

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 8295-CGGLZ3

Issue Date: September 1, 2023

Clean Harbors Canada, Inc.
4090 Telfer Rd
Corunna, Ontario
N0N 1G0

Site Location: Clean Harbors Canada Inc.
4090 Telfer Rd Corunna
St. Clair Township, County of Lambton
N0N 1G0

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 thermal treatment system to be used for the thermal treatment of hauled industrial liquid waste venting into the atmosphere via an exhaust stack, having an exit diameter of 1.22 metres, extending 68.5 metres above grade. The Facility's maximum thermal treatment rate is 140,000 tonnes per year of Waste.

The system consists of the following major processes and support units:

- a refractory-lined, fixed chamber incinerator
- a three-stage gas conditioning and cleaning system, consisting of:
 - an alkaline spray dryer
 - a powdered activated carbon injection system
 - a four compartment baghouse with an air to cloth ration of 4.1 to 1 and a total filtering area of 2790 square meters
- incineration pre-treatment tank storage system categorized as:

- Category 1: organic waste storage and feed tanks, equipped with nitrogen blankets for emission control and vented to the incinerator;
 - Category 2: alkaline system tanks containing process water and vented to atmosphere;
 - Category 3: acid-alkali treatment tanks, vented to a sodium hydroxide scrubber for emission control; and
 - Category 4: leachate tank, vented to the incinerator.
- two natural gas fired package boilers
- Leachate Pretreatment System used to treat leachate from the landfill prior to it being used as quench in the incinerator

all in accordance with the Application for Approval (Air) submitted by Clean Harbors Canada, Inc., dated February 16, 2022 and signed by Michael Parker, Vice President, Canadian Environmental Compliance; and the supporting information, including the Emission Summary and Dispersion Modelling Report, submitted by GHD, dated January 28, 2022 and signed by Gordon Reusing and includes any changes to the report made up to the date of issuance of this Approval.

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 GHD Limited, dated March 9, 2022 and signed by Michael Masschaele;
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. "Adverse Effect" means Adverse Effect as defined in subsection 1 (1) of the EPA;

6. "Approval" means this Environmental Compliance Approval, including the application and supporting documentation listed above;
7. "Automatic Waste Feed shut-Off (AWFSO)" is the stepwise removal of waste feed streams while maintaining flame in the primary zone using a normal amount of natural gas;
8. "Best Management Practices Plan" means a document or a set of documents which describe measures to minimize dust emissions from the Facility and/or Equipment, as updated in accordance with Condition 1 of this Approval;
9. "Company" means Clean Harbors Canada, Inc. that is responsible for the construction or operation of the Facility and includes any successors and assigns in accordance with section 19 of the EPA;
10. "Continuous Monitoring Plan" means a plan to continuously monitor and record the parameters as required by Condition 11.1;
11. "Continuous Monitoring System" means the continuous emission monitoring system described in the Continuous Monitoring Plan, consisting of continuous monitors and recording devices;
12. "Date of Commissioning" means the first day on which the Leachate Pretreatment System is used to treat leachate;
13. "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;
14. "District Manager" means the District Manager of the appropriate local district office of the Ministry, where the Facility is geographically located;
15. "Quench Verification Plan" means a comprehensive verification program, which the Company shall implement to ensure that the materials used as quench do not result in an Adverse Effect, and to ensure that the Equipment is operated in accordance with the requirements in this Approval;
16. "EPA" means the *Environmental Protection Act*, R.S.O. 1990, c.E.19;
17. "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;
18. "ESDM Report" means the most current Emission Summary and Dispersion Modelling Report that describes the Facility. The ESDM Report is based on the Original ESDM Report and is updated after the issuance of this Approval in accordance with section 26 of O. Reg. 419/05 and the Procedure Document;
19. "Facility" means the entire operation located on the property where the Equipment is located;

20. "Incinerator" means the refractory-lined, fixed chamber incinerator that is part of the thermal treatment system;
21. "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;
22. "Leachate Pretreatment System" means the Dissolved Air Flotation system used to treat leachate from the landfill prior to it being used as quench in the incinerator;
23. "Main Stack" means the exhaust stack that discharges emissions generated during combustion of waste in the incinerator after those emissions have been treated by the gas conditioning and cleaning system;
24. "Manager" means the Manager, Technology Standards Section, Technical Assessment and Standards Development Branch, or any other person who represents and carries out the duties of the Manager, Technology Standards Section, Technical Assessment and Standards Development Branch, as those duties relate to the conditions of this Approval;
25. "Manual" means a document or a set of documents that provide written instructions to staff of the Company;
26. "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;
27. "Monitoring Contaminants" means the contaminants listed in Schedule E;
28. "Noise Control Measures" means measures to reduce the noise emission from the Facility and/or Equipment including, but not limited to silencers, acoustic louvres, enclosures, absorptive treatment, plenums and barriers. It also means the noise control measures outlined in section 6 of the Acoustic Assessment Report;
29. "Noise Guidelines for Landfill Sites" means Ministry draft publication Noise Guidelines for Landfill Sites, October 1998, as amended;
30. "O. Reg. 347" means Ontario Regulation 347, R.R.O. 1990, as amended;
31. "Pre-Test Plan" means a plan for the Source Testing including the information required in Section 5 of the Source Testing Code;

