



SHELBY COUNTY HEALTH DEPARTMENT



YVONNE S. MADLOCK
DIRECTOR

HELEN MORROW, M.D.
HEALTH OFFICER

Public Health
Prevent. Promote. Protect

Mark H. Luttrall, Jr.
Mayor
Shelby County

CERTIFIED MAIL# 7004 2510 0005 0117 3358

November 15, 2013

Mr. Stephen B. Smith
Senior Vice President
CERF Shelby, LLC
4675 MacArthur Court, Suite 800
Newport Beach, California 92660

RE: Synthetic Minor Source Construction Permit Source No. 001193-011C

Dear Mr. Smith:

Enclosed is construction permit number 001193-011C for your facility planned for 7103 Millington Road, Millington, Tennessee 38053. Failure to comply with any condition may subject your company to penalties and/or court action.

Please note that the operating permit incorporates additional provisions that allow your company to opt-out of the major source operating permit (Title V) program requirements specified in the Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of the State of Tennessee, Rule 1200-3-9-.02(11)(a).] Your fee for the construction permit was paid at the time the application was made. No money is due at this time.

Mr. Smith, should you have any questions or require additional information, please contact Billy Smith at (901) 222-9582 or email at billy.smith@shelbycountyttn.gov.

Sincerely,

Robert Rogers, P. E.
Technical Manager
Pollution Control Section

Enclosure

Pc: Source File #01193
Branch Correspondence Files

Mission

To promote, protect and improve the health and environment of all Shelby County residents.

814 Jefferson Avenue ♦ Memphis, Tennessee 38105
(901) 222-9000



AIR POLLUTION CONTROL

Shelby County Health Department



Public Health
Prevent. Promote. Protect.

CONSTRUCTION PERMIT

COMPANY NAME: Clean Energy Renewable Fuels Shelby, LLC (CERF)
COMPANY ADDRESS: 7103 Millington Road, Millington, Tennessee 38053
ISSUANCE DATE: 11-15-2013 **PERMIT NUMBER:** 01193-011C
EXPIRATION DATE: 04-11-2015

SOURCE DESCRIPTION

LANDFILL GAS PROCESSING FACILITY

Emission Point(s): Flare and Thermal Oxidizer

Emission Control(s): Flare and Thermal Oxidizer

The holder of this permit shall comply with all conditions contained in this permit as well as all applicable provisions of the Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code. A permit condition may be appealed by filing a petition for reconsideration within thirty (30) days after the mailing date of the permit.

This permit may be subject to revocation, suspension, modification or amendment by the Technical Manager for cause including evidence of non-compliance with any of the above; or for any misrepresentation made in the application(s) received September 25, 2013, October 15, 2013 and supporting data entered therein or attached thereto, or any subsequent submittal or supporting data; or for any alterations affecting the emissions from this source.

This Permit is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached 8 pages.

**ROBERT ROGERS, P.E. TECHNICAL MANAGER,
POLLUTION CONTROL SECTION**

Issuance of this permit shall not relieve any owner or operator of the responsibility to comply fully with any other requirements of local, State, or Federal Law.

NON-TRANSFERABLE

POST OR FILE AT INSTALLATION ADDRESS

SOURCE SPECIFIC REQUIREMENTS

Project Description:

The facility is described as a Landfill Gas Processing Facility located adjacent to the BFI North Shelby Landfill (landfill). BFI collects the raw landfill gas (LFG) via a network of collection wells and piping buried within the landfill. The raw LFG is then sent to the facility for processing. The primary purpose of this facility is to process LFG, treating it to standards set by Memphis Light Gas and Water (MLGW) for their natural gas pipeline, which in turns transports the gas via a pipeline selling the gas to its customers.

This permit allows for the construction of a Landfill Gas Processing Facility to be located within the property boundaries of the existing BFI's North Shelby Landfill as a separate entity. The owner/operator is allowed up to eighteen (18) months to construct and begin operation of this facility.

Permit Conditions:

1. The maximum allowable emissions from this facility are as follows:

Equipment Description	PM	SO2	NOx	CO	VOCs	HAPs(1)	HAPs(2)
Landfill Gas Processing Facility	TPY	TPY	TPY	TPY	TPY	TPY	TPY
						Single	Combined
Flare	3.42	6.08	13.83	75.26	0.379	1.452	1.549
Thermal Oxidizer	1.91	10.74	11.37	22.74	0.671	2.567	2.735
Fugitive Emissions (VOCs)					0.110		
Condensate Management (VOCs)					0.020		
Total	5.33	16.82	25.20	98.00	1.180	4.019	4.284

Note: Source taking limits to avoid Title V.

