

AMENDMENT TO RENEWABLE ENERGY APPROVAL
NUMBER 4501-9VJK3N
Issue Date: May 24, 2019

ZooShare Biogas Co-operative Inc.
42 Heintzman St
Toronto, Ontario
M6P 2J6

Site Location: ZooShare Biogas Co-operative Inc.
Part 1,2 Reference Plan 66R-26013
Lot 2, 3, 4, 5, Concession 3
Toronto, Ontario
M5T 2C7

You are hereby notified that I have amended Approval No. 4501-9VJK3N issued on August 27, 2015 for a Class 3 Anaerobic Digestion Facility , as follows:

A. The definition of "Application" is deleted and replaced with the following:

8. "Application" means the application for a Renewable Energy Approval dated February 6, 2014, and signed by Clare Riepma, Chief Engineer, ZooShare Biogas Co-operative Inc., and all supporting documentation submitted with the Application, including amended documentation submitted up to August 27, 2015; and as further amended by the application for an amendment to a Renewable Energy Approval dated August 7, 2018, and signed by Daniel Bida, Executive Director, ZooShare Biogas Co-operative Inc., and all supporting documentation submitted with the Application, included amended documentation submitted up to August 22, 2018; and as further amended by the application for an amendment to a Renewable Energy Approval dated September 7, 2018, and signed by Daniel Bida, Executive Director, ZooShare Biogas Co-operative Inc., and all supporting documentation submitted with the Application, including amended documentation submitted up to May 16, 2019;

B. Condition C - Water Taking of the Approval is deleted.

C. Condition D of the Approval is deleted and replaced with the following:

D1. The vegetated buffer area, rain gardens and enhanced level vegetated/ buffer grassed strip referenced in the *Stormwater Management Report for Toronto Zoo Anaerobic Digester Project* , dated March 8, 2019, and prepared by Fisher Engineering Ltd., shall be constructed after the construction phase of the project.

D2. The Company shall inspect the rain gardens, grassed strips and the existing ditch and stormwater storage pond after a significant storm event or snowmelt event (a significant storm event is defined as a minimum of 25 mm of rain in any 24 hours period). Damages shall be repaired within 24 hours of the discovery of damage. In addition, the Company shall ensure that, other than the surface runoff generated from

the existing undeveloped non-impacted portion of the site, which is identified in the site drainage plan, revised Jan 2019, no on-site surface runoff shall be discharged offsite either during or after construction.

D3. The Company shall install and maintain temporary sediment and erosion control measures during construction and conduct inspections once every two (2) weeks and after each significant storm event (a significant storm event is defined as a minimum of 25 mm of rain in any 24 hours period). The inspections and maintenance of the temporary sediment and erosion control measures shall continue until they are no longer required and at which time they shall be removed and all disturbed areas reinstated properly.

D4. The Company shall maintain records of inspections and maintenance which shall be made available for inspection by the Ministry, upon request. The record shall include the name of the inspector, date of inspection, and the remedial measures, if any, undertaken to maintain the temporary sediment and erosion control measures.

D5. The Company shall implement the erosion and sediment control measures described in the revised design brief included in the Application and entitled *Stormwater Management Report for Toronto Zoo Anaerobic Digester Project*, dated March 8, 2019, and prepared by Fisher Engineering Ltd.

D. Condition I4 of the Approval is deleted and replaced with the following:

I4. At least thirty (30) days prior to the construction of the Facility, the Company shall submit to the Director, financial assurance, as defined in Section 131 of the Act, for the amount of \$99,794.97. This financial assurance shall be in a form acceptable to the Director and shall provide sufficient funds for the transportation, Facility clean-up, and disposal, of all quantities of waste at the Facility at any one time. No Biomass shall be received at the Facility unless the acceptable Financial Assurance has been submitted to the Ministry and approved by the Director.

E. Condition I5 of the Approval is deleted and replaced with the following:

I5. Commencing on July 1, 2022 and at intervals of three (3) years thereafter, the Company shall submit to the Director, a re-evaluation of the amount of financial assurance to implement the actions required under Condition I4. The re-evaluation shall include an assessment based on any new information relating to the environmental conditions of the Facility and shall include the costs of additional monitoring and/or implementation of contingency plans required by the Director upon review of the closure plan and annual reports. The financial assurance must be submitted to the Director within thirty (30) days of written acceptance of the re-evaluation by the Director.

F. Condition I6 of the Approval is deleted and replaced with the following:

I6. Commencing on July 1, 2022, the Company shall prepare and maintain at the Facility an updated re-evaluation of the amount of financial assurance required to implement the actions required under Condition I4 for each of the intervening years in which a re-evaluation is not required to be submitted to the Director under Condition I5. The re-evaluation shall be made available to the Ministry upon request.

