

ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 8820-BMUPJL

Issue Date: August 21, 2020

Ellsin Environmental Ltd.
360 Frankcom Street
Ajax, Ontario
L1S 1R5

Site Location: 155 Yates Avenue
Sault Ste. Marie City, District of Algoma
L1S 1R5

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:

Description Section

A thermal treatment facility that uses patented *Reverse Polymerization* process to convert *Waste Tire Materials* (used tires, off-spec tires, tire shred and tire crumb) into hydrocarbon gas, carbon black and steel, consisting of the following processes and support units:

- *Waste Tire Materials* receiving;
- *Reverse Polymerization*;
- *Syngas* condensing;
- *Syngas* cleaning to remove Hydrogen Sulphide;
- Oil and water separation;
- Wastewater treatment using activated carbon media;
- Carbon finishing
 - Raw carbon black pulverizing; and
 - Product dust collection; and
- Masterbatch Processing
 - Raw carbon and plastic extrusion; and
 - Cooling and screening of Masterbatch pellets;

including the *Equipment* and any other ancillary and support processes and activities, operating at a **Facility Production Limit of up to 10 tonnes per day (417**

kilograms per hour and 3,350 tonnes per year) discharging to the air as described in the *Original ESDM Report*.

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

1. "*ACB list*" means the document entitled "Air Contaminants Benchmarks (ACB) List: Standards, guidelines and screening levels for assessing point of impingement concentrations of air contaminants", as amended from time to time and published by the *Ministry* and available on a Government website;
2. "*Acceptable Point of Impingement Concentration*" means a concentration accepted by the *Ministry* as not likely to cause an adverse effect for a *Compound of Concern* that,
 - a. is not identified in the *ACB list*, or
 - b. is identified in the *ACB list* as belonging to the category "Benchmark 2" and has a concentration at a *Point of Impingement* that exceeds the concentration set out for the contaminant in that document.With respect to the *Original ESDM Report*, the *Acceptable Point of Impingement Concentration* for a *Compound of Concern* mentioned above is the concentration set out in the *Original ESDM Report*;
3. "*Acoustic Assessment Report*" means the report, prepared in accordance with *Publication NPC-233* and Appendix A of the *Basic Comprehensive User Guide*, by Nicholas Shinbin / Independent Environmental Consultants and dated October 2019 submitted in support of the application, that documents all sources of noise emissions and *Noise Control Measures* present at the *Facility*, as updated in accordance with Condition 5 of this *Approval*;
4. "*Acoustic Assessment Summary Table*" means a table prepared in accordance with the *Basic Comprehensive User Guide* summarising the results of the *Acoustic Assessment Report*, as updated in accordance with Condition 5 of this *Approval*;
5. "*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*;
6. "*Acoustic Audit Report*" means a report presenting the results of an *Acoustic Audit*, prepared in accordance with *Publication NPC-233*;
7. "*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*;

8. "*Approval*" means this entire Environmental Compliance Approval and any *Schedules* to it;
9. "*Approval (Waste)*" means the corresponding Environmental Compliance Approval (Waste Disposal Site) number 3848-BQUQV2, as amended issued to the *Company* in respect of activities mentioned in subsection 27(1) of the *EPA* at the *Facility*;
10. "*Area Supervisor*" means the Area Supervisor, Sault Ste. Marie Area Office, Northern Region of the *Ministry*;
11. "*Basic Comprehensive User Guide*" means the *Ministry* document titled "Basic Comprehensive Certificates of Approval (Air) User Guide" dated March 2011, as amended;
12. "*Company*" means **Ellsin Environmental Ltd.** 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*;
13. "*Compound of Concern*" means a contaminant 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;
14. "*Continuous Monitoring System*" means the continuous monitoring and recording system used to measure the operational parameters and contaminants emission concentrations at specified locations as outlined in the accepted *Continuous Monitoring Plan*;
15. "*Continuous Monitoring Plan*" means a written document outlining a series of steps that provides instructions, resources and timing to staff of the *Company* for the operation and maintenance of the *Continuous Monitoring System*;
16. "*Description Section*" means the section on page one of this *Approval* describing the *Company's* operations and the *Equipment* located at the *Facility* and specifying the *Facility Production Limit* for the *Facility*;
17. "*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*;
18. "*District Manager*" means the District Manager of the appropriate local district office of the *Ministry*, where the *Facility* is geographically located;
19. "*Emission Summary Table*" means a table described in paragraph 14 of subsection 26 (1) of *O. Reg. 419/05*;
20. "*Environmental Assessment Act*" means the Environmental Assessment Act,

R.S.O. 1990, c.E.18, as amended;

