



2/5/2014

Certified Mail

Bryan Stansloski  
NOVA CHEMICALS INC  
786 HARDY RD  
PAINESVILLE, OH 44077

|     |                                    |
|-----|------------------------------------|
| No  | TOXIC REVIEW                       |
| No  | SYNTHETIC MINOR TO AVOID MAJOR NSR |
| No  | CEMS                               |
| No  | MACT/GACT                          |
| No  | NSPS                               |
| No  | NESHAPS                            |
| No  | NETTING                            |
| No  | MODELING SUBMITTED                 |
| Yes | SYNTHETIC MINOR TO AVOID TITLE V   |
| Yes | FEDERALLY ENFORCABLE PTIO (FEPTIO) |
| No  | SYNTHETIC MINOR TO AVOID MAJOR GHG |

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 0243000012  
Permit Number: P0104987  
Permit Type: Renewal  
County: Lake

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this PTIO is a final action of the Director 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, made payable to "Ohio Treasurer Josh Mandel," 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  
77 South High Street, 17th Floor  
Columbus, OH 43215

## **How to save money, reduce pollution and reduce energy consumption**

The Ohio EPA is encouraging 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 Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/survey.aspx](http://www.epa.ohio.gov/survey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)425-9171 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA-NEDO



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
NOVA CHEMICALS INC**

|                |            |
|----------------|------------|
| Facility ID:   | 0243000012 |
| Permit Number: | P0104987   |
| Permit Type:   | Renewal    |
| Issued:        | 2/5/2014   |
| Effective:     | 2/5/2014   |
| Expiration:    | 5/7/2017   |





**Division of Air Pollution Control**  
**Permit-to-Install and Operate**  
for  
NOVA CHEMICALS INC

**Table of Contents**

|                                                                                                                                                               |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Authorization .....                                                                                                                                           | 1  |
| A. Standard Terms and Conditions .....                                                                                                                        | 3  |
| 1. What does this permit-to-install and operate ("PTIO") allow me to do?.....                                                                                 | 4  |
| 2. Who is responsible for complying with this permit? .....                                                                                                   | 4  |
| 3. What records must I keep under this permit? .....                                                                                                          | 4  |
| 4. What are my permit fees and when do I pay them?.....                                                                                                       | 4  |
| 5. When does my PTIO expire, and when do I need to submit my renewal application? .....                                                                       | 4  |
| 6. What happens to this permit if my project is delayed or I do not install or modify my source? .....                                                        | 5  |
| 7. What reports must I submit under this permit? .....                                                                                                        | 5  |
| 8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit? ..... | 5  |
| 9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ...                                                       | 5  |
| 10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report? .....                                   | 6  |
| 11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located? .....                                                 | 6  |
| 12. What happens if one or more emissions units operated under this permit is/are shut down permanently? .....                                                | 6  |
| 13. Can I transfer this permit to a new owner or operator?.....                                                                                               | 6  |
| 14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"? .....                                          | 7  |
| 15. What happens if a portion of this permit is determined to be invalid? .....                                                                               | 7  |
| B. Facility-Wide Terms and Conditions.....                                                                                                                    | 8  |
| C. Emissions Unit Terms and Conditions .....                                                                                                                  | 10 |
| 1. Emissions Unit Group -Steam Boilers: B001,B002, .....                                                                                                      | 11 |





**Final Permit-to-Install and Operate**  
NOVA CHEMICALS INC  
**Permit Number:** P0104987  
**Facility ID:** 0243000012  
**Effective Date:** 2/5/2014

## Authorization

Facility ID: 0243000012  
Application Number(s): A0037673  
Permit Number: 0104987  
Permit Description: FEPTIO renewal permit for two 61.0 MMBtu/hr steam boilers that burn landfill gas along with natural gas and pentane.  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 2/5/2014  
Effective Date: 2/5/2014  
Expiration Date: 5/7/2017  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

