

APPROVAL

PROVINCE OF ALBERTA

ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT
R.S.A. 2000, c.E-12, as amended.

APPROVAL NO.: 484778-00-00

APPLICATION NO.: 001-484778

EFFECTIVE DATE: December 11, 2023

EXPIRY DATE: December 10, 2033

APPROVAL HOLDER: Rimrock Renewables Ltd.

ACTIVITY: Construction, operation and reclamation of the

Foothills County waste management facility for the collection and processing of waste or recyclables to produce fuel and the associated power plant

is subject to the attached terms and conditions.

Designated Director under the Act: Craig Knaus, B.Sc.

Date Signed: December 11, 2023

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

### **PART 1: DEFINITIONS**

#### **SECTION 1.1: DEFINITIONS**

- 1.1.1 All definitions from the Act and the regulations apply except where expressly defined in this approval.
- 1.1.2 In all PARTS of this approval:
- (a) “Act” means the *Environmental Protection and Enhancement Act*, R.S.A. 2000, c.E-12, as amended;
  - (b) “air effluent stream” means any substance in a gaseous medium released by or from a facility;
  - (c) “anaerobic digester tank” means a reaction vessel that converts soluble organic compounds into biogas, as described in the application;
  - (d) “AOPA” means the *Agricultural Operation Practices Act*, R.S.A. 2000, c.A-7, as amended;
  - (e) “APEGA” means the Association of Professional Engineers and Geoscientists of Alberta;
  - (f) “application” means the written submissions from the approval holder to the Director in respect of application number 001-484778 and any subsequent applications where amendments are issued for this approval;
  - (g) “arable land” means the land that has the same meaning as that used in section 24(1) of the *Agricultural Operation Practices Act Standards and Administration Regulation*, Alta. Reg. 267/2001, as amended;
  - (h) “biogas” means gaseous fuel produced from the anaerobic digestion of feedstock;
  - (i) “biogas upgrading system” means the system used to purify biogas into renewable natural gas that can be injected into a natural gas distribution system and includes chemical scrubber, activated carbon filter and membrane containers;
  - (j) “cogeneration unit” means a 1095 KW natural gas fired reciprocating engine generator set, as described in the application;

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- (k) “combined total thermal energy” means thermal energy is recovered from the reciprocating engine exhaust, cooling water and lubricating oil, and subsequently used at the facility;
- (l) “composite sample” means a sample prepared from not less than 15 sub-samples that are representative of the entire volume of solid digestate being tested;
- (m) “container” means any portable device in which a substance is kept, including but not limited to drums, barrels and pails which have a capacity greater than 18 litres;
- (n) “confined feeding operation” means confined feeding operation as defined in AOPA;
- (o) “day”, when referring to sampling, means any sampling period of 24 consecutive hours;
- (p) “decommissioning” means the dismantling and decontamination of a facility undertaken subsequent to the termination or abandonment of any activity or any part of any activity regulated under the Act;
- (q) “decontamination” means the treatment or removal of substances from the facility and affected lands;
- (r) “Detailed Design Drawings and Specifications” means the detailed design drawings and specifications, signed and stamped by a professional registered with APEGA, that are issued for construction or tendering;
- (s) “digestate” means liquid or solid material formed during the production of biogas in an anaerobic digester tank at the facility and includes solid digestate and liquid digestate;
- (t) “Directive” means the Storage and Application of Digestate on Agricultural Land Directive, Alberta Agriculture and Irrigation, 2023, as amended;
- (u) “Director” means an employee of the Government of Alberta designated as a Director under the Act;
- (v) “dismantling” means the removal of buildings, structures, process and pollution abatement equipment, vessels, storage facilities, material handling facilities, railways, roadways, pipelines and any other installations that are being or have been used or held for or in connection with the facility;

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- (w) “domestic wastewater” means wastewater that is the composite of liquid and water-carried wastes associated with the use of water for drinking, cooking, cleaning, washing, hygiene, sanitation or other domestic purposes, together with any infiltration and inflow wastewater, that is released into a wastewater collection system;
- (x) “emergency flare” means the flare used for combustion of the biogas that can not be released into the biogas upgrading system or a natural gas distribution system;
- (y) “excavation zone” means the volume containing a tank and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the tank is placed at the time of installation;
- (z) “facility” means all buildings, structures, process and pollution abatement equipment, vessels, storage facilities, material handling facilities, roadways, railways, pipelines and other installations, and includes the land, located on the Northwest Quarter of Section 5, Township 19, Range 29, West of the 4th Meridian and the Northeast Quarter of Section 6, Township 19, Range 29, West of the 4th Meridian, that is being or has been used or held for or in connection with the Foothills County waste management facility and the associated power plant;
- (aa) “facility developed area” means the areas of the facility used for the storage, treatment, processing, transport, or handling of raw material, intermediate product, by-product, finished product, process chemicals, or waste material;
- (bb) “feedstock” means manure and any substance listed in the Directive that are used to produce biogas in the anaerobic digester tanks at the facility;
- (cc) “fugitive emissions” means emissions of substances to the atmosphere other than ozone depleting substances, originating from a facility source other than a flue, vent, or stack but does not include sources which may occur due to breaks or ruptures in process equipment;
- (dd) “ISO/IEC 17025” means the international standard, developed and published by International Organization for Standardization (ISO), specifying management and technical requirements for laboratories;
- (ee) “incompatible waste” means waste materials which could cause dangerous reactions from direct contact with one another;
- (ff) “industrial runoff” means precipitation that falls on or traverses the facility developed area;

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- (gg) “industrial runoff control system” means the parts of the facility that collect, store or treat industrial runoff from the facility;
- (hh) “industrial wastewater” means the composite of liquid wastes and water-carried wastes, any portion of which results from any industrial process carried on at the facility;
- (ii) “industrial wastewater control system” means the parts of the facility that collect, store or treat industrial wastewater;
- (jj) “liner” means a continuous layer constructed of natural or man-made materials, which restricts the downward or lateral migration of the contents of the structure or facility;
- (kk) “liquid digestate pond” means a pond used to store liquid digestate and industrial runoff at the facility;
- (ll) “local environmental authority” means the Department of Environment and Protected Areas, in the Province of Alberta, or the agency that has the equivalent responsibilities for any jurisdiction outside the Province;
- (mm) “manual stack survey” means a survey conducted in accordance with the *Alberta Stack Sampling Code*, Alberta Environment, 1995, as amended;
- (nn) “manure” means manure as defined in AOPA;
- (oo) “manure storage facility” means a manure storage facility as defined in AOPA;
- (pp) “membrane container” means the equipment used for removal of carbon dioxide contained in the biogas, as described in the application;
- (qq) “month” means calendar month;
- (rr) “MWh<sub>net</sub>” means MegaWatt-hour that includes both the combined total thermal energy and the net generation of electricity, excluding any electricity used by the cogeneration units;
- (ss) “NRCB” means the Natural Resources Conservation Board in the Province of Alberta;
- (tt) “odour abatement system” means air pollution abatement equipment used to treat the air effluent streams and includes chemical scrubber and carbon filter that are operated in series for removal of ammonia, total reduced sulphur and volatile organic compounds contained in the air effluent streams, as described in the application;