21. "*EPA*" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;
22. "*Equipment*" means equipment or processes described in the *ESDM Report*, this *Approval* and in the *Schedules* referred to herein and any other equipment or processes;
23. "*Equipment with Specific Operational Limits*" means *Thermal Oxidizer* and any *Equipment* related to the thermal oxidation of waste or waste derived fuels, fume incinerators or any other *Equipment* that is specifically referenced in any published *Ministry* document that outlines specific operational guidance that must be considered by the *Director* in issuing an *Approval*;
24. "*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*;
25. "*Facility*" means the entire operation located on the property where the *Equipment* is located;
26. "*Facility Production Limit*" means the production limit placed by the *Director* on the main product(s) or raw materials used by the *Facility*;
27. "*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*;
28. "*Licensed Engineering Practitioner*" means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act;
29. "*Log*" means a document that contains a record of each change that is required to be made to the *ESDM Report* and *Acoustic Assessment Report*, including the date on which the change occurred. For example, a record would have to be made of a more accurate emission rate for a source of contaminant, more accurate meteorological data, a more accurate value of a parameter that is related to a source of contaminant, a change to a *Point of Impingement* and all changes to information associated with a *Modification* to the *Facility* that satisfies Condition 2;
30. "*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*;

31. "*Minister*" means the Minister of the Environment, Conservation and Parks or such other member of the Executive Council as may be assigned the administration of the *EPA* under the Executive Council Act;
32. "*Ministry*" means the ministry of the *Minister*;
33. "*Modification*" means any construction, alteration, extension or replacement of any plant, structure, equipment, apparatus, mechanism or thing, or alteration of a process or rate of production at the *Facility* that may discharge or alter the rate or manner of discharge of a *Compound of Concern* to the air or discharge or alter noise or vibration emissions from the *Facility*;
34. "*Noise Control Measures*" means measures to reduce the noise emissions from the *Facility* and/or *Equipment* including, but not limited to, silencers, acoustic louvres, enclosures, absorptive treatment, plenums and barriers;
35. "*O. Reg. 419/05*" means Ontario Regulation 419/05, Air Pollution – Local Air Quality, as amended;
36. "*Odour Management Plan*" means a document or a set of documents that provide written instructions to staff of the *Company*, for the purpose of meeting the requirements of terms and condition No. 7(4) of this *Approval*;
37. "*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 Jamie Fletcher, Independent Environmental Consultants and dated October 25, 2019 submitted in support of the application, and includes any changes to the report made up to the date of issuance of this *Approval*;
38. "*Point of Impingement*" has the same meaning as in section 2 of *O. Reg. 419/05*;
39. "*Point of Reception*" means Point of Reception as defined by *Publication NPC-300*;
40. "*Pre-Test Plan*" means a plan for the *Source Testing* including the information required in Section 5 of the *Source Testing Code*;
41. "*Procedure Document*" means *Ministry* guidance document titled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated February 2017, as amended;
42. "*Processes with Significant Environmental Aspects*" means the *Equipment* which, during regular operation, would discharge one or more contaminants into the air in an amount which is not considered as negligible in accordance with section 26 (1) 4 of *O. Reg. 419/05* and the *Procedure Document*;

43. "*Publication NPC-103*" means the Ministry Publication NPC-103 of the Model Municipal Noise Control By-Law, Final Report, August 1978, as amended;
44. "*Publication NPC-207*" means the *Ministry* draft technical publication "Impulse Vibration in Residential Buildings", November 1983, supplementing the Model Municipal Noise Control By-Law, Final Report, published by the *Ministry*, August 1978, as amended;
45. "*Publication NPC-233*" means the *Ministry* Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October, 1995, as amended;
46. "*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;
47. "*Reverse Polymerization*" is a patented process that uses high efficiency microwave generators (magnetrons) in a low temperature, nitrogen environment to prevent oxidation and convert waste tire material into hydrocarbon gas, carbon black and steel;
48. "*Schedules*" means the following schedules attached to this *Approval* and forming part of this *Approval* namely:
- SCHEDULE A - SUPPORTING DOCUMENTATION
 - SCHEDULE B - EMISSION LIMITS
 - SCHEDULE C - TEST CONTAMINANTS FOR SOURCE TESTING
 - SCHEDULE D - VOLATILE ORGANIC COMPOUNDS
 - SCHEDULE E - SOURCE TESTING PROCEDURE;
49. "*Start-up Date*" means the date when *Waste Tire Materials* is first received at the *Facility*;
50. "*Sensitive Receptor*" means any location where routine or normal activities occurring at reasonably expected times would experience adverse effect(s) from odour discharges from the *Facility*, including one or a combination of:
- a. private residences or public facilities where people sleep (e.g.: single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.),
 - b. institutional facilities (e.g.: schools, churches, community centres, day care centres, recreational centres, etc.),
 - c. outdoor public recreational areas (e.g.: trailer parks, play grounds, picnic areas, etc.), and
 - d. other outdoor public areas where there are continuous human activities (e.g.:

commercial plazas and office buildings);

