Commercial Principles

## PART I - INTRODUCTION

The Host owns and operates the Ashbridges Bay Treatment Plant.

The OPA has initiated various procurement programs for the purchase and sale of electrical energy.

The Host and Supplier are negotiating Project Agreements pursuant to which the Supplier will design, construct and own the Facility at the Demised Premises that shall, among other things, provide Thermal Energy to the Host's facilities located on the Property.

The Supplier and host have prepared this commercial principles document in order to set forth the terms upon which the Project Agreements are to be prepared. This document is not intended to and does not create any binding obligations between the parties.

Capitalized terms that are not otherwise defined in this commercial principles document will have the meanings given to them in Schedule "A" attached.

### PART II - ENERGY SERVICES AGREEMENT

## A. Development and Operation of the Facility

The Supplier will be responsible for the design, development, financing, construction and operation of the Facility.

The Supplier will work cooperatively with the Host in designing the Facility and will seek approval from the Host of the engineering plans as they relate to: (a) design criteria (reliability, thermal quality & volume, standby power transfer/staging, etc.); (b) milestone dates (design, construction, commercial operation); and (c) operation and maintenance plan.

The Energy Services Agreement will contain provisions regarding permitting, health and safety rules and regulations, land use approvals with respect to the Demised Premises, and commissioning and testing of the Facility.

The Supplier will have the option, but not the obligation to increase the capacity of the Facility from 8.2 MW to 10 MW. An assessment of the viability of the ABTP biogas production to support any increase in capacity is strictly the responsibility of the Supplier. The Supplier will provide written notification 24 months in advance of the intended start up date for any capacity increase of the Facility.

The Supplier will take all commercially reasonable steps to retain title, as between the Supplier and any counterparty to a Power Purchase Agreement, to all emissions credits and other environmental attributes associated with the development and operation of the Facility, including ensuring that any Power Purchase Agreement relates only to the electricity generation functions of the Facility. In particular, emissions credits or other environmental attributes arising in respect of the displacement of natural gas in the production of thermal energy (e.g. steam) will not be assigned by the Supplier to any such counterparty. As between the Host and the Supplier, the Host will have title to, and the Supplier will assign to the Host, all emissions credits and other environmental attributes arising in relation to the development and operation of the Facility. The Supplier and the Host acknowledge that City Council has, as a condition of support for development of the Facility, required that the Supplier agree to Host ownership of any emissions credits not required to be provided to the Ontario Power Authority or other provincial entity and that ownership by the Host of such emissions credits is consistent with its Sustainable Energy Strategy.

#### B. Term

The Energy Services Agreement will have effect on execution but the operating term shall commence with the date of commercial operation of the Facility pursuant to the Power Purchase Agreement and expiring on the 20<sup>th</sup> anniversary.

The Energy Services Agreement will contain provisions for joint consent addressing the Supplier's and Host's rights regarding extensions of the operating term of the Energy Services Agreement.

The Energy Services Agreement will provide for early termination in the event that the Supplier is unable to execute a Power Purchase Agreement. Prior to the delivery of a notice by the Supplier to the Host confirming that the Power Purchase Agreement has been executed, but for a period not to exceed 2 years, the Energy Services Agreement will remain in effect but neither party will be liable to the other for any of the provisions contained in the Energy Services Agreement.

## C. Electrical Energy

The Supplier will displace electrical energy purchased by the Host from the LDC when the Facility is in operation utilizing Biogas provided from the Ashbridges Bay Treatment Plant to fuel the operation of the Facility. Once fully commissioned, the Facility is projected to produce approximately 68,000 MWh annually (inclusive of Scheduled Outages) for the Host, based upon the existing Biogas production of approximately 61 SCMM.

The Supplier will supply electrical energy to the Host using natural gas when electrical energy is not available from the LDC due to an outage or other emergency.

## D. Thermal Energy

The Supplier will supply thermal energy in the form of hot water, using its own pumps. The temperature and demarcation point that the Host will receive this thermal energy are to be agreed upon by the parties in the Energy Services Agreement. Once fully commissioned, the Facility is projected to return approximately 35.4 GJ/hr (inclusive of Scheduled Outages) of hot water, based upon the existing Biogas production of approximately 61 SCMM.

