected quarterly using a leak detection device such as a Foxboro OVA 108 calibrated for methane.
  - c. All inaccessible components shall be inspected annually using a leak detection device calibrated for methane.
  - d. Gas leak for all components shall be defined as follows:  
VOC concentration greater than 100 ppmv as methane, as determined by EPA Method 21, or equivalent
  - e. Inspection frequency for accessible components, except pumps and compressors, may change to quarterly if all accessible components at the facility have operated for five consecutive quarters with no leaks.
  - f. All leaks over 100-ppmv shall be repaired within one calendar day.
  - g. Any leak over 100-ppmv detected by District inspection(s) in any 24-hour period shall constitute a violation of this Authority to Construct (ATC)/Permit to Operate (PTO).
- 3. The following component count shall be utilized to determine fugitive emissions:

Valves	Gas	550
Compressor Seals	Gas	4
Connectors	All	610
Pressure Relief Valve	Gas	69
Open-ended Lines	All	5
- 4. Equipment shall be maintained according to manufacturer's specifications to ensure compliance with emissions limitations. (Rules 210.1 and 209)

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5. Compliance with all operational conditions shall be verified by appropriate record keeping, including records of operational data needed to demonstrate compliance. Such records shall be kept on site in readily available format. (Rule 210.1)
6. No emission resulting from use of this equipment shall cause injury, detriment, nuisance, annoyance to or endanger comfort, repose, health, or safety of any considerable number of persons or public. (Rule 419 and CH&SC Sec 41700)
7. The District shall be notified of any breakdown conditions in accordance with Rule 111 (Equipment Breakdown). (Rule 111)
8. Clean Energy shall consult with the Kern County Roads Department regarding improvements necessary to Gephart Road. Any requirements for improvements to Gephart Road required by the Road Department shall be completed prior to implementation of this Authority to Construct (ATC) and ATC No. 0274007. (Rule 208.2)

**STATE OF CALIFORNIA AIR TOXICS HOT SPOTS REQUIREMENTS:**

Facility shall comply with California Health and Safety Code Sections 44300 through 44384. (Rule 208.1)

**COMPLIANCE TESTING REQUIREMENTS:**

Should inspection reveal conditions indicative of non-compliance, compliance with hourly and concentration emission limits for VOC shall be verified pursuant to Rule 108.1 and EKAPCD Guidelines for Compliance Testing, within 45 days of District request.

**EMISSION LIMITS:**

Emissions rate of each air contaminant from this unit shall not exceed following limits:

<b><u>Volatile Organic Compounds (VOC):</u></b>	0.56 lb/hr
	13.38 lb/day
	2.44 ton/yr

(Emissions limits established pursuant to Rule 210.1, unless otherwise noted.)

Compliance with maximum daily emission limits shall be verified by source operator (with appropriate operational data and record keeping to document maximum daily emission rate) each day source is operated and such documentation of compliance shall be retained and made readily available to District for period of three years. (Rules 209 and 210.1)