51. "*Source Testing*" means site-specific sampling and testing to measure emissions resulting from operating the *Thermal Oxidizer* 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 *Thermal Oxidizer* which satisfies paragraph 1 of subsection 11(1) of O. Reg. 419/05;
52. "*Source Testing Code*" means the Ontario Source Testing Code, dated June 2010, prepared by the *Ministry*, as amended;
53. "*Syngas*" means the synthesis gas that is being produced by the thermal treatment of *Waste Tire Materials* and combusted in four (4) dual fuel heaters or *Thermal Oxidizer* at the *Facility*;
54. "*Test Contaminants*" means the contaminants listed in Schedule C and Schedule D;
55. "*Thermal Oxidizer*" means the thermal oxidizer that is being used to combust exhaust from the four (4) *Syngas*-fired heaters and excess *Syngas*;
56. "*Toxicologist*" means a qualified professional currently active in the field of risk assessment and toxicology that has a combination of formal university education, training and experience necessary to assess contaminants;
57. "*Waste Tire Materials*" means used tires, off-spec tires, tire shred and tire crumb; and
58. "*Written Summary Form*" means the electronic questionnaire form, available on the *Ministry* website, and supporting documentation, that documents the activities undertaken at the *Facility* in the previous calendar year.

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. GENERAL

1. Except as otherwise provided by this *Approval*, the *Facility* shall be designed, developed, built, operated and maintained in accordance with the terms and conditions of this *Approval* and in accordance with the following *Schedules* attached hereto:

- SCHEDULE A - SUPPORTING DOCUMENTATION
- SCHEDULE B - EMISSION LIMITS
- SCHEDULE C - TEST CONTAMINANTS FOR SOURCE TESTING
- SCHEDULE D - VOLATILE ORGANIC COMPOUNDS
- SCHEDULE E - SOURCE TESTING PROCEDURE

2. **LIMITED OPERATIONAL FLEXIBILITY**

1. Pursuant to section 20.6 (1) of the *EPA* and subject to Conditions 2.2 and 2.3 of this *Approval*, future construction, alterations, extensions or replacements are approved in this *Approval* if the future construction, alterations, extensions or replacements are *Modifications* to the *Facility* that:
 - a. are within the scope of the operations of the *Facility* as described in the *Description Section* of this *Approval*;
 - b. do not result in an increase of the *Facility Production Limit* above the level specified in the *Description Section* of this *Approval*; and
 - c. result in compliance with the performance limits as specified in Condition 4.
2. Condition 2.1 does not apply to,
 - a. the addition of any new *Equipment with Specific Operational Limits* or to the *Modification* of any existing *Equipment with Specific Operational Limits* at the *Facility*; and
 - b. *Modifications* to the *Facility* that would be subject to the *Environmental Assessment Act*.
3. Condition 2.1 of this *Approval* shall expire ten (10) years from the date of this *Approval*, unless this *Approval* is revoked prior to the expiry date. The *Company* may apply for renewal of Condition 2.1 of this *Approval* by including an *ESDM Report* and an *Acoustic Assessment Report* that describes the *Facility* as of the date of the renewal application.

3. **REQUIREMENT TO REQUEST AN ACCEPTABLE POINT OF IMPINGEMENT CONCENTRATION**

1. Prior to making a *Modification* to the *Facility* that satisfies Condition 2.1.a. and 2.1.b., the *Company* shall prepare a proposed update to the *ESDM Report* to reflect the proposed *Modification*.
2. The *Company* shall request approval of an *Acceptable Point of Impingement Concentration* for a *Compound of Concern* if the *Compound of Concern* is not identified in the *ACB list* as belonging to the category "Benchmark 1" and a

proposed update to an *ESDM Report* indicates that one of the following changes with respect to the concentration of the *Compound of Concern* may occur:

- a. The *Compound of Concern* was not a *Compound of Concern* in the previous version of the *ESDM Report* and
 - i. the concentration of the *Compound of Concern* exceeds the concentration set out for the contaminant in the *ACB list*; or
 - ii. the *Compound of Concern* is not identified in the *ACB list*; or
 - b. The concentration of the *Compound of Concern* in the updated *ESDM Report* exceeds the higher of,
 - i. the most recent *Acceptable Point of Impingement Concentration*, and
 - ii. the concentration set out for the contaminant in the *ACB list*, if the contaminant is identified in that document.
3. The request required by Condition 3(2) shall propose a concentration for the *Compound of Concern* and shall contain an assessment, performed by a *Toxicologist*, of the likelihood of the proposed concentration causing an adverse effect at *Points of Impingement*.
 4. If the request required by Condition 3.2 is a result of a proposed *Modification* described in Condition 3.1, the *Company* shall submit the request, in writing, to the *Director* at least 30 days prior to commencing to make the *Modification*. The *Director* shall provide written confirmation of receipt of this request to the *Company*.
 5. If a request is required to be made under Condition 3.2 in respect of a proposed *Modification* described in Condition 3.1, the *Company* shall not make the *Modification* mentioned in Condition 3.1 unless the request is approved in writing by the *Director*.
 6. If the *Director* notifies the *Company* in writing that the *Director* does not approve the request, the *Company* shall,
 - a. revise and resubmit the request; or
 - b. notify the *Director* that it will not be making the *Modification*.
 7. The re-submission mentioned in Condition 3.6 shall be deemed a new submission under Condition 3.2.
 8. If the *Director* approves the request, the *Company* shall update the *ESDM Report* to reflect the *Modification*.
 9. Condition 3 does not apply if Condition 2.1 has expired.

