

ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER A-500-6097234137

Version: 1.0

Issue Date: August 12, 2021

Pursuant to section 20.3 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 and subject to all other applicable Acts or regulations this Environmental Compliance Approval is issued to:

NOVA CHEMICALS CORPORATION

1000-7TH AVENUE S.W.
CALGARY ALBERTA
T2P5L5

For the following site:

285 Albert Street , Corunna, ST. CLAIR, ONTARIO, CANADA, N0N
1G0

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s) 8050-B4GTPU, issued on October 29, 2018.

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

- one (1) natural gas fired boiler, having a maximum thermal input of 3,532,140 kilojoules per hour, exhausting to the air at a maximum volumetric flow rate of 0.88 normal cubic metre per second through a vertical stack having an exit diameter of 0.33 metre at a height of 3.5 metres above the roof and 10.0 metres above grade;
- modifications to an existing flare system, serving an existing polyethylene process, including the addition of exhausts from the new pilot plant, operating at a volumetric flow rate of 3.2 normal cubic metres per second (smokeless) with an approximate heat release of 533,000 kilojoules per second, and a maximum design volumetric flow rate of 17.7 normal cubic metres per second with a corresponding heat release of 2,620,000 kilojoules per second, exhausting through a flare stack, having a new flare tip, equipped with an arrester added to the bottom flange and a diameter of 0.61 metre, extending 76.2 metres above grade;
- The use of a new catalyst and four new comonomers (identified in the application as Comonomers A, B, C and D) in the processes of the pilot plant;
- nine (9) exhaust vents, serving the pilot plant with an existing QA/QC laboratory, and QA/QC laboratory functions relocated from the Administration Building to the pilot plant, discharging to the air through the exhaust vents described in the following table:

| Equipment Description | Exhaust Volumetric Flow Rate (cubic metre per second) | Stack Exit Diameter (metre) | Stack Height Above Grade (metre) | Stack Height Above Roof (metre) |
|---|---|-----------------------------|----------------------------------|---------------------------------|
| one (1) catch basin vent | 0.0047 | 0.08 | 10.0 | 3.5 |
| one (1) pelletizer vent | 0.2 | 0.15 | 8.5 | 2.0 |
| one (1) stripper vent | 0.085 | 0.05 | 17.0 | 10.5 |
| one (1) decanter vent | 0.0012 | 0.08 | 8.0 | 1.5 |
| one (1) pellet dewatering/dryer vent | 0.35 | 0.15 | 8.5 | 2.0 |
| one (1) laboratory fume hood vent | 0.35 | 0.15 | 4.457 | 0.4657 |
| one (1) general physical laboratory exhaust vent | 1.73 | 0.72 | 4.52 | 0.46 |
| one (1) moisture teller and dust collector exhaust vent | 0.64 | 0.63 | 5.55 | 1.49 |
| one (1) alternate stripper decanter vent | 0.046 | 0.05 | 6.9 | 18.5 |

all in accordance with the application certified by Richard Ilves on August 24, 2020 for amendment of Environmental Compliance Approval (Air) No. 8050-B4GTPU, the Emission Summary and Dispersion Modelling Report prepared by NOVA Chemicals Corporation and dated June 11, 2020, the Acoustic Assessment Report prepared by HGC Engineering and dated July 9, 2020, the additional information provided by Corey Kinart of HGC Engineering in the emails dated June 24, 2021 and July 5, 2021, and supporting information associated with the application.

DEFINITIONS

For the purpose of this environmental compliance approval, the following definitions apply:

1. "Acoustic Assessment Report" means the report, prepared in accordance with Publication NPC-233 submitted in support of the application, that documents all sources of noise emissions and Noise Control Measures present at the Facility. "Acoustic Assessment Report" also means the Acoustic Assessment Report prepared by HGC Engineering, dated July 9, 2020 and signed by Corey Kinart, P. Eng.;
2. "Acoustic Audit" means an investigative procedure consisting of measurements and/or acoustic modelling of all sources of noise emissions due to the operation of the Facility, assessed to determine

compliance with the performance limits for the Facility regarding noise emissions, completed in accordance with the procedures set in Publication NPC-103 and reported in accordance with Publication NPC-233;

3. "Acoustic Audit Report" means a report presenting the results of an Acoustic Audit, prepared in accordance with Publication NPC-233;
4. "Acoustical Consultant" means a person currently active in the field of environmental acoustics and noise/vibration control, who is familiar with Ministry noise guidelines and procedures and has a combination of formal university education, training and experience necessary to assess noise emissions from a Facility;
5. "Approval" means this Environmental Compliance Approval, including the application and supporting documentation listed above;
6. "Company" means NOVA Chemicals Corporation that is responsible for the construction or operation of the Facility and includes any successors and assigns;
7. "Director" means a person appointed for the purpose of section 20.3 of the EPA by the Minister pursuant to section 5 of the EPA;
8. "District Manager" means the District Manager of the appropriate local district office of the Ministry, where the Facility is geographically located;
9. "EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;
10. "Equipment" means the equipment described in the Company's application, this Approval and in the supporting documentation submitted with the application, to the extent approved by this Approval;
11. "Facility" means the entire operation located on the property where the Equipment is located;
12. "Independent Acoustical Consultant" means an Acoustical Consultant who is not representing the Company and was not involved in preparing the Acoustic Assessment Report or the design /implementation of Noise Control Measures for the Facility and/or Equipment. The Independent Acoustical Consultant shall not be retained by the Acoustical Consultant involved in the noise impact assessment or the design/implementation of Noise Control Measures for the Facility and/or Equipment;
13. "Manual" means a document or a set of documents that provide written instructions to staff of the Company;
14. "Ministry" means the ministry of the government of Ontario responsible for the EPA and includes all officials, employees or other persons acting on its behalf;
15. "Noise Control Measures" means measures to reduce the noise emission from the Facility and/or Equipment including, but not limited to, silencers, acoustic louvers, enclosures, absorptive treatment, plenums and barriers. It also means the noise control measures outlined in the Acoustic Assessment Report;
16. "Provincial Officer" means any Ministry employee appointed by the Minister pursuant to Section 5 of the Act;
17. "Publication NPC-103" means the Ministry Publication NPC-103 "Procedures" of the Model Municipal Noise Control By-Law, Final Report, August 1978 published by the Ministry as amended;
18. "Publication NPC-233" means the Ministry Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October, 1995 as amended;
19. "Publication NPC-300" means the Ministry Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", August 2013, as amended;