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- (uu) “process and building air system” means the system used to collect building air and the air effluent streams from the processes and subsequently direct them to the odour abatement system for treatment, as described in the application;
- (vv) “QA/QC” means quality assurance and quality control;
- (ww) “record drawing/document” means a document prepared by a professional member of APEGA to record design changes for which they accept professional responsibility and which represents the final design of the project that was either approved or authorized according to the terms and conditions of this approval;
- (xx) “regulations” means the regulations enacted pursuant to the Act, as amended;
- (yy) “release detection” means determining whether a release has occurred from a tank into the environment or a leak has occurred into the interstitial space between the tank and secondary containment around it;
- (zz) “representative grab” means a sample consisting of equal volume portions of water collected from at least four sites between 0.20-0.30 metres below the water surface within a pond;
- (aaa) “routine parameters” means Ca, Mg, Na, K, Cl, SO<sub>4</sub>, NO<sub>3</sub> + NO<sub>2</sub> – Nitrogen, hardness, alkalinity (HCO<sub>3</sub>, CO<sub>3</sub>), pH, conductance (electrical conductivity), total dissolved solids (calculated), SAR (calculated), and cation/anion balance;
- (bbb) “run-on” means precipitation that may drain as surface flow onto the facility developed area;
- (ccc) “soil” means mineral or organic earthen materials that can, have, or are being altered by weathering, biological processes, or human activity;
- (ddd) “storm event” means a 1 in 100 year precipitation event occurring over 24 hours in High River, Alberta;
- (eee) “tank” means a stationary device, designed to contain an accumulation of a substance, which is constructed primarily of non-earthen materials that provide structural support including wood, concrete, steel and plastic;
- (fff) “topsoil” means the uppermost layer of soil and consists of:
  - (i) the A-horizons and all organic horizons as defined in *The Canadian System of Soil Classification* (Third Edition), Agriculture and Agri-Food Canada, Publication 1646, 1998, as amended, and
  - (ii) the soil ordinarily moved during tillage;

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- (ggg) “total reduced sulphur” means a gaseous mixture consisting of hydrogen sulphide, methyl mercaptan, dimethyl sulphide, dimethyl disulphide, carbon disulphide and carbonyl sulphide;
- (hhh) “upper subsoil” means the layer of soil directly below the topsoil layer that consists of the B-horizons as defined in *The Canadian System of Soil Classification*, (Third Edition), Agriculture and Agri-Food Canada, Publication 1646, 1998, as amended;
- (iii) “volume estimate” means a technical evaluation based on the sources contributing to the release including but not limited to pump capabilities, water meters and batch release volumes;
- (jjj) “waste storage areas” means the areas designated for storage of waste, as described in the application;
- (kkk) “water table” means the upper level of groundwater, below which the pore spaces in the soil or rock are saturated with water;
- (lll) “week” means any consecutive 7-day period; and
- (mmm) “year” means calendar year, unless otherwise specified.

### **PART 2: GENERAL**

#### **SECTION 2.1: REPORTING**

- 2.1.1 The approval holder shall immediately report to the Director by telephone any contravention of the terms and conditions of this approval at 1-780-422-4505.
- 2.1.2 The approval holder shall submit a written report to the Director within seven (7) days of the reporting pursuant to 2.1.1.
- 2.1.3 The approval holder shall immediately notify the Director in writing if any of the following events occurs:
  - (a) the approval holder is served with a petition into bankruptcy;
  - (b) the approval holder files an assignment in bankruptcy or Notice of Intent to make a proposal;
  - (c) a receiver or receiver-manager is appointed;
  - (d) an application for protection from creditors is filed for the benefit of the approval holder under any creditor protection legislation; or

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- (e) any of the assets which are the subject matter of this approval are seized for any reason.
- 2.1.4 If the approval holder monitors for any substances or parameters which are the subject of operational limits as set out in this approval more frequently than is required and uses procedures authorized in this approval, then the approval holder shall provide the results of such monitoring as an addendum to the reports required by this approval.
- 2.1.5 The approval holder shall submit all annual reports required by this approval to be compiled or submitted to the Director on or before March 31 of the year following the year in which the information was collected, unless otherwise specified in this approval.

### **SECTION 2.2: RECORD KEEPING**

2.2.1 The approval holder shall:

- (a) record; and
- (b) retain

all the following information in respect of any sampling conducted or analyses performed in accordance with this approval for a minimum of ten (10) years, unless otherwise authorized in writing by the Director:

- (i) the place, date and time of sampling,
- (ii) the dates the analyses were performed,
- (iii) the analytical techniques, methods or procedures used in the analyses,
- (iv) the names of the persons who collected and analysed each sample, and
- (v) the results of the analyses.

### **SECTION 2.3: ANALYTICAL REQUIREMENTS**

- 2.3.1 With respect to any sample required to be taken pursuant to this approval, the approval holder shall ensure that:
  - (a) collection;
  - (b) preservation;
  - (c) storage;



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(d) handling; and

(e) analysis

shall be conducted in accordance with the following, unless otherwise authorized in writing by the Director:

(i) for air:

(A) the *Alberta Stack Sampling Code*, Alberta Environment, 1995, as amended,

(B) the *Methods Manual for Chemical Analysis of Atmospheric Pollutants*, Alberta Environment, 1993, as amended, and

(C) the *Air Monitoring Directive*, Alberta Environment and Parks, 2016, as amended;

(ii) for industrial wastewater, industrial runoff, groundwater and domestic wastewater:

(A) the *Standard Methods for the Examination of Water and Wastewater*, published jointly by the American Public Health Association, American Water Works Association, and the Water Environment Federation, 2023, as amended;

(iii) for soil:

(A) the *Soil Monitoring Directive*, Alberta Environment, 2009, as amended, and

(B) the *Soil Quality Criteria Relative to Disturbance and Reclamation*, Alberta Agriculture, 1987, as amended;

(iv) for waste and digestate:

(A) the *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, USEPA, SW-846, 1986, as amended,

(B) the *Methods Manual for Chemical Analysis of Water and Wastes*, Alberta Environmental Centre, Vegreville, Alberta, 1996, AECV96-M1, as amended,

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(C) *ASTM D5623, Standard Test Method for Sulfur Compounds in Light Petroleum Liquids by Gas Chromatography and Sulfur Selective Detection*, ASTM International, West Conshohocken, PA, 2019, as amended, or

(D) *the Standard Methods for the Examination of Water and Wastewater*, American Public Health Association, American Water Works Association, and the Water Environment Federation, 2023, as amended.