32. "Procedure Document" means Ministry guidance document titled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated February 2017, as amended;
33. "Publication NPC-103" means the Ministry Publication NPC-103 of the Model Municipal Noise Control By-Law, Final Report, August 1978, published by the Ministry as amended;
34. "Publication NPC-233" means the Ministry Publication NPC-233, Information To Be Submitted For Approval of Stationary Sources Of Sound, October, 1995, as amended;
35. "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;
36. "Schedules" means the following schedules attached to this Approval and forming part of this Approval namely:
 - Schedule A - Targeted Sources for Source Testing
 - Schedule B - Test Contaminants for Source Testing
 - Schedule C - Source Testing Procedures
 - Schedule D - Dioxins, Furans and Dioxin-like PCBs (Polychlorinated Biphenyls)
 - Schedule E - Air Quality Monitoring Program Contaminants and Sampling Frequency
37. "Source Testing" means site-specific sampling and testing to measure emissions resulting from operating the Targeted Sources under operating conditions that will derive an emission rate that, for the relevant averaging period of the contaminant, is at least as high as the maximum emission rate that the source of contaminant is reasonably capable of, or a rate approved by the Manager, within the approved operating range of the Targeted Sources which satisfies paragraph 1 of subsection 11(1) of O. Reg. 419/05;
38. "Source Testing Code" means the Ontario Source Testing Code, dated June 2010, prepared by the Ministry, as amended;
39. "Targeted Sources" means the sources listed in Schedule A;
40. "Test Contaminants" means the contaminants listed in Schedule B;

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, before commencement of operation of the Equipment, 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.
 - b. implement the recommendations of the Manual.
2. The Company shall implement and maintain Best Management Practices Plans for the control of fugitive dust, noise and odour emissions resulting from the operation of the Facility. The Company shall update the Best Management Practices Plan as necessary or at the direction of the District Manager.
3. The organic waste storage and feed tanks shall be equipped with nitrogen blankets for emission control and vented to the incinerator. Supplementary carbon bed scrubbers shall be used during periods when the incinerator is off-line.
4. The leachate storage tank shall be vented to the incinerator. Supplementary carbon bed scrubbers shall be used during periods when the incinerator is off-line.
5. The acid-alkali treatment tanks shall be vented to a sodium hydroxide scrubber at all times when the tanks are in use. The Company shall ensure that the sodium hydroxide scrubber is operated in a manner such that the control efficiency is at least 99 percent for all contaminants emitted during the operation of the tanks.

2. 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.

3. NOTIFICATION OF COMPLAINTS

1. The Company shall notify the Ministry's Spills Action Centre of each environmental complaint 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.

4. OPERATIONAL LIMITS

1. The Company shall optimize the operation of the thermal treatment system by establishing appropriate waste feed mix scenarios to accommodate the variability of heating values encountered with the types of wastes that may be incinerated.
2. The Company shall establish, in consultation with the District Manager and acceptable to the Director, an Operational Window for operation of the thermal treatment system to ensure compliance with Condition 4 and 5 of this Approval, and the requirements of O.Reg. 419/05.
3. The Company shall, at all times, operate the thermal treatment system within the Operational Window.
4. The Company shall ensure that the combined feed of all waste streams does not exceed 245 litres per minute.
5. Combined wastes fed into the incinerator shall not contain more than 2 percent of organic chlorine by weight.
6. The Company shall ensure that the temperature of the gas in the primary combustion zone is not less than 1300 degrees Celsius during waste feed;
7. The Company shall ensure that the temperature of the gas at the exit of the incinerator is not less than 800 degrees Celsius during waste feed;

8. The Company shall ensure that the temperature of the gas at the spray dryer outlet does not exceed 220 degrees Celsius during waste feed;
9. The Company shall ensure that the pressure, as measured near the exit of the incinerator does not exceed 25 millimetres of water column for more than 5 seconds during waste feed.
10. The Company shall ensure that the fifteen (15) minute rolling average powdered activated carbon feed into the incinerator is not less than 9 kilograms per hour during waste feed.