G. Condition I12(3) of the Approval is deleted and replaced with the following:

(3) Biomass and Processed Organic Waste approved to be stored at the Facility is subject to the following limitations:

(a) Manure from the Toronto Zoo shall be stored in the enclosed 58 m² manure storage shed.

(b) No more than 250.5 cubic metres of Tier 1 and Tier 2 Biomass shall be stored at the following tanks, within the Facility, at any one time:

(i) 120 cubic metres in each of the two (2) in-ground receiving tanks;

(ii) 3.5 cubic metres in each of the three (3) pasteurizer holding tanks.

(c) No more than 2,010 cubic metres of Biomass being processed shall be contained within the digester tank.

H. Condition I12(4) of the Approval is deleted and replaced with the following:

(4) The Digestate storage at the Facility is subject to the following limitations:

(a) Liquid Digestate shall be stored in one (1) liquid digestate storage tank with a storage capacity of 7,106 cubic metres;

(b) Solid Digestate shall be stored in sealed bins, with a maximum storage of 100 cubic metres.

I. Condition I12(5) of the Approval is deleted and replaced with the following:

(5) No waste or Biomass shall be stored on any part of the Facility other than those identified in Condition I12(3) and I12(4) at any time.

J. Condition I12(7) of the Approval is deleted and replaced with the following:

(7) The Company shall ensure that all manure feedstock are stored in the one (1) outdoor covered storage shed, with the receiving door closed at all times except during manure receiving (via open dump trucks). Outdoor storage shall be undertaken in a manner that does not cause an Adverse Effect or a hazard to the environment or any person.

K. Condition I12(8) of the Approval is deleted and replaced with the following:

(8) The Company shall ensure that all liquid organic feedstock are stored in two (2) receiving tanks, exhausting at all times into one (1) Activated Carbon Adsorption Unit approved under this Approval. Outdoor storage shall be undertaken in a manner that

does not cause an Adverse Effect or a hazard to the environment or any person.

L. Condition I18(1) of the Approval is deleted and replaced with the following:

(1) The Facility is approved to receive waste Monday to Saturday, and operate 24 hours per day, 7 days per week, 365 days a year.

M. Condition I20(5) of the Approval is deleted and replaced with the following:

(5) The Company shall ensure that the Biomass and Liquid Digestate levels in all tanks including but not limited to the receiving tanks, pasteurizer holding tanks, and Liquid Digestate tank at the Facility are monitored and controlled on a continuous basis and that the high level alarms are installed and operational at all times.

N. Condition I22 is deleted and replaced with the following:

I22. Operation of the pasteurizer system:

(1) The Company shall ensure that the pasteurizer system treating Tier 2 and/or a mixture of Tier 1 and Tier 2 Biomass is operated such that it is sealed tight, and that there is no leakage.

(2) The Company shall ensure that the pasteurization process is undertaken at a minimum temperature of 70 ° C for a minimum of one (1) hour or at a minimum temperature of 50 ° C for a minimum of twenty (20) hours, to ensure complete inactivation of pathogens in the Biomass.

(3) The temperature in the pasteurization tank shall be monitored to verify compliance with this condition.

O. Condition I23 is deleted and replaced with the following:

I23. Processing limitations, at any one time:

(1) No more than 20 cubic metres of Biomass shall be contained in the pasteurizer system;

(2) No more than 2,010 cubic metres of Biomass being processed shall be contained within the digester tank;

(3) No more than 100 cubic metres of Solid Digestate shall be stored in sealed bins; and

(4) No more than 7,106 cubic metres of Liquid Digestate Biomass shall be stored within the Liquid Digestate storage tank.

P. Condition I24(1) is deleted and replaced with the following:

(1) The Company shall ensure that, except during Biomass receiving/unloading, the doors of the outdoor covered storage shed, and receiving pits/tanks remain closed at all times to prevent the release of fugitive odours. Facility operations shall minimize the exposed openings of the outdoor covered storage shed and the exposed surface area of the in-ground receiving pits/tanks during the receipt of Biomass into the tanks, and shall close the tank/shed doors as soon as possible.

Q. Condition I24(2) is deleted and replaced with the following:

(2) The Company shall ensure that, except during Biomass receiving/unloading, the exhausts from the receiving tanks and pasteurizer system/pasteurizer tanks are discharged to the air through fully functional Activated Carbon Adsorption Units approved under this Approval.