2.3.2 The approval holder shall analyse all samples that are required to be obtained by this approval in a laboratory accredited pursuant to ISO/IEC 17025, as amended, for the specific parameter(s) to be analysed, unless otherwise authorized in writing by the Director.

2.3.3 The term sample used in 2.3.2 does not include samples directed to continuous monitoring equipment, unless specifically required in writing by the Director.

2.3.4 The approval holder shall comply with the terms and conditions of any written authorization issued by the Director under 2.3.2.

### **SECTION 2.4: OTHER**

2.4.1 The terms and conditions of this approval are severable. If any term or condition of this approval or the application of any term or condition is held invalid, the application of such term or condition to other circumstances and the remainder of this approval shall not be affected thereby.

2.4.2 All tanks shall conform to the *Guidelines for Secondary Containment for Above Ground Storage Tanks*, Alberta Environmental Protection, 1997, as amended, unless otherwise authorized in writing by the Director.

2.4.3 All above ground storage tanks containing liquid hydrocarbons or organic compounds shall conform to the *Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks*, Canadian Council of Ministers of the Environment, PN 1180, 1995, as amended.

### **PART 3: CONSTRUCTION**

#### **SECTION 3.1: GENERAL**

3.1.1 If construction of the Foothills County waste management facility as described in application number 001-484778 has not commenced by December 31, 2024, the approval holder shall apply for an amendment to this approval, unless otherwise authorized in writing by the Director.

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- 3.1.2 The approval holder shall notify the Director in writing at least 14 days before commencing operations of the facility, unless otherwise authorized in writing by the Director.
- 3.1.3 The approval holder shall construct the Foothills County waste management facility as described in the application and shall include, at a minimum, all of the following:
- (a) the two (2) feedstock receiving hoppers;
  - (b) the two (2) manure blend tanks;
  - (c) the two (2) digester feed tanks;
  - (d) the three (3) organics reception tanks;
  - (e) the digestate nurse tank;
  - (f) the liquid digestate tank;
  - (g) the six (6) anaerobic digester tanks;
  - (h) the feedstock receiving hopper building;
  - (i) the feedstock pumphouse building;
  - (j) the digestate separation building;
  - (k) the biogas upgrading system;
  - (l) the two (2) cogeneration units; and
  - (m) the process heater.
- 3.1.4 The approval holder shall construct, at a minimum, all of the following for each of tanks referred to in 3.1.3(b) to (g):
- (a) automatic shutoff devices for overfill protection;
  - (b) a secondary containment for leak detection; and
  - (c) a ground water monitoring well within the excavation zone for release detection.

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3.1.5 The approval holder shall construct the secondary containment required by 3.1.4 according to the application and shall include, at a minimum, all of the following:

- (a) a geomembrane barrier to surround the below-ground portions of an underground tank; and
- (b) a leak detection and removal system.

**SECTION 3.2: AIR**

3.2.1 The approval holder shall construct the following stacks according to the corresponding height requirements referred to in the TABLE 3.2-A.

**TABLE 3.2-A: STACK HEIGHTS**

<b>STACK</b>	<b>MINIMUM HEIGHT ABOVE GRADE (metres)</b>
The odour abatement system exhaust stack	6.0
The emergency flare stack	12.0
Each of the two (2) cogeneration unit exhaust stacks as identified in the application by the designations Cogen 1 and Cogen 2	10.0
The process heater exhaust stack as identified in the application by the designation H-701	6.1

3.2.2 The approval holder shall equip the following stacks with sampling facilities:

- (a) the odour abatement system exhaust stack;
- (b) each of the two (2) cogeneration unit exhaust stacks as identified in the application by the designations Cogen 1 and Cogen 2; and
- (c) the process heater exhaust stack as identified in the application by the designation H-701.

3.2.3 The approval holder shall:

- (a) install;
- (b) operate; and

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- (c) maintain

the sampling facilities required by 3.2.2 in accordance with, at a minimum, all of the following:

- (i) the *Alberta Stack Sampling Code*, Alberta Environment, 1995, as amended, and
- (ii) the *Air Monitoring Directive*, Alberta Environment and Parks, 2016, as amended.

3.2.4 The approval holder shall install, at a minimum, all of the following on the emergency flare stack:

- (a) wind guard;
- (b) pilot light; and
- (c) electric igniter

unless an equivalent system is authorized in writing by the Director.

### **POLLUTION ABATEMENT EQUIPMENT**

3.2.5 The approval holder shall construct, at a minimum, all of the following pollution abatement equipment:

- (a) the odour abatement system;
- (b) the nitrogen oxides abatement equipment;
- (c) the aeration system in the liquid digestate pond; and
- (d) the emergency flare.

3.2.6 The approval holder shall construct the process and building air system as described in the application to direct the air effluent streams from all of the following sources to the odour abatement system:

- (a) the feedstock receiving hopper building including the two (2) feedstock receiving hoppers;
- (b) the tanks referred to in 3.1.3(b) to (f); and
- (c) the digestate screw presses.

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### **SECTION 3.3: LIQUID DIGESTATE, INDUSTRIAL RUNOFF AND INDUSTRIAL WASTEWATER**

- 3.3.1 The approval holder shall construct:
- (a) the industrial runoff control system; and
  - (b) the industrial wastewater control system
- as described in the application.
- 3.3.2 At least three (3) months prior to the commencement of construction of the liquid digestate pond, the approval holder shall submit to the Director the following documents for the liquid digestate pond construction, signed and stamped by a professional registered with APEGA:
- (a) Detailed Design Drawings and Specifications prepared in accordance with the application;
  - (b) a Construction Quality Assurance Plan; and
  - (c) a Construction Quality Control Plan.
- 3.3.3 If any Detailed Design Drawings and Specifications are found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.
- 3.3.4 The approval holder shall implement the Detailed Design Drawings and Specifications as authorized in writing by the Director.
- 3.3.5 The Detailed Design Drawings and Specifications required by 3.3.2 shall include, at a minimum, all of the following:
- (a) a geomembrane liner that shall have:
    - (i) a thickness of not less than 50 mil, and
    - (ii) a hydraulic conductivity of not more than  $1 \times 10^{-9}$  metres per second;
  - (b) separation between the seasonally high water table and the bottom of the liner;
  - (c) a liner uplift analysis that considers effects of an underdrain or a dewatering system in the event that separation referred to in (b) is less than one (1) metre;
  - (d) a system capable of preventing accumulation of gases under the entire liner;
  - (e) a prepared clay sub-grade suitable to protect the integrity of liner system; and

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(f) any other information as required in writing by the Director.

3.3.6 The approval holder shall submit to the Director a summary report of the Construction Quality Assurance and Construction Quality Control results, signed and stamped by a professional registered with APEGA, at least one (1) month prior to commencement of the liquid digestate pond operation.