5. PERFORMANCE LIMITS

1. The Company shall, at all times, operate the thermal treatment system in such a manner as to ensure that the following:
 - a. The concentration of organic matter having a carbon content, expressed as equivalent methane, in the Main Stack expressed as a ten minute block average, shall be not more than 100 parts per million by volume on dry basis normalized to 11 percent oxygen at a reference temperature of 25 degrees Celsius and a reference pressure of 101.3 kilopascals.
 - b. The one hour block average concentration of carbon monoxide in the Main Stack shall be not more than 100 parts per million by volume on dry basis normalized to 11 percent oxygen at a reference temperature of 25 degrees Celsius and a reference pressure of 101.3 kilopascals, or 110 milligrams per dry cubic meters normalized to 11 percent oxygen at a reference temperature of 25 degrees Celsius and a reference pressure of 101.3 kilopascals.
 - c. The residual oxygen concentration in the stack, expressed as a 10-minute rolling average, shall be not less than 7 percent by volume on dry basis.
 - d. The opacity at the exit of the Main Stack shall be not more than:
 - i. 5 percent, calculated on a 2 hour rolling average; and
 - ii. 20 percent, calculated on a 6 minute rolling average.
 - e. The concentration of suspended particulate matter in the Main Stack shall be not more than 20 milligrams per dry cubic meters normalized to 11 percent oxygen at a reference temperature of 25 degrees Celsius and a reference pressure of 101.3 kilopascals.
 - f. The toxicity equivalent concentration of dioxins and furans in the gases of the Main Stack shall be not more than 80 picograms per dry cubic meter normalized to 11 percent oxygen at a reference temperature of 25 degrees Celsius and a reference pressure of 101.3 kilopascals.
 - i. The toxicity equivalent concentration of dioxins and furans shall be calculated in accordance with the International Scheme set out in Schedule D of the Approval.

- g. The concentration of mercury in the gases of the Main Stack shall not be more than 50 micrograms per dry cubic meters normalized to 11 percent oxygen at a reference temperature of 25 degrees Celsius and a reference pressure of 101.3 kilopascals.
- h. Concentration limits for Conditions 5.1.e, f and g are to be confirmed through Source Testing

6. QUENCH

1. The following liquids may be used as quench to cool the on-site incinerator:
 - a. potable water from the municipal water system;
 - b. stormwater generated on the Site;
 - c. process water generated at the Site;
 - d. effluent from the Leachate Pretreatment System; and
 - e. non-hazardous industrial water received from off-site generators.
2. The maximum amount of effluent from the Leachate Pretreatment System that may be used as quench is 100 litres per minute.
3. Non-hazardous industrial water received from off-site generators. must:
 - a. be liquid industrial waste which are not hazardous or odourous;
 - b. have a pH between 5.5 to 10.5;
 - c. have total suspended solids (TSS) less than 350 milligrams per litre;
 - d. have total organic carbon (TOC) 500 milligrams per litre;
 - e. have phenols less than 1.0 milligrams per litre;
 - f. have metals less than O. Reg. 347, Schedule 4; and
 - g. solvent extractable (oil and grease) less than 200 milligrams per litre.
4. The use of non-hazardous industrial water received from an off-site generator shall not be used unless the volume of on-site process water is less than 1 million litres.
5. Prior to being used as quench, effluent from the Leachate Pretreatment System and the non-hazardous industrial water must meet the requirements of the Quench Verification Plan.

6. Commencing the Date of Commissioning, the Company shall prepare and retain on site, and make available for review by staff of the Ministry upon request, a monthly report providing a summary of the operation of the Leachate Pretreatment System, which includes, as a minimum, the following:
 - a. daily amounts of leachate treated and used as quench;
 - b. the results of analytical testing for incoming leachate and treated effluent; and
 - c. a list of times when the pretreatment system was not operational and the reason.

7. LEACHATE PRETREATMENT SYSTEM

1. Commissioning Period

- a. Company shall develop a Commissioning Plan in consultation with and acceptable to the District Manager and the Director.
- b. During the commissioning of the leachate treatment system the company shall analyze the influent and effluent for total suspended solids, volatile suspended solids, total organic carbon, oil and grease, phenols, volatile organic compounds, semi-volatile organic compounds, and metals.
- c. The Company shall not use the effluent for quench unless Condition 7.1.b has been completed, and it can be demonstrated that the use of the effluent should not cause an Adverse Effect.
- d. The Company shall complete Source Testing on the target source at the completion of the commission period or within six months of the date of the approval (which ever comes sooner).
- e. Source testing for Condition 7.1.d shall be completed while treated effluent is used as quench at the maximum rate that the unit is capable of or a rate approved by the Manager.
- f. The Company shall provide the Ministry a Report on the results of the commissioning period. The report shall include, but not be limited to:
 - i. Summary of the findings during the commissioning of the treatment system;
 - ii. Final proposed design of the treatment system;
 - iii. Monitoring data from the Continuous Monitoring System and trend analysis for the periods when treated effluent was used as quench;

- iv. Results of the Compliance Source testing including an updated ESDM Report;
- v. The proposed Quench Verification Plan.