4. PERFORMANCE LIMITS

1. Subject to Condition 4.2, the *Company* shall not discharge or cause or permit the discharge of a *Compound of Concern* into the air if,
 - a. the *Compound of Concern* is identified in the *ACB list* as belonging to the category "Benchmark 1" and the discharge results in the concentration at a *Point of Impingement* exceeding the Benchmark 1 concentration; or
 - b. the *Compound of Concern* is not identified in the *ACB list* as belonging to the category "Benchmark 1" and the discharge results in the concentration at a *Point of Impingement* exceeding the higher of,
 - i. if an *Acceptable Point of Impingement Concentration* exists, the most recent *Acceptable Point of Impingement Concentration*, and
 - ii. the concentration set out for the contaminant in the *ACB list*, if the contaminant is identified in that document.
2. Condition 4.1 does not apply if the benchmark set out in the *ACB list* has a 10-minute averaging period and no ambient monitor indicates an exceedance at a *Point of Impingement* where human activities regularly occur at a time when those activities regularly occur.
3. The *Company* shall ensure that the noise emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-300*;
4. The *Company* shall ensure that the vibration emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-207*.
5. The *Company* shall operate any *Equipment with Specific Operational Limits* approved by this *Approval* in accordance with the *Original ESDM Report* and Condition 4(7) and 4(8) in this *Approval*.
6. The *Company* shall ensure that the *Facility* is designed and operated to comply, at all times, with the following Performance Limits:
7. The concentrations of Nitrogen oxides, Hydrogen chloride, Organic matter (expressed as equivalent methane), Sulphur dioxide, Carbon monoxide, Particulate matter, Mercury, Cadmium, Lead, Dioxins, Furans and Dioxin-like PCBs (Polychlorinated Biphenyls, (expressed as I-TEQ), normalized to 11 percent oxygen at a reference temperature of 25 degrees Celsius and a reference pressure of 101.3 kilopascals) in the gases emitted from the stack of the *Thermal Oxidizer* shall not be greater than the maximum emission limits specified in Schedule B of this *Approval*.
8. The opacity in the gases emitted from the stack of the *Thermal Oxidizer* shall not be greater than the maximum limit specified in Schedule B of this

Approval. .

5. DOCUMENTATION REQUIREMENTS

1. The *Company* shall maintain an up-to-date *Log*.
2. No later than March 31 in each year, the *Company* shall update the *Acoustic Assessment Report* and shall update the *ESDM Report* in accordance with section 26 of *O. Reg. 419/05* so that the information in the reports is accurate as of December 31 in the previous year.
3. The *Company* shall make the *Emission Summary Table* (see section 27 of *O. Reg. 419/05*) and *Acoustic Assessment Summary Table* 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*.
4. The *Company* shall, within three (3) months after the expiry of Condition 2.1 of this *Approval*, update the *ESDM Report* and the *Acoustic Assessment Report* such that the information in the reports is accurate as of the date that Condition 2.1 of this *Approval* expired.
5. Conditions 5.1 and 5.2 do not apply if Condition 2.1 has expired.

6. REPORTING REQUIREMENTS

1. Subject to Condition 6.2, the *Company* shall provide the *Director* no later than June 30 of each year, a *Written Summary Form* to be submitted through the *Ministry's* website that shall include the following:
 - a. a declaration of whether the *Facility* was in compliance with section 9 of the *EPA*, *O. Reg. 419/05* and the conditions of this *Approval*;
 - b. a summary of each *Modification* satisfying Condition 2.1.a. and 2.1.b. that took place in the previous calendar year that resulted in a change in the previously calculated concentration at a *Point of Impingement* for any *Compound of Concern* or resulted in a change in the sound levels reported in the *Acoustic Assessment Summary Table* at any *Point of Reception*.
2. Condition 6.1 does not apply if Condition 2.1 has expired.

7. OPERATION AND MAINTENANCE

1. The *Company* shall prepare and implement, three (3) months prior to the *Start-up Date*, operating procedures and maintenance programs for all *Processes with Significant Environmental Aspects*, which shall specify as a minimum:
 - a. routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers,

- b. frequency of inspections and scheduled preventative maintenance;
- c. procedures to prevent upset conditions;
- d. procedures to minimize all fugitive emissions;
- e. procedures to prevent and/or minimize odorous emissions;
- f. procedures to prevent and/or minimize noise emissions;
- g. procedures for record keeping activities relating to the operation and maintenance programs;
- h. a staffing plan;
- i. complaint handling procedures; and
- j. contingency plans and emergency procedures.