3.3.7 The summary report required by 3.3.6 shall contain, at a minimum, all of the following:

(a) confirmation that the liquid digestate pond has been constructed according to:

(i) the Construction Quality Assurance Plan,

(ii) the Construction Quality Control Plan, and

(iii) the Detailed Design Drawings and Specifications;

(b) a description of any deviations that resulted in a minor adjustment to the Detailed Design Drawings and Specifications to suit field conditions encountered;

(c) confirmation by the professional registered with APEGA that deviations will result in an equivalent design performance of the liquid digestate pond;

(d) record drawing/document; and

(e) any other information as required in writing by the Director.

### **SECTION 3.4: SOLID DIGESTATE AND MANURE**

3.4.1 The approval holder shall construct:

(a) the solid digestate staging area; and

(b) the manure staging area

as described in the application and shall include, at a minimum, all of the following:

(i) a liner that shall:

(A) be constructed of clay material or alternative material,

(B) have a thickness of at least 0.3 metres measured perpendicular to the liner surface, and

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- (C) have a hydraulic conductivity of not more than  $1 \times 10^{-9}$  metres per second;
- (ii) an industrial runoff control system with the capability of collecting and controlling the volume of industrial runoff expected from a storm event, and
- (iii) a run-on control system with the capability of preventing the volume of run-on expected from a storm event.

### **SECTION 3.5: DOMESTIC WASTEWATER**

- 3.5.1 The approval holder shall construct the domestic wastewater system according to the application and shall include, at a minimum, all of the following:
- (a) a domestic wastewater holding tank; and
  - (b) a domestic wastewater collection and removal system.

### **SECTION 3.6: LAND CONSERVATION**

- 3.6.1 The approval holder shall:
- (a) salvage; and
  - (b) conserve
- all topsoil for land reclamation.
- 3.6.2 The approval holder shall:
- (a) salvage; and
  - (b) conserve
- all upper subsoil for land reclamation.
- 3.6.3 The approval holder shall:
- (a) conserve; and
  - (b) stockpile
- all topsoil separately from the upper subsoil.



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- 3.6.4 The approval holder shall locate all:
- (a) topsoil stockpiles; and
  - (b) upper subsoil stockpiles
- at the facility.
- 3.6.5 The approval holder shall stockpile all topsoil as follows:
- (a) on stable foundations; and
  - (b) on undisturbed topsoil.
- 3.6.6 The approval holder shall stockpile all upper subsoil as follows:
- (a) on stable foundations; and
  - (b) on areas where the topsoil has been removed.
- 3.6.7 The approval holder shall take all steps necessary to prevent erosion, including but not limited to, all of the following:
- (a) revegetating the stockpiles; and
  - (b) any other steps authorized in writing by the Director.
- 3.6.8 The approval holder shall immediately suspend conservation of:
- (a) topsoil; and
  - (b) upper subsoil
- when wet or frozen conditions will result in mixing, loss or degradation of topsoil or upper subsoil.
- 3.6.9 The approval holder shall recommence conservation of:
- (a) topsoil; and
  - (b) upper subsoil
- only when wet or frozen field conditions in 3.6.8 no longer exist.

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### **PART 4: OPERATIONS, LIMITS, MONITORING AND REPORTING**

#### **SECTION 4.1: AIR**

##### **OPERATIONS**

- 4.1.1 The approval holder shall not release any air effluent streams to the atmosphere except as authorized by this approval.
- 4.1.2 The approval holder shall only release air effluent streams to the atmosphere from the following sources:
- (a) the odour abatement system exhaust stack;
  - (b) the two (2) membrane container vents;
  - (c) each of the two (2) cogeneration unit exhaust stacks as identified in the application by the designations Cogen 1 and Cogen 2;
  - (d) the emergency flare stack;
  - (e) the process heater exhaust stack as identified in the application by the designation H-701;
  - (f) any emergency pressure relief valves;
  - (g) the space ventilation exhaust stacks as described in the application;
  - (h) the space heater exhaust vents as described in the application; and
  - (i) any other source authorized in writing by the Director.
- 4.1.3 The approval holder shall direct air effluent streams from all of the following sources to the odour abatement system:
- (a) the feedstock receiving hopper building including the two (2) feedstock receiving hoppers;
  - (b) the three (3) organics reception tanks;
  - (c) the two (2) manure blending tanks;
  - (d) the two (2) digester feed tanks;
  - (e) the digestate nurse tank;

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- (f) the liquid digestate tank;
- (g) all hood vents and air ducts above the digestate screw presses; and
- (h) any other source authorized in writing by the Director.

4.1.4 In addition to the limits specified in 4.1.13, the approval holder shall not operate the process equipment unless and until the pollution abatement equipment associated with the process equipment is operating.

4.1.5 The approval holder shall only release biogas from each of the six (6) anaerobic digester tanks to:

- (a) the biogas upgrading system;
- (b) the emergency flare;
- (c) the emergency pressure relief valves; and
- (d) the two (2) cogeneration units

as described in the application.

4.1.6 The approval holder shall prevent excessive biogas from being built up in each of the six (6) anaerobic digester tanks.

4.1.7 The approval holder shall maintain the following stacks according to the minimum height requirements specified in TABLE 4.1-A.

**TABLE 4.1-A: STACK HEIGHTS**

<b>STACK</b>	<b>MINIMUM HEIGHT ABOVE GRADE (metres)</b>
The odour abatement system exhaust stack	6.0
The emergency flare stack	12.0
Each of the two (2) cogeneration unit exhaust stacks as identified in the application by the designations Cogen 1 and Cogen 2	10.0
The process heater exhaust stack as identified in the application by the designation H-701	6.1

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4.1.8 The approval holder shall continuously operate the emergency flare stack with the following minimum systems:

- (a) wind guard;
- (b) pilot light; and
- (c) electric igniter

unless an equivalent system is authorized in writing by the Director.

4.1.9 The approval holder shall ensure the combustion of all combustible gases released to the emergency flare stack.

4.1.10 The approval holder shall operate:

- (a) the odour abatement system;
- (b) the nitrogen oxides abatement equipment;
- (c) the aeration system in the liquid digestate pond; and
- (d) the emergency flare

in accordance with their respective manufacturers' operation and maintenance manuals.

4.1.11 The approval holder shall control fugitive emissions and any source not specified in 4.1.2 in accordance with 4.1.12 of this approval, unless otherwise authorized in writing by the Director.

4.1.12 With respect to fugitive emissions and any source not specified in 4.1.2, the approval holder shall not release a substance or cause to be released a substance that causes or may cause any of the following:

- (a) impairment, degradation or alteration of the quality of natural resources;
- (b) material discomfort, harm or adverse effect to the well being or health of a person; or
- (c) harm to property or to vegetative or animal life.