2. Quench Verification Plan

- a. The Company shall develop, in consultation with and acceptable to the District Manager, a Quench Verification Plan for the operation of the Leachate Pretreatment System and for the use of non-hazardous industrial water as quench.
- b. The Quench Verification Plan shall be developed during the commissioning of the Leachate Pretreatment System.
- c. The Quench Verification Plan shall, at a minimum, require the Company to:
 - i. record the date, time, quantity, and amounts of the following:
 - A. leachate treated;
 - B. treated effluent used as quench; and
 - C. non-hazardous industrial water used as quench
 - ii. identify the criteria and maximum allowable composition for the quench liquid prior to being used as quench;
 - iii. identify the analytical methodology and sampling frequency for the parameters identified by Condition 7.2.c.ii;
 - iv. ensure that the quench meets the parameters identified by Condition 7.2.c.ii prior to being used as quench;
 - v. Keep records of all laboratory analysis for the leachate, treated effluent and non-hazardous industrial water. These results shall, at minimum, include:
 - A. a list of the individual contaminants and criteria tested and their measured concentrations;
- d. The Company shall submit the Quench Verification Plan to the Director and the District Manager not later than ninety (90) days after the Date of Commissioning.
- e. If the Quench Verification Plan is not accepted by the Director, the Company shall submit a Quench Verification Plan acceptable to the Director not later than three (3) months after the date of this Approval;

- f. Upon acceptance of the Quench Verification Plan by the Director, the Company shall immediately implement the Quench Verification Plan.
 - g. The Company shall not make changes to the Quench Verification Plan, unless changes are requested in writing by the District Manager or proposed changes are accepted in writing by the District Manager. The Company shall submit the Quench Verification Plan, incorporating the changes, to the Director and the District Manager, not later than thirty (30) days from the date of the District Manager's request to make changes, or from the date of the District Manager's acceptance of the proposed changes, to the Quench Verification Plan.
3. Three (3) years from the date of this Approval the Company shall submit an application for review of the Approval.

8. AUTOMATIC WASTE SHUT-OFF

1. Automatic Waste Feed Shut-Off shall be employed if any of the following conditions occur during waste feeds:
- a. primary combustion zone temperature is below 1300 degrees Celsius over a ten minute rolling average;
 - b. temperature of the gas at the exit of the incinerator is below 800 degrees Celsius over a ten minute rolling average;
 - c. spray dryer temperature exceeds 220 degrees Celsius over a 10 minute rolling average;
 - d. total waste feed exceeds 245 litres per minute;
 - e. the concentration of organic matter having a carbon content, expressed as equivalent methane, exceeds 100 parts per million over a ten minute block average;
 - f. the concentration of carbon monoxide in the Main Stack over a one hour block average exceeds 100 parts per million by volume on dry basis normalized to 11 percent oxygen at a reference temperature of 25 degrees Celsius and a reference pressure of 101.3 kilopascals, or 110 milligrams per dry cubic metres normalized to 11 percent oxygen at a reference temperature of 25 degrees Celsius and a reference pressure of 101.3 kilopascals;
 - g. the residual oxygen concentration in the stack is less than 7 percent by volume on dry basis over a ten minute block average;
 - h. the powdered activated carbon feed into the incinerator is less than 9 kilograms per hour over a fifteen minute rolling average;

- i. pressure measured near the exit of the incinerator exceeds 25 millimetres of water column for more than 5 seconds;
- j. The opacity at the exit of the Main Stack exceeds:
 - i. 5 percent, calculated on a 2 hour rolling average; and
 - ii. 20 percent, calculated on a 6 minute rolling average.
- k. alkaline / lime slurry feed to the spray dryer is lost.

9. SOURCE TESTING

1. The Company shall perform Source Testing in accordance with the procedures in Schedule C to determine the rates of emissions of the Test Contaminants from the Targeted Sources listed in Schedule A, within six (6) months from the date of this Approval. Source testing shall be repeated as listed in Schedule A.

10. AIR QUALITY MONITORING PROGRAM

1. The Company shall implement and maintain an ambient air quality monitoring program for the non-continuous ambient air quality monitoring of the Monitoring Contaminants. Monitoring frequency shall be in accordance with the minimum frequency as listed in Schedule E.
2. The Company shall ensure that the ambient air quality monitoring program meets the requirements set out in the Operations Manual for Air Quality Monitoring in Ontario, dated January 2018, as amended.
3. The ambient air quality monitoring program shall include a minimum of two (2) monitoring locations that meet the siting criteria as specified in the Operations Manual for Air Quality Monitoring in Ontario, dated January 2018, as amended.
4. The Company shall submit an ambient air quality monitoring plan to the District Manager not later than ninety (90) days after the date of this Approval.
5. If the District Manager does not accept the ambient air quality monitoring plan, the District Manager may require the Company to revise and re-submit the ambient air quality monitoring program.
6. The Company shall implement the ambient air quality monitoring program as approved by the District Manager immediately.
7. All aspects of the ambient air quality program are subject to audit at any time by Ministry designated personnel.

8. No later than April 1 in each year, the Company shall submit to the District Manager a written report summarizing the results of the air quality monitoring program in accordance with the Operations Manual for Air Quality Monitoring in Ontario, as amended, prepared by a Professional Engineer.