2. The *Company* shall ensure that all *Processes with Significant Environmental Aspects* are operated and maintained in accordance with this *Approval*, the operating procedures and maintenance programs.

3. The *Company* shall ensure that

- a. all four (4) dual fired heaters that are used to combust the *Syngas* are operated at a minimum temperature of 900 degree Celsius;
- b. funding, staffing, training of staff, process controls, quality assurance and quality control procedures of or in relation to the *Facility* are adequate to achieve compliance with this *Approval*;
- c. equipment, material and spare parts, of equal or better quality and specifications, are kept on hand and in good repair for immediate use in the event of:
 - i. a breakdown of the *Facility* or any part of the *Facility*;
 - ii. any change in process parameters which may result in a discharge into the natural environment of any contaminant in an amount, concentration or level in excess of that prescribed by the regulations or imposed by this *Approval*;
 - iii. any fire or explosion;
 - iv. any other potential contingency; and
 - v. and that staff are trained in the use of said *Equipment*, material and spare parts and in the methods and procedures to be employed upon the occurrence of such an event.

4. The *Company* shall prepare and submit to the *District Manager*, three (3) months prior to the *Start-up Date*, an *Odour Management Plan*, including:

- a. elements of operation of the *Facility* that have a potential to release odour including fugitive odour emission sources; and
 - b. the physical and procedural controls such as policies and standard operating procedures, monitoring, measurement, corrective actions, communication and management reviews required in order to prevent or mitigate any impacts on the *Sensitive Receptor*.
5. The *Company* shall implement the procedures/recommendations of the accepted and updated *Odour Management Plan*.
6. The *Company* shall review and update the *Odour Management Plan* annually.

8. CONTINUOUS MONITORING SYSTEMS

1. The *Company* shall submit, to the *Manager*, three (3) months prior to the *Start-up Date*, a *Continuous Monitoring Plan* prepared by a *Licensed Engineering Practitioner* for the *Continuous Monitoring Systems* that will continuously monitor the following parameters in the undiluted gases leaving the *Thermal Oxidizer* stack;
- a. Nitrogen oxides (NO_x) concentrations;
 - b. Sulphur dioxides (SO₂) concentrations;
 - c. Carbon monoxide (CO) concentrations;
 - d. Total Hydrocarbons (Organic Matter)
 - e. Volumetric flow rate; and
 - f. Temperature.
2. The *Continuous Monitoring Plan* shall include descriptions of, but not be limited to:
- a. Air pollutants / parameters requiring continuous monitoring and associated targets and in-stack limits (when applicable);
 - 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. Relative accuracy and reference method for test audit,
 - f. Performance indicators and monitoring frequency,
 - g. Communication protocol(s) and corrective action(s) regarding malfunctions,

- h. Preventative maintenance and spare parts,
- i. Service contractor and staff responsibilities including training,
- j. Other operating and maintenance procedures to ensure availability,
- k. Data acquisition system, and
- l. Data verification procedures.

3. The *Company* shall:

- a. finalize the *Continuous Monitoring Plan* in consultation with the *Manager*;
- b. implement the approved *Continuous Monitoring Plan* not later than three (3) months after the *Manager* has approved the *Continuous Monitoring Plan*;
- c. maintain a current copy of the *Continuous Monitoring Plan* at an accessible location for easy access by persons responsible for supervising, operating and maintaining the *Continuous Monitoring System*;
- d. make the *Continuous Monitoring Plan* and *Continuous Monitoring System* data available for inspection by staff of the *Ministry* upon request. associated data as well as by a *Ministry* representative, upon request;
- e. conduct Relative Accuracy Test Audit (RATA) on the *Continuous Monitoring System* within three (3) months from the *Start-up Date* and notify the *Manager* and the *District Manager* (via email) of any impending RATA testing, along with a summary of the testing strategies to be used for conducting the RATA;
- f. submit a report to the *Manager* and *District Manager*, not later than three (3) months from the date of RATA for approval of the test results.

- 4. If the *Director* does not accept the results of the RATA, the *Director* may require the *Company* to repeat the RATA tests on the *Continuous Monitoring System*.
- 5. The *Company* shall review and update the *Continuous Monitoring Plan* when changes to the *Continuous Monitoring System* and/or operational procedures has occurred and seek approval of the revised *Continuous Monitoring Plan* by the *Manager*.
- 6. The *Company* shall repeat the RATA annually and notify the *Manager and the District Manager (via email)*, along with a written summary of the testing strategies to be used for conducting the RATA.