## E. Biogas Energy

The Host will provide Biogas as-is, where-is, to the Supplier of a similar pressure, humidity and compression capacity, as is currently delivered by the Gas Control Building and as will be set forth in the Energy Services Agreement, at a demarcation point to be agreed upon by the parties in the Energy Services Agreement. Existing Biogas production is approximately 61 SCMM, representing approximately 738,000 GJ energy annually, based upon 62% methane concentration.

The Host will use best efforts to maintain all equipment associated with the treatment and pressurization of the Biogas to ensure that such Biogas is delivered to the Supplier in accordance with the specifications set forth in the Energy Services Agreement.

The Supplier will have a right of first refusal for all Biogas produced at the Ashbridges Bay Treatment Plant up to Facility's input fuel consumption capacity of 61 SCMM initially, with provision to expand to 70 SCMM. The Host will only operate its equipment, systems or flares on Biogas under conditions when the Supplier is not utilizing the allocated volume of Biogas or if the Biogas production is greater than the Facility's installed input fuel consumption capacity. If the Host succeeds in eliminating its demand for natural gas to operate its heating boilers, the Host will have the right to displace its purchases of Displaced Gas Energy from the Supplier. The parties acknowledge that the consumption of natural gas by the pelletizer will not be included in the calculation of the Host's consumption of natural gas.

The Host and Supplier will co-operate and exercise all commercially reasonable efforts to maximize the utilization of Biogas by the Facility.

The Host agrees to make available to the Supplier up to 0.15 hectares of land in a mutually agreeable location at the Ashbridges Bay Treatment Plant, as close to the Gas Control Building as is practical, for the installation of Biogas storage and auxiliary equipment, and to permit the effective utilization of the available Biogas by the Supplier. The Supplier will be responsible for the design and costs of installation and maintenance for this equipment.

## F. Standby Power Services

The Supplier will maintain the natural gas fuel supply and controls within the Facility to permit its full generation capacity to operate as a standby power supply for the Ashbridges Bay Treatment Plant.

The Supplier will regularly test, in co-operation with the Host, the operation of the Facility as a Standby Power Supply and report the results of all tests to the Host.

The Supplier will take corrective actions, as recommended by the results of the aforementioned tests, to maintain the reliability of the Standby Power Supply functionality of the Facility.

The Supplier will dispatch the Standby Power Supply in co-operation with the Host.

The details regarding the electrical connection and controls for the standby power will be mutually agreed to by the Supplier and Host during the detailed design phase of the Facility.

## G. Operations & Maintenance

The Supplier will be responsible for Operations & Maintenance functions and costs associated with the Facility. The Supplier will provide the Host with access to the Host's electronic control system to remotely monitor particular operations of the Facility's system.

The Host and Supplier will co-operate to coordinate their maintenance and repair activities to reasonably minimize the impact on the supply of thermal and electrical energy by the Supplier to the Host. Advance written notice to the other party will be required for all such activities.

The Electrical Services Agreement will contain details of how the administrative burden and operational impacts will be minimized for the Host during normal operation, Scheduled Outages and Unscheduled Outages.

#### H. Metering and Annual Adjustment

Biogas volume/mass flow, Biogas methane concentration, annual calibration, natural gas volume/mass flow, electrical energy and demand and thermal energy in the form of heating water flow and inlet and outlet temperatures will be metered and electronically logged in the Facility for settlement purposes. Where applicable and available, custody transfer grade metering or metering meeting applicable standards of Measurement Canada will be provided and installed by the Supplier. The Supplier will assume responsibility for maintenance and calibration of all meters installed by the Supplier within both the Ashbridges Bay Treatment Plant and the Facility. All meters will be recalibrated based upon a mutually agreed upon schedule. The Host may, at its option, independently verify the calibration of the Supplier's meters within the Ashbridges Bay Treatment Plant. The Host will have read access to all meters and the supervisory control and data acquisition system installed by the Supplier.

For periods when particular meter readings and or parameters are not available, or deemed to be inaccurate by the Host, the Host and Supplier will agree as to a methodology to "estimate" the

particular energy stream based either on historical performance and/or historical correlations to other available meter readings.

