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Facility Name: **MM Cuyahoga Energy LLC**

Application Number: **13-3400**

Date: **July 1, 1998**

GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

CONSTRUCTION OF NEW SOURCE(S)

The proposed source(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed source(s) has already begun or has been completed prior to the date the Director of the Ohio Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's

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approval constitutes a violation of Ohio Administrative Code (OAC) Rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities prove to be inadequate or cannot meet applicable standards.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 15 days of the effective date of this permit to install.

PUBLIC DISCLOSURE

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC Rule 3745-49-03.

APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

BEST AVAILABLE TECHNOLOGY

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

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PERMIT TO OPERATE APPLICATION

A Permit to Operate application must be submitted to the appropriate field office for each air contaminant source in this Permit to Install. In accordance with OAC Rule 3745-35-02, the application shall be made at least 90 days prior to start-up of the source.

NINETY DAY OPERATING PERIOD

The facility will be permitted to operate during a 90-day period in accordance with OAC Rule 3745-35-02(C)(4)(b). The purpose of this period of operation is to fulfill the performance tests conditions used in the determination of compliance with the provisions of this Permit to Install or other applicable Ohio EPA rules.

SOURCE OPERATION AFTER COMPLETION OF CONSTRUCTION

This facility is permitted to operate each source described by this permit to install for period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies.

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AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **MM Cuyahoga Energy LLC** located in **Cuyahoga** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

<u>Ohio EPA Source Number</u>	<u>Source Identification Description</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
P001	9.06 MM Btu/hour internal combustion engine use landfill gas only	The BAT determined for this emissions unit is: (1) Compliance with the Air Toxic Policy	3745-17-07	Maximum 20 percent opacity as 6 minute average from any stack
		(2) Maximum 1.51 pound SO ₂ /hour 2.96 pound NO _x /hour 7.16 pound CO/hour 0.41 pound NMOC/hour	3745-17-11 (B)(5)(b)	Maximum particulate emissions from this emissions unit shall not exceed 0.062 pound per MM Btu actual heat input
			3745-31-05	The maximum emissions from this emissions unit shall not exceed sulfur dioxide: 1.51 pounds per hour and 6.61 tons per year; nitrogen oxides:

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
				2.96 pounds per hour and 12.96 tons per year; carbon monoxide: 7.16 pounds per hour and 31.36 tons per year; and NMOC: 0.41 pound per hour and 1.80 tons per year.
P002	9.06 MM Btu/hour internal combustion engine use landfill gas only	The BAT determined for this emissions unit is: (1) Compliance with the Air Toxic Policy	3745-17-07	Maximum 20 percent opacity as 6 minute average from any stack
		(2) Maximum 1.51 pound SO ₂ /hour 2.96 pound NO _x /hour 7.16 pound CO/hour 0.41 pound NMOC/hour	3745-17-11 (B)(5)(b)	Maximum particulate emissions from this emissions unit shall not exceed 0.062 pound per MM Btu actual heat input
			3745-31-05	The maximum emissions from this emissions unit shall not exceed sulfur dioxide: 1.51 pounds per hour and 6.61

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
				1.51 pounds per hour and 6.61 tons per year; nitrogen oxides: 2.96 pounds per hour and 12.96 tons per year; carbon monoxide: 7.16 pounds per hour and 31.36 tons per year; and NMOC: 0.41 pound per hour and 1.80 tons per year.
P004	9.06 MM Btu/hour internal combustion engine use landfill gas only	The BAT determined for this emissions unit is: (1) Compliance with the Air Toxic Policy	3745-17-07	Maximum 20 percent opacity as 6 minute average from any stack
		(2) Maximum 1.51 pound SO ₂ /hour 2.96 pound NO _x /hour 7.16 pound CO/hour 0.41 pound NMOC/hour	3745-17-11 (B)(5)(b)	Maximum particulate emissions from this emissions unit shall not exceed 0.062 pound per MM Btu actual heat input
			3745-31-05	The maximum emissions from this emissions unit shall not

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
				exceed sulfur dioxide: 1.51 pounds per hour and 6.61 tons per year; nitrogen oxides: 2.96 pounds per hour and 12.96 tons per year; carbon monoxide: 7.16 pounds per hour and 31.36 tons per year; and NMOC: 0.41 pound per hour and 1.80 tons per year.

