

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 2125-BRQJH4

Issue Date: October 27, 2020

ARLANXEO Canada Inc.
1265 Vidal Street South
Sarnia, Ontario
N7T 7M2

Site Location:ARLANXEO Canada Inc.
1265 Vidal Street South
Sarnia City, County of Lambton, Ontario

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:

A petrochemical products manufacturing facility, consisting of the following sources:

- K-1 Area
 - one (1) flare stack named the East Flare, designated as Source ID H5, having an exit diameter of 0.5 metre, with a capacity to burn hydrocarbons up to 865.44 kilograms per hour, capable of a smokeless hydrocarbon burning rate of 16,100 kilograms per hour, a steam flow rate of 11,794 kilograms per hour, discharging into the air at volumetric flow rate of 17.55 cubic metres per second, at a height of 61 metres above grade;
 - one (1) flare stack named the West Flare, designated as Source ID W5, used as a back-up flare for Source H5, having an exit diameter of 0.5 metre, with a capacity to burn hydrocarbons up to 865.44 kilograms per hour, capable of a smokeless hydrocarbon burning rate of 16,100 kilograms per hour, a steam flow rate of 11,794 kilograms per hour, discharging into the air at volumetric flow rate of 17.55 cubic metres per second, at a height of 64.9 metres above grade, equipped with a flare line opening designated as Source ID O_K1FLO;
 - one (1) brine holding pond identified as the North Brine Pond, designated as Source ID O_NBP, used in conjunction with underground storage caverns containing hydrocarbons, equipped with a continuous pilot flame system, designated as Source ID NBPFLAME;
 - one (1) brine holding pond identified as the South Brine Pond, designated as Source ID O_SBP, used in conjunction with underground storage caverns containing hydrocarbons, equipped with a continuous pilot flame system, designated as Source ID SBPFLAME;
 - fugitive emissions from the following sources:

- six (6) sources from the K-1 West Area, designated as Source IDs OF_K1W-1, OF_K1W-2, OF_K1W-3, OF_K1W-4, OF_K1W-5 and OF_K1W-6 representing the North sphere area, railcar loading/unloading rack, South sphere area, West Flare area, Well#5 area and South Brine Pond area respectively;
- eight (8) sources from the K-1 East Area, designated as Source IDs OF_K1E-1, OF_K1E-2, OF_K1E-3, OF_K1E-4, OF_K1E-5, OF_K1E-6, OF_K1E-7, OF_K1E-8 representing the compressor building, area around sphere 16, area around sphere 15, area around sphere 17 and Well # 4, Butylenes Recovery Unit (BRU) , area around East Flare, area around Well # 3 and natural gas piping to north brine pond respectively;
- sphere emissions from water draining from three (3) sources designated as Source IDs O_S7, O_S8 and O_S14 representing Sphere-7, Sphere-8 and Sphere-14 respectively;
- quality assurance / quality control laboratory operations, designated as Source ID O_K1LAB;
- TBC handling and glycol handling facilities designated as Source IDs O_K1TBC and O_K1PG respectively;
- C-100 Compressors Seals Vent, designated as Source ID O_C100V
- Butadiene Extraction Unit # 2 (BE#2) and Butadiene Extraction Unit # 3 (BE#3)
 - losses from the acetonitrile storage tanks designated as Source IDs O_B2_TK2 and O_B3TK91;
 - losses from wastewater handling operations designated as Source IDs O_B2_WW and O_B3_WW;
 - losses from wastewater tank truck loading designated as Source IDs O_B2_TTL and O_B3_TTL;
 - fugitive emissions from process equipment designated as Source IDs OF_B2 and OF_B3;
 - quality assurance / quality control laboratory sample handling operations for BE#2 and BE#3, designated as Source IDs O_B2LAB and O_B3LAB respectively;
 - pickling solution handling facilities designated as Source IDs O_B2SN and O_B3SN;
 - actrene handling facilities designated as Source IDs O_B2ACT and O_B3ACT;
 - antioxidant handling operations designated as Source IDs O_B2AO and

O_B3AO;