# I. Rates for Electrical Energy, Electrical Demand, Biogas Energy, Displaced Gas Energy and Standby Power Services

Electrical energy and demand capacity provided by the Supplier to the Host will be billed at the prevailing rates applicable to the Host.

For greater certainty, the Supplier shall charge the Host for all electrical energy consumed by the Host in accordance with the prevailing rates and charges that would otherwise have been payable by the Host to the local distribution for electrical energy consumed, as such charges and/or levies may be amended from time to time.

Electrical energy and demand capacity provided by the Supplier to the Host will specifically exclude the Transmission and Distribution Credits, which represents approximately \$480,000 annually, based on 2009 rates and annual electrical energy production of 68,000 MWh. The Energy Services Agreement will include the details of these credits.

The Biogas Energy delivered by the Host and the Displaced Gas Energy delivered by the Supplier will be billed to the other party at percentages indicated in Table 1 and Table 2 of the prevailing Burner Tip Rate for natural gas at the Ashbridges Treatment Plant.

Table 1: Biogas Energy & Displaced Gas Energy Rates for 8.2 MW Facility Capacity (61 SCMM Biogas Input)

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	Percentage of Burner Tip Rate for Natural Gas
First 20,000 GJ per month	100%
Next 10,000 GJ per month	85%
All additional GJ per month	50%

Table 2: Biogas Energy & Displaced Gas Energy Rates for Facility Capacity Beyond 8.2 MW (61 SCMM Biogas Input)

	Percentage of Burner Tip Rate for Natural Gas
First 20,000 GJ per month	100%
Next 20,000 GJ per month	85%
All additional GJ per month	50%

Utilization of natural gas for testing and operation of the Standby Power Services during grid outages will be billed to the Host at the full prevailing Burner Tip Rate for natural gas. No capacity or service fee will be charged to the Host by the Supplier for the standby power services.

The Energy Services Agreement will include methods to address potential structural changes in prevailing electrical distribution or gas distribution rates.

## J. Outages and Compensation

Under this agreement, the Host will become financially and operationally dependent on the thermal and electrical energy generated by the supplier. Service interruptions resulting from either Scheduled or Unscheduled Outages of part or all of the cogeneration facility will have a potential negative financial impact on the Host as well as cause operational disruptions for the Host. The Electrical Services Agreement will include protocols and practices to help mitigate operational impacts. This will include the requirement for the Supplier to immediately assess any Unscheduled Outage that may occur and notify the ABTP staff with an estimate of the expected duration of the outage.

The financial impact primarily results from the loss of revenue from Biogas sales to the Supplier, loss of part of the Transmission and Distribution Credits for the month, and the cost of supplemental natural gas at Burner Tip Rate to produce heat not being provided by the Supplier. Financial impacts on the Host will be dealt with as follows:

Once fully commissioned, under normal full time operation (inclusive of Scheduled Outages), the 8.2MW Cogeneration Facility will target to produce 5,686 MWh of electricity per month which will increase to 6,935 MWh per month once the facility is expanded to 10MW. The facility will also target to produce 25,842 GJ of thermal energy per month in the form of returned hot water which will increase to 31,515 GJ per month after the facility is expanded. These targets represent 95% of the Facility's rated output capacity and are to be referred to as the Required Thermal Output ("RTO") and the Required Electrical Output ("REO"). Financial compensation from the Supplier to the Host will not apply beyond Section I for months in which the RTO and REO target values are maintained.

During the first twelve (12) months of the Facility's operation only, the RTO and REO targets will be reduced to 5,387 MWh of electricity per month and 24,482 GJ of themal energy per month which represent 90% of the Facility's rated output capacity.

