

February 24, 2012

Ontario Energy Board
2300 Yonge Street
Suite 2700
Toronto, Ontario
M4P 1E4

Attention: Ms. Kirsten Walli, Board Secretary

EB-2011-0283 – Union Gas Limited – Renewable Natural Gas Program – Partial Interrogatory Responses

Dear Ms. Walli:

On February 17, Union Gas Limited (“Union”) requested an extension to the filing date for the interrogatories in the above noted proceeding to February 29, 2012, indicating that if it was able Union would file a portion of the responses before that time. The Board subsequently granted Union’s request for an extension.

Please find attached a portion of the interrogatory responses from Union and Enbridge Gas Distribution Inc. (“EGD”) in the EB-2011-0283 and EB-2011-0242 proceedings. The remainder of the responses will be filed on or before February 29, 2012.

Please note that Exhibits marked with “IU” are those that contain a response from Union, Exhibits marked with “IE” are those that contain a response from EGD and Exhibits marked with “I” are those that contain a joint response.

Common Responses:

Board Staff: Exhibit I, Tab 1, Schedules 5, 10, 12, and 14;
APAO: Exhibit I, Tab 2, Schedules 2, 3, 5, 6, 8, and 9;
BOMA: Exhibit I, Tab 3, Schedules 1, 2, 4, 6 and 7;
Bullfrog Power: Exhibit I, Tab 4, Schedules 1, 7, and 9;
CCC: Exhibit I, Tab 5, Schedules 2, 3, 7, 9, 10, 14, and 19;
CME: Exhibit I, Tab 6, Schedule 4;
Direct Energy: Exhibit I, Tab 7, Schedules 3, 6, 8 to 10, and 12;
FRPO: Exhibit I, Tab 8, Schedules 1, 2, 6, 7, 8, and 12;
LPMA: Exhibit I, Tab 11, Schedules 4 to 7, 13 to 15, 18, and 19;
SEC: Exhibit I, Tab 13, Schedules 1, 3, 7, 8, 10 to 15, and 17;
Shell Energy: Exhibit I, Tab 14, Schedules 1, 4 to 15; and
VECC: Exhibit I, Tab 15, Schedules 2, 3, 4.1, 4.2, 5, 8, and 11.

Enbridge Responses:

CCC: Exhibit IE, Tab 5, Schedules 21, 23, 24, 26, 29 to 32, and 34;

LPMA: Exhibit IE, Tab 11, Schedules 24 and 25; and

VEC: Exhibit IE, Tab 15, Schedule 15.

Union Responses:

CCC: Exhibit IU, Tab 5, Schedules 21 to 23, 25, 28 to 32; and

LPMA: Exhibit IU, Tab 11, Schedules 23, 24, 26, 27, and 29.

Please note that although both Union Gas and Enbridge are filing interrogatory responses electronically under separate cover today, the responses are identical in both proceedings.

Should you have any questions or concerns with respect to this submission, please contact me at 519-436-5473.

Sincerely,

[original signed by]

Karen Hockin

Manager, Regulatory Initiatives

cc: EB-2011-0283 Intervenors
A. Smith (Torys)
N. McKay (Board staff)
M. Kitchen (Union Gas)

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BOARD STAFF INTERROGATORY #5

1.0 Role of the Utilities

Reference: Prefiled Evidence / Exhibit B/Tab 1/ page 1/ lines 17-21

- a) With respect to the proposed biomethane program, have the companies considered allowing for a customer opt-out option, where customers can choose not to pay a premium charge for biomethane, or voluntary sign-up, where customers can choose to opt-in to the biomethane program and pay a premium for biomethane, to have the biomethane in the supply mix?
- b) If yes, please discuss the opt-out process and voluntary sign-up process?
- c) If no, please discuss if the companies would continue to pursue a modified biomethane program with either a mandatory opt-out option or with a provision of voluntary sign-up to have the biomethane in the gas supply mix?

Response:

Background

In developing the Renewable Natural Gas Program the Utilities considered the merits and issues associated with such a program as well as the merits and issues of specific program elements. It should be noted that at its most fundamental level the program will enable a market to develop that will result in:

- The efficient use of organic materials that might otherwise be deposited on or in lands throughout the province,
- The useful and efficient use of energy that may be released or flared to the atmosphere or otherwise utilized in less efficient applications, and
- The development of an energy supply source that is equivalent in all physical characteristics to natural gas, but which would materially reduce the carbon footprint in Ontario, while simultaneously providing additional benefits.

Overarching Program Considerations

As previously mentioned, the utilities considered a number of program merits and issues. Some of these merits and issues are set out below, and details on these elements are set out in the pre-filed evidence:

- Is there a need and benefits for such a program
- Do customers desire and support such a program
- Do the Utilities need to be involved and if so, should they be involved
- How long do the Utilities need to be involved
- Does technology exist to support development of a market

The Utilities carefully considered the merits and issues of a Renewable Natural Gas Program and arrived at the conclusion that it is not only appropriate for the Utilities to embark upon such a program, it is something that customers support. Based on our conclusions, the Utilities then set out to consider specific program design elements and alternatives as shown in the following table.

Model/Element	Pros	Cons
Voluntary Sign-Up/Opt In or Out	1. Direct cost attribution to specific customers 2. Customer choice to participate	1. Complicated to administer. 2. Would require significant customer outreach and communication to ensure that customers are able to make an informed choice. 3. Separate approval process required for gas supply charge applicable to customers opting in or opting out. 4. Impede/slow market development.
Request for Proposal	1. Clearer line of sight to cost/value for RNG 2. Might reduce per unit of production costs	1. Reduces planning certainty around program limits and customer impacts e.g. still needs upper limits on price to manage overall cost impacts 2. Onerous & expensive for utilities, regulator and producers – reducing cost benefits (if any). 3. Tends to screen out smaller, less sophisticated proponents. 4. Non-price factors difficult to assess for all parties. 5. Price purchasing via RFP better suited to standardized products and terms. 6. Raises a complexity barrier vs other Ontario FIT mechanisms.
Renewable Portfolio Standard	1. Usually results in RFP with same pros	1. No RPS model in Ontario. 2. Mandatory targets introduce unnecessary risk in an unknown/ undeveloped market.