9. COMPLAINTS RESPONSE PROCEDURE

1. If at any time, the *Company* receives any environmental complaints from the public regarding the operation of the *Facility*, the *Company* shall respond to these complaints in accordance with the Complaint Response Procedure contained in Condition No. 11 in the *Company's Approval (Waste)*.
2. If the *Area Supervisor* deems that the corrective actions taken in accordance with Condition No. 11 in the *Company's Approval (Waste)* to be unsuitable, insufficient or ineffective, the *Area Supervisor* may direct the *Company*, in writing, pursuant to the remedial order section (s.17) or the preventative measures order section (s.18) of the *EPA* to take further measures to address the environmental complaints from the public, including but not limited to, requiring a reduction in the receipt of *Waste Tire Materials*, cessation of the receipt of *Waste Tire Materials*, removal and off site disposal of *Waste Tire Materials* from the *Facility*, as well as making repairs or modifications to Equipment or processes.

10. RECORD KEEPING REQUIREMENTS

1. Any information requested by any employee or agent of the *Ministry* concerning the *Facility* and its operation under this *Approval*, including, but not limited to, any records required to be kept by this *Approval*, shall be provided to the employee or agent of the *Ministry*, upon request, in a timely manner.
2. Unless otherwise specified in this *Approval*, the *Company* shall retain, for a minimum of five (5) years from the date of their creation all reports, records and information described in this *Approval*, including,
 - a. a copy of the *Original ESDM Report* and each updated version;
 - b. a copy of each version of the *Acoustic Assessment Report*;
 - c. supporting information used in the emission rate calculations performed in the *ESDM Reports* and *Acoustic Assessment Reports*;
 - d. the records in the *Log*;
 - e. copies of each *Written Summary Form* provided to the *Ministry* under Condition 6.1 of this *Approval*;
 - f. records of maintenance, repair and inspection of *Equipment* related to all *Processes with Significant Environmental Aspects*; and
 - g. all records related to environmental complaints made by the public as required by Condition 8 of this *Approval*.

11. SOURCE TESTING

1. The *Company* shall perform *Source Testing* in accordance with the

procedures in Schedule E to determine the rates of emissions of the *Test Contaminants* from the *Thermal Oxidizer*, within two (2) months after the *Manager* has approved the *Pre-Test Plan* or a date agreed by the *Area Supervisor*, in consultation with the *Manager*.

12. QUARTERLY AND ANNUAL REPORTING

1. The *Company* shall retain a *Licensed Engineering Practitioner* to prepare:
 - a. Quarterly progress reports, in accordance with the requirement of the *Approval (Waste)* and submit to the *Area Supervisor* and *Manager* within thirty (30) business days after the end of each quarter starting from the month of the *Start-up Date*, or as directed or agreed by the *Area Supervisor* in consultation with the *Manager* on how the operation of the *Facility* complied with requirements of *EPA* and the terms and conditions of this *Approval* in that period. The quarterly report shall summarize the activities that have been undertaken in that quarter and the discharge from the *Facility*. The quarterly report shall include the information as required by the *Approval (Waste)* and the following:
 - i. an executive summary,
 - ii. average and maximum daily quantity and the total quantity of scrap tire materials received and processed by the *Facility* in that quarter,
 - iii. quantity of the *Syngas* produced and combusted in four (4) dual fuel heaters and *Thermal Oxidizer* on an hourly and daily basis in that quarter,
 - iv. *Continuous Monitoring Systems* availability, and reporting of malfunctions and/or exceedance and their resolution strategy;
 - v. results of the *Continuous Monitoring Systems*, complete with a summary of the maximum concentration monitored and recorded for each contaminant in that quarter,
 - vi. date(s) and time(s) and the results if available of any Source Testing if conducted in that quarter, and
 - vii. details of planned maintenance or failure of Equipment in the *Facility*.
 - b. Annual compliance report, and submit to the *Area Supervisor* by March 31st following the end of each operating year, including:
 - i. the measures taken to ensure compliance with all terms and conditions of this *Approval*, *Approval (Waste)* and *EPA*; and
 - ii. compliance and non-compliance with all terms and conditions of this *Approval*, *Approval (Waste)* and *EPA*.

2. The *Company* shall ensure that copies of the annual compliance report are available for inspection at the *Facility* by any member of the public during normal business hours without charge.
3. After the completion of eight (8) quarterly progress reports, the frequency of progress reporting may be reduced, eliminated or otherwise modified by the *Area Supervisor*, if requested by the *Company* in writing with appropriate rationale.

13. **NOTIFICATION - FACILITY CONSTRUCTION AND START-UP**

1. The *Company* shall notify the *Area Supervisor* in writing
 - a. before the *Start-up Date*, as to whether the construction of the *Facility* has been carried out in accordance with this *Approval* to a point of substantial completion; and
 - b. no later than five (5) business days prior to the *Start-up Date* and confirm in writing within five (5) business days after the *Start-up Date*.