When the RTO and/or the REO drop below the target values, in addition to the payments outlined in Section I, compensation will be paid by the Supplier to the Host in the form of Thermal Loss Compensation (TLC) and Electrical Loss Compensation (ELC) as follows:

- Thermal Loss Compensation ("TLC") shall equal the amount by which the monthly thermal heat production falls short of the RTO for that month multiplied by the prevailing Burner Tip Rate of natural gas applicable that month. The maximum TLC for any given month shall be computed based on a thermal output of no less than 50% of the RTO for that month. In months when the thermal output of the Cogeneration Facility is greater than the thermal needs of the ABTP, the TLC will be reduced to reflect the lower thermal needs of the Host. For greater certainty, the TLC payable by the Supplier is capped at 50% of the RTO multiplied by the prevailing Burner Tip Rate of natural gas.
- Electrical Loss Compensation ("ELC") shall equal the amount by which the monthly electrical production falls short of the REO for that month multiplied by the Transmission and Distribution Credit ("T&D Rate"). Currently, the T&D Rate is \$7.38 per MWh based on a value of \$480,000 of annual savings from the generation of 65,000 MWh annually. This rate will be adjusted annually to reflect applicable LDC charges. 2009 Shall be used as the initial base year.

The compensation for TLC and ELC will be computed based on monthly RTO and REO target values with settlements to occur on a timely basis throughout each year.

The compensation for TLC and ELC payable by the Supplier does not apply during a month where the Host's Biogas supply averages less than 58 SCMM for the month.

## K. Take-or-Pay Obligations

From and after the date upon which the Facility achieves commercial operation pursuant to the Power Purchase Agreement: (i) the Supplier shall be required to take and pay for, or pay for without taking, a minimum of 20,000 GJ of Biogas per month for the remainder of the term of the Energy Services Agreement and (ii) the Host shall be required to take and pay for, or pay for without taking, a minimum of 10,000 GJ of Displaced Gas Energy per month for the remainder of the term of the Energy Services Agreement.

The Energy Services Agreement will include provisions setting forth in greater detail, the take or pay obligations of the parties and specific exceptions.

The take or pay obligations are not applicable to either party during the month an event of Force Majeure occurs.

The take or pay obligations for the Host do not apply during a month where the Supplier's Facility Availablity is below 90%.

The take or pay obligations for the Supplier do not apply during a month where the Host's Biogas Gas Control Building Availability is below 90%.

## L. Payments

The Host will continue to be charged rates and quantities for electrical energy and demand that they would otherwise have experienced if the Facility had not been constructed, less the applicable Transmission and Distribution Credits. The Supplier will not be subject to the Wholesale Market Service Charges applied to all energy purchases from the LDC because the Facility is considered embedded behind the Host's meter. As an embedded facility, the combined electrical meter readings are utilized to account for electrical energy supplied to the Host from both the LDC's electrical grid and the Supplier's Facility.

The Host will receive payments from the LDC for electrical energy produced by the Facility, in accordance with the Power Purchase Agreement. The Host will be invoiced by the Supplier for all payments received from the LDC relating to the Power Purchase Agreement.

The Host will be invoiced by the Supplier for some of the avoided costs associated with electrical energy provided by the Supplier and monthly electrical demand reduction realized by the operation of the Facility. These payments will be calculated based on displaced electrical energy and demand and the prevailing electrical rates to which the Host would have been subject.

The charges for the electrical energy and demand provided by the Facility will be determined by deducting the value of the actual electrical invoice the Host receives from LDC from the value of a "proxy" electrical invoice. The "proxy" electrical invoice is determined by applying the applicable LDC's electrical energy and demand rates to the electrical energy consumption and peak electrical demands for the Host's site. The Host site's electrical energy consumption and peak electrical demand are determined by aggregating the readings from electrical energy meters from the Facility and the electrical energy meters from the LDC servicing the Host's site.

A detailed methodology will be provided in the Energy Services Agreement, including settlement examples.

The Host will charge the Supplier for Biogas Energy delivered to the Facility. Refer to Table 1 and Table 2 for details regarding the factor applied to the prevailing applicable Burner Tip Rate for natural gas. The Host will also charge the Supplier for any applicable compensation as described in Section J.

The Supplier will charge the Host for Displaced Gas Energy realized by the Host for Thermal Energy provided. The Displaced Gas Energy is equal to the Thermal Energy divided by the higher heating value of the thermal efficiency of the existing heating plant. This efficiency is initially set to 80%. The costs for "Displaced Gas Energy" will be based on the prevailing applicable Burner Tip Rate for natural gas, multiplied by the same factor which varies with the amount of Displaced Gas Energy delivered each month by the Supplier. Refer to Table 1 and Table 2 for details regarding the factor applied to the prevailing applicable Burner Tip Rate for natural gas.