(1) Single HAPS, which is less than 10.0 tpy.

(2) Combined HAPS, which is less than 25.0 tpy.

Note: Annual limits are based upon a consecutive rolling 12-month period.

2. The maximum operating hours for this facility shall not exceed the following hours based on a consecutive rolling 12-month period.

EQUIPMENT	HOURS OF OPERATION
FLARE	2,434
TERMAL OXIDIZER	8,760

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3. The maximum flow of raw LFG into the facility is not to exceed 7.2 million SCF per day, or 5,000 CFM.
4. The flare and thermal oxidizer shall each be equipped with a pilot light flame. The pilot light flame shall be present at all times the facility is in operation.
5. The flare and thermal oxidizer shall be equipped with a thermocouple that monitors the presence of the pilot light flame. In the event the thermocouple does not detect the presence of the pilot light flame the facility will automatically be shut down and the receipt of LFG from the landfill will be stopped.
6. The owner/operator shall demonstrate the flare and thermal oxidizer maintain a minimum operating temperature of 1,400 °F. All periods in excess of three (3) hours wherein the average temperature falls 50 °F below the temperature at which compliance was demonstrated (1,400 °F) shall be recorded along with the duration.
7. The flare shall have a minimum destruction efficiency of 98.0 % (based on manufacturer's specifications), and the thermal oxidizer shall have a minimum destruction efficiency of 99.0% (based on manufacturer's specifications).
 - a. The thermal oxidizer is capable of 99% DRE of Total Volatile Organic Compounds (VOCs), (Sum of methane and non-methane organics), and a minimum of 98 % DRE of non-methane organic compounds (NMOCs).
 - b. Any H₂S entering the flare is oxidized at equal to or greater than 98% to form SO_x compounds on a molecular basis.
8. The owner /operator shall install, calibrate, maintain, and operate the flare and thermal oxidizer according to the manufacturer's specifications monitoring their operation using the following equipment:
 - (1) A temperature monitoring device equipped with a continuous recorder having a minimum accuracy of $\pm 1\%$ of the temperature being measured expressed in degrees Celsius or $\pm 0.5^{\circ}\text{C}$, whichever is greater.
 - (2) A device that records flow to or bypass of the flare and/or the thermal oxidizer.
9. The owner/operator is placed on notice that the emission limits stated in condition 1, 2, 6 and 7 of this permit allow the permittee to opt-out of the major source operating permit program requirements specified in Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference the Rules and Regulations of Tennessee, Rule 1200-3-9-.02(11)]. Failure to abide by these limits will not only subject the permittee to enforcement action by the Department, but it may also result in the imposition of Federal enforcement action by the EPA and the loss of Federal recognition as a conditional major source.
10. The flare and thermal oxidizer shall be operated with no visible emissions as determined by the methods referenced in Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference the Rules and Regulations of Tennessee, Rule 1200-3-16-.01(11)(c)1].

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11. The owner/operators shall calculate and produce a report monthly that represents the monthly processing of the following:

- a. The quantity of natural gas used for the pilot light flames.
- b. The quantity of LFG received from the landfill operations.
- c. LFG flared.
- d. LFG processed in the thermal oxidizer.
- e. The quantity of gas transferred to MLGW.
- f. The quantity of leachate processed and returned to the landfill leachate collection system.
- g. Emissions from each process and overall total of each pollutant.

Note: this report shall be maintained on a monthly basis and reported annually based on a consecutive 12-month rolling period.

12. The owner/operator shall collect and record the following information, maintain the information on site for a period of three (3) years from the date of the record, and make the records available to this Department upon request:

- a. The name and identification of each process.
- b. Quantities of fuel (natural gas and LFG) processed or consumed at the facility
- d. The flare and thermal oxidizer operating temperature
- i. Maintenance records for the emission control equipment (flare and thermal oxidizer) and the temperature monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
- k. Periods of operation with low combustion temperature as indicated in the condition number 6.
- l. The owner/operator shall maintain records of all data and calculations used to determine monthly emissions from each process within the facility to determine compliance with annual emission limits based on a consecutive rolling 12-month period.

