



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
LAKE COUNTY**

CERTIFIED MAIL

Street Address:

50 West Town Street, Suite 700

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 02-22599

Fac ID: 0243000012

DATE: 2/12/2008

NOVA Chemicals, Inc.
Raymond Kovacs
786 Hardy Rd.
Painesville, OH 44077

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00 which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, OH 43215

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

NEDO



**Permit To Install
Terms and Conditions**

**Issue Date: 2/12/2008
Effective Date: 2/12/2008**

FINAL PERMIT TO INSTALL 02-22599

Application Number: 02-22599
Facility ID: 0243000012
Permit Fee: **\$800**
Name of Facility: NOVA Chemicals, Inc.
Person to Contact: Raymond Kovacs
Address: 786 Hardy Rd.
Painesville, OH 44077

Location of proposed air contaminant source(s) [emissions unit(s)]:
**786 Hardy Rd.
Painesville, Ohio**

Description of proposed emissions unit(s):
Modification to allow the use of landfill gas as a fuel in two existing boilers.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon

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the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. 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.

9. Construction of New Sources(s)

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The proposed emissions unit(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 cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the 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 approval constitutes a violation of 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 cannot meet the requirements of this permit or cannot meet applicable standards.

10. 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.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. 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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13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a 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. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

14. 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.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
 TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
CO	22.0
HCL	1.28
NOX	26.20
PE	3.30
SO2	<1.83

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VOC

33.62

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment - (B001) - Modification of an Erie City 61.0 MMBTU/hr steam boiler retrofitted to supplementally burn landfill gas along with existing fuels of natural gas and pentane

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	HCL: 0.29 pound per hour; 1.28 tons per year; NOx: 5.98 pounds per hr; 26.20 tons per year; VOC: 7.68 pounds per hour and 33.62 tons per year; CO: 5.02 pounds per hour and 22.0 tons per year; SO2: 0.42 pound per hour and 1.83 tons per year; PE: 0.75 pound per hour and 3.30 tons per year; The requirements of this rule also include compliance with the requirements of OAC rule 3745-14-110, and 3745-17-07, and 3745-17-11 and 40 CFR, Part 60 Subpart Dc.
OAC rule 3745-14-110-03	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity, as a six minute average, except as provided by rule.
OAC rule 3745-17-10(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

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OAC rule 3745-18-06	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3)
40 CFR, Part 60, Subpart Dc	See 2.b

2. Additional Terms and Conditions

- 2.a** This is a Permit to Install for the modification of two existing 61.0 MMBTU/hr each Erie City boilers (Ohio EPA emission unit numbers B001 and B002) to burn landfill derived methane gas along with existing fuels natural gas and pentane, a process off-gas, or use of natural gas and pentane only.
- 2.b** These emissions units are subject to the Federal New Source Performance Standard, 40 CFR, Part 60, Subpart Dc.
- 2.c** BAT for this emissions unit shall include the use of LFG as fuel, installation and use of an updated air combustion control system to more effectively control fuel/oxygen ratios, good combustion practices, modification of the design of the existing burners to use a centered fired landfill gas gun and a revised diffuser design to minimize the combustion reactions that form NO_x and carbon monoxide.
- BAT shall also include an electronic notification system between the landfill and the user that sends a signal during the times the treatment system is offline, so that the permittee may stop the LFG fuel feed to the boilers.
- 2.d** This boiler shall only be operated with the NO_x minimization techniques in place. Since, based on the permit application, it is impossible to operate this boiler without the benefit of NO_x minimization techniques, no monitoring and record keeping will be required.
- 2.e.** In accordance with the permit application (8/10/07 Response to OEPA questions letter from NOVA), the permittee shall tune this boiler twice yearly or follow the most recent recommendation from the vendor.

B. Operational Restrictions

1. The permittee shall burn only landfill gas, and/or pentane and/or natural gas in this emissions unit.

Emissions Unit ID: **B001**

2. This boiler shall operate with the above described updated air combustion control system and good combustion practices.
3. For the life of this emissions unit, the permittee must be able to demonstrate a contractual obligation by the landfill to report to the facility when untreated landfill gas is sent from the landfill to the facility. In addition, the landfill gas provider is obligated to comply with any changes to the definition of treatment as described in Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60.750).