		3. Supply of RNG inputs limited and controlled by 3rd parties – introducing far more risk than in comparative electricity RPS models. 4. Same other cons as RFP model.
Cost Recovery Through Distribution Rates	1. Lower per customer bill impacts. 2. Public interest benefits are distributed across all ratepayers.	1. RNG costs are attributed to customers not taking RNG supplies (i.e. direct purchase). 2. Delivery rate/Deferral account solution requirement that could be more complex than QRAM solution. 3. No opportunity for customers to avoid paying for costs of RNG supply.
Source RNG Outside Ontario	1. Pay for only Environmental Attributes benefits. 2. Can be complementary to proposed Utility Supply Model.	1. Can already be done by marketers & does not require utility involvement 2. There are more benefits to RNG than just EA. 3. Core utility vision is to enable an Ontario RNG Production market with full benefits of doing so
System Gas Procurement with 3rd Party Marketer Pass Through	1. Sell through whatever portion of supply 3rd parties wish to buy. 2. Reduce total remaining cost burden on system gas customers (portion not sold through). 3. Works in concert with 3rd party voluntary market.	1. No mechanism for doing so. 2. Likely raises same voluntary market issues.
Utility Ownership of Pilot Program Assets	1. Pilot projects might enhance utility learnings that could be shared broadly. 2. Pilot projects might have a higher chance of success.	1. Unnecessarily limits market participants. 2. Technology & business models sufficiently advanced for many parties to succeed.

	3. Possible source of utility earnings.	3. Earnings from pilots are not strategic to the utility business. 4. 5. Primary objective of long term GHG reduction strategy for utilities and customers does not require utility ownership.
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Recommended Model	Pros	Cons
Utility Supply Price Approach	1. High control over cost impacts, program parameters, limits customer bill impact. 2. Invites many types and sizes of proponents to participate. 3. Including RNG in system supply eliminates the need for significant marketing/customer communication costs. 4. Retains customer opt out ability by leaving system gas. 5. Consistent with other Ontario mechanisms e.g. FIT. 6. Can co-exist with other retail market offerings that included renewable energy 7. Provides planning clarity & certainty to RNG developers. 8. Can be implemented quickly and supports rapid market development. 9. Can easily be accommodated within existing QRAM mechanism. 10. Attributes RNG costs to those consuming the RNG supplies.	1. Costs are recovered from system gas customers only. 2. Only indirectly aids development of voluntary market. 3. Support RNG trading in Ontario only. 4. Pricing will not result in development of all RNG projects 5. Less line of sight to cost/value of RNG

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BOARD STAFF INTERROGATORY #10

2.0 Cost Consequences

Issue 2.5 - Are the proposed maximum volume caps reasonable and appropriate?

Reference: Prefiled Evidence / Exhibit B/Tab 1/Appendix 1/pages v-vi and
prefiled evidence / Exhibit B/Tab 1/ page 23

The report “Potential Production of Renewable Natural Gas from Ontario Wastes”, which is part of the prefiled evidence, forecasts the available supply on a short and long term time horizon for agriculture, forestry and municipal waste for each of the two utilities and for Ontario as a whole.

The companies state that the proposed volume caps by Union and Enbridge are set with the primary objective of limiting the rate impact on their customers.

- a) With reference to the results of study of potential production of renewable natural gas from Ontario wastes, what would be the expected supply sources for each utility over the next 10 years and beyond if the volume caps are to be accomplished?

Response:

Union has proposed an annual volume cap of 2.2 PJ (58 million m³) acquired from RNG producers. It is anticipated that the volume cap will be achieved within a 5-year timeframe. The estimated total annual production potential of RNG within Union’s franchise area, derived from the anaerobic digestion of waste (via digester and landfill), is approximately 807 million m³ (per pre-filed evidence at Exhibit B, Tab 1, Appendix 1, page 44).

EGD has proposed an annual volume cap of 3.3 PJ (87 million m³), acquired from RNG producers. It is anticipated that the volume cap will be achieved within a 5-year. The estimated total annual production potential of RNG within EGD’s franchise area, derived from the anaerobic digestion of waste (via digester and landfill), is approximately 565 million m³ (per pre-filed evidence at Exhibit B, Tab 1, Appendix 1, page 46).

Sources of potential RNG production for both utilities include agricultural wastes (crop residue and manure) and municipal wastes (WWTP, MSW/SSO, and landfill methane emissions).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BOARD STAFF INTERROGATORY #12

3.0 Impacts on the Distribution System

Issue 3.2 - Is the proposed capacity allocation process to access the utilities' distribution and transmission systems reasonable and appropriate?

Reference: Prefiled Evidence / Exhibit B/Tab 1/ pages 24-25

- a) Were the prospective suppliers informed about the proposed capacity allocation process and if so, what were the comments that utilities received?
- b) What is the level of acceptance of the proposed capacity allocation method among prospective suppliers?

Response:

- a) Prospective suppliers were informed about the proposed capacity allocation process during the stakeholders meetings. The Utilities did not receive any specific comments regarding this process.
- b) The Utilities did not receive any specific comments regarding this process.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BOARD STAFF INTERROGATORY #14

4.0 Cost Allocation

Issue 4.1 - If approved, is the proposed assignment/recovery of the incremental costs of biomethane reasonable and appropriate?

Reference: Prefiled Evidence / Exhibit B/Tab 1/ page 25 line 23 to page 26 line 21

- a) Please discuss the Request for Proposal process the companies will employ to secure the biomethane resources to include as part of its supply portfolio.

Response:

- a) The Utilities are not proposing a “Request for Proposal” process. The RNG Program launch will be announced on the Utilities’ websites and program information will be shared with the industry in general through electronic correspondence, meetings, and appropriate conferences/forums (e.g., Canadian Farm & Food Annual Biogas Conference and Exhibition).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO AGRIENERGY PRODUCERS' ASSOCIATION OF ONTARIO
INTERROGATORY #2

Cost Consequences/Environmental Attributes

B, T1, pg. 26

Can you provide a copy of the draft Enbridge/Union RNG purchase contract, as well as a copy of their existing contracts used to purchase natural gas from existing Ontario producers?