17. The owner/operator shall submit an annual report to this Department, which contains the following information, as a minimum:

- a. The quantity of natural gas used for the pilot light flames.
- b. The quantity of LFG received from the landfill operations.
- c. LFG flared.
- d. LFG processed in the thermal oxidizer.
- e. The quantity of gas transferred to MLGW.
- f. The quantity of leachate processed and returned to the landfill leachate collection system.
- g. Emissions from each process and overall total of each pollutant.

Note: this report shall be maintained on a monthly basis and reported annually based on a consecutive 12-month rolling period.

General permit conditions are attached in Appendix A.

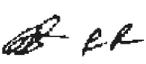
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APPENDIX A

Construction Permit General Conditions

SECTION I: OPERATIONAL REQUIREMENTS

1. The owner/operator shall control dust, fumes, gases, mist, vapors, or any combination thereof in such a manner as to not cause a nuisance in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-109 (1).
2. The owner/operator shall not cause, suffer, allow, or permit any air contaminant source to be operated without employing suitable measures for the control of the emission of objectionable odors in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-109 (2).
3. The owner/operator shall not discharge from any source whatsoever such quantities of air contaminant, uncombined water, or other materials which cause a traffic hazard, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.03(3)].
4. The owner/operator shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-110.
5. The open burning of residential, commercial, institutional, or industrial solid waste is prohibited except as specified in this permit or in Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-102.
6. Air contaminant sources must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-20-.02]. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions, and shall be considered in violation of the emission standard exceeded and this rule.

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SECTION II: TESTING REQUIREMENTS

7. The owner/operator may be required to conduct or have conducted such tests as are necessary to establish the quantity or identity of air contaminants emitted from an air contaminant source. Such tests shall be conducted in a manner approved in advance by the Technical Manager, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10].
8. Whenever the Technical Manager has reason to believe that the emission limits of the regulations set forth herein are being violated, the Technical Manager may require the owner/operator to conduct or have conducted at the owner's or operator's expense, tests to determine the emission level of specific air contaminants, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-10].
9. The owner/operator may be required to retest at the request of the Technical Manager if the maximum production rate that occurred during compliance testing is exceeded by 10 percent or more, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-12].
10. The owner/operator of an air contaminant source to be tested shall provide the Technical Manager at least 30 days prior written notice of any performance test and the test protocol form, except as otherwise specified in a promulgated test method, to afford the Technical Manager the opportunity to have an observer present and to approve the test protocol, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-12].
11. Performance tests shall be conducted under representative performance conditions of the tested air contaminant source(s) for which compliance is to be demonstrated by the test. Samples shall be taken in such number, duration and location as to be statistically significant and representative of performance conditions for which compliance is to be demonstrated by the test, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-12, [Reference Rules and Regulations of Tennessee, Rule 1200-3-10]. Unless otherwise specified in the test method, each performance test shall be corrected to standard conditions, defined as a temperature of 293 K (68° F) and a pressure of 101.3 kilopascals (29.92 in Hg).
12. The results of performance testing shall be submitted to the Department within 60 days after completion of the required performance testing.

SECTION III: MONITORING and RECORDKEEPING REQUIREMENTS

13. A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in the Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code or any permit issued thereto must be kept at the facility in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-20-.04]. This log must record at least the following:

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- a) Stack or emission point involved;
- b) Time of malfunction, startup, or shutdown or when first noticed;
- c) Type of malfunction and/or reason for shutdown;
- d) Time startup or shutdown was complete or time the air contaminant source returned to normal operation; and
- e) The company employee making entry on the log must sign, date and state the time of each log entry. The information under items (a) and (b) above must be entered into the log by the end of the shift during which the malfunction, startup, or shutdown began.

All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected. Any later discovered corrections can be added in the log as footnotes with the reason given for the change.

SECTION IV: REPORTING and NOTIFICATION REQUIREMENTS

14. The owner/operator shall submit an annual emissions report to the Department in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-116. This report shall be submitted no later than February 28th of each calendar year and shall include emissions that occurred during the previous calendar year.
15. When any air contaminant source malfunctions in such a manner as to cause the emission of air contaminants in excess of the applicable emission standards contained in Division 1200-3 or any permit issued thereto, or of sufficient duration to cause damage to property or public health, the owner or operator of the air contaminant source shall promptly notify the Technical Manager of such malfunction and provide a statement giving all pertinent facts, including the estimated duration of the malfunction, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-20-.03]. Violations of the visible emission standard (excluding visible emissions caused by hazardous air pollutants named in Chapter 1200-3-11), which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Shelby County Health Department, Pollution Control Section.
16. The Technical Manager shall be notified when the malfunction has been corrected, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-20-.03]. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required. Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Shelby County Health Department, Pollution Control Section and the Emergency Management Agency.