20. "Sarnia District Office" means the Sarnia district office of the Ministry.

TERMS AND CONDITIONS

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

A. Operation and Maintenance

1. The Company shall ensure that the Equipment is properly operated and maintained at all times. The Company shall:
 - a. prepare, not later than three (3) months after the date of this Approval and update as necessary, a Manual outlining the operating procedures and a maintenance program for the Equipment, including:
 - i. routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers;
 - ii. emergency procedures;
 - iii. procedures for any record keeping activities relating to operation and maintenance of the Equipment;
 - iv. all appropriate measures to minimize noise and odorous emissions from all potential sources; and
 - b. implement the recommendations of the Manual.

B. Record Retention

1. The Company shall retain, for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the recording activities required by this Approval, and make these records available for review by staff of the Ministry upon request. The Company shall retain:
 - a. all records on the maintenance, repair and inspection of the Equipment; and
 - b. all records of any environmental complaints, including:
 - i. a description, time and date of each incident to which the complaint relates;
 - ii. wind direction at the time of the incident to which the complaint relates; and
 - iii. a description of the measures taken to address the cause of the incident to which the complaint relates and to prevent a similar occurrence in the future.

C. Notification of Complaints

1. The Company shall notify a Provincial Officer of the Sarnia District Office or the District Manager, verbally, of each environmental complaint about the Facility's operations within two (2) business days of the complaint. The notification shall include:
 - a. a description of the nature of the complaint; and
 - b. the time and date of the incident to which the complaint relates.

D. Noise

1. The Company shall:

- a. implement by not later than forty-eight (48) months after the date of this Approval, the Noise Control Measures outlined in the Acoustic Assessment Report;
- b. ensure, subsequent to the implementation of the Noise Control Measures that the noise emissions from the Facility comply with the limits set in Ministry Publication NPC-300; and
- c. ensure that the Noise Control Measures are properly maintained and continue to provide the acoustical performance outlined in the Acoustic Assessment Report.

2. ACOUSTIC AUDIT

- a. The Company shall carry out Acoustic Audit measurements on the actual noise emissions due to the operation of the Facility. The Company:
 - i. shall carry out Acoustic Audit measurements in accordance with the procedures in Publication NPC-103;
 - ii. shall submit an Acoustic Audit Report on the results of the Acoustic Audit, prepared by an Independent Acoustical Consultant, in accordance with the requirements of Publication NPC-233, to the District Manager and the Director, not later than twelve (12) months after the full implementation of the Noise Control Measures.
- b. The Director:
 - i. may not accept the results of the Acoustic Audit if the requirements of Publication NPC-233 were not followed;
 - ii. may require the Company to repeat the Acoustic Audit if the results of the Acoustic Audit are found unacceptable to the Director.

REASONS

The reasons for the imposition of these terms and conditions are as follows:

1. Condition No. A1 is included to emphasize that the Equipment must be maintained and operated according to a procedure that will result in compliance with the EPA, the Regulations and this Approval.
2. Condition No. B1 is included to require the Company to keep records and to provide information to staff of the Ministry so that compliance with the EPA, the Regulations and this Approval can be verified.
3. Condition No. C1 is included to require the Company to notify staff of the Ministry so as to assist the Ministry with the review of the site's compliance.
4. Condition No. D1 is included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the Facility.
5. Condition No. D2 is included to require the Company to gather accurate information and submit an Acoustic Audit Report in accordance with procedures set in the Ministry's noise guidelines, so that the environmental impact and subsequent compliance with this Approval can be verified.

APPEAL PROVISIONS

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

- a.** The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b.** The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary
Environmental
Review
Tribunal
655 Bay Street,
Suite 1500
Toronto,
Ontario
M5G 1E5*

AND

*The Minister of the
Environment, Conservation
and Parks
777 Bay Street, 5th Floor
Toronto, Ontario
M7A 2J3*

AND

*The Director appointed for the purposes
of Part II.1 of the Environmental
Protection Act
Ministry of the Environment,
Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5*

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or <https://olt.gov.on.ca/tribunals/ert/about-the-ert/>**

This instrument is subject to Section 38 of the Environmental Bill of Rights, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at www.ero.ontario.ca, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

Dated at Toronto this 12th day of August, 2021

A handwritten signature in black ink, appearing to read "Neryed Ragbar". The signature is fluid and cursive, with the first name being more prominent.

Neryed Ragbar

Director

appointed for the purposes of Part II.1 of the Environmental Protection Act

c: Richard Ilves
Corey Kinart, HGC Engineering
Matt Kachler, NOVA Chemicals Corporation