Response:

Please see the attached four contracts for Enbridge and Union.

Enbridge Gas Distribution Inc.

EGD Draft RNG Biomethane Purchase Agreement is attached as Attachment 1.

EGD Ontario Gas Purchase Agreement is attached as Attachment 2.

Union Gas Limited

Union Gas draft RNG purchase agreement is attached as Attachment 3.

Union Gas Ontario Gas Producers Agreement is attached as Attachment 4.

Please note that Union's Gas Producers Agreement currently in place with local producers is being rewritten to be consistent with changes proposed as part of Union's 2013 cost of service filing (EB-2011-0210) for the M13 Producer Transportation.

**RENEWABLE NATURAL GAS
(BIOMETHANE)
PURCHASE AGREEMENT**

DATED: XXXX

BETWEEN

ENBRIDGE GAS DISTRIBUTION INC.

AND

XXXXXX

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RENEWABLE NATURAL GAS (BIOMETHANE) PURCHASE AGREEMENT made as of the **XX** day of **XX**, 20**XX**

B E T W E E N:

ENBRIDGE GAS DISTRIBUTION INC.

("Buyer")

- and -

XXXXXX

("Seller")

WHEREAS Buyer is engaged in purchasing, transporting, storing and distributing natural gas in the Province of Ontario;

AND WHEREAS Seller is a producer of renewable natural gas within the Province of Ontario;

AND WHEREAS Seller has agreed to sell and deliver renewable natural gas to Buyer, and Buyer has agreed to receive and purchase renewable natural gas from Seller as hereinafter provided;

AND WHEREAS Seller and Buyer (collectively, the "Parties") have established or have agreed to establish renewable natural gas Delivery Locations, as hereinafter defined, where renewable natural gas produced from Seller's facilities shall be sold by Seller to Buyer;

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the mutual covenants and agreements hereinafter provided, the Parties hereto each covenant and agree with the other as follows:

GENERAL TERMS AND CONDITIONS

ARTICLE 1 – DEFINITION OF TERMS

The following words and expressions where used in this Agreement mean and are respectively defined as follows. In the event that a term is used but not defined herein, it is agreed that said term shall have the meaning generally accepted by the natural gas industry.

- 1.01 **“Agreement”** means this Renewable Natural Gas (Biomethane) Purchase Agreement and all schedules as amended from time to time.
- 1.02 **“Breakpoint”** means that volume of Gas in any year of the Agreement which, when received, will result in a change in Price for any subsequent Gas received in that year, as more specifically described in Schedules “A” and “B”.
- 1.03 **“Connection Facilities”** has the meaning given to that term in Section 7.01.
- 1.04 **“Contribution in Aid of Construction”, or “CIAC”** has the meaning given to that term in Section 7.05.
- 1.05 **“Cubic Metre”** and its symbol m³ mean the volume of Gas which occupies one cubic metre when such Gas is at a temperature of fifteen (15) degrees Celsius, and at a pressure of one hundred and one decimal three two five (101.325) kilopascals absolute.
- 1.06 **“Day”** means any day, within the term or extended term of this Agreement, with a period of twenty-four (24) consecutive hours beginning at 0800 hours. The reference date for any Day shall be the calendar date upon which the twenty-four (24) hour period shall commence.
- 1.07 **“Delivery Location”** means each of the sites specified in Schedule “A” at which a measurement and regulation station is located for the purpose of receiving, testing, regulating, measuring and odourizing the volumes of Gas received from Seller hereunder.
- 1.08 **“Delivery Month”** has the meaning given to that term in Section 3.01.
- 1.09 **“Environmental Attributes”** means the interests or rights arising out of attributes or characteristics relating to the environmental impacts associated with the renewable natural gas produced by Seller and purchased by Buyer, now or in the future, and the right to quantify and register these with competent authorities, including;
 - (a) all right, title, interest and benefit in and to any renewable energy certificate, credit, reduction right, offset, allocated pollution right, emission reduction allowance or other proprietary or contractual right, whether or not tradable;

(b) rights to any fungible or non-fungible attributes or entitlements relating to environmental impacts;

(c) any and all rights, title and interest relating to the nature of an energy source as may be defined and awarded through laws and regulations or voluntary programs; and

(d) all revenues, entitlements, benefits, and other proceeds arising from or related to the foregoing which may be available in connection with the Seller's facilities.

- 1.10 **"Gas"** means renewable natural gas as defined herein.
- 1.11 **"Gas Specifications"** has the meaning given to that term in Section 10.01.
- 1.12 **"Gross Heating Value"** expressed in megajoules per Cubic Metre or "MJ/m³", means the total energy produced by the complete combustion at a constant pressure of one Cubic Metre of Gas with air, with the Gas free of water vapour and the temperature of the Gas, air and products of combustion at standard temperature and all water formed by combustion reaction condensed to the liquid state.
- 1.13 **"Hardship"** has the meaning given to that term in Section 3.04.
- 1.14 **"Initial Term"** has the meaning given to that term in Section 5.01.
- 1.15 **"Joule"** and its symbol "**J**" means the work done when the point of application of a force of one (1) newton is displaced a distance of one (1) metre in the direction of the force. The term **"Megajoule"**, and its symbol "**MJ**", mean one million (1,000,000) joules. The term **"Gigajoule"**, and its symbol "**GJ**", mean one billion (1,000,000,000) joules.
- 1.16 **"Market Demand"** means the varying demand for the supply of Gas, as determined by Buyer, carried in Buyer's pipeline system for users of Gas who are supplied or delivered Gas by Buyer's pipeline system.
- 1.17 **"Maximum Annual Volume"** has the meaning given to that term in Schedule "A".
- 1.18 **"Maximum Daily Volume"** has the meaning given to that term in Schedule "A".
- 1.19 **"Month"** means the period of time beginning at 0800 hours EST on the first Day of a calendar month and ending immediately before 0800 hours EST on the first Day of the next succeeding calendar month, however, the first Month commences on the date of this Agreement, and the last Month terminates on the Day of the Month on which this Agreement expires or is terminated.