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**AIR LIMITS**

4.1.13 Releases of the following substances to the atmosphere shall not exceed the limits specified in TABLE 4.1-B.

**TABLE 4.1-B: LIMITS**

<b>FACILITY UNIT</b>	<b>EMISSION SOURCE</b>	<b>SUBSTANCE</b>	<b>LIMIT</b>
Power plant	Each of the two (2) cogeneration unit exhaust stacks as identified in the application by the designations Cogen 1 and Cogen 2	Nitrogen oxides	0.20 kg/MWh <sub>net</sub> on an annual average  and  0.45 kg/hour
Feedstock and digestate processing units	The odour abatement system exhaust stack	Hydrogen sulphide	0.0008 kg/hour
		Ammonia	0.040 kg/hour
Process heater	The process heater exhaust stack as identified in the application by the designation H-701	Nitrogen oxides	16.0 g/GJ

**MONITORING AND REPORTING**

4.1.14 The approval holder shall monitor the air emission sources as specified in TABLE 4.1-C.

4.1.15 The approval holder shall report to the Director the results of the air emission source monitoring as required in TABLE 4.1-C.

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**TABLE 4.1-C: SOURCE MONITORING AND REPORTING**

Emission Source	Monitoring			Reporting Frequency
	Parameter	Frequency	Method	
Each of the two (2) cogeneration unit exhaust stacks as identified in the application by the designations Cogen 1 and Cogen 2	Nitrogen oxides	Annually		End of the month following the month in which the manual stack survey was done
	Stack effluent flowrate			
	Temperature			
The process heater exhaust stack as identified in the application by the designation H-701	Nitrogen oxides	Once every five (5) years	Manual stack survey	
	Stack effluent flowrate			
	Temperature			
The odour abatement system exhaust stack	Total reduced sulphur	Twice per year, at least six (6) months apart		
	Ammonia			
	Volatile organic compounds			
	Stack effluent flowrate			
	Temperature			

4.1.16 The information required by:

- (a) 4.1.14;
- (b) 4.1.15; and

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

(c) 4.1.22

shall, at a minimum, comply with:

- (i) the *Alberta Stack Sampling Code*, Alberta Environment, 1995, as amended, and
- (ii) the *Air Monitoring Directive*, Alberta Environment and Parks, 2016, as amended.

4.1.17 The approval holder shall notify the Director in writing a minimum of two (2) weeks prior to any manual stack survey that is required to be conducted by this approval.

4.1.18 The approval holder shall daily:

- (a) monitor; and
- (b) record

dissolved oxygen concentrations in each of two (2) cells of the liquid digestate pond.

4.1.19 The approval holder shall:

- (a) continuously monitor pH of the scrubbing solution of the odour abatement system; and
- (b) record the time, date and pH when pH is outside of the designed operating range provided by the manufacturer.

4.1.20 The approval holder shall retain the records required by 4.1.18 and 4.1.19 for a minimum of five (5) years.

4.1.21 The approval holder shall make the records required by 4.1.18 and 4.1.19 available immediately upon request by the Director.

4.1.22 The approval holder shall submit to the Director an Annual Air Emissions Summary and Evaluation Report.

4.1.23 The approval holder shall include in the Annual Air Emissions Summary and Evaluation Report, at a minimum, all of the following:

- (a) information as specified in the following sections of the *Air Monitoring Directive Chapter 9: Reporting*, Alberta Environment and Parks, 2016, as amended:
  - (i) section 6.2,

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

- (ii) sections 6.4.3 and 6.4.4,
  - (iii) sections 6.4.7 to 6.4.10, and
  - (iv) section 6.6;
- (b) a month-by-month summary of information required by:
- (i) 4.1.18,
  - (ii) 4.1.19, and
  - (iii) 4.1.31; and
- (c) any other information as required in writing by the Director.

### **ODOUR MANAGEMENT**

4.1.24 The approval holder shall:

- (a) implement, before commencing operations of the facility; and
- (b) annually update

the Best Odour Management Practices Control Plan as described in the application.

4.1.25 The approval holder shall submit to the Director an up-to-date Best Odour Management Practices Control Plan, when requested in writing by the Director.

4.1.26 If the Best Odour Management Practices Control Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified by the Director by the date specified in writing by the Director.

4.1.27 The approval holder shall:

- (a) implement, before commencing operations of the facility; and
- (b) annually update

the Odour Complaint Management and Response Program as described in the application.

4.1.28 The approval holder shall submit to the Director an up-to-date Odour Complaint Management and Response Program, when requested in writing by the Director.



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4.1.29 If the Odour Complaint Management and Response Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified by the Director by the date specified in writing by the Director.

4.1.30 Upon:

- (a) receiving an odour complaint; or
- (b) being informed of an odour complaint by the Director or another authority,

the approval holder shall immediately:

- (i) investigate the situation, and
- (ii) take all measures necessary to mitigate the odour, when the approval holder knows or ought to know the source of the odour being complained of results from the facility, including but not limited to:
  - (A) improve, repair or replace any equipment or thing in order to control or eliminate the odour; and
  - (B) contain, remove or treat the substance or thing causing the odour.

4.1.31 The approval holder shall:

- (a) record; and
- (b) retain

all of the following information regarding odour complaints referred to in 4.1.30 for a minimum of five (5) years:

- (i) the organization that received the complaint,
- (ii) the contact information of the complainant, if provided to the approval holder,
- (iii) the date and time of the complaint,
- (iv) the approximate location where the odour was detected,
- (v) the date and time that the complainant detected the odour,

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

- (vi) the hourly average wind speed and wind direction at or near the facility over a period of 24 hours prior to the complaint,
  - (vii) the hourly average ambient outdoor temperature at or near the facility over a period of 24 hours prior to the complaint,
  - (viii) the investigation outcomes pursuant to 4.1.30,
  - (ix) for where the source of odour being complained of results from the facility:
    - (A) a detailed description of the measures taken pursuant to 4.1.30,
    - (B) a detailed description of how the source of the odour may have given rise to the complaints,
    - (C) a follow-up review of actions taken to determine the effectiveness of eliminating the source of the odour from that occurrence, and
    - (D) measures that will be taken in the future to prevent the same situation that caused that odour from re-occurring; and
  - (x) any other information as required in writing by the Director.
- 4.1.32 The approval holder shall make the records required by 4.1.31 available immediately upon request by the Director.
- 4.1.33 The approval holder shall submit a proposal for Fugitive Emissions Monitoring Program to the Director within the first 12 months of the operation.
- 4.1.34 The approval holder shall develop the proposal for Fugitive Emissions Monitoring Program, at a minimum, comparable with the following:
- (a) the *Measurement of Gaseous Emission Rates from Land Surfaces Using an Emission Isolation Flux Chamber – User’s Guide*, EPA 600/8-86/008, 1986; and
  - (b) the *Quantification of Area Fugitive Emissions at Oil Sands Mines*, Version 2.2, Government of Alberta, 2023, as amended.
- 4.1.35 In the proposal for Fugitive Emissions Monitoring Program, the approval holder shall include, at a minimum, all of the following:
- (a) a detailed description of the fugitive emission sources at the facility, including but not limited to:

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

- (i) the liquid digestate pond,
  - (ii) the digestate separation building staging bays,
  - (iii) the solid digestate staging area, and
  - (iv) the manure staging area;
- (b) an identification of factors that may affect the actual emission rates of:
- (i) total reduced sulphur,
  - (ii) ammonia, and
  - (iii) volatile organic compounds
- from the fugitive emission sources referred to in (a);
- (c) a sampling strategy to determine:
- (i) the sampling numbers,
  - (ii) the sampling locations, and
  - (iii) the sampling duration and frequency
- so that the spatial and temporal variability of the air emissions from the fugitive emission sources at the facility is adequately addressed;
- (d) the methods to be used for quantification of the mass emission rates of:
- (i) total reduced sulphur,
  - (ii) ammonia, and
  - (iii) volatile organic compounds
- from the fugitive emission sources referred to in (a), including but not limited to:
- (A) the procedures for the sampling and analysis of air emissions,
  - (B) the design and specifications of the sampling apparatus,
  - (C) the quality control plans for the sampling and analysis of air emissions, and

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

- (D) the surface area measurement and calculation methods; and
  - (e) any other information as required in writing by the Director.
- 4.1.36 If the proposal for Fugitive Emissions Monitoring Program is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.
- 4.1.37 The approval holder shall implement the Fugitive Emissions Monitoring Program as authorized in writing by the Director.
- 4.1.38 The approval holder shall submit to the Director any written Fugitive Emissions Monitoring Program Report obtained from the fugitive emissions monitoring referred to in 4.1.37 by the end of the month following the month in which the fugitive emissions monitoring was done, unless otherwise authorized in writing by the Director.
- 4.1.39 If any Fugitive Emissions Monitoring Program Report is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.

### **SECTION 4.2: INDUSTRIAL WASTEWATER AND INDUSTRIAL RUNOFF**

#### **OPERATIONS**

- 4.2.1 The approval holder shall not release any substances from the facility to the surrounding watershed except as authorized by this approval.
- 4.2.2 The approval holder shall manage:
- (a) industrial wastewater; and
  - (b) industrial runoff
- as described in the application, unless otherwise authorized in writing by the Director.
- 4.2.3 The approval holder shall only release industrial wastewater as follows:
- (a) to the facility to be used within the process;
  - (b) to facilities holding a current Act authorization;
  - (c) to an Alberta Energy Regulator approved facility; or
  - (d) as otherwise authorized in writing by the Director.

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

4.2.4 The approval holder shall only release industrial runoff as follows:

- (a) to the facility to be used within the process;
- (b) to facilities holding a current Act authorization;
- (c) to the liquid digestate pond; or
- (d) as otherwise authorized in writing by the Director.

### **SECTION 4.3: WASTE MANAGEMENT**

#### **OPERATIONS**

4.3.1 The wastes referred to in SECTION 4.3 of this approval do not refer to:

- (a) feedstock; and
- (b) the digestate released in accordance with 4.4.7 (a) and (b).

4.3.2 The approval holder shall release waste generated at the facility only:

- (a) to facilities holding a current Act authorization;
- (b) to an Alberta Energy Regulator approved facility;
- (c) to facilities approved by a local environmental authority outside of Alberta; or
- (d) as otherwise authorized in writing by the Director.

4.3.3 The approval holder shall not:

- (a) receive; or
- (b) store

any third party waste at the facility.

4.3.4 The approval holder shall:

- (a) treat; and
- (b) store

waste generated at the facility in accordance with this approval.

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

4.3.5 The approval holder shall store hazardous waste or hazardous recyclables stored in containers or tanks in accordance with the *Hazardous Waste Storage Guidelines*, 1988, Alberta Environment, as amended.

4.3.6 The approval holder shall not:

- (a) transfer;
- (b) treat; or
- (c) store

waste or recyclables in an amount or in a manner that will cause or may cause an adverse effect on human health or the environment.

4.3.7 The approval holder shall not:

- (a) treat; or
- (b) store

waste or recyclables at the facility in an amount or in a manner that causes or may cause:

- (i) fire,
- (ii) explosion,
- (iii) violent reaction,
- (iv) emission of toxic dust, mist, fumes or gases, or
- (v) emission of flammable fumes or gases.

4.3.8 The approval holder shall store waste generated at the facility only in the waste storage areas.

4.3.9 The approval holder shall:

- (a) provide and maintain an adequate aisle space between containers in the waste storage areas to allow:
  - (i) inspection, and

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

- (ii) unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination equipment to any area of the waste storage areas; and
  - (b) arrange inspection aisles in the waste storage areas such that the identification label on each container is readable.
- 4.3.10 The approval holder shall prevent direct contact of incompatible waste with one another.

### **MONITORING AND REPORTING**

- 4.3.11 Prior to the consignment or storage of any waste generated at the facility, the approval holder shall:
- (a) identify;
  - (b) characterize; and
  - (c) classify
- the waste but not including industrial runoff and air effluent streams in accordance with:
- (i) the *Industrial Waste Identification and Management Options*, Alberta Environment, 1996, as amended, and
  - (ii) the *Alberta User Guide for Waste Managers*, Alberta Environment, 1996, as amended.
- 4.3.12 The approval holder shall measure or, when not practical to measure, estimate the quantity of waste generated at the facility each year.
- 4.3.13 The approval holder shall compile all the information required by 4.3.11 and 4.3.12 in an Annual Waste Management Summary Report as indicated in TABLE 4.3-A.

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

**TABLE 4.3-A: ANNUAL WASTE MANAGEMENT SUMMARY REPORT**

Waste Name	Uniform Waste Code				Quantity (kg or L)		Stored	Recycled		Disposed	
	WC	PIN	Class	Mgmt	Hazardous	Non-hazardous	On-site	On-site	Off-site	On-site	Off-site
TOTAL											

4.3.14 The approval holder shall submit the Annual Waste Management Summary Report to the Director.

**SECTION 4.4: FEEDSTOCK AND DIGESTATE MANAGEMENT**

**OPERATIONS**

4.4.1 The approval holder shall only process feedstock as described in the Directive.

4.4.2 In the event the percentage of manure by wet weight of the feedstock falls below 50%, the approval holder shall apply for an amendment to this approval on or before March 31 of the year following the year in which the percentage of manure by wet weight used as feedstock fell below 50%.

4.4.3 The approval holder shall manage digestate as described in the application.

4.4.4 At any one time the approval holder shall not store more than:

- (a) ten thousand (10,000) tonnes of solid digestate in the solid digestate staging area; and
- (b) five thousand (5,000) tonnes of manure in the manure staging area.

4.4.5 The approval holder shall only release the following to the liquid digestate pond:

- (a) liquid digestate;
- (b) industrial runoff; and
- (c) any accidental release of manure or digestate.