NOVA CHEMICALS INC  
786 HARDY RD  
Painesville, OH 44077

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

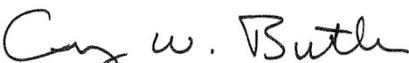
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northeast District Office  
2110 East Aurora Road  
Twinsburg, OH 44087  
(330)425-9171

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section 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 described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Craig W. Butler  
Interim Director



## Authorization (continued)

Permit Number: P0104987  
Permit Description: FEPTIO renewal permit for two 61.0 MMBtu/hr steam boilers that burn landfill gas along with natural gas and pentane.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

**Group Name: Steam Boilers**

|                                  |                       |
|----------------------------------|-----------------------|
| <b>Emissions Unit ID:</b>        | <b>B001</b>           |
| Company Equipment ID:            | Steam BoilerG-101A    |
| Superseded Permit Number:        | 02-22599              |
| General Permit Category andType: | Not Applicable        |
| <b>Emissions Unit ID:</b>        | <b>B002</b>           |
| Company Equipment ID:            | Steam Boiler (G-101B) |
| Superseded Permit Number:        | 02-22599              |
| General Permit Category andType: | Not Applicable        |



**Final Permit-to-Install and Operate**  
NOVA CHEMICALS INC  
**Permit Number:** P0104987  
**Facility ID:** 0243000012  
**Effective Date:** 2/5/2014

## **A. Standard Terms and Conditions**



**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions of this permit will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the [DO/LAA] in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the



change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



**Final Permit-to-Install and Operate**  
NOVA CHEMICALS INC  
**Permit Number:** P0104987  
**Facility ID:** 0243000012  
**Effective Date:** 2/5/2014

## **B. Facility-Wide Terms and Conditions**



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.



**Final Permit-to-Install and Operate**  
NOVA CHEMICALS INC  
**Permit Number:** P0104987  
**Facility ID:** 0243000012  
**Effective Date:** 2/5/2014

## **C. Emissions Unit Terms and Conditions**



**1. Emissions Unit Group -Steam Boilers: B001,B002,**

| EU ID | Operations, Property and/or Equipment Description                                                                                |
|-------|----------------------------------------------------------------------------------------------------------------------------------|
| B001  | Erie City 61.0 MMBTU/hr steam boiler supplementally burns landfill gas along with existing fuels of natural gas and pentane      |
| B002  | Steam Boiler G-101B rated at 61.0 MMBTU/h supplementally burns landfill gas along with existing fuels of natural gas and pentane |

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. See d)(2), d)(3), d)(4), d)(5) and e)(2)

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

|    | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a. | OAC rule 3745-31-05(A)(3)     | Hydrogen chloride (HCl) emissions shall not exceed 0.29 pound per hour (lb/hr) and 1.28 tons per year (tpy).<br><br>Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 5.98 lbs/hr and 26.20 tpy.<br><br>Volatile organic compound (VOC) emissions shall not exceed 7.68 lbs/hr and 33.62 tpy.<br><br>Carbon monoxide (CO) emissions shall not exceed 5.02 lbs/hr and 22.0 tpy.<br><br>Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.42 lb/hr and 1.83 tpy. |



|    | Applicable Rules/Requirements                                                                                                                                                                                                                                               | Applicable Emissions Limitations/Control Measures                                                                                                                                                                                       |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                                                                                                                                                                                                                             | Particulate emissions (PE) shall not exceed 0.75 lb/hr and 3.30 tpy.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-14-110, 3745-17-07, 3745-17-11 and 40 CFR Part 60, Subpart Dc. |
| b. | OAC rule 3745-110-03                                                                                                                                                                                                                                                        | The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).                                                                                        |
| c. | OAC rule 3745-17-07(A)                                                                                                                                                                                                                                                      | Visible particulate emission from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.                                                                                                        |
| d. | 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).                                                                                        |
| e. | 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)                                                                                         |
| f. | 40 CFR, Part 60, Subpart Dc<br><br>[In accordance with 40 CFR 60.40c(a), this emissions unit is a steam generating unit that has a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than 10 MMBtu/hr and commenced modification after June 9, 1989.] | See d)(1)                                                                                                                                                                                                                               |

(2) Additional Terms and Conditions

- a. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency (U.S. EPA), 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency (Ohio EPA).