The Host will be invoiced for all natural gas costs and any other incremental costs realized by the Supplier during operation of the Facility during either an electrical utility outage or for testing of the Standby Power capability of the Facility.

Invoicing and payment will be made monthly with annual adjustments or reconciliation. The Host will have the ability to verify the amounts owing under any invoice via access to common metered data.

If the Supplier is required to complete any tests of the Facility which disrupt the supply of electrical or Thermal Energy to the Host in order to obtain or comply with any regulatory approvals, then the Supplier shall be responsible for all costs and expenses incurred by the Host in connection with such testing, including any incremental cost for natural gas and lost savings associated with electrical energy and monthly electrical demand reduction.

If the Host is required to complete any tests of the Ashbridges Bay Treatment Plant, including without limitation, any testing required for the emergency supply service from the Facility to Ashbridges Bay Treatment Plant, then the Host shall be responsible for all costs and expenses incurred in connection with such testing.

## M. Services Relocation and the addition of Equipment to Host's Site

During the term the Supplier will be responsible, to a maximum dollar value to be identified within the Energy Services agreement, for any incremental costs and/or materials and labour associated with the relocation and reconnection of the interconnecting Biogas piping, thermal energy piping and electrical distribution between the Facility and the Host's systems, should the Host require such services to be relocated.

The Host will agree to cooperate with the Supplier to take steps to reasonably minimize the overall costs of the relocation and reconnection of those interconnecting services.

## N. Self Help Rights

In addition to any other rights in the Energy Services Agreement, if the Host fails to perform any of its obligations under the Energy Services Agreement, the Supplier will have the right to take all commercially reasonable steps to perform such obligations on behalf of the Host and the Host will be responsible for any costs or expenses incurred by the Supplier, including without limitation, the payment of any cost or expense required to be paid by the Host, the performance of work, the hiring of contractors and entry onto the Ashbridges Bay Treatment Plant. These same rights, including shall apply to the Host, for all infrastructure and equipment constructed by the Supplier on the Ashbridges Bay Treatment Plant property, if the Supplier fails to perform any of its obligations under the Energy Services Agreement.

#### O. Credit and Security

The Energy Services Agreement will contain provisions addressing credit and security.

## P. Termination, Default and Remedies for Default

The Energy Services Agreement will contain termination rights that will arise upon certain specified events of default occurring for given periods of time.

Specifically, the Supplier shall have five (5) years from the date of execution of the Energy Services Agreement to commission the Facility to demonstrate 85% Availability averaged over the course of six (6) consecutive months. Corresponding conditions and remedies for failing to achieve this target will be further detailed in the Energy Services Agreement.

## Q. Force Majeure

The Energy Services Agreement will contain provisions regarding an event of Force Majeure which will deem such party not to be in default of the Energy Services Agreement.

## R. Indemnification

The Energy Services Agreement will include indemnities, including procedures for seeking indemnification and the survival of the indemnification provisions following the expiration or earlier termination of the Energy Services Agreement.

## S. Limitation of Liability

Neither party will be liable to the other for any special, incidental or consequential damages, whether arising in contract, tort, strict liability or in any other cause of action whatsoever.

## T. Dispute Resolution

The Energy Services Agreement will contain dispute resolution provisions.

#### U. Insurance

The Energy Services Agreement will contain provisions requiring the parties to maintain specified types of insurance.

## V. Reporting

The Electrical Services Agreement will contain details of the reporting requirements including, but not limited to monthly utility reports to support invoices and quarterly post implementation reports to summarize Facility operations and performance.

#### **SCHEDULE "A"**

### **DEFINITIONS**

"Availability" means the hours per period in which the equipment was available for duty (excluding scheduled maintenance outages) at rated capacity divided by total hours in that same period, expressed as a percentage (%).

"Biogas" means the gaseous products produced by the anaerobic digestion process at the Ashbridges Bay Treatment Plant.

"Biogas Energy" means the higher heating value energy of the Biogas produced at the Ashbridges Bay Treatment Plant and is determined based on the volume of biogas and its volumetric concentration of methane.