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4.4.6 The approval holder shall operate the liquid digestate pond at or below a maximum level of 0.6 metres below the top of the pond liner, unless otherwise authorized in writing by the Director.

4.4.7 The approval holder shall only release digestate as follows:

- (a) by application to arable land in accordance with the Directive;
- (b) to the following that is the subject of the appropriate Approval, Registration or Authorization under AOPA:
  - (i) a confined feeding operation, or
  - (ii) a manure storage facility;
- (c) to facilities holding a current Act authorization;
- (d) to the facility to be used within the process; or
- (e) as otherwise authorized in writing by the Director.

4.4.8 The approval holder shall:

- (a) implement, before commencing operations of the facility; and
- (b) annually update

the Program for Keeping Out Vectors as described in the application.

4.4.9 The approval holder shall submit to the Director an up-to-date Program for Keeping Out Vectors, when requested in writing by the Director.

4.4.10 If the Program for Keeping Out Vectors is found deficient by the Director, the approval holder shall correct all deficiencies identified by the Director by the date specified in writing by the Director.

### **MONITORING AND REPORTING**

4.4.11 The approval holder shall monitor digestate as required in TABLE 4.4-A, unless otherwise authorized in writing by the Director.

4.4.12 The approval holder shall report to the Director the results of the digestate monitoring as required in TABLE 4.4-A, unless otherwise authorized in writing by the Director.

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

**TABLE 4.4-A: DIGESTATE MONITORING AND REPORTING**

MONITORING				REPORTING FREQUENCY
Parameters	Frequency	Sampling Method	Sampling Location	
Total Kjeldahl Nitrogen (without reduction of nitrate)	Twice per year, at least six (6) months apart	(a) one (1) composite sample for solid digestate; and  (b) one (1) representative grab for liquid digestate.	(a) solid digestate staging area; and  (b) liquid digestate pond.	Annually
Ammonium-nitrogen (KCl extract)				
Nitrate-nitrogen (KCl extract)				
Total phosphorus (strong acid digest)				
Routine parameters				
Total metals (strong acid digest)				
Solid content				
Reduced sulphur compounds				
Any other parameters as required in writing by the Director				

4.4.13 The approval holder shall record all the information as indicated in:

- (a) TABLE 4.4-B; and
- (b) TABLE 4.4-C.

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

**TABLE 4.4-B: ANNUAL DIGESTATE RELEASE SUMMARY**

Owner of the Facility or Land	Facility Type Referred to in 4.4.7	AOPA or EPEA Authorization Referred to in 4.4.7*	Legal Land Description of the Land Referred to in 4.4.7	Type of Digestate (Liquid or Solid Digestate)	Digestate Quantity (kg)

\* If grandfathered under AOPA without a municipal permit, just state: "grandfathered"

**TABLE 4.4-C: ANNUAL FEEDSTOCK SUMMARY**

Feedstock Provider	Legal Land Description	Feedstock Description	Feedstock Quantity (kg)

4.4.14 The approval holder shall submit an annual Feedstock and Digestate Management Report on or before March 31 of the year following the year in which the information was collected to:

- (a) the Director; and
- (b) the NRCB

unless otherwise authorized in writing by the Director.

4.4.15 The annual Feedstock and Digestate Management Report shall include, at a minimum, all of the following:

- (a) the information required in:
  - (i) 4.4.11,

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- (ii) 4.4.12, and
- (iii) 4.4.13; and
- (b) any other information as required in writing by the Director.

### **SECTION 4.5: GROUNDWATER**

- 4.5.1 The approval holder shall develop a proposal for a Groundwater Monitoring Program for the facility which shall include, at a minimum, all of the following:
- (a) a hydrogeologic description and interpretation of the facility;
  - (b) a map and description of surface water drainage patterns for the facility;
  - (c) a lithologic description and maps, including cross-sections, of the surficial and the upper bedrock geologic materials at the facility;
  - (d) a site map showing the location and type of current and historical potential sources of groundwater contamination;
  - (e) cross-sections showing depth to water table, patterns of groundwater movement and hydraulic gradients at the facility;
  - (f) the hydraulic conductivity of all surficial and bedrock materials at the facility;
  - (g) a map showing the location of existing and additional proposed groundwater monitoring wells at the facility;
  - (h) a lithologic description of all boreholes drilled at the facility;
  - (i) construction and completion details of existing groundwater monitoring wells;
  - (j) a rationale for proposed groundwater monitoring well locations and proposed completion depths of those wells;
  - (k) a description of groundwater monitoring well development protocols;
  - (l) a list of parameters to be monitored and the monitoring frequency for each groundwater monitoring well or group of groundwater monitoring wells at the facility;
  - (m) a description of the groundwater sampling and analytical QA/QC procedures;

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

- (n) details of a groundwater response plan specifying actions to be taken should contaminants be identified through the Groundwater Monitoring Program; and
- (o) any other information relevant to groundwater quality at the facility.

4.5.2 The approval holder shall submit the proposal for the Groundwater Monitoring Program to the Director on or before December 31, 2024.

4.5.3 If the Groundwater Monitoring Program proposal is found deficient by the Director, the approval holder shall correct all deficiencies as identified in writing by the Director within the timeline specified in writing by the Director.

4.5.4 The approval holder shall implement the Groundwater Monitoring Program as authorized in writing by the Director.

4.5.5 The approval holder shall:

- (a) protect from damage; and
- (b) keep locked except when being sampled

all groundwater monitoring wells, unless otherwise authorized in writing by the Director.

4.5.6 If a representative groundwater sample cannot be collected because the groundwater monitoring well is damaged or is no longer capable of producing a representative groundwater sample, the approval holder shall:

- (a) clean, repair or replace the groundwater monitoring well; and
- (b) collect and analyse a representative groundwater sample prior to the next scheduled sampling event

unless otherwise authorized in writing by the Director.

4.5.7 In addition to the sampling information recorded in 2.2.1, the approval holder shall record the following sampling information for all groundwater samples collected:

- (a) a description of purging and sampling procedures;
- (b) the static elevations above sea level, and depth below ground surface of fluid phases in the groundwater monitoring well prior to purging;
- (c) the temperature of each sample at the time of sampling;
- (d) the pH of each sample at the time of sampling; and

## **TERMS AND CONDITIONS ATTACHED TO APPROVAL**

(e) the specific conductance of each sample at the time of sampling.

4.5.8 The approval holder shall carry out remediation of the groundwater in accordance with the following:

(a) the *Alberta Tier 1 Soil and Groundwater Remediation Guidelines*, Alberta Environment and Parks, August 2022, as amended; and

(b) the *Alberta Tier 2 Soil and Groundwater Remediation Guidelines*, Alberta Environment and Parks, August 2022, as amended.

