

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
FIELD OPERATIONS - BUREAU OF AIR QUALITY

OPERATING PERMIT

In accordance with provisions of the Air Pollution Control Act, the act of January 8, 1960, P.L. 2119, as amended, and after due consideration of an application received under Chapter 127 of the Rules and Regulations of the Department of Environmental Protection, the Department hereby issues this permit for the operation of the air contamination source(s) described below:

| | | | |
|------------|--------------------------------------|-----------|---|
| Permit No. | <u>OP-46-0067</u> | Source(s) | <u>Three IC Engines as described herein</u> |
| Owner | <u>MM Biogas Power LLC</u> | Air | <u>Low Emission Combustion (LEC)</u> |
| Address | <u>1221 Nieollet Mall, Suite 700</u> | Cleaning | <u></u> |
| | <u>Minneapolis, MN 55403-2445</u> | Device | <u></u> |
| Attention | <u>Mr. Ben J. Heuser</u> | Location | <u>Upper Merion Township</u> |
| | <u>Manager, Engineering Services</u> | | <u>Montgomery County</u> |

This permit is subject to the following conditions:

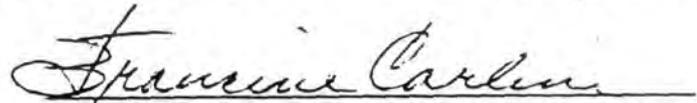
1. That the source(s) and any associated air cleaning devices are to be:
 - a. operated in such a manner as not to cause air pollution;
 - b. in compliance with the specifications and conditions of all applicable plan approvals issued;
 - c. operated and maintained in a manner consistent with good operating and maintenance practices.
2. This permit is valid only for the specific equipment, location and owner named above.

(SEE ADDITIONAL CONDITIONS ATTACHED)

Failure to comply with the conditions placed on this permit is a violation of Section 127.444. Violation of this or any other provision of Article III of the Rules and Regulations of the Department of Environmental Protection will result in suspension or revocation of this permit and/or prosecution under Section 9 of the Air Pollution Control Act.

Issued 10/31/1997

Expires 10/31/2002


Francine Carlini
Regional Manager
Air Quality

cc: Division of Permits, RCSOB
Administration
SEFO
Re (DJ)230-2

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CONDITIONS (continued):

Conditions (continued):

3. This Operating Permit incorporates Reasonably Available Control Technology (RACT) determinations as required by Title I provisions of the Clean Air Act Amendments and 25 Pa. Code Section 129.91 through 129.95 for:
 - One (1) Landfill gas-fired Superior Internal Combustion Engine. (Model 165GTA)
 - Two (2) Landfill gas-fired Caterpillar Internal Combustion Engines. (Model G398)
4. This RACT Operating Permit supersedes Plan Approval No. 46-399-056A with respect to two Caterpillar and one Superior engines for the incorporation of NO_x/VOC Reasonably Available Control Technology (RACT) requirements of 25 PA Code Section 129.91-95. The terms and conditions of Plan Approval No. 46-399-056A are incorporated in this RACT Operating Permit.
5. Pursuant to the RACT provisions of Section 129.91 through 129.95 of Chapter 129 of Article III of the Rules and Regulations of the Department of Environmental Protection, the nitrogen oxides (NO_x, expressed as NO₂) emissions from the Superior engine shall not exceed 1.68 gms/bhp-hr at rated load and rated speed operating conditions.
6. Stack testing in accordance with 25 PA Code Chapter 139 and the Department Source Testing Manual shall be performed on Superior engine within 180 days of the issuance of this plan approval to determine the actual emission rate for NO_x.
 - a. The company shall submit a pretest protocol for review at least 60 days prior to performance of the stack tests.
 - b. The company shall also notify the Department at least two weeks prior to the stack tests so an observer may be present at the time of the tests.
 - c. The company shall submit two copies of stack test report to the Department within 60 days of testing.
7. Pursuant to Section 129.93 (c) of Chapter 129 of Article III of the Rules and Regulations of the Department of Environmental Protection, each Caterpillar emergency standby engine shall be operated less than 500 hours in any consecutive 12 month period. Additionally, the engines shall be maintained and operated in accordance with manufacturers' specifications and good air pollution control practices.
8. MM Biogas shall maintain records in accordance with the minimum recordkeeping requirements of 25 Pa. Code Section 129.95. At a minimum, this shall include:

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- a. The operating hours of each source shall be recorded in an operating permit log and shall be maintained.
 - b. Records shall provide sufficient data and calculations to clearly demonstrate that the requirements of Conditions 5 and 7 are met.
 - c. Data or information required to determine compliance with Condition 5 and 6 shall be recorded and maintained in a time frame consistent with the averaging period of the requirement(s).
 - d. Records shall be retained for at least two years and be made available to the Department upon request.
9. MM Biogas shall comply with the NOx emission standard established in Condition No. 5, for the Superior engine, operating restriction requirements established in Condition No. 7 for each Caterpillar engine, and recordkeeping requirements established in Condition No. 8.