14. **REVOCATION OF PREVIOUS APPROVALS**

1. This *Approval* replaces and revokes all Certificates of Approval (Air) issued under section 9 *EPA* and Environmental Compliance Approvals issued under Part II.1 *EPA* to the *Facility* in regards to the activities mentioned in subsection 9(1) of the *EPA* and dated prior to the date of this *Approval*.

15. **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 six (6) 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

SUPPORTING DOCUMENTATION

1. Environmental Compliance Approval Application, dated October 29, 2019, signed by Steve Kantor and submitted by the *Company*;
2. Emission Summary and Dispersion Modelling Report, prepared by Jamie Fletcher, Independent Environmental Consultants and dated October 25, 2019; and email updates provided by:
 1. Jamie Fletcher of Independent Environmental Consultants on March 16 and 19, 2020;
 2. Kim Theobald of Independent Environmental Consultants on August 10 and 12, 2020; and
 3. Steve Kantor of Ellsin Environmental Ltd. on March 23, 26 and April 14, 2020.
3. *Acoustic Assessment Report*, dated October 2019, prepared by Independent Environmental Consultants, and signed by Nicholas Shinbin.

SCHEDULE B EMISSION LIMITS

Contaminant	Maximum Limit	Comments
Nitrogen oxides	105 ppm _{dv} (198 mg/Rm ³)	Calculated as the rolling arithmetic average ¹ of 24 hours of data from a continuous emission monitoring system
Hydrogen chloride	18 ppm _{dv} (27 mg/Rm ³)	Calculated as the rolling arithmetic average ¹ of 24 hours of data from a continuous emission monitoring system
Organic matter (expressed as equivalent methane)	50 ppm _{dv} (33 mg/Rm ³)	Calculated as the rolling arithmetic average of 10-minutes taken at approximately one-minute intervals of data from a continuous emission monitoring system
Sulphur dioxide	21 ppm _{dv} (56 mg/Rm ³)	Calculated as the rolling arithmetic average ¹ of 24 hours of data from a continuous emission monitoring system
Carbon monoxide	35 ppm _{dv} (40 mg/Rm ³)	Calculated as the rolling arithmetic average ¹ of 4 hours of data from a continuous emission monitoring system
Particulate matter	14 mg/Rm ³	Calculated as the arithmetic average of 3 stack tests conducted in accordance with standard methods
Mercury	20 ug/Rm ³	Calculated as the arithmetic average of 3 stack tests conducted in accordance with standard methods
Cadmium	7 ug/Rm ³	Calculated as the arithmetic average of 3 stack tests conducted in accordance with standard methods

Lead	60 ug/Rm3	Calculated as the arithmetic average of 3 stack tests conducted in accordance with standard methods
Dioxins, Furans and Dioxin-like PCBs (Polychlorinated Biphenyls) (expressed as I-TEQ)	80 pg/Rm3	Calculated as the arithmetic average of 3 stack tests conducted in accordance with standard methods and in accordance with the rules identified in O. Reg. 419/05
opacity	10 percent	calculated as the rolling arithmetic average of six (6) minutes of data measured by a continuous emission monitoring system that provides data at least once every minute
opacity	10 percent	calculated as the rolling arithmetic average of two (2) hours of data measured by a continuous emission monitoring system that provides data at least once every fifteen minutes

Note:

1. 4-hour and 24-hour rolling average mean that the average is adjusted hourly, and the hour average is based on approximately one-minute intervals of data generated from a continuous emission monitoring system .

SCHEDULE C

TEST CONTAMINANTS FOR SOURCE TESTING

1. Nitrogen oxides
2. Hydrogen chloride
3. Organic matter (expressed as equivalent methane)
4. Sulphur dioxide
5. Carbon monoxide
6. Particulate matter
7. Mercury
8. Cadmium
9. Lead
10. Dioxins, Furans and Dioxin-like PCBs (Polychlorinated Biphenyls) (expressed as I-TEQ),
11. Benzo(a)pyrene
12. Volatile organic compounds contained in Schedule "D" of this Approval and
13. Opacity
- 14.

SCHEDULE D

VOLATILE ORGANIC COMPOUNDS

1. Acetaldehyde
2. acetone
3. acrolein
4. benzene
5. bromodichloromethane
6. bromoform
7. bromomethane
8. butadiene, 1,3 -
9. Butanone, 2 -
10. Carbon tetrachloride
11. chloroform
12. cumene
13. dibromochloromethane
14. dichlorodifluoromethane
15. dichloroethane, 1,2 -
16. Dichloroethene, trans - 1,2 -
17. Dichloroethene, 1,1 -
18. Dichloropropane, 1,2 -
19. Ethylbenzene
20. ethylene dibromide
21. formaldehyde
22. mesitylene
23. methylene chloride
24. styrene
25. tetrachloroethene
26. toluene
27. trichloroethane, 1,1,1 -
28. Trichloroethene