- 1.20 “**natural gas**” has the meaning given to that term in the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, Sch. B, as amended from time to time, and also includes renewable natural gas.
- 1.21 “**Nomination**” shall have the meaning given to that term in Section 2.02.
- 1.22 “**OEB**” means Ontario Energy Board.
- 1.23 “**Pascal**” and its symbol “**Pa**” mean the pressure produced when a force of one newton is applied to an area of one square metre. The term “**kilopascal**” and its symbol “**kPa**” mean one thousand (1,000) Pascals.
- 1.24 “**Point of Delivery**” for all Gas delivered hereunder means the point at the inlet side of Buyer’s meter which is located at each Delivery Location.
- 1.25 “**Price**” has the meaning ascribed to that term in Section 3.01 of this Agreement.
- 1.26 “**Prime Rate**” means the rate of interest expressed as a percentage per annum charged to Buyer by its principal banker from time to time and used as a reference rate for determining interest rates on Canadian dollar demand loans.
- 1.27 “**Renewable Natural Gas**” or “**RNG**” means a primarily methane-based gas produced by Seller which meets the minimum quality and physical standards as required under this Agreement. RNG is derived from:
- (i) landfill gas created from organic decomposition at a landfill site; and
 - (ii) biogas created from an anaerobic digester,
- which in either case has been processed to meet the quality standards of natural gas such that it is interchangeable with natural gas.
- 1.28 “**System Capacity**” means the volumetric capacity that exists from time to time within Buyer’s pipeline system which determines Buyer’s ability to accept volumes of Gas into Buyer’s pipeline system hereunder. System Capacity shall be determined by Buyer and such determination, in addition to the physical characteristics of Buyer’s pipeline system, shall also include consideration of Buyer’s local Market Demand, Buyer’s total system Market Demand, availability of Buyer’s natural gas storage capacity, other natural gas being purchased and delivered into Buyer’s pipeline system and Buyer’s overall natural gas supply under contract.
- 1.29 “**10³m³**” means one thousand (1,000) Cubic Metres.

ARTICLE II – VOLUMES

- 2.01 Seller shall tender for sale to Buyer, at the Point of Delivery, on a reasonable efforts basis, Gas produced from Seller's facilities excepting such volumes of Gas as required by Seller to operate Seller's Gas facilities. Subject to Section 2.02, Seller agrees that all renewable natural gas produced at each Delivery Location shall be tendered for sale exclusively to Buyer during the Initial Term.
- 2.02 Buyer shall receive and purchase, on a reasonable efforts basis, Gas tendered by Seller provided that:
- i) Buyer has sufficient System Capacity to receive and sell the Gas offered for sale by Seller;
 - ii) the quality of such Gas meets the Terms and Conditions of this Agreement, and in particular Article X;
 - iii) Seller has provided Buyer with written notification of the volume of Gas that Seller intends to deliver to Buyer ("**Nomination**") in accordance with the Nomination procedures set out in Schedule "A"; and
 - iv) the volume of Gas tendered at each Point of Delivery does not exceed the corresponding Maximum Daily Volume and Maximum Annual Volume set out in Schedule "A",
- unless otherwise agreed to in writing by the Parties.
- 2.03 Buyer shall have the right, at all times, to reconstruct or modify Buyer's pipeline and the pressure carried therein, notwithstanding that such reconstruction or modification may reduce Buyer's System Capacity available to receive Seller's Gas or Seller's ability to deliver Gas to Buyer. Should Buyer expect any such reconstruction or modification to reduce the delivery or receipt of Gas by either Party, Buyer shall provide Seller with six (6) months notice or as much notice as is reasonably practical of such undertakings.

ARTICLE III – PRICE AND ENVIRONMENTAL ATTRIBUTES

- 3.01 The price to be paid by Buyer to Seller for all Gas received by Buyer under this Agreement ("**Price**") in a calendar Month ("**Delivery Month**"), and the method of determining the Price, shall be as specified in Schedules "A" and "B".
- 3.02 The Price shall be subject to any orders, rules and regulations of any authority having jurisdiction over such Price, or the calculation of such Price, now or hereafter in effect during the term of this Agreement.
- 3.03 Without limiting the generality of Section 3.02, in the event that the OEB does not grant approval for Buyer to recover as part of its natural gas costs all or any part

of the Price, Buyer shall be obligated to pay only such Price as approved by the OEB to be recoverable in Buyer's natural gas costs.

- 3.04 If an event occurs or circumstances arise of any nature whatsoever (including but not limited to governmental or regulatory action), which relates to the Price which is not within the control of either Party and which is not specifically provided for herein, and the effect of which is to render a Party's further performance under this Agreement unduly onerous, such an event or circumstance (herein referred to as "**Hardship**") shall cause the Parties to take all reasonable steps to amend the Price. In the event that the Parties cannot agree on the amendments within 180 days of the occurrence of a Hardship, this Agreement shall terminate upon sixty (60) days written notice being provided by either Party to the other.
- 3.05 a) Seller hereby transfers and assigns to, or to the extent transfer or assignment is not permitted, holds in trust for, Buyer who thereafter shall retain, all rights, title, and interest in all Environmental Attributes associated with the renewable natural gas produced by Seller and purchased by Buyer under this Agreement.
- b) Seller shall from time to time, upon written direction of Buyer, take all such actions and do all such things necessary to effect the transfer and assignment to, or holding in trust for, Buyer, all rights, title, and interest in all Environmental Attributes.
- c) Seller shall from time to time, upon written direction of Buyer, take all such actions and do all such things necessary to certify, obtain, quantify and register with the relevant authorities or agencies Environmental Attributes that are created and allocated or credited with respect to the Seller's facilities pursuant to laws and regulations from time to time for the purposes of transferring such Environmental Attributes to Buyer.