SUMMARY

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons/Year</u>
VOC/NMOC	7.20
PM	9.84
SO ₂	26.44
NO _x	51.84
CO	125.44

PERFORMANCE TEST REQUIREMENTS

The permittee shall conduct, or have conducted, performance testing on the air contaminant source(s) in accordance with procedures approved by the Agency. Two copies of the written report describing

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the test procedures followed and the results of such tests shall be submitted and signed by the person responsible for the test. The Director, or an Ohio EPA representative, shall be allowed to witness the test, examine testing equipment, and require the acquisition or submission of data and information necessary to assure that the source operation and testing procedures provide a valid characterization of the emissions from the source and/or the performance of the control equipment.

- A. A completed Intent to Test form shall be submitted to the appropriate Ohio EPA District Office or Local Air Pollution Control Agency where the original permit application was filed. This notice shall be made 30 days in advance and shall specify the source operating parameters, the proposed test procedures, and the time, date, place and person(s) conducting such tests.
- B. Two copies of the test results shall be submitted within 30 days after the completion of the performance test.
- C. Tests shall be performed for the following source(s) and pollutant(s):

Source

Pollutant(s)

See
Additional
Terms and
Conditions
P001, P002,
P003, and
P004

NMOC
PM, NO_x, SO₂, CO

- D. Tests shall include a determination of the uncontrolled mass rate of emissions NMOC.

RECORD(S) RETENTION AND AVAILABILITY

All records required by this Permit to Install shall be retained on file for a period of not less than three years unless otherwise indicated by Ohio Environmental Protection Agency. All

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records shall be made available to the Director, or any representative of the Director, for review during normal business hours.

REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to **Cleveland Air Pollution Group, 1925 St. Clair Avenue, Cleveland, OH 44114.**

MAINTENANCE OF EQUIPMENT

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

MALFUNCTION/ABATEMENT

In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Cleveland Air Pollution Group, 1925 St. Clair Avenue, Cleveland, OH 44114.**

Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

AIR POLLUTION NUISANCES PROHIBITED

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

NINETY DAY OPERATING PERIOD

The facility will be permitted to operate during a 90-day period in accordance with OAC Rule 3745-35-02(C)(4)(b). The purpose of this

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period of operation is to fulfill the performance tests conditions used in the determination of compliance with the provisions of this Permit to Install or other applicable Ohio EPA rules.

CONSTRUCTION COMPLIANCE CERTIFICATION

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

ADDITIONAL SPECIAL TERMS AND CONDITIONS

A. Applicable Emission Limitations and/or Control Requirements

The permittee is required to submit a complete Title V operating permit application three hundred sixty five (365) days after the installation.

B. Operational Restrictions

1. The permittee shall operate the internal combustion engine(s) at all times when the landfill gas is routed to the internal combustion engine(s).
2. The total heating value of landfill gas burned in all four (4) engines shall not exceed 36.24 MM Btu per hour.
3. The emissions units covered by this permit to install shall be designed and operated such that the requirements of OAC 3745-76 for municipal solid waste landfill controls are satisfied.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment for all four (4) combustion engines (the plant):