SECTION V: OPERATING PERMIT APPLICATION REQUIREMENTS

17. Application for an operating permit shall be made on forms available from the Technical Manager and signed by the applicant in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.02(1 and 3)]. Such an application for an operating permit shall be filed with the Technical Manager:
 - a) Not more than thirty (30) days after initial startup of an air contaminant source constructed or modified in accordance with a construction permit issued by the Technical Manager.
 - b) If stack sampling or other test data has been required as a condition on the construction permit, this time period is extended to the time specified on the construction permit for submittal of the test report(s). In no case shall this period exceed the period allowed in the applicable regulation.

SECTION VI: MISCELLANEOUS GENERAL REQUIREMENTS

18. This permit is not transferable from one person to another person, nor from one air contaminant source to another air contaminant source, nor from one location to another location pursuant to Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.03(6)].
19. The owner/operator shall pay fees in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-111 through 20-114.
20. The owner/operator shall maintain this construction permit readily available for inspection by the Technical Manager or his/her designated representative on the operating premises.
21. The Shelby County Health Department in conjunction with the Memphis and Shelby County Air Pollution Control Board shall have authority, at their option, to institute and litigate proceedings for violations as set out therein, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-115. Any person who knowingly:
 - a) Violates or fails to comply with any provision of the City of Millington Code, any board or administrative order or any permit condition;
 - b) Makes any false material statement, representation, or certification in any record, report, plan or other document required by permit to be either filed or maintained;
 - c) Falsifies, tampers with, renders inaccurate or fails to install any monitoring device or method required to be maintained or followed;
 - d) Fails to pay fee commits a Class C misdemeanor pursuant to the Tennessee Code Annotated with the fine not to exceed ten thousand dollars (\$10,000) per day per violation. For the purpose of this section, each day of continued violation constitutes a separate offense and is punishable as such.

22. The owner/operator of any air contaminant source shall be responsible for complying with emission regulations as contained in other chapters of these regulations at the earliest practicable time and for this purpose the Board shall have the authority and responsibility to require compliance with these regulations at an earlier date than indicated where such earlier compliance may reasonably be accomplished, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.03(1)].
23. The owner/operator shall not use any plan, activity, device or contrivance which the Technical Manager determines will, without resulting in an actual reduction of air contaminants, conceal or appear to minimize the effects of an emission which would otherwise constitute a violation of these Regulations, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123 [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.03(2)]. Methods considered circumvention of the regulations include but are not limited to the following:
 - a) Air (or other gases) introduced for dilution purposes only;
 - b) The staggered installation and operation of a facility to avoid coverage by a standard that applies only to operations larger than a specified size.
24. The Technical Manager may suspend or revoke any construction or operating permit if the permit holder fails to comply with the provisions, stipulations, or compliance schedules specified in the permit; all provisions of these regulations; and all provisions of the Tennessee Air Quality Act, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-123, [Reference Rules and Regulations of Tennessee, Rule 1200-3-9-.03(7)]. Upon permit suspension or revocation, if the permit holder fails to take remedial action, he shall become immediately subject to enforcement actions prescribed by law.
25. Failure to comply with any of the provisions of the Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code shall constitute a violation thereof and shall subject the person or persons responsible therefore to any and all of the penalties provided by law, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-115.
26. For the purpose of carrying out the requirements of the Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code, the Technical Manager or his/her authorized representatives, including engineers, assistants, environmentalists and other employees, shall be permitted at all reasonable times to enter into any manufacturing plants, business buildings or other buildings, and all lots, grounds and premises, in order to thoroughly examine any items in relation to public health and air pollution thereon and therein, in accordance with Title 20 Chapter 1, City of Millington, Tennessee Air Pollution Control Code Section 20-122.
27. Any request to extend the expiration date of this construction permit must be made in writing by the owner/operator prior to the expiration date of the permit. A request for an extension will not be granted if it is received by the Department after the expiration date of the permit.