ARTICLE IV – PAYMENT

- 4.01 Buyer shall pay to Seller the Price (excepting set off amounts) for all Gas received during the Delivery Month, on or before the twentieth (20th) Day of each Month (the "**Payment Day**") following the Delivery Month, and provide a written statement setting out the volumes of Gas delivered by Seller to Buyer for that period and any set off amounts deducted.
- 4.02 Buyer shall deduct from the Price a fee (the "**Operating Fee**") for Buyer to recover operating and maintenance expenses of purchasing Gas hereunder, for each Delivery Location. The Parties agree that the Operating Fee for each Delivery Location shall be the amount set out in Schedule "A".
- 4.03 In the event that Buyer, prior to making any payments herein provided for, receives notice in writing of any adverse claim to any money due hereunder or of the filing of any lien which might affect the rights of the Parties hereunder, Buyer shall have the right to withhold, in trust, the payment then becoming due and

such other future payments as Buyer, acting reasonably, estimates to be a sufficient reserve against such adverse claim or lien, in an interest bearing account, until the controversy has been settled and all adverse claims have been withdrawn with notice in writing or have been decided by a Court of competent jurisdiction in Ontario, or until Seller has supplied Buyer with a Letter of Credit in an amount and on conditions satisfactory to Buyer with respect to such claim or lien.

- 4.04 The Parties hereby agree that any error discovered by either Party within eighteen (18) months of the date of the error, regarding billings, invoices or measurement of Gas shall be corrected on the Payment Day immediately following the date on which the value of the error has been determined, unless otherwise mutually agreed upon by both Parties. In the event that Buyer has underpaid Seller, Buyer shall pay interest thereon at the rate of the Prime Rate calculated from the date when such error occurred and compounded monthly. No interest shall be paid by Seller for any adjustments caused by said errors. Neither Party shall have any claim to an error discovered beyond eighteen (18) months from the date of such error.

ARTICLE V – TERM OF AGREEMENT

- 5.01 Unless terminated earlier in accordance with the terms of this Agreement, this Agreement shall be effective as of the date set out on the first page and shall remain in full force and effect for a period of up to 20 years (“**Term**”) more specifically set out in Schedule “A”, and shall not be extended or renewed except upon written agreement of the parties.
- 5.02 Either party may, upon written notice to the other party, terminate this Agreement if (i) the other party is subject to proceedings in bankruptcy, or insolvency, whether voluntary or involuntary, (ii) a receiver is appointed in respect of all or a substantial portion of the other party’s assets; or (iii) the other party assigns its property to its creditors or generally becomes unable to pay its debts as they become due.
- 5.03 Seller may terminate this Agreement for any reason upon twelve (12) months written notice to Buyer.

ARTICLE VI – DELIVERY PRESSURE

- 6.01 The pressure of the Gas delivered by Seller to Buyer at each Delivery Location shall not be less than the minimum pressure and not exceed the corresponding Maximum Allowable Operating Pressure (“**MAOP**”) of Buyer’s pipeline distribution system set out in Schedule “A”, which Buyer may change from time to time, upon notice to Seller in accordance with Section 2.03.

ARTICLE VII – INSTALLATION OF EQUIPMENT/DELIVERY LOCATION

7.01 Buyer shall purchase, install and maintain, at the Delivery Location:

- a) a meter and any associated recording gauges as are determined necessary by Buyer, in accordance with Section 9.01; and
- b) a suitable Gas chromatograph, odourizing injection facility, pressure regulator, valves and extensions to Buyer's distribution facilities, where Buyer deems such facilities to be necessary to receive Gas from Seller's facilities (collectively, "**Connection Facilities**").

7.02 Seller shall, at Buyer's request, provide Buyer with detailed information regarding Seller's Gas production, flow characteristics and expected daily delivery volumes, in order to aid Buyer in Buyer's design of the Connection Facilities. Seller shall not connect more than one source of Gas to the Connection Facilities without Buyer's prior written consent. Buyer may inspect Seller's facilities to confirm compliance with this Section at any time, upon reasonable notice to Seller.

7.03 All Connection Facilities shall remain the property of Buyer. Buyer shall be entitled to remove the Connection Facilities at any time within a period of sixty (60) days of any termination of this Agreement, and Seller shall provide Buyer with access to the Delivery Location for this purpose. Seller shall compensate Buyer for all reasonable costs associated with the abandonment or removal of any Connection Facilities at any time.

7.04 Upon Buyer's request Seller shall, at Seller's own cost and expense:

- a) obtain a registered lease or freehold ownership of each Delivery Location sufficient to provide the Buyer with free uninterrupted access to, from, under and above the Delivery Location and the right to construct, maintain, replace and remove the Connection Facilities, for a term (and extended terms) identical to this Agreement, plus sixty (60) days renewal periods and shall provide Buyer with a bona fide copy of such lease agreement prior to Buyer commencing the construction of the Connection Facilities;
- b) deliver Gas to Buyer on a reasonable efforts basis at each Delivery Location according to the terms set out herein;
- c) supply, install and maintain suitable pressure and volume control equipment and such additional equipment as required for Seller's facilities, to meet Buyer's pressure requirements, as set out in Section 6.01, and to limit the daily flow of Gas to the corresponding Maximum Daily Volumes as set out in Schedule "A", Section 2;