- 29. trichloroethylene, 1,1,2 -
- 30. Trichlorofluoromethane
- 31. trichlorotrifluoroethane
- 32. vinyl chloride
- 33. xylenes, m-, p- and o-

SCHEDULE E

SOURCE TESTING PROCEDURES

1. The *Company* shall submit, not later than one (1) month after the *Start-up Date*, 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 on the *Source Testing* to the *Manager* (electronic format), the *District Manager* and the *Director* (electronic and hard copy formats) 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 *Thermal Oxidizer*;
 - c. description of the emission sources controlled by the *Thermal Oxidizer* at the time of *Source Testing*; and

d. *Continuous Monitoring System* data at the time of *Source Testing*;

4. results of *Source Testing*, including the emission rate, emission concentration, and relevant emission factor of the *Test Contaminants* from the *Thermal Oxidizer*;
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*, 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.
8. The *Company* shall repeat the *Source Testing* once every three months after the first *Source Testing* or as directed or agreed by the *Area Supervisor* in consultation with the *Manager*.

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

1. **GENERAL**

Condition No. 1 is included to require the *Approval* holder to build, operate and

maintain the *Facility* in accordance with the Supporting Documentation in Schedule A considered by the *Director* in issuing this *Approval*.

2. LIMITED OPERATIONAL FLEXIBILITY, REQUIREMENT TO REQUEST AN ACCEPTABLE POINT OF IMPINGEMENT CONCENTRATION AND PERFORMANCE LIMITS

Conditions No. 2, 3 and 4 are included to limit and define the *Modifications* permitted by this *Approval*, and to set out the circumstances in which the *Company* shall request approval of an *Acceptable Point of Impingement Concentration* prior to making *Modifications*. The holder of the *Approval* is approved for operational flexibility for the *Facility* that is consistent with the description of the operations included with the application up to the *Facility Production Limit*. In return for the operational flexibility, the *Approval* places performance based limits that cannot be exceeded under the terms of this *Approval*. *Approval* holders will still have to obtain other relevant approvals required to operate the *Facility*, including requirements under other environmental legislation such as the *Environmental Assessment Act*.

3. DOCUMENTATION REQUIREMENTS

Condition No. 5 is included to require the *Company* to maintain ongoing documentation that demonstrates compliance with the performance limits as specified in Condition 4 of this *Approval* and allows the *Ministry* to monitor ongoing compliance with these performance limits. The *Company* is required to have an up to date *ESDM Report* and *Acoustic Assessment Report* that describe the *Facility* at all times and make the *Emission Summary Table* and *Acoustic Assessment Summary Table* from these reports available to the public on an ongoing basis in order to maintain public communication with regard to the emissions from the *Facility*.

4. REPORTING REQUIREMENTS

Condition No. 6 is included to require the *Company* to provide a yearly *Written Summary Form* to the *Ministry*, to assist the *Ministry* with the review of the site's compliance with the *EPA*, the regulations and this *Approval*.

5. OPERATION AND MAINTENANCE

Condition No. 7 is included to require the *Company* to properly operate and maintain the *Processes with Significant Environmental Aspects* to minimize the impact to the environment from these processes.

6. CONTINUOUS MONITORING SYSTEMS

Conditions No.8 is included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the *Facility*.

7. COMPLAINTS RECORDING AND REPORTING PROCEDURE

Condition No. 9 is included to require the *Company* to respond to any

environmental complaints regarding the operation of the *Equipment*, according to a procedure that includes methods for preventing recurrence of similar incidents and a requirement to prepare and retain a written report.

8. RECORD KEEPING REQUIREMENTS

Condition No. 10 is included to require the *Company* to retain all documentation related to this *Approval* and provide access to employees in or agents of the *Ministry*, upon request, so that the *Ministry* can determine if a more detailed review of compliance with the performance limits as specified in Condition 4 of this *Approval* is necessary.

9. SOURCE TESTING

Condition No. 11 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*

10. REPORTING REQUIREMENTS

Condition No. 12 is included to require the *Company* to gather accurate information so that compliance with the *EPA*, the regulations and this *Approval* can be verified.

11. NOTIFICATION - FACILITY CONSTRUCTION AND START-UP

Condition No. 13 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 with the *EPA*, the regulations and this *Approval*.

12. REVOCATION OF PREVIOUS APPROVALS

Condition No. 14 is included to identify that this *Approval* replaces all Section 9 Certificate(s) of Approval and Part II.1 Approvals in regards to the activities mentioned in subsection 9(1) of the *EPA* and dated prior to the date of this *Approval*.

13. ACOUSTIC AUDIT

Condition No. 15 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.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. 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.

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 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**

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

DATED AT TORONTO this 21st day of August,
2020

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

BS/
c: Area Manager, MECP Sault Ste. Marie
c: District Manager, MECP Sudbury
Donald Gorber, Independent Environmental Consultants