"Burner Tip Rate" means the unit price of natural gas (\$/m³) that applies to the Ashbridges Bay Treatment Plant during a particular month and is calculated by dividing their monthly natural gas invoice amount by the quantity of natural gas consumed during that month. It is agreed that the higher heating value for natural gas (and methane) is 38.2 MJ/m³.

"Demised Premises" means that portion of the Property leased by the Host to the Supplier, having an area of approximately 0.67 acres, the boundaries of which will be agreed upon by the parties in the Ground Lease.

"Displaced Gas Energy" means the equivalent higher heating fuel energy of the Thermal Energy provided by the Supplier to the Host.

"Distribution Loss Factor" means a defined increase applied by the LDC to the power and energy meter readings which is attributable to losses associated with the electrical distribution system. This loss factor is subject to review and approval by the Ontario Energy Board.

"Energy Services Agreement" means an agreement between the Host and Supplier regarding the supply of Biogas energy by the Host to the Supplier and the production and supply of Thermal Energy, electrical energy and emergency power services by the Supplier to the Host.

"Facility" means the Cogeneration Plant (initial capacity of 8.2 MW) containing all the equipment that supplies electrical energy, thermal energy in the form of hot water and consumes available Biogas at a demarcation point to the Host, including but not limited to interconnection facilities for the delivery and receipt of Biogas, hot water, electrical energy, and emergency power services.

"Force Majeure" means any act, event, cause or conditions beyond reasonable control that prevents either party from performing its obligations. These acts, events or conditions shall include acts of God (extreme weather), fires or explosions, local/regional/national states of emergency, general strikes and labour disputes, civil disobedience, war, sabotage, terrorism, riots, epidemics,

"Gas Control Building" means the Host's existing compressor plant which provides Biogas at specified pressure, humidity and flowrate.

"Ground Lease" means a lease of the Demised Premises by The Corporation of the City of Toronto (any any registered owner of the Property) in favour of the Supplier.

"Host" means The Corporation of the City of Toronto, any registered owner of the Property, and any departments of the City of Toronto, including Toronto Water and Transportation Services.

"LDC" means Local Distribution Company, and specifically with respect to this Host's location Toronto Hydro Electric System Ltd.

"OPA" means the Ontario Power Authority or its successor or assigns.

"Power Purchase Agreement" means a long-term contract, program, tariff or other arrangement including an applicable contract with the OPA, or any third party, for the purchase and sale of electrical energy produced by the Facility.

"Primary Metering Adjustment" means a defined reduction applied by the LDC to the power and energy meter readings which is attributable to the metering equipment being located on the higher voltage side of the transformer(s) supplying the customer's facilities. This loss factor is subject to review and approval by the Ontario Energy Board.

"Project Agreements" means collectively, the Energy Services Agreement and the Ground Lease.

"Property" means the lands and premises municipally known as 7 Leslie Street, Toronto, Ontario.

"Scheduled Outage" means the specific period of time requested at least five (5) days in advance by the Supplier in order to perform regular scheduled maintenance for any equipment within the Facility including inspections, filters, oil changes, minor overhauls and major overhauls that will result in the Facility operating at less than the required output capacity with respect to electrical energy or Thermal Energy.

"Supplier" means Toronto Hydro Energy Services Inc.

"Supply Facilities Loss Factor" means a defined increase applied by the LDC to the power and energy meter readings which is attributable to the electrical power and energy consumed by the facilities required to supply electrical energy to both the transmission and distribution systems. This loss factor is subject to review and approval by the Ontario Energy Board.

"Thermal Energy" means the heating energy provided by the Supplier to the Host in the form of heating water produced within the Facility.

"Transformer Allowances" means credit provided by a local distribution company to a customer for a customer's ownership of one or more transformers to supply the customer with electrical energy.

"Unscheduled Outage" means any period of time when the Facility fails to operate at the required output capacity with respect to electrical energy or Thermal Energy and the Supplier has not provided at least five (5) days notice.

"Wholesale Market Service Charges" means collectively, a rural or remote electricity rate protection charge, and charges for services provided by the Independent Electricity Operator.