11. CONTINUOUS MONITORING

1. The Company shall, prior to the commencement of operation of the Equipment, install and subsequently conduct and maintain a Continuous Monitoring System to continuously monitor:
 - a. Opacity;
 - b. Concentrations of: sulphur dioxide, hydrogen chloride, total hydrocarbons (THC), carbon monoxide and oxygen, emitted from the Main Stack;
 - c. Feed rates to the incinerator, temperatures in the incinerator primary zone, temperatures in the secondary zone, temperatures in the quench zone, incinerator exit temperature, incinerator exit pressure, exit spray dryer temperature, stack gas temperature and stack gas flow;
2. Continuous emission monitoring equipment and process monitoring equipment for parameters listed in Condition 11.1 shall be equipped with continuous recording devices and with the appropriate alarms for indication of exceedances of set points where applicable;
3. Audible and/or visible alarms, as monitored in the control room, indicating exceedances of set points will be activated at the values specified in listed in Conditions 4 and 5 of this Approval;
4. The Company shall develop, not later than six (6) months from the date of this Approval, a Continuous Monitoring Plan, complete with specifications for the Continuous Monitoring System and continuous recording devices.
5. The Continuous Monitoring Plan shall include a description of, but not be limited to:
 - a. source and air pollutants / parameters requiring continuous monitoring and associated targets / in-stack limits,
 - b. sample probe and gas calibration port location(s) and associated flue gas conditions,
 - c. sample extraction, transport and conditioning system,
 - d. analyzer performance specifications,
 - e. calibration strategies,
 - f. relative accuracy and reference method for test audit,

- g. performance indicators and monitoring frequency,
 - h. communication protocol(s) and corrective action(s) regarding malfunctions,
 - i. preventative maintenance and spare parts,
 - j. service contractor and staff responsibilities including training,
 - k. other operating and maintenance procedures as applicable,
 - l. data acquisition system, and
 - m. data verification procedures.
6. The Continuous Monitoring System shall be operated and maintained so that accurate data is obtained during a minimum of 90 percent of the time for each calendar quarter during the first full year of operation, and 95 percent, thereafter, when waste is being treated.

12. ANNUAL INSPECTION

1. The Company shall conduct, at least once every calendar year, an inspection of the thermal treatment system. The inspection shall include a physical inspection of the following:
 1. incinerator, including all associated:
 - a. burners;
 - b. nozzles;
 - c. fans;
 - d. pumps;
 - e. waste feed systems
 - f. combustion air supply systems.
 2. three stage gas conditioning and cleaning system
 3. incineration pre-treatment tank storage system and associated controls
 4. continuous monitoring system and data acquisition systems

2. The inspection shall be completed in accordance with good engineering practices and as recommended by the equipment manufacturer, by a person who has received training for the purposes of conducting such inspections.
3. The Company shall ensure that the following records are created and retained at the facility for a period of five (5) years from the date of its creation:
 - a. a record of each inspection, including the date of the inspection, results of the inspection and any maintenance activities or modifications performed as a result of the inspection.

13. NOISE

1. The Company shall:
 - a. implement by not later than thirty six (36) months from the date of this Approval, the Noise Control Measures outlined in section 6 of 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. The Company shall ensure that the noise emissions from the landfill site operations at the Facility comply with the limits set in Noise Guidelines for Landfill Sites.

14. ACOUSTIC AUDIT

1. The Company shall carry out Acoustic Audit measurements on the actual noise emissions due to the operation of the Facility. The Company:
 - a. shall carry out Acoustic Audit measurements in accordance with the procedures in Publication NPC-103;
 - b. 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.
2. The Director:
 - a. may not accept the results of the Acoustic Audit if the requirements of Publication NPC-233 were not followed.

- b. may require the Company to repeat the Acoustic Audit if the results of the Acoustic Audit are found unacceptable to the Director.

SCHEDULE A

Targeted Sources for Source Testing:

Targeted Source	Test Contaminants	Retesting schedule
Thermal treatment system	Schedule B	Annually
Thermal treatment system	Mercury	Once every four months

SCHEDULE B

Test Contaminants for Source Testing:

Hydrogen chloride

Hydrogen fluoride

Oxygen

Carbon monoxide

Carbon dioxide

Oxides of nitrogen

Total suspended particulate matter

Metals

Metals		
Aluminum	Iron	Silicon
Antimony	Lead	Silver
Arsenic	Lithium	Sodium
Barium	Magnesium	Strontium
Beryllium	Manganese	Sulfur
Boron	Mercury	Tin
Cadmium	Molybdenum	Titanium
Calcium	Nickel	Vanadium
Chromium	Phosphorous	Zinc
Cobalt	Potassium	
Copper	Selenium	