Conditions 10 through 17 herein pertain to three landfill gas-fired (one Superior 165GTA and two Caterpillar G398) engines operated pursuant to plan approval No. 46-399-056A.

10. The operation of the one Superior engine and two ~~Caterpillar~~ engines shall not emit air contaminants into the atmosphere ~~in excess of the limits listed below~~ (CO-Carbon Monoxide, NMHC-Non-methane Hydro Carbon).

| Emission Rate | gm/ hr | <u>NOx</u> | <u>CO</u> | <u>NMHC</u> | <u>PARTUCULATES</u> |
|---------------|------------------|------------------|-----------|-------------|---------------------|
| | | lbs/hr | 2478 | 2832 | 106.2 |
| ton/yr | 5.46 | 6.24 | 0.23 | 0.27 | |
| | 23.93 | 27.35 | 1.03 | 1.20 | |

11. The Superior engine shall be operated as the main engine and the two remaining Caterpillar engines shall be used as standby engines in the event of a malfunction with the Superior engine.
12. The maximum total power output from the 3 engines ~~listed in Condition 10 above~~ shall not be more than 9,636,000 kw/hr per year. ~~Company shall keep a daily and annual record of power output from all three IC engines.~~
13. The sulfur content expressed as H₂S of the landfill gas fired ~~in the source(s) shall not at any time exceed 50 grains per 100 dry standard cubic feet.~~
14. The primary fuel for the source(s) is landfill gas. Natural gas shall be used as a secondary and supplemental fuel when necessary.

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15. The owner shall have to perform a fuel analyses of the landfill gas used in the aforementioned source(s) at least once every five years and at least three months prior to any request for an Operating Permit.
16. The company shall keep a record of power output and engine usage for seven years and make said records available for the Department upon request.
17. If any time the permittee causes, permits or allows any modification (as that term is defined in Chapter 121 of Title 25, the Rules and Regulations of the Department of Environmental Protection of the aforementioned air contamination source(s), the operation and use of which is authorized by this permit, the permit shall be suspended, and the permittee shall not thereafter continue to operate or use said air contamination source(s).
18. The company, within one hour of occurrence, shall notify the Department of Environmental Protection, at (610) 832-6241, of any malfunction of the source(s) or associated air cleaning device(s) which results in, or may possibly be resulting in, the emission of air contaminants in excess of the limitations specified in, or established pursuant to, any applicable rule or regulation contained in Article III of the Rules and Regulations of the Department of Environmental Protection. A written report shall be submitted to the Department within two working days following the incident describing the malfunctions and corrective actions taken.
19. If at any time the Department has cause to believe that air contaminant emissions from the aforementioned source(s) may be in excess of the limitations specified in any condition contained herein or specified in, or established pursuant to, any applicable rule or regulation contained in Article III of the Rules and Regulations of the Department of Environmental Protection, the company shall be required to conduct whatever tests are deemed necessary by the Department to determine the actual emission rate(s). Such testing shall be conducted in accordance with the provisions of Chapter 139 of the Rules and Regulations of the Department of Environmental Protection, where applicable, and in accordance with any restrictions or limitations established by the Department at such time as it notifies the company that testing is required.

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20. This Operating Permit is valid for a limited period of time and may be renewed before its expiration. Requests for an Operating Permit renewal must be in writing and must be accompanied by the appropriate permit application processing and annual permit administration fees as specified in Section 127.703 of the Rules and Regulations of the Department of Environmental Protection. These fees shall be paid in the form of a check payable to the "Commonwealth of Pennsylvania-Clean Air Fund". The request should be made using the appropriate application form and must be received by the Department along with a completed Air Pollution Control Act Compliance Review form no later than 30 days prior to expiration of this permit.

All necessary forms can be obtained from the Department upon request.

21. Any notification required as a result of any condition herein should be directed to:

Regional Air Program Manager
Lee Park - Suite 6010
555 North Lane
Conshohocken, PA 19428
Telephone: (610) 832-6241

Re 30 (DJ)230-3