- d) supply, install and maintain a self-igniting flare, and pipeline facilities that connect the flare to the Connection Facilities, for the purpose of flaring Gas that does not meet the Gas Specifications or required Gas volumes;
 - e) supply, install and maintain a gravel or cut stone covering on each Delivery Location as required by Buyer acting reasonably, and Seller shall maintain such Delivery Location in a safe and workmanlike manner; and
 - f) install and maintain a fence and protection barrier satisfactory to Buyer around the perimeter of each Delivery Location which will adequately secure and protect the Connection Facilities.
- 7.05 In accordance with Section 7.06, Seller shall pay Buyer for Buyer's actual cost of the Connection Facilities ("**Contribution in Aid of Construction**", or "**CIAC**"), as calculated by Buyer, to include:
- a) all pipe, fittings, meters, regulators, tanks, gas chromatograph, valves, odourization equipment and other materials; and
 - b) third party labour costs, Buyer's direct labour, labour saving devices, vehicles and mobile equipment employed.
- 7.06 Seller shall make prepayments to Buyer representing Buyer's reasonable estimation of the CIAC, in accordance with the prepayment schedule set out in Schedule "A". Seller shall pay to Buyer the difference if the actual CIAC is more than the prepayments within ten (10) days of the delivery of an invoice from Buyer on which the actual costs for the Connection Facilities are stated. Buyer shall pay to Seller the difference if the actual CIAC is less than the prepayments. In the event this Agreement terminates prior to completion of the Connection Facilities, Seller shall pay to Buyer, or Buyer shall refund to Seller, as the case may be, any difference between the prepayments made and the actual costs incurred by Buyer for the Connection Facilities prior to termination of the Agreement, within fifteen (15) days of such notice.
- 7.07 Seller shall, within thirty (30) days of the delivery of an invoice by Buyer, reimburse Buyer for any actual costs incurred by Buyer for any repair replacement, relocation, or upgrading of any Connection Facilities requested by Seller or as required by law, duly constituted regulatory body, or through good engineering practice. Alternatively, the Buyer may, at the Buyer's sole discretion require the Seller to pre-pay such costs as the Buyer deems appropriate prior to Buyer undertaking any such work.

ARTICLE VIII – TITLE AND RISK TRANSFER

- 8.01 Title, possession, custody and control of all Gas shall pass from Seller to Buyer at the Point of Delivery. Buyer shall have no responsibility with respect to any Gas deliverable hereunder until it is delivered to Buyer at the Point of Delivery

and subject to Section 8.02, Seller shall have no responsibility with respect to such Gas after its delivery to Buyer at the Point of Delivery except as set out in this Agreement.

- 8.02 Seller shall be liable for any and all damages suffered by Buyer and shall protect and indemnify and save Buyer harmless from and against any and all loss, claims and damages, including claims against Buyer for personal injuries and damages to property, caused by or arising out of delivery of Gas; the quality or condition of which does not conform to the specifications herein contained; the delivery of Gas in a manner not in accordance with the terms of this Agreement; or any other breach of this Agreement by the Seller, except for any damages resulting from or in any way attributable to Buyer's negligence or failure to act reasonably. Buyer agrees to use reasonable efforts to mitigate all damages, expenses and costs.
- 8.03 Seller shall maintain insurance policies in full force and effect that are usual and customary in the renewable natural gas business of the Seller, and are adequate to protect the Seller against any reasonably foreseeable risk of loss. Seller shall provide evidence of such insurance to Buyer upon request.

ARTICLE IX – MEASUREMENT

- 9.01 All Gas received and purchased from Seller by Buyer hereunder, shall be measured by a positive displacement, turbine, orifice type meter, or other meter that meets the requirements of Buyer in accordance with the Electricity and Gas Inspection Regulations, SOR/86-131 pursuant to the *Electricity and Gas Inspection Act* R.S.C. 1985, c.E-4 and any modifications and amendments thereof, and such meter shall be installed and operated in accordance with the aforementioned Regulations. Buyer's meter shall be equipped with pressure and temperature compensating, integrating or recording instrumentation so that proper correction of measured volumes for Charles Law, Boyle's Law and Deviation from Boyle's Law can be made. This instrumentation shall be installed and operated in accordance with the aforementioned Act and Regulations.
- 9.02 For the purpose of determining volume hereunder, the unit of volume shall be one (1) Cubic Metre of Gas. The average absolute atmospheric pressure, for the purpose of measurement, shall be assumed to be a constant pressure of ninety-nine decimal two eight five (99.285) kPa, or shall be determined according to methods laid down in the Electricity and Gas Inspection Regulations. The uncorrected volume determined from the metering equipment shall be corrected according to Charles Law, Boyle's Law and deviation from Boyle's Law. The factor for correction for deviation from Boyle's Law shall be determined and applied in accordance either with the method laid down in the American Gas Association's "Manual for Determination of Supercompressibility Factors for Natural Gas" (PAR Project NX-19) published in 1962 or with methods laid down in the American Gas Association's "Transmission Measurement Committee

Report No. 8" at the discretion of Buyer. Buyer shall notify Seller of the specific method to be used. When the Gas is measured by means other than an orifice meter, the factor for correction for deviation from Boyle's Law shall be the square of the factor determined by following one of the methods above.

- 9.03 Buyer shall at all times, maintain and keep in proper working order all Buyer's metering and associated measurement equipment. Buyer's measurement instrumentation will be calibrated at least once each year by Buyer, and if found to be registering inaccurately, shall be adjusted at once to read as accurately as possible.
- 9.04 In the event either Party to this Agreement shall notify the other that it desires extra tests of any of Buyer's measuring equipment, in addition to the annual test completed by Buyer, the Parties shall co-operate to secure a prompt verification of the accuracy of such equipment. The expense of any such test, if requested by the Seller, shall be borne by Seller where two percent (2%) or less than 2% error is found in the volume measured by the measuring equipment being tested.
- 9.05 If the test conducted in accordance with Section 9.05 shows a percentage of inaccuracy greater than two percent (2%), the financial adjustment, if any, shall be calculated in accordance with the Electricity and Gas Inspection Act Regulations there under; as may be amended from time to time and in accordance with any successor statutes and regulations.
- 9.06 The records from the measuring equipment of both Buyer and Seller shall remain the property of the owner of such equipment and each Party, upon reasonable request, will submit to the other, copies of its records, together with any calculations there from and make the records available for review.
- 9.07 Each Party shall preserve for a period of at least eighteen (18) months all test data, charts and other similar records.
- 9.08 Seller shall provide a dedicated telephone line suitable for data transmission and electricity at a voltage suitable to supply power for the electronic meter.