POLYCYCLIC ORGANIC MATTER

POLYCYCLIC ORGANIC MATTER		
Acenaphthylene	Coronene	9-methylphenanthrene
Acenaphthene	Dibenzo(a,c)anthracene	naphthalene
Anthracene	Dibenzo(a,h)anthracene	Perylene
Benzo(a)anthracene	9,10-dimethylanthracene	Phenanthrene
Benzo(b)fluoranthene	7,12-dimethylbenzo(a)anthracene	Picene
Benzo(k)fluoranthene	Fluoranthrene	Pyrene
Benzo(a)fluorene	Fluorene	Tetralin
Benzo(b)fluorene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,e)pyrene
Benzo(g,h,i)perylene	2-methylanthracene	Quinoline
Benzo(a)pyrene	3-methylcholanthrene	Biphenyl
Benzo(e)pyrene	1-methylnaphthalene	o-terphenyl
2-chloronaphthalene	2-methylnaphthalene	m-terphenyl
Chrysene + triphenylene	1-methylphenanthrene	p-terphenyl

VOLATILE ORGANIC MATTER

VOLATILE ORGANIC MATTER		
Acetone	Dichlorodifluoromethane	Tetrachloroethene
Benzene	Dichloroethane, 1,2-	Toluene
Bromodichloromethane	Dichloroethene, trans- 1,2-	Trichloroethane, 1,1,1-
Bromoform	Dichloroethene, 1,1-	Trichloroethene
Bromomethane	Dichloropropane, 1,2-	Trichlorofluoromethane
Butanone, 2-	Ethylbenzene	Trichlorotrifluoroethane
Carbon tetrachloride	Ethylene dibromide	Vinyl chloride
Chloroform	1,3,5 trimethyl benzene (mesitylene)	Xylenes, m-, p- and o-
Cumene (isopropyl benzene)	Methylene chloride	
Dibromochloromethane	Styrene	

CHLORINATED ORGANICS

Total dichlorobenzenes

Total trichlorobenzenes (1,3,5-; 1,2,3-; 1,2,4-)

Total tetrachlorobenzenes (1,2,4,5-; 1,2,3,5-)

Pentachlorobenzene

Hexachlorobenzene

Total dichlorophenols (2,3-; 2,4-; and 2,6-)

Total trichlorophenols (2,3,4-; 2,4,5-; 2,4,6-; 3,4,5-)

Total tetrachlorophenols (2,3,4,6-; 2,3,5,6-)

Total pentachlorophenols

Total polychlorinated biphenyls c/w congeners (di, tri, tetra, penta, hexa, hepta, octa, nona and deca-chlorobiphenyls)

Polychlorinated dibenzo-p-dioxins, and polychlorinated dibenzofurans as listed in Schedule D.

Octachlorostyrene

Hexachlorobutadiene

Hexachloroethane

SCHEDULE C

Source Testing Procedures

1. The Company shall submit, not later than three (3) months prior to the Source Testing, to the Manager a Pre-Test Plan for the Source Testing required under this Approval. The Company shall finalize the Pre-Test Plan in consultation with the Manager.
2. The Company shall not commence the Source Testing required under this Approval until the Manager has approved the Pre-Test Plan.
3. The Company shall notify the Manager, the District Manager and the Director in writing of the location, date and time of any impending Source Testing required by this Approval, at least fifteen (15) days prior to the Source Testing.
4. The Company shall submit a report (electronic format) on the Source Testing to the Manager, the District Manager and the Director not later than three (3) months after completing the Source Testing. The report shall be in the format described in the Source Testing Code, and shall also include, but not be limited to:
 1. an executive summary;
 2. an identification of the applicable North American Industry Classification System code (NAICS) for the Facility;
 3. records of operating conditions at the time of Source Testing, including but not limited to the following:
 - a. production data and equipment operating rate as a percentage of maximum capacity;
 - b. Facility/process information related to the operation of the Targeted Sources;
 - c. records of all operating conditions, including waste feed rates and types, as well as all operational problems that may have been encountered during the Source Testing;
 - d. the quantity of leachate processed in the Leachate Pretreatment System, and amount of effluent used as quench during the testing;
 - e. all analytical data for the leachate and treated effluent collected during the Source Testing;
 4. results of Source Testing, including the emission rate, emission concentration, and relevant emission factor of the Test Contaminants from the Targeted Sources;
 5. a tabular comparison of calculated emission rates and emission factors based on Source Testing results for the Test Contaminants to relevant estimates described in the ESDM Report, and,
5. The Director may not accept the results of the Source Testing if:

1. the Source Testing Code or the requirement of the Manager were not followed;
 2. the Company did not notify the Manager, the District Manager and Director of the Source Testing; or
 3. the Company failed to provide a complete report on the Source Testing.
6. If the Director does not accept the result of the Source Testing, the Director may require re-testing. If re-testing is required, the Pre-Test Plan strategies need to be revised and submitted to the Manager for approval. The actions taken to minimize the possibility of the Source Testing results not being accepted by the Director must be noted in the revision.
7. The Company shall update their ESDM Report in accordance with Section 26 of O. Reg. 419/05 and the Procedure Document with the results from the Source Testing, if any of the calculated emission factors or calculated emission rates are higher than the predicted rates in the ESDM report, not later than three (3) months after the submission of the Source Testing report and make these records available for review by staff of the Ministry upon request.