- b. Best available technology (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<sub>x</sub> and CO.

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.

- c. This boiler shall only be operated with the NO<sub>x</sub> minimization techniques in place. Since, based on the permit application, it is impossible to operate this boiler without the benefit of NO<sub>x</sub> minimization techniques, no monitoring and record keeping will be required.
- d. The permittee shall tune this boiler twice yearly or follow the most recent recommendation from the vendor.

c) Operational Restrictions

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

d) 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 PTIO application for emissions units B001 and B002 was evaluated based on the actual materials and the design parameters of the emissions unit's(s') exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or 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.
- 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):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

- 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/m<sup>3</sup>): 7.5

Maximum Hourly Emission Rate (lbs/hr): 0.58

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m<sup>3</sup>): 58

MAGLC (ug/m<sup>3</sup>): 178.0

The permittee, has demonstrated that emissions of HCl from emissions unit(s) 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 air contaminant in accordance with the "Toxic Air Contaminant Statute", 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 rule 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 "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit 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", ORC 3704.03(F):
- 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 the "Toxic Air Contaminant Statute", 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 the "Toxic Air Contaminant Statute", 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 the "Toxic Air Contaminant Statute", 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.
- (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 the "Toxic Air Contaminant Statute", 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.
- (6) The permittee shall maintain its current 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 Part 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.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect
- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA e-Business Center: Air Services by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.

The permittee shall identify in the annual PER the following information during the 12-month reporting period for this emissions unit:

- a. each day when a fuel other than natural gas or landfill gas or pentane was burned in this emissions unit and the amount of fuel.
- (4) The permittee shall submit quarterly deviation (excursion) reports that identify:
  - a. all deviations (excursions) of the emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to



emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit;

- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (5) 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.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:

HCl emissions shall not exceed 0.29 lb/hr and 1.28 tpy.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation shall be demonstrated based upon an emission test performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 26 or 26A. 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, Fifth Edition, dated 11/98 or by any other emission factor approved by Ohio EPA.

The tpy emission limitation was developed by multiplying the short-term allowable HCl emission limitation (0.29lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if



compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

b. Emission Limitation:

NO<sub>x</sub> emissions shall not exceed 5.98 lbs/hr and 26.20 tpy.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation shall be demonstrated based upon an emission test performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 7. The emissions unit shall operate at maximum steam rate.

The tpy emission limitation was developed by multiplying the short-term allowable NO<sub>x</sub> emission limitation (5.98lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

c. Emission Limitation:

VOC emissions shall not exceed 7.68 lbs/hr and 33.62 tpy.

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.

If required, compliance with the hourly emission limitation shall also be demonstrated based upon an emission test performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 25 or 25A.

The tpy emission limitation was developed by multiplying the short-term allowable VOC emission limitation (7.68lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

d. Emission Limitation:

CO emissions shall not exceed 5.02 lbs/hr and 22.0 tpy.

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.

The tpy emission limitation was developed by multiplying the short-term allowable CO emission limitation (5.02lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

e. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 0.42 lb/hr and 1.83 tpy.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation shall be demonstrated based upon an emission test performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

The tpy emission limitation was developed by multiplying the short-term allowable SO<sub>2</sub> emission limitation (0.42lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

f. Emission Limitation:

PE shall not exceed 0.75 lb/hr and 3.30 tpy.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation shall be demonstrated based upon an emission test performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

The tpy emission limitation was developed by multiplying the short-term allowable PE limitation (0.75lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance is demonstrated with the annual emission limitation.

g. Emission Limitation:

Visible particulate emission from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the visible particulate emission limitation shall be demonstrated based upon visible particulate emission observations performed in



**Final Permit-to-Install and Operate**  
NOVA CHEMICALS INC  
**Permit Number:** P0104987  
**Facility ID:** 0243000012  
**Effective Date:** 2/5/2014

accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9.

- g) Miscellaneous Requirements
  - (1) None.