R. Condition I25(3) is deleted and replaced with the following:

(3) All storage units, pumps, pipes and equipment listed in Schedule A;

S. Condition I25(6) is deleted and replaced with the following:

(6) rain gardens (referenced in the *Stormwater Management Report for Toronto Zoo Anaerobic Digester Project*, dated March 8, 2019, and prepared by Fisher Engineering Ltd.);

T. Schedule A of the Approval is deleted and replaced with the following:

SCHEDULE "A" Facility Description

The Facility shall consist of the construction, installation, operation, use, maintenance and retiring of:

- a Class 3 anaerobic digestion facility, to process 17,000 tonnes of solid and liquid Biomass per year to generate 500 kilowatts of electricity (kW_{el}) and consisting of the following processes and supporting units:

(a) i. two (2) liquid receiving tanks;

ii. one (1) tube-in-tube pasteurizer system;

iii. three (3) pasteurizer holding tanks (3.5 m^3 each);

iv. one (1) digester tank;

v. one (1) Liquid Digestate storage tank;

vi. one (1) enclosed manure storage shed;

vii. one (1) enclosed electrical control room (electrical metering equipment and control panels); and

viii. one (1) enclosed pasteurizer pump room (concrete floor building housing all pasteurizer

systems and ancillary pumps and equipment).

(b) one (1) biogas treatment system, including: one (1) underground gas cooling system to remove moisture before directing it to the generator set described below;

(c) one (1) biogas fired reciprocating engine generator (CHP), having a generating output capacity of 500 kilowatts of electricity (kW_{el}) and a maximum biogas firing rate of 0.067 standard cubic meters per second, discharging to the air at an approximate volumetric flow rate of 0.60 actual cubic meters per second through a stack, having an exit diameter of 0.15 meters, extending 12.0 meters above grade;

(d) one (1) biogas flare, operating during the commissioning period, or as a standby biogas combustion control device to the one (1) biogas reciprocating engine or during periods when biogas generation exceeds the capacity of the one (1) biogas reciprocating engine, having a maximum biogas firing rate of 0.11 standard cubic meters per second, discharging to the air through a stack with an exit diameter of 0.41 meters, extending 12.1 meters above grade;

(e) one (1) activated carbon adsorption unit complete with a pre-filter section, used to control emissions from the one (1) pasteurizer receiving tank, containing approximately 40 kilograms of activated carbon, discharging to the air passively through a stack;

(f) one (1) activated carbon adsorption unit complete with a pre-filter section, used to control emissions from the three (3) pasteurizer tanks, containing approximately 40 kilograms of activated carbon, discharging to the air passively through a stack;

(g) one (1) activated carbon adsorption unit complete with a pre-filter section, used to

control emissions from the two (2) receiving tanks, containing approximately 40 kilograms of activated carbon, discharging to the air passively through a stack;
(h) associated ancillary equipment, systems and technologies, including overhead distribution line and roof water storage tank;
all in accordance with the application.

REASONS

(35) Condition C - Water Taking has been deleted because the Company no longer requires water taking or construction dewatering.

All other Terms and Conditions of the Approval remain the same.

This Notice shall constitute part of the approval issued under Approval No. 4501-9VJK3N dated August 27, 2015.

In accordance with Section 139 of the Environmental Protection Act, within 15 days after the service of this notice, you may by further written notice served upon the Director, the Environmental Review Tribunal and the Minister of the Environment, Conservation and Parks, require a hearing by the Tribunal.

In accordance with Section 47 of the Environmental Bill of Rights, 1993, the Minister of the Environment, Conservation and Parks will place notice of your request for a hearing on the Environmental Registry.

Section 142 of the Environmental Protection Act provides that the notice requiring the hearing shall state:

- a. The portions of the renewable energy approval or each term or condition in the renewable energy 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 signed and dated notice requiring the hearing should also include:

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

This notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto, Ontario
M5G 1E5

AND

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

AND

The Director
Section 47.5, *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**

Under Section 142.1 of the Environmental Protection Act, residents of Ontario may require a hearing by the Environmental Review Tribunal within 15 days after the day on which notice of this decision is published in the Environmental Registry. By accessing the Environmental Registry at www.ebr.gov.on.ca, you can determine when this period ends.

Approval for the above noted renewable energy project is issued to you under Section 47.5 of the Environmental Protection Act subject to the terms and conditions outlined above.

DATED AT TORONTO this 24th day of May, 2019

Mohsen Keyvani, P.Eng.
Director
Section 47.5, *Environmental Protection Act*

SR/
c: District Manager, MECP Toronto - District
Daniel Bida, ZooShare Biogas Co-operative Inc.