- caustic handling facilities designated as Source ID O_B3CAU;
- losses from reboiler condensate discharge designate as Source ID O_B3_CD;
- Waste Operations - including the Biological Oxidation (BIOX) unit, Main Oil Separator (MOS) and the BIOX Feed Pit (BFP)
 - one (1) main oil separator designated as Source ID BX_MOS;
 - one (1) tank with a height of 2.71 metres above grade, serving as a rich feed tank handling wastewater delivered to the BIOX unit via trucks, including third party wastewater, designated as Source ID BX_TC-14;
 - one (1) open pump BIOX feed pit to receive waste water, designated as Source ID BFP;
 - one (1) equalization tank with a height of 6.61 metres above grade serving the BIOX wastewater treatment process, designated as Source ID BX_TR5;
 - four (4) aeration tanks including TR-62, TR-63 and TR-64 serving the BIOX wastewater treatment process and TR-61 serving as diversion capacity, collectively designated as Source ID BX_ATK;
 - lime handling operations within the Sludge Dewatering Facility, consisting of a lime handling silo equipped with a bin vent filter, discharging into the air at a volumetric flow rate of 0.017 cubic metre per second through a stack, designated as Source ID BX_SDW, having an exit diameter of 0.3 metre, extending 8 metres above the roof and 17.3 metres above grade;
 - one (1) tank designated as Source ID TK-530, with a height of 14.63 metres above grade to serve wastewater handling operations from third party streams;
 - one (1) process additive tank handling sulphuric acid, with a height of 4.8 metres above grade, serving the BIOX unit, designated as Source ID BX_TK100;
 - one (1) process additive tank handling caustic material, with a height of 4.8 metres above grade, serving the BIOX unit, designated as Source ID BX_TK200;
 - one (1) process additive tank handling phosphoric acid, with a height of 4.8 metres above grade, serving the BIOX unit, designated as Source ID BX_TK300;
 - one (1) tank with a height of 4.8 metres above grade, serving as a rich feed tank handling third party wastewater delivered to the BIOX unit via trucks,

designated as Source ID BX_TK400;

- one (1) process additive tank handling spent caustic material, with a height of 4.8 metres above grade, serving the BIOX unit, designated as Source ID BX_TK500;
- quality assurance / quality control laboratory operations, designated as Source IDs BXO_LAB1 and BXO_LAB2;
- four (4) tanks serving sludge dewatering operations designated as Source IDs BX_TK1, BX_TK2, BX_TK3 and BX_TK4;
- one (1) tank handling the oil skimmed from the separator, designated as Source ID BX_TKMOS;
- clarification polymer compound storage totes, designated as Source ID BX_CP;
- Maintenance Operations - Central West Maintenance Shop (WCMS)
 - one (1) exhaust system serving the grinding/buffing/polishing operations, discharging into the air at a volumetric flow rate of 0.647 cubic metre per second through a stack, designated as Source ID MW-2, having an exit diameter of 0.28 metre, at an elevation of 5 metres above grade;
 - one (1) exhaust system serving the abrasive blasting operations, discharging into the air at a volumetric flow rate of 0.05 cubic metre per second through a stack, designated as Source ID MW-3, having an exit diameter of 0.3 metre, at an elevation of 2.7 metres above grade;
- Maintenance Operations - Other
 - one (1) exhaust system serving the grinding/buffing/welding operations in the Pipefitters and Welders Shop, discharging into the air at a volumetric flow rate of 1.42 cubic metres per second through a stack, designated as Source ID MP-1, having an exit diameter of 0.254 metre, at an elevation of 3.66 metres above grade;
 - one (1) exhaust system serving the grinding/buffing/welding operations in the Pipefitters and Welders Shop, discharging into the air at a volumetric flow rate of 1.42 cubic metres per second through a stack, designated as Source ID MP-2, having an exit diameter of 0.254 metre, at an elevation of 3.66 metres above grade; and
- standby powers sources;

all in accordance with the Application for Approval submitted by ARLANXEO Canada Inc., dated April 30, 2018 and signed by Peter West, Manager Technical and Site Services and the supporting information, including the Emission Summary and Dispersion Modelling Report, submitted by ARLANXEO Canada Inc., dated April 2018

and signed by Heather Michelin, and all additional information in support of the application provided by Heather Michelin, ARLANXEO Canada Inc.

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

1. "*Adjacent Property*" means the Origin Materials facility located at 1265 Vidal Street South, Sarnia;
2. "*Approval*" means this Environmental Compliance Approval, including the application and supporting documentation listed above;
3. "*Company*" means ARLANXEO Canada Inc., that is responsible for the construction or operation of the *Facility* and includes any successors and assigns;
4. "*Compound of Concern*" means a contaminant that is not registered by the *Company* on the *Technical Standards Registry*, and that is described in paragraph 4 subsection 26 (1) of *O. Reg. 419/05*, namely, a contaminant that is discharged from the *Facility* in an amount that is not negligible;
5. "*Contaminant Monitoring Plan*" means the document titled "ARLANXEO Proposal for a Benzene Monitoring Program" revised version dated June 2020, for the monitoring of Benzene (Chemical Abstracts Service Registry Number 71-43-2) discharges to air from the wastewater being treated by the *Facility*;
6. "*District Manager*" means the District Manager of the appropriate local district office of the *Ministry*, where the *Facility* is geographically located;
7. "*Emission Summary Table*" means a table described in paragraph 14 of subsection 26 (1) of *O. Reg. 419/05*;
8. "*EPA*" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended ;
9. "*Equipment*" means any equipment or processes described in the *Company's* application, this *Approval* and in the supporting documentation submitted with the application, to the extent approved by this *Approval* and includes any *Schedules* referred to herein;
10. "*ESDM Report*" means the most current Emission Summary and Dispersion Modelling Report that describes the *Facility* and is prepared and updated in accordance with section 26 of *O. Reg. 419/05* and the *Procedure Document*;
11. "*Facility*" means the entire operation located on the property where the *Equipment* is located;
12. "*Manual*" means a document or a set of documents that provide written instructions to staff of the *Company*;

13. "*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;
14. "*Original ESDM Report*" means the Emission Summary and Dispersion Modelling Report which was prepared in accordance with section 26 of *O. Reg. 419/05* and the *Procedure Document* by Heather Michelin, ARLANXEO Canada Inc. and dated April 2018, submitted in support of the application, and includes any changes to the report made up to the date of issuance of this *Approval*;
15. "*Noise Screening Documents*" means the completed *Primary Noise Screening Method*, or the completed *Secondary Noise Screening Method*, with supporting information and documentation, as updated in accordance with Condition 2 of this *Approval*;
16. "*O. Reg. 419/05*" means Ontario Regulation 419/05, Air Pollution – Local Air Quality, as amended;
17. "*Petrochemical - Industry Standard*" means the *Technical Standard* in Chapter 7 of the *Technical Standards Publication*;
18. "*Primary Noise Screening Method*" means the *Ministry* Primary Noise Screening Method form as described in the "Primary Noise Screening Method Guide", January 31, 2017, as amended;
19. "*Procedure Document*" means *Ministry* guidance document titled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated March 2018, as amended;
20. "*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;
21. "*Schedules*" means the following schedules attached to this *Approval* and forming part of this *Approval* namely:
 - a. Schedule A - Supporting Documentation
22. "*Secondary Noise Screening Method*" means the *Ministry* Secondary Noise Screening Method form as described in the "Secondary Noise Screening Method Guide", January 31, 2017, as amended;
23. "*Technical Standard*" has the same meaning as in section 1 of *O. Reg. 419/05*;
24. "*Technical Standards Publication*" has the same meaning as in section 1 of *O. Reg. 419/05*; and
25. "*Technical Standards Registry*" means the *Ministry's* Technical Standards Registry – Air Pollution for *Technical Standard* registrations described in section 39 of *O. Reg. 419/05* made under the *EPA*.

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

TERMS AND CONDITIONS

1. 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, including spill clean-up 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
 - v. the frequency of inspection and replacement of the filter material in the *Equipment*;
 - b. implement the recommendations of the *Manual*.
2. Condition 1.1 does not apply with respect to a contaminant, which is not a *Compound of Concern*, discharged to air by *Equipment* which has requirements under a *Technical Standard* for which the *Company* is registered that are equivalent to, more detailed than or more stringent than the operation and maintenance requirements set out in Condition 1.1.

2. DOCUMENTATION REQUIREMENTS

1. No later than **March 31** in each year, the *Company* shall update the *ESDM Report* in accordance with section 26 of *O. Reg. 419/05* and shall update the *Noise Screening Documents* so that the information in the reports is accurate as of December 31 in the previous year.
2. No later than three (3) months after the conclusion of the implementation of the *Contaminant Monitoring Plan*, the *Company* shall update the *ESDM Report* in accordance with section 26 of *O. Reg. 419/05*, so that the information in the report reflects the consideration of observations from the *Contaminant Monitoring Plan*.

3. While preparing or updating the *ESDM Report* in order to comply with the requirements of Conditions 2.1 and 2.2 of this *Approval*, the *Company* shall consider the most current information from the *Adjacent Property* with which this *Facility* is deemed to be a single property in accordance with section 4 of *O. Reg. 419/05*.
4. The *Company* shall make the *Emission Summary Table* (see section 27 of *O. Reg. 419/05*), the *Noise Screening Documents* and a list of contaminants registered by the *Company* on the *Technical Standards Registry*, available for examination by any person, without charge, by posting it on the Internet or by making it available during regular business hours at the *Facility*.

3. 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. a copy of the *Original ESDM Report* and each updated version;
 - b. supporting information used in the emission rate calculations performed in the *ESDM Reports*;
 - c. all records on the maintenance, repair and inspection of the *Equipment*; and
 - d. 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.
2. Condition 3.1 does not apply with respect to a contaminant, which is not a *Compound of Concern*, discharged to air by *Equipment* which has requirements under a *Technical Standard* for which the *Company* is registered that are equivalent to, more detailed than or more stringent than the record retention requirements set out in Condition 3.1.

4. CONTAMINANT MONITORING PLAN

1. The *Company* shall commence the implementation of the *Contaminant Monitoring Plan*, within three (3) months of the date of the this *Approval* and

shall continue the implementation of the plan for a minimum of one (1) year after the commencement of the implementation of the *Contaminant Monitoring Plan*.

2. The *Company* shall notify the *District Manager* in writing of the date of commencement and conclusion of the implementation of the *Contaminant Monitoring Plan* at least five (5) business days prior to the commencement and conclusion respectively of the implementation of the *Contaminant Monitoring Plan*.
3. Condition 4.1 and 4.2 do not apply with respect to a contaminant, which is not a *Compound of Concern*, discharged to air by *Equipment* which has requirements under a *Technical Standard* for which the *Company* is registered.

5. NOTIFICATION OF COMPLAINTS

1. During regular business hours, the *Company* shall notify the *District Manager*, immediately of each environmental complaint. After regular business hours, the *Company* shall notify the Spills Action Centre (SAC) of the *Ministry* of each environmental complaint. These notifications shall include:
 - a. a description of the nature of the complaint;
 - b. the time and date of the incident to which the complaint relates;
2. The *Company*, upon notification of a complaint to the *District Manager* or Spills Action Centre (SAC) of the *Ministry*, shall initiate appropriate steps to determine all possible causes of the complaint, and shall proceed to take the necessary actions to appropriately deal with the cause of the subject matter of the complaint;
3. Condition 5.1 and 5.2 do not apply with respect to a contaminant, which is not a *Compound of Concern*, discharged to air by *Equipment* which has requirements under a *Technical Standard* for which the *Company* is registered that are equivalent to, more detailed than or more stringent than the complaints recording and response procedures set out in Conditions 5.1 and 5.2.

6. NOISE

1. The *Company* shall, at all times, ensure that the noise emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-300*.

SCHEDULE A - Technical Standards which apply to the *Company*:

1. *Petrochemical - Industry Standard* with respect to 1,3-butadiene (Chemical Abstracts Service Registry Number 106-99-0) , Chapter 7 of the *Technical Standards Publication*, under Registration Number 101-17-393-rv0.

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

1. Condition No. 1 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. 2 is included to require the *Company* to maintain ongoing documentation that demonstrates compliance with the *EPA*, the *Regulations* and this *Approval*. The *Company* is required to have up to date *Noise Screening Documents* and an up to date *ESDM Report* that describes the *Facility* at all times and make the *Emission Summary Table* from that report and the *Noise Screening Documents* available to the public on an ongoing basis in order to maintain public communication with regard to the emissions from the *Facility*.
3. Condition No. 3 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.
4. Condition No. 4 is included to require the *Company* to gather accurate information so that the environmental impact and subsequent compliance with the *EPA*, the *Regulations*, and this *Approval* can be verified.
5. Condition No. 5 is included to require the *Company* to notify staff of the *Ministry* so as to assist the *Ministry* with the review of the *Facility's* compliance.
6. Condition No. 6 is included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the *Facility*.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 5051-7TLJ2P, 5589-75LPGF, 8-1041-89-006, 8-1008-82-006 issued on July 26, 2009, July 31, 2007, June 7, 1989 and March 8, 1982 respectively.

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 www.ert.gov.on.ca**

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 <https://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 27th day of
October, 2020

Rudolf Wan, P.Eng.
Director
appointed for the purposes of Part
II.1 of the *Environmental Protection
Act*

NB/
c: District Manager, MECP Sarnia District Office
Heather Michelin, ARLANXEO Canada Inc.