ARTICLE X – QUALITY

- 10.01 All Gas delivered hereunder shall have a Gross Heating Value of at least thirty-six (36.0) MJ/m³ and not more than forty-one decimal three (41.3) MJ/m³, and shall adhere to the Buyer's gas specifications as amended from time to time ("**Gas Specifications**"). The Gas Specifications as of the effective date of the Agreement are set out in Schedule "C". Buyer shall provide notice to Seller of any amendments to the Gas Specifications.
- 10.02 The Gas shall be merchantable and commercially free from sand, dust, gums, crude oils, lubricating oils, liquids, chemicals or compounds used in the production, treatment, compression or dehydration of the Gas or any other

objectionable substance present in sufficient quantity so as to render the Gas toxic, unmerchantable or cause injury to or interference with the Gas pipelines, regulators, meters or other appliances through which it flows, or their operation.

- 10.03 The Gas shall be interchangeable with Buyer's pipeline Gas with which it co-mingles. Yellow tipping, flashback and lifting factors of appliances using Seller's Gas shall be in the range permitted for Gas according to AGA Research Bulletin No. 36.
- 10.04 The Gas shall not be odorized by Seller.
- 10.05 Seller shall subject any Gas delivered hereunder to compression, cooling, cleaning or other processes to such an extent as may be required to obtain the necessary quality and for transmission to the Delivery Point, provided the quality of the Gas continues to comply with the specifications set out in this Agreement.
- 10.06 Seller may extract hydrocarbon and non-hydrocarbon constituents, other than methane except as required in the processing or compression of the Gas, prior to delivery hereunder, and shall have the right to remove such methane as is removed by necessity from the Gas in removing other constituents, provided that Seller in such processing shall not reduce the Gross Heating Value below that which is stated in Section 10.01 herein and provided that such extraction will not cause a breach of the quality specifications set forth in this Article X. Seller shall not add any hydrocarbons to increase the Gross Heating Value of the Gas or to alter the Wobbe Index.
- 10.07 In the event that the quality of the Gas does not conform or if Buyer, acting reasonably, suspects the quality of the Gas may not conform to the Gas Specifications, then Seller shall, if so directed by Buyer acting reasonably, forthwith carry out, at Seller's costs, whatever field testing of the Gas quality as may be required to ensure that the quality requirements set out herein are met, and to provide Buyer with a certified copy of such tests. Alternatively, Buyer may, at its option, conduct such tests and Seller shall reimburse Buyer for all costs incurred by Buyer for such testing.
- 10.08 If the Seller's Gas fails at any time to conform to the Gas Specifications, or to the volume and pressure requirements hereunder, Buyer, in addition to its other remedies, may refuse to accept delivery of Gas hereunder until such deficiency has been remedied by Seller. Each Party agrees to notify the other verbally as soon as practicable, followed by written notification, of any such deficiency of quality. Buyer may redirect any non-conforming Gas to the Seller's flare, and Seller shall accept and flare such Gas, whether or not Buyer has provided notice under this Section 10.08.

ARTICLE XI – FORCE MAJEURE

11.01 Notwithstanding anything herein contained, it is agreed that neither Party shall be deemed to be in default in respect of any of the Terms and Conditions of this Agreement if and so long as such default is occasioned by force majeure, which term as used herein shall mean, acts of God, strikes, lockouts, labour troubles, earthquakes, fire revolution, wars, riots, epidemics, insurrections, sabotage, explosions, breakage or accidents to machinery or pipelines, the necessity for making repairs to or alterations of machinery or lines of pipe, inability to obtain materials, interference of any civil or military authority of any government, state or municipality whatsoever, or any other cause whether of the kind herein enumerated or otherwise not within the reasonable control of the Party claiming relief hereunder and which by the exercise of due diligence such Party is unable to prevent or overcome. Such causes or circumstances affecting the performance of this Agreement by either Party, however, shall not relieve it of liability in the event of its negligence or in the event of its failure to use due diligence to remedy the situation and remove the cause or circumstances in an adequate manner and with all reasonable dispatch. Such causes or circumstances affecting the performance of this Agreement shall not relieve either Party from its obligations to make payments of amounts then due hereunder.

11.02 Neither Party shall be entitled to the benefit of the provisions of Section 11.01 under any or all of the following circumstances:

- a) to the extent that the failure was caused by the contributory negligence of the Party claiming suspension;
- b) to the extent that the failure was caused by the Party claiming suspension having failed to remedy the condition and remove the cause or circumstances in an adequate manner, and to resume the performance of such covenants or obligations, with all reasonable dispatch;
- c) if the failure was caused by lack of money or was related to the payment of any amount or amounts then due hereunder; or
- d) unless as soon as possible after the happening of the occurrence relied upon or as soon as possible after determining that the occurrence was in the nature of force majeure and would affect the claiming Party's ability to observe or perform any of its covenants or obligations under this Agreement; the Party claiming suspension shall have given to the other Party notice to the effect that such Party is unable by reason of force majeure (the nature whereof shall be therein specified) to perform the particular covenants or obligations.

11.03 The Party claiming suspension shall give notice to the other Party as soon as possible after the force majeure condition has been remedied, to the effect that

the same has been remedied and that such Party has resumed, or is then in a position to resume, the performance of the suspended covenants or obligations under this Agreement.

- 11.04 It is understood and agreed that the settlement of strikes and lockouts shall be entirely within the discretion of the Party whose labour force is on strike, and that the above requirement, that any force majeure shall be remedied with all reasonable dispatch, shall not require the settlement of strikes or lockouts by acceding the demands of any opposing person when such course is inadvisable in the discretion of the Party whose labour force is on strike.

ARTICLE XII – GOOD TITLE

- 12.01 Seller warrants that it will at the time of delivery of the Gas to Buyer, (a) possess all required permits and licenses to operate Seller's facilities that produce the Gas, (b) have good and valid title to all Gas delivered by it under this Agreement, free and clear of all liens, encumbrances and claims whatsoever, and (c) have complete rights to sell the Gas as aforesaid. Seller will indemnify Buyer and save Buyer harmless from all suits, actions, debts, accounts, damages, costs, losses and expenses arising from or out of adverse claims of any and all persons to said Gas or to royalties, taxes, license fees or any charges thereon, which are applicable before the title to the Gas passes to Buyer.
- 12.02 Seller agrees to use reasonable efforts and due diligence to maintain, in good standing, each lease that relates to this Agreement.