4.5.9 The approval holder shall compile a Groundwater Monitoring Report which shall include, at a minimum, all of the following information:

(a) a completed *Record of Site Condition* Form, Government of Alberta, 2014, as amended;

(b) a legal land description of the facility and a map illustrating the facility boundaries;

(c) a topographic map of the facility;

(d) a description of the industrial activity and processes;

(e) a map showing the location of all surface and groundwater users, and a listing describing surface water and water well use details, within at least a three (3) kilometre radius of the facility;

(f) a general hydrogeological characterization of the region within a three (3) kilometre radius of the facility;

(g) a detailed hydrogeological characterization of the facility, including an interpretation of groundwater flow patterns;

(h) cross-sections showing depth to water table, patterns of groundwater movement and hydraulic gradients at the facility;

(i) borehole logs and completion details for groundwater monitoring wells;

(j) a map showing locations of all known buried channels within at least three (3) kilometres of the facility;

(k) a map of surface drainage within the facility and surrounding area to include nearby water bodies;

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- (l) a map of groundwater monitoring well locations and a table summarizing the existing groundwater monitoring program for the facility;
- (m) a summary of any changes to the groundwater monitoring program made since the last groundwater monitoring report;
- (n) analytical data recorded as required in 4.5.4 and 4.5.6(b);
- (o) a summary of fluid elevations recorded as required in 4.5.7(b) and an interpretation of changes in fluid elevations;
- (p) an interpretation of QA/QC program results;
- (q) an interpretation of all the data in this report, including the following:
  - (i) diagrams indicating the location and extent of any contamination,
  - (ii) a description of probable sources of contamination, and
  - (iii) a site map showing the location and type of current and historical potential sources of groundwater contamination;
- (r) a summary and interpretation of the data collected since the groundwater monitoring program began including:
  - (i) control charts which indicate trends in concentrations of parameters, and
  - (ii) the migration of contaminants;
- (s) a description of the following:
  - (i) contaminated groundwater remediation techniques employed,
  - (ii) source elimination measures employed,
  - (iii) risk assessment studies undertaken, and
  - (iv) risk management studies undertaken;
- (t) a proposed sampling schedule for the following years;
- (u) a description of any contaminant remediation, risk assessment or risk management action conducted at the facility; and

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

- (v) recommendations for changes to the groundwater monitoring program to make it more effective.
- 4.5.10 The approval holder shall submit the Groundwater Monitoring Report to the Director on or before March 31 of every year, unless otherwise authorized in writing by the Director.
- 4.5.11 If the Groundwater Monitoring Report is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.

**SECTION 4.6: SOIL MANAGEMENT**

Not used at this time.

**SECTION 4.7: DOMESTIC WASTEWATER**

- 4.7.1 The approval holder shall only release domestic wastewater to facilities holding a current Act authorization, unless otherwise authorized in writing by the Director.

**PART 5: FINANCIAL SECURITY REQUIREMENTS**

- 5.1.1 The approval holder shall annually review and revise the cost estimate for reclamation of the facility including decommissioning and land reclamation.
- 5.1.2 The annual revised cost estimate for the facility shall be submitted to the Director by March 31 of each year.
- 5.1.3 The approval holder shall review and revise the cost estimate for reclamation of the facility when one or more of the following occurs:
  - (a) the cost estimate of future conservation and reclamation of the facility changes;
  - (b) the extent of the operation of the facility is increased or reduced;
  - (c) the facility or any portion of it is conserved and reclaimed;
  - (d) the conservation and reclamation plan required by this approval is changed; or
  - (e) the activities conducted at the facility for which security is required are increased or decreased.
- 5.1.4 The approval holder shall submit the revised cost estimate arising from 5.1.3 to the Director within 30 days of the occurrence of any of the circumstances described in 5.1.3.



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- 5.1.5 The approval holder shall provide additional financial security as required in writing by the Director.
- 5.1.6 The approval holder shall renew the financial security for the facility at least 30 days prior to the date it expires.
- 5.1.7 The approval holder shall maintain the financial security for the facility until returned in accordance with the Act or the regulations.

### **PART 6: DECOMMISSIONING AND LAND RECLAMATION**

#### **SECTION 6.1: GENERAL**

6.1.1 The approval holder shall apply for an amendment to this approval to reclaim the facility by submitting a:

- (a) Decommissioning Plan; and
- (b) Land Reclamation Plan

to the Director.

6.1.2 The approval holder shall submit the:

- (a) Decommissioning Plan; and
- (b) Land Reclamation Plan

referred to in 6.1.1 within six (6) months of the facility ceasing operation, except for repairs and maintenance, unless otherwise authorized in writing by the Director.

#### **SECTION 6.2: DECOMMISSIONING**

6.2.1 The Decommissioning Plan referred to in 6.1.1 shall include, at a minimum, all of the following:

- (a) a plan for dismantling the facility;
- (b) a comprehensive study to determine the nature, degree and extent of contamination at the facility and affected lands;
- (c) a plan to manage all wastes at the facility;
- (d) evaluation of remediation technologies proposed to be used at the facility and affected lands;

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- (e) a plan for decontamination of the facility and affected lands in accordance with the following:
  - (i) for soil or groundwater, the *Alberta Tier 1 Soil and Groundwater Remediation Guidelines*, Alberta Environment and Parks, August 2022, as amended,
  - (ii) for soil or groundwater, the *Alberta Tier 2 Soil and Groundwater Remediation Guidelines*, Alberta Environment and Parks, August 2022, as amended,
  - (iii) for drinking water, the *Canadian Environmental Quality Guidelines*, Canadian Council of Ministers of the Environment, PN 1299, 1999, as amended, and
  - (iv) for surface water, the *Environmental Quality Guidelines for Alberta Surface Waters*, Alberta Environment and Parks, 2018, as amended;
- (f) confirmatory testing to indicate compliance with the remediation objectives;
- (g) a plan for maintaining and operating contaminant monitoring systems;
- (h) a schedule for activities (a) through (g) above; and
- (i) any other information as required in writing by the Director.

6.2.2 If the Decommissioning Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.

### **SECTION 6.3: LAND RECLAMATION**

- 6.3.1 The Land Reclamation Plan referred to in 6.1.1 shall include, at a minimum, all of the following:
- (a) the final use of the reclaimed area and how equivalent land capability will be achieved;
  - (b) removal of infrastructure;
  - (c) restoration of drainage;
  - (d) soil replacement;
  - (e) erosion control;

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

- (f) revegetation and conditioning of the facility including:
  - (i) species list, seed source and quality, seeding rates and methods,
  - (ii) fertilization rates and methods, and
  - (iii) wildlife habitat plans where applicable;
- (g) reclamation schedule; and
- (h) any other information as required in writing by the Director.

6.3.2 If the Land Reclamation Plan is found deficient by the Director, the approval holder shall correct all deficiencies identified in writing by the Director by the date specified in writing by the Director.

December 11, 2023

\_\_\_\_\_  
DATE

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DESIGNATED DIRECTOR UNDER THE ACT  
CRAIG KNAUS, B.Sc.