SCHEDULE D

Dioxins, Furans and Dioxin-like PCBs (Polychlorinated Biphenyls)

Toxicity equivalency factors (TEFs) are applied to 29 isomers of dioxins, furans and dioxin-like PCBs to convert them into 2,3,7,8-CDD (tetrachlorodibenzo-p-dioxin) toxicity equivalents. The conversion involves multiplying the concentration of each isomer by the appropriate TEF to yield the TEQ for this isomer. Summing the individual TEQ values for each of the isomers provides the total toxicity equivalent level for the sample mixture.

A table listing the 29 isomers and their TEFs can be found in the MECP publication titled: Summary of Standards and Guidelines to Support Ontario Regulation 416-05 – Air Pollution - Local Air Quality, PIBS 6569e01 dated April 2012 noted below.

No.	Dioxins, Furans, and Dioxin-like PCBs	CASRN	WHO ₂₀₀₅ Toxic Equivalency Factors [TEFs]
1	2,3,7,8-Tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD]	1746-01-6	1
2	1,2,3,7,8-Pentachlorodibenzo-p-dioxin [1,2,3,7,8-PeCDD]	40321-76-4	1
3	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin [1,2,3,4,7,8-HxCDD]	39227-28-6	0.1
4	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin [1,2,3,6,7,8-HxCDD]	57653-85-7	0.1
5	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin [1,2,3,7,8,9-HxCDD]	19408-74-3	0.1
6	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin [1,2,3,4,6,7,8-HpCDD]	35822-46-9	0.01
7	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin [1,2,3,4,6,7,8,9-OCDD]	3268-87-9	0.0003
8	2,3,7,8-Tetrachlorodibenzofuran [2,3,7,8-TCDF]	51207-31-9	0.1
9	1,2,3,7,8-Pentachlorodibenzofuran [1,2,3,7,8-PeCDF]	57117-41-6	0.03
10	2,3,4,7,8-Pentachlorodibenzofuran [2,3,4,7,8-PeCDF]	57117-31-4	0.3
11	1,2,3,4,7,8-Hexachlorodibenzofuran [1,2,3,4,7,8-HxCDF]	70648-26-9	0.1
12	1,2,3,6,7,8-Hexachlorodibenzofuran [1,2,3,6,7,8-HxCDF]	57117-44-9	0.1
13	1,2,3,7,8,9-Hexachlorodibenzofuran [1,2,3,7,8,9-HxCDF]	72918-21-9	0.1

No.	Dioxins, Furans, and Dioxin-like PCBs	CASRN	WHO ₂₀₀₅ Toxic Equivalency Factors [TEFs]
14	2,3,4,6,7,8-Hexachlorodibenzofuran [2,3,4,6,7,8-HxCDF]	60851-34-5	0.1
15	1,2,3,4,6,7,8-Heptachlorodibenzofuran [1,2,3,4,6,7,8-HpCDF]	67562-39-4	0.01
16	1,2,3,4,7,8,9-Heptachlorodibenzofuran [1,2,3,4,7,8,9-HpCDF]	55673-89-7	0.01
17	1,2,3,4,6,7,8,9-Octachlorodibenzofuran [1,2,3,4,6,7,8,9-OCDF]	39001-02-0	0.0003
18	3,3',4,4'-Tetrachlorobiphenyl [3,3',4,4'-tetraCB (PCB 77)]	32598-13-3	0.0001
19	3,4,4',5- Tetrachlorobiphenyl [3,4,4',5-tetraCB (PCB 81)]	70362-50-4	0.0003
20	3,3',4,4',5- Pentachlorobiphenyl (PCB 126) [3,3',4,4',5-pentaCB (PCB 126)]	57465-28-8	0.1
21	3,3',4,4',5,5'- Hexachlorobiphenyl [3,3',4,4',5,5'-hexaCB (PCB 169)]	32774-16-6	0.03
22	2,3,3',4,4'- Pentachlorobiphenyl [2,3,3',4,4'-pentaCB (PCB 105)]	32598-14-4	0.00003
23	2,3,4,4',5- Pentachlorobiphenyl [2,3,4,4',5-pentaCB (PCB 114)]	74472-37-0	0.00003
24	2,3',4,4',5- Pentachlorobiphenyl [2,3',4,4',5-pentaCB (PCB 118)]	31508-00-6	0.00003
25	2',3,4,4',5- Pentachlorobiphenyl [2',3,4,4',5-pentaCB (PCB 123)]	65510-44-3	0.00003
26	2,3,3',4,4',5- Hexachlorobiphenyl [2,3,3',4,4',5-hexaCB (PCB 156)]	38380-08-4	0.00003
25	2,3,3',4,4',5'- Hexachlorobiphenyl [2,3,3',4,4',5'-hexaCB (PCB 157)]	69782-90-7	0.00003
28	2,3',4,4',5,5'- Hexachlorobiphenyl [2,3',4,4',5,5'-hexaCB (PCB 167)]	52663-72-6	0.00003
29	2,3,3',4,4',5,5'- Heptachlorobiphenyl [2,3,3',4,4',5,5'-heptaCB (PCB 189)]	39635-31-9	0.00003

NOTE:

- Sum of toxicity equivalents of individual isomers

The TEF scheme is intended to be used with isomer specific analytical results. In cases where results are reported by congener group only, staff at *Ministry's* Standards Development Branch shall be contacted for appropriate procedures to convert non-isomer specific data to TEQs.

SCHEDULE E

AIR QUALITY MONITORING PROGRAM CONTAMINANTS:

Total suspended particulate matter

Mercury (particulate and vapour)

VOLATILE ORGANIC MATTER

Parameter	Cas No.	Parameter	Cas No.	Parameter	Cas No.
Carbon Tetrachloride	56-23-5	1,1-Dichloroethane	75-34-3	MEK	78-93-3
Ethyl Benzene	100-41-4	m/p-Xylene	108-38-3/106-42-3	Tetrachloroethene	127-18-4
Isopropyl Alcohol	67-63-0	1,1-Dichloroethene	75-35-4	Trichloroethene	79-01-6
Styrene	100-42-5	1,3,5-Trimethylbenzene	108-67-8	Ethyl Acetate	141-78-6
Acetone	67-64-1	Chlorodifluoromethane	75-45-6	Naphthalene	91-20-3
1,4-Dichlorobenzene	106-46-7	Toluene	108-88-3	Heptane	142-82-5
Chloroform	67-66-3	Trichlorofluoromethane	75-69-4	o-Xylene	95-47-6
1,2-Dibromoethane	106-93-4	Chlorobenzene	108-90-7	1,2-Dichloroethene (Cis)	156-59-2
Benzene	71-43-2	Dichlorodifluoromethane	75-71-8	1,2-Dichlorobenzene	95-50-1
1,2-Dichloroethane	107-06-2	Hexane	110-54-3	1,2-Dichloroethene (Trans)	156-60-5
1,1,1-Trichloroethane	71-55-6	1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1,2,4-Trimethylbenzene	95-63-6
2-Propenenitrile	107-13-1	Cyclohexane	110-82-7	1,2,3-Trimethylbenzene	526-73-8
Vinyl Chloride	75-01-4	2-Methyl Butane	78-78-4	3-Methyl Pentane	96-14-0
2-Methyl Pentane	107-83-5	Nonane	111-84-2	3-Methyl Hexane	589-34-4
Dichloromethane	75-09-2	1,2-Dichloropropane	78-87-5	p-Cymene	99-87-6
MIBK	108-10-1	1,2,4-Trichlorobenzene	120-82-1	o-Ethyl Toluene	611-14-3

METALS

Parameter	Cas No.
Antimony	7440-36-0
Arsenic	7440-38-2
Barium	7440-39-3
Beryllium	7440-41-4
Cadmium	7440-43-9
Chromium	7440-47-3
Cobalt	7440-48-4
Copper	7440-50-8
Iron	15438-31-0
Lead	7439-92-1
Manganese	7439-96-5
Nickel	7440-02-0
Selenium	7782-49-2
Thallium	7440-28-0
Tin	7440-31-5
Vanadium	7440-62-2
Zinc	7440-66-6

CARBONYLS

Parameter	CAS No.
Formaldehyde	50-00-0
Acetone	67-64-1
Acetaldehyde	75-07-0
Benzaldehyde	100-52-7
Acrolein	107-02-08
Glutaraldehyde	111-30-8
Propionaldehyde (Propanal)	123-38-6
n-Butyraldehyde (n-Butanal)	123-72-3

AIR QUALITY MONITORING PROGRAM SAMPLING FREQUENCY:

Test Contaminants	Minimum Sampling Frequency
Volatile Organic Matter	Once every 12 days between January 1 and December 31
Total suspended particulate matter and Metals	Once every 12 days between January 1 and December 31
Carbonyls and Mercury	One sample day per month for May, June, July, August and September taken on a day when VOCs/TSP/Metal samples are collected

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

1. Conditions No. 1 and 12 are 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 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. 3 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. Conditions No. 4 thru 8 are included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the Facility.
5. Conditions No. 9, 10, and 11 are 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
6. Conditions No. 13 is included to provide the minimum performance requirement considered necessary to prevent an adverse effect resulting from the operation of the Facility; and
7. Condition No. 14 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.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s).
6547-5G5MSP, 8-1030-94-006 issued on March 20, 2003, April 19, 1994**

In accordance with Section 139 of the *Environmental Protection Act*, you may by written notice served upon me, the Ontario Land 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 ("the Notice") 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:

Registrar*
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

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 Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349 or 1 (866) 448-2248, or www.olt.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 1st day of September, 2023



Nancy E Orpana, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

SM/

c: District Manager, MECP Sarnia
Gordon Reusing, GHD