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- a. a Daniels system used to determine the BTU content of the landfill gas (based on methane content at LHV) at the main fuel inlet providing fuel to all four (4) internal combustion engines. The BTU content of the landfill gas in the inlet to all four engines shall be measured by an instrument approved by the Ohio EPA and shall be read at least every sixty (60) minutes;
 - b. a gas flow rate measuring device that provides a measurement of the total gas flow to all four (4) internal combustion engines. The permittee shall install, calibrate, and maintain a gas flow rate measuring device that shall record the combined flow to all four (4) internal combustion engines at least every sixty (60) minutes; and,
 - c. a solenoid at the inlet to each internal combustion engine which completely shuts off gas flow to the engine when the engine is not operating.
2. The permittee shall keep for five (5) years up-to-date, readily accessible records of the following information each hour:
 - a. the landfill gas flow rate to all four (4) internal combustion engines (the plant);
 - b. the BTU content of the landfill gas to all four internal combustion engines(the plant); and,
 - c. total heating value of landfill gas burned in all four (4) internal combustion engines (the plant).
 3. The permittee shall keep for at least five years up-to-date, readily accessible records of any internal combustion engine exceedances of the operational standard specified in section B of these Additional Special Terms and Conditions.

D. Reporting Requirement

1. The permittee shall submit an equipment removal report to the Director (Cleveland Air Pollution Control) thirty

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(30) days prior to removal or cessation of operation of the internal combustion engine system.

2. The permittee shall submit to the Director (Cleveland Air Pollution Control) annual reports of the following information. The initial annual report shall be submitted within three hundred sixty five (365) days of installation and start-up of the internal combustion engines, and shall include the initial performance test report for these emissions units.
 - a. Value and length of time for the total heating value exceedance for all four (4) internal combustion engines.
 - b. Description and duration of all periods when any internal combustion engine was not operating for a period exceeding one hour and length of time the internal combustion engine was not operating while the landfill gas is routed to this internal combustion engine.

E. Testing Requirements and Compliance Method Determination

1. Compliance with the emission limitations shall be determined in accordance with the following methods:
 - a. Emission Limitation
20 percent opacity as 6-minute average

Applicable Compliance Method

Compliance with the visible particulate emission limitation shall be determined in accordance with the test method and procedures in OAC rule 3745-17-03 (B)(8).
 - b. Emission Limitation

0.062 lb PM/MM Btu actual heat input
1.51 lbs/hr of SO₂
2.96 lbs/hr of NO_x

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7.16 lbs/hr of CO
0.41 lb/hr of NMOC

Applicable Compliance Method

Compliance shall be determined in accordance with the test method specified in section E.2 of these Additional Special Terms and Conditions.

2. The permittee shall conduct emission testing for each emissions unit in accordance with the following requirements:

- a. the emission testing shall be conducted within 180 days after the installation of the emissions;
- b. the emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for PM, SO₂, NO_x, CO and NMOC for each emissions unit;
- c. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

for PM, Method 5 of 40 CFR part 60, Appendix A
for SO₂, Method 6 of 40 CFR part 60, Appendix A
for NO_x, Method 7e of 40 CFR part 60, Appendix A
for CO, Method 10 of 40 CFR part 60, Appendix A
for NMOC, Method 25 of 40 CFR part 60, Appendix A

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA; and,

- d. the tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Cleveland Air Pollution Control.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Akron Air Pollution Control Agency. The "Intent to Test" notification shall describe in detail the proposed test methods

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and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Cleveland Air Pollution Control Agency's refusal to accept the results of the emission test(s).

Personnel from the Cleveland Air Pollution Control Agency's shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Cleveland Air Pollution Control Agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Cleveland Air Pollution Control Agency.

3. The total heating value (in Btu/hr) of landfill gas burned in all four (4) internal combustion engines shall be the hourly recorded Btu content of landfill gas in BTU/scfm/hr multiplied by the total hourly landfill gas flow to all four (4) engines in scfm.

F. Miscellaneous Requirements

1. Any representative of the Director (Cleveland Air Pollution Control Agency) may, upon presentation of proper identification, enter at any reasonable time upon any portion of the property where the MM Cuyahoga Energy LLC is located, including any improvements thereon, to make inspections, take samples, conduct tests and examine records or reports pertaining to any emissions of air contaminants and any monitoring equipment, emissions

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control equipment or methods. No operator or agent of this facility shall act in any manner to refuse, hinder, or thwart this legal right of entry.