ARTICLE XIII – USE OF COMPRESSOR OR GAS PROCESSING EQUIPMENT

- 13.01 Seller shall obtain the prior approval of Buyer in respect of any mechanical equipment used to compress or process Gas in order to aid in its delivery. Seller further agrees that the location of any such mechanical equipment shall not, in Buyer's opinion, adversely affect measurement at the meter station.

ARTICLE XIV – PLANNED SHUT-DOWN/START-UP

- 14.01 Excepting instances of emergency, Seller and Buyer agree to give at least twenty-four (24) hours verbal notice before a planned curtailment of receipt or delivery, shut-down or start-up, or such other notice the Parties agree in writing to provide from time to time. For certainty, this Section 14.01 does not apply in the event that the Gas does not meet the Gas Specifications, as provided for in Section 10.08.

ARTICLE XV – ACCESS TO SELLER’S FACILITIES

- 15.01 Seller shall provide to Buyer a plan showing Seller’s Gas production facilities, on which all emergency shut off valves have been clearly indicated as well as the names and telephone numbers of those persons whom Buyer may contact in the event of an emergency situation arising at the Delivery Location.
- 15.02 In the event that Buyer is notified by a third party or if Buyer becomes aware of an emergency situation in which Seller’s Gas production facilities is involved, Buyer shall immediately notify Seller or Seller’s representative of such emergency condition, in accordance with Section 17.03. Even though Buyer is not obligated to take any action to rectify the emergency, if Buyer undertakes any such action, Seller agrees, upon presentation of an itemized account by Buyer, to pay Buyer for all reasonable costs incurred by Buyer in rectifying such emergency.

ARTICLE XVI – BREACH OF CONTRACT

- 16.01 Excepting circumstances of force majeure, in the event that either Party is in breach of any material term or condition of this Agreement, the other Party may give written notice to the Party in breach requiring it to remedy such breach. If the Party in breach fails to remedy the breach within thirty (30) days of receipt of such notice, the other Party may, at its sole option, upon seven (7) days written notice to the Party in breach, terminate this Agreement. Termination pursuant to this Section 16.01 shall not affect any liabilities accrued to the date of termination or thereafter and the right of termination shall be in addition to any other right or remedy available at law.
- 16.02 No waiver by or on behalf of either Party hereto of any breach of any covenant, proviso, condition, restriction or stipulation herein contained, negative or positive in form, shall take effect or be binding upon such Party, unless the same be expressed in writing by such Party or its duly authorized agent on its behalf, and any waiver so expressed shall not limit or affect such Party’s rights with respect to any other or similar future breach.

ARTICLE XVII – MISCELLANEOUS

- 17.01 All operations hereunder of both Parties shall be subject to any applicable laws, taxes, orders, rules and regulations of any governmental authority having jurisdiction therein, now or hereafter in effect during the term of this Agreement.
- 17.02 The terms and conditions of this Agreement express and constitute the entire Agreement between the Parties, and no implied covenant or liability of any kind is created or shall arise by reason of these presents or anything herein contained. No modification of the terms and conditions of this Agreement or any of them shall be made except by contract in writing executed by the Parties.

- 17.03 All written notices required to be given hereunder may be delivered by hand, registered mail, overnight courier or electronically delivered by facsimile or electronic mail, addressed to Seller at the addresses specified in Schedule "A", and to Buyer at:

Billing and Payment:	Billing Direct: (416) 495-5759 Attention: Don Small, Manager, Gas Costs and Budgets [email: don.small@enbridge.com]
Courier Address:	Enbridge Gas Distribution Inc. 500 Consumers Road North York ON M2J 1P8
Nominations:	Direct: (780) 420-8850 Fax Number: (780) 420-8533 Attention: Gas Nominations [email: sms@enbridge.com]
Emergency/Shut-Down:	Emergency Toll Free: 1 (866) 420-6630 Gas Control Direct: (780) 420-8853 Fax Number: (780) 420-8533 Attention: Gas Control [email: gasctrl@enbridge.com]
Legal and Other:	Legal Direct: (416) 495-5891 Fax Number: (416) 495-5994 Attention: Senior Legal Counsel, Regulatory

or to such other address as Seller or Buyer may from time to time designate by notice in writing one to the other. Notice shall be deemed to be received when the records of the mode of communication verifies the receipt of such notice. Emergency notices shall be delivered to Seller's Resident Operator as set out in Schedule "A".

- 17.04 All monies payable by Buyer for Gas received hereunder shall be made to the address set out in Schedule "A", or to such other address as may be authorized in writing by notice from the Seller to the Buyer.
- 17.05 This Agreement shall extend to and be binding upon the Parties hereto and each of them, their respective heirs, executors, administrators, successors and assigns, provided that this Agreement shall not be assigned by Seller, without the express written consent of Buyer, which shall not be unreasonably withheld, provided that Seller shall have the right to include its interest in this Agreement in any mortgage, charge or hypothec for the purpose of financing its Gas producing operations.

- 17.06 In this Agreement, wherever the singular or neuter is used, it shall be construed as if the plural or the masculine or the feminine, as the case may be, had been used, where the context of the Party or Parties hereto so require, and the rest of the sentence shall be construed as if the grammatical or terminological changes thereby rendered necessary had been made.
- 17.07 This Agreement and the rights and obligations of the Parties hereunder are subject to all applicable present and future laws, rules, regulations and orders of any Ontario legislative body or duly constituted Ontario authority now or hereafter having jurisdiction. The Parties agree that this Agreement will be governed exclusively by the laws of Ontario and the Parties exclusively attorn to the courts of Ontario.
- 17.08 If the standard of measurement, applicable to the transaction contemplated