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C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall record and maintain daily fuel combustion records of each fuel combusted during each day and a record of the type and quantity of any fuel burned in this emissions unit other than landfill gas, natural gas and/or pentane and any other record keeping as required in 40 CFR, Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units .
2. The permit to install for this emissions unit B001 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit to install application; and modeling was performed for each toxic air contaminant emitted at over a ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
 - a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices";
or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

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- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- $$TLV \text{ OVER } 10 \sim \frac{TLV}{10} \times \frac{8 \text{ OVER } X}{8} \times \frac{5 \text{ OVER } Y}{5} = \frac{4}{5} \times \frac{TLV}{10} \times \frac{5}{Y} = \frac{2}{Y} \times TLV$$
- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: Hydrochloric Acid (HCl)
 TLV(mg/m3): 7.5
 Maximum Hourly Emission Rate(lbs/hr): 0.58
 Predicted 1-Hour Maximum Ground-Level Concentration(ug/m3): 58
 MAGLC (ug/m3): 178.0

The permittee, has demonstrated that emissions of Hydrochloric Acid, from emissions unit B001, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

3. Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC

Emissions Unit ID: **B001**

3745-114-01, that was modeled from the initial (or last) application; and

- c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous permitted level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

4. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

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Citation: [ORC 3704.03(F)(3)(c) and F(4)], [OAC 3745-114-01], Options A, Engineering Guide #70, Draft, December 1, 2000.

5. The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

Citation: [ORC 3704.03(F)(3)(c) and F(4)], [OAC 3745-114-01], Options A, Engineering Guide #70, Draft, December 1, 2000.

6. Prior to startup of this emissions unit for the use of landfill gas as a supplemental fuel, the permittee shall obtain from the landfill gas provider a certificate verifying that landfill gas fuel provided to the permittee is treated as required in the Standards of Performance for Municipal Solid Waste Landfills (40 CFR 60.750). Further, no later than 15 calendar days prior to the compliance date for any applicable updates or changes to treatment required in 40 CFR Part 60.750, the landfill gas provider shall issue a certificate documenting that the landfill gas used by the permittee is treated in accordance with the new requirements. The permittee shall keep and maintain the treatment certification for the life of this emissions unit.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or landfill gas or pentane was burned in this emissions unit and the amount of the fuel.
2. The permittee shall submit annual reports to the Northeast District Office of the Ohio EPA, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

Citation: [ORC 3704.03(F)(3)(c) and F(4)], [OAC 3745-114-01], Options A, Engineering Guide #70, Draft, December 1, 2000.

Emissions Unit ID: **B001**

3. NSPS REQUIREMENTS

The emissions units in this permit are subject to the applicable provisions of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60.

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

- a. construction date (not later than 30 days after such date);
- b. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
- c. actual start-up date (within 15 days after such date); and
- d. date of performance testing (If required, at least 30 days prior to testing)

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Air Quality Monitoring and Planning
P.O. Box 1049
Columbus, Ohio 43216-1049

4. The permittee shall notify the Northeast District Office of the Ohio EPA in writing within 7(seven) days of receiving notice from the landfill gas provider that untreated landfill gas, as defined and regulated under Standards of Performance for Municipal Solid Waste Landfills (40 CFR 60.750), was provided to the permittee. The written notice shall document the time period when untreated landfill gas was supplied to the permittee and include an estimate of the quantity of untreated landfill gas received from the landfill gas provider.

E. Testing Requirements

1. Compliance with the emission limitation(s) in these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation:

5.98 lbs/hr, 26.20 TPY of NOx

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Applicable Compliance Method:

Compliance with the hourly NOx emission limitation shall be determined using Methods 1 through 4 and Method 7 of 40 CFR, Part 60, Appendix A. The emissions unit shall operate at maximum steam rate.

Compliance with the annual NOx emission limitation is shown as long as compliance with the hourly NOx emission limitation is maintained (the annual NOx emission limitation was calculated by multiplying the hourly NOx emission limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton).

b. Emission Limitation:

7.68 lbs/hr, 33.62 TPY of VOC

Applicable Compliance Method:

Compliance with the hourly VOC emission limitation shall be determined by the emission factor specified in AP-42 "Compilation of Air Pollutant Emission Factors," Section 1.4, Table 1.4-2, Fifth Edition, dated 7/98 and if applicable, Section 2.4, Table 2.4-1, Fifth Edition, dated 11/98 or by any other emission factors approved by Ohio EPA.

Compliance shall also be demonstrated by using Method 25 or 25A of 40 CFR, Part 60, Appendix A.

Compliance with the annual VOC emission limitation is shown as long as compliance with the hourly VOC emission limitation is maintained (the annual VOC emission limitation was calculated by multiplying the hourly VOC emission limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton).

c. Emission Limitation:

5.02 lbs/hr, 22.0 TPY of CO

Applicable Compliance Method:

Compliance with the hourly CO emission limitation shall be determined by the emission factor specified in AP-42 "Compilation of Air Pollutant Emission Factors," Section 1.4, Table 1.4-1, Fifth Edition, dated 7/98 and if applicable,

Emissions Unit ID: **B001**

Section 2.4, Table 2.4-1, Fifth Edition, dated 11/98 or by any other emission factors approved by Ohio EPA. .

Compliance with the annual CO emission limitation is shown as long as compliance with the hourly CO emission limitation is maintained (the annual CO emission limitation was calculated by multiplying the hourly CO emission limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton).

d. Emission Limitation:

0.42 lbs/hr, 1.83 TPY of SO₂

Applicable Compliance Method:

If required, compliance with the hourly SO₂ emission limitation shall be determined using Method 6 of 40 CFR, Part 60, Appendix A.

Compliance with the annual SO₂ emission limitation is shown as long as compliance with the hourly SO₂ emission limitation is maintained (the annual SO₂ emission limitation was calculated by multiplying the hourly SO₂ emission limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton).

e. Emission Limitation:

0.75 lbs/hr, 3.30 TPY of PE

Applicable Compliance Method:

If required, compliance with the hourly PE limitation shall be determined using Methods 1 through 5 of 40 CFR, Part 60, Appendix A.

Compliance with the annual PE limitation is shown as long as compliance with the hourly PE limitation is maintained (the annual PE limitation was calculated by multiplying the hourly PE limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton).

f. Emission Limitation:

Visible emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average.

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Applicable Compliance Method:

If required, compliance with the above visible emission limitation shall be determined using Method 9 of 40 CFR, Part 60, Appendix A.

g. Emission Limitation:

0.29 lb/hr; 1.28 TPY HCl

Applicable Compliance Method:

If required, compliance shall be demonstrated by using Method 26 or 26A of 40 CFR, Part 60, Appendix A. In addition, compliance with the hourly HCL emission limitation shall be determined by the emission factor specified in AP-42 'Compilation of Air Pollution Emission Factors, ' Section 2.4, (text) Fifth Edition, dated 11/98 or by any other emission factor approved by Ohio EPA.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit within 6 months of the issue date of this permit, in accordance with the following requirements:

a. Emission testing shall be conducted with the boiler operating at maximum heat input and steam load unless otherwise specified or approved by the Northeast District of the Ohio EPA. The maximum heat input shall be generated by firing LFG at its maximum rate (approximately 40MMBTU/hr according to the permittee), with the remaining heat input provided by pentane and natural gas fuels.

b. The emission testing shall be conducted to determine compliance with the emission limitations of 5.98 lbs/hr of NO_x, 7.68 lbs/hr of VOC and if required, .75 lbs/hr of PE. The following methods shall be used to determine compliance with the emission limitation:

For NO_x: 40 CFR, Part 60, Appendix A, Methods 1-4 and 7 (or alternative methods approved by Ohio EPA).

If required, for PE: 40 CFR, Part 60, Appendix A, Methods 1-5 (or alternative methods approved by Ohio EPA).

For VOC: 40 CFR, Part 60, Appendix A, Methods 1-4 and Method 25 or 25A (or

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alternative methods approved by Ohio EPA).

- c. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to NEDO and the Lake County General Health District (LCGHD). The "Intent to Test" notification shall describe in detail the proposed test methods 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 NEDO's refusal to accept the results of the emission test(s).

Personnel from NEDO and LCGHD 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 test(s) and submitted to NEDO within 30 days following completion of the test(s).

F. Miscellaneous Requirements

None

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PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Operations, Property, and/or Equipment - (B002) - Modification to Steam Boiler G-101B rated at 61.0 MMBTU/hr retrofitted to supplementally burn landfill gas along with existing fuels of natural gas and pentane

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(A)(3)	HCL: 0.29 pound per hour; 1.28 tons per year; NOx: 5.98 pounds per hr; 26.20 tons per year; VOC: 7.68 pounds per hour and 33.62 tons per year; CO: 5.02 pounds per hour and 22.0 tons per year; SO2: 0.42 pound per hour and 1.83 tons per year; PE: 0.75 pound per hour and 3.30 tons per year; The requirements of this rule also include compliance with the requirements of OAC rule 3745-14-110, and 3745-17-07, and 3745-17-11 and 40 CFR, Part 60 Subpart Dc.
OAC rule 3745-14-110-03	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed 20% opacity, as a six minute average, except as provided by rule.
OAC rule 3745-17-10(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

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OAC rule 3745-18-06	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
40 CFR, Part 60, Subpart Dc	See 2.b

2. Additional Terms and Conditions

- 2.a** This is a Permit to Install for the modification of two existing 61.0 MMBTU/hr each Erie City boilers (Ohio EPA emission unit numbers B001 and B002) to burn landfill derived methane gas along with existing fuels natural gas and pentane, a process off-gas, or use of natural gas and pentane only.
- 2.b** These emissions units are subject to the Federal New Source Performance Standard, 40 CFR, Part 60, Subpart Dc.
- 2.c** BAT for this emissions unit shall include the use of LFG as fuel, installation and use of an updated air combustion control system to more effectively control fuel/oxygen ratios, good combustion practices, modification of the design of the existing burners to use a centered fired landfill gas gun and a revised diffuser design to minimize the combustion reactions that form NO_x and carbon monoxide.
- BAT shall also include an electronic notification system between the landfill and the user that sends a signal during the times the treatment system is offline, so that the permittee may stop the LFG fuel feed to the boilers.
- 2.d** This boiler shall only be operated with the NO_x minimization techniques in place. Since, according to the application, it is impossible to operate this boiler without the benefit of NO_x minimization techniques, no monitoring and record keeping will be required.
- 2.e** In accordance with the permit application (8/10/07 Response to OEPA questions letter from NOVA), the permittee shall tune this boiler twice yearly or follow the most recent recommendation from the vendor.

B. Operational Restrictions

1. The permittee shall burn only landfill gas, and/or pentane and/or natural gas in this emissions unit.

NOVA Chemicals, Inc.

DTI Application: 02-02500

Facility ID: 0243000012

Emissions Unit ID: B002

2. This boiler shall operate with the above described updated air combustion control system and good combustion practices.
3. For the life of this emissions unit, the permittee must be able to demonstrate a contractual obligation by the landfill to report to the facility when untreated landfill gas is sent from the landfill to the facility. In addition, the landfill gas provider is obligated to comply with any changes to the definition of treatment as described in Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60.750).

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C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall record and maintain daily fuel combustion records of each fuel combusted during each day and a record of the type and quantity of any fuel burned in this emissions unit other than landfill gas, natural gas and/or pentane and any other record keeping as required in 40 CFR, Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.
2. The permit to install for this emissions unit B001 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit to install application; and modeling was performed for each toxic air contaminant emitted at over a ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
 - a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices";
or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

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- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or TLV OVER 10 ~ TIMES (8 OVER X) OF THE EMISSIONS UNIT(S), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):
- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: Hydrochloric Acid (HCl)
 TLV(mg/m3): 7.5
 Maximum Hourly Emission Rate(lbs/hr): 0.58
 Predicted 1-Hour Maximum Ground-Level Concentration(ug/m3): 58
 MAGLC (ug/m3): 178.0

The permittee, has demonstrated that emissions of Hydrochloric Acid, from emissions unit B001, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

3. Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC 3745-114-01, that was modeled from the initial (or last) application; and

Emissions Unit ID: **B002**

- c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or if a new toxic is emitted, or the modeled toxic(s) is/are expected to exceed the previous permitted level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

4. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

Citation: [ORC 3704.03(F)(3)(c) and F(4)], [OAC 3745-114-01], Options A, Engineering Guide #70, Draft, December 1, 2000.

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5. The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

Citation: [ORC 3704.03(F)(3)(c) and F(4)], [OAC 3745-114-01], Options A, Engineering Guide #70, Draft, December 1, 2000.

6. Prior to startup of this emissions unit for the use of landfill gas as a supplemental fuel, the permittee shall obtain from the landfill gas provider a certificate verifying that landfill gas fuel provided to the permittee is treated as required in the Standards of Performance for Municipal Solid Waste Landfills (40 CFR 60.750).

Further, no later than 15 calendar days prior to the compliance date for any applicable updates or changes to treatment required in 40 CFR Part 60.750, the landfill gas provider shall issue a certificate documenting that the landfill gas used by the permittee is treated in accordance with the new requirements. The permittee shall keep and maintain the treatment certification for the life of this emissions unit.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or landfill gas or pentane was burned in this emissions unit and the amount of the fuel.
2. The permittee shall submit annual reports to the Northeast District Office of the Ohio EPA, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

Citation: [ORC 3704.03(F)(3)(c) and F(4)], [OAC 3745-114-01], Options A, Engineering Guide #70, Draft, December 1, 2000.

3. NSPS REQUIREMENTS

The emissions units in this permit are subject to the applicable provisions of the New

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Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60.

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

- a. construction date (not later than 30 days after such date);
- b. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
- c. actual start-up date (within 15 days after such date); and
- d. date of performance testing (If required, at least 30 days prior to testing)

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Air Quality Monitoring and Planning
P.O. Box 1049
Columbus, Ohio 43216-1049

4. The permittee shall notify the Northeast District Office of the Ohio EPA in writing within 7(seven) days of receiving notice from the landfill gas provider that untreated landfill gas, as defined and regulated under Standards of Performance for Municipal Solid Waste Landfills (40 CFR 60.750), was provided to the permittee. The written notice shall document the time period when untreated landfill gas was supplied to the permittee and include an estimate of the quantity of untreated landfill gas received from the landfill gas provider.

E. Testing Requirements

1. Compliance with the emission limitation(s) in these terms and conditions shall be determined in accordance with the following method(s):
 - a. Emission Limitation:

5.98 lbs/hr, 26.20 TPY of NO_x

Applicable Compliance Method:

Compliance with the hourly NO_x emission limitation shall be determined using

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Methods 1 through 4 and Method 7 of 40 CFR, Part 60, Appendix A. The emissions unit shall operate at maximum steam rate.

Compliance with the annual NO_x emission limitation is shown as long as compliance with the hourly NO_x emission limitation is maintained (the annual NO_x emission limitation was calculated by multiplying the hourly NO_x emission limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton).

b. Emission Limitation:

7.68 lbs/hr, 33.62 TPY of VOC

Applicable Compliance Method:

Compliance with the hourly VOC emission limitation shall be determined by the emission factor specified in AP-42 "Compilation of Air Pollutant Emission Factors," Section 1.4, Table 1.4-2, Fifth Edition, dated 7/98 and if applicable, Section 2.4, Table 2.4-1, Fifth Edition, dated 11/98 or by any other emission factors approved by Ohio EPA.

Compliance shall also be demonstrated by using Method 25 or 25A of 40 CFR, Part 60, Appendix A.

Compliance with the annual VOC emission limitation is shown as long as compliance with the hourly VOC emission limitation is maintained (the annual VOC emission limitation was calculated by multiplying the hourly VOC emission limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton).

c. Emission Limitation:

5.02 lbs/hr, 22.0 TPY of CO

Applicable Compliance Method:

Compliance with the hourly CO emission limitation shall be determined by the emission factor specified in AP-42 "Compilation of Air Pollutant Emission Factors," Section 1.4, Table 1.4-1, Fifth Edition, dated 7/98 and if applicable, Section 2.4, Table 2.4-1, Fifth Edition, dated 11/98 or by any other emission factors approved by Ohio EPA. .

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Compliance with the annual CO emission limitation is shown as long as compliance with the hourly CO emission limitation is maintained (the annual CO emission limitation was calculated by multiplying the hourly CO emission limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton).

d. Emission Limitation:

0.42 lbs/hr, 1.83 TPY of SO₂

Applicable Compliance Method:

If required, compliance with the hourly SO₂ emission limitation shall be determined using Method 6 of 40 CFR, Part 60, Appendix A.

Compliance with the annual SO₂ emission limitation is shown as long as compliance with the hourly SO₂ emission limitation is maintained (the annual SO₂ emission limitation was calculated by multiplying the hourly SO₂ emission limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton).

e. Emission Limitation:

0.75 lbs/hr, 3.30 TPY of PE

Applicable Compliance Method:

If required, compliance with the hourly PE limitation shall be determined using Methods 1 through 5 of 40 CFR, Part 60, Appendix A.

Compliance with the annual PE limitation is shown as long as compliance with the hourly PE limitation is maintained (the annual PE limitation was calculated by multiplying the hourly PE limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton).

f. Emission Limitation:

Visible emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance with the above visible emission limitation shall be

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determined using Method 9 of 40 CFR, Part 60, Appendix A.

g. Emission Limitation:

0.29 lb/hr; 1.28 TPY HCl

Applicable Compliance Method:

If required, compliance shall be demonstrated by using Method 26 or 26A of 40 CFR, Part 60, Appendix A. In addition, compliance with the hourly HCL emission limitation shall be determined by the emission factor specified in AP-42 'Compilation of Air Pollution Emission Factors, ' Section 2.4, (text) Fifth Edition, dated 11/98 or by any other emission factor approved by Ohio EPA.

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit within 6 months of the issue date of this permit, in accordance with the following requirements:

- a. Emission testing shall be conducted with the boiler operating at maximum heat input and steam load unless otherwise specified or approved by the Northeast District of the Ohio EPA. The maximum heat input shall be generated by firing LFG at its maximum rate (approximately 40MMBTU/hr according to the permittee), with the remaining heat input provided by pentane and natural gas fuels.
- b. The emission testing shall be conducted to determine compliance with the emission limitations of 5.98 lbs/hr of NO_x, 7.68 lbs/hr of VOC and if required, .75 lbs/hr of PE. The following methods shall be used to determine compliance with the emission limitation:

For NO_x: 40 CFR, Part 60, Appendix A, Methods 1-4 and 7 (or alternative methods approved by Ohio EPA).

If required, for PE: 40 CFR, Part 60, Appendix A, Methods 1-5 (or alternative methods approved by Ohio EPA).

For VOC: 40 CFR, Part 60, Appendix A, Methods 1-4 and Method 25 or 25A (or alternative methods approved by Ohio EPA).

- c. Not later than 30 days prior to the proposed test date(s), the permittee shall

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submit an "Intent to Test" notification to NEDO and the Lake County General Health District (LCGHD). The "Intent to Test" notification shall describe in detail the proposed test methods 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 NEDO's refusal to accept the results of the emission test(s).

Personnel from NEDO and LCGHD 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 test(s) and submitted to NEDO within 30 days following completion of the test(s).

F. Miscellaneous Requirements

None

Emissions Unit ID: B002

SIC CODE 2821 SCC CODE _____ EMISSIONS UNIT ID B001

EMISSIONS UNIT DESCRIPTION Modification to Erie City 61.0 MMBTU/hr steam boiler retrofitted to supplementally burn landfill gas along with existing fuels of natural gas and pentane (process offgas)

DATE INSTALLED 1966, modified 6/07

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter					
PM ₁₀					
Sulfur Dioxide					
Organic Compounds					
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? _____ NESHAP? **Subpart Dc** PSD? _____ OFFSET POLICY? _____

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination BAT for this emissions unit shall include the use of LFG as fuel, installation and use of an **updated air combustion control system to more effectively control fuel/oxygen ratios**, good combustion practices, modification of the design of the existing burners to use a centered fired land fill gas gun and a revised diffuser design to minimize the combustion reactions that form NOx and carbon monoxide.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? _____

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$ _____

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES _____ NO

IDENTIFY THE AIR CONTAMINANTS: _____

NOVA Chemicals, Inc.
PTI Application: 02-22599
Issued: 2/12/2008

Facility ID: 0243000012

Emissions Unit ID: B002

Emissions Unit ID: **B002****Issued: 2/12/2008**SIC CODE 2821 SCC CODE _____ EMISSIONS UNIT ID B002EMISSIONS UNIT DESCRIPTION Modification to Steam Boiler G-101B rated at 61.0 MMBTU/hr retrofitted to supplementally burn landfill gas along with existing fuels of natural gas and pentane (process off-gas)DATE INSTALLED 1966, modified 6/07

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter					
PM ₁₀					
Sulfur Dioxide					
Organic Compounds					
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP? **Subpart Dc**

PSD?

OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination BAT for this emissions unit shall include the use of LFG as fuel, installation and use of an **updated air combustion control system to more effectively control fuel/oxygen ratios**, good combustion practices, modification of the design of the existing burners to use a centered fired land fill gas gun and a revised diffuser design to minimize the combustion reactions that form NOx and carbon monoxide.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? _____

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TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____

YES

NO

IDENTIFY THE AIR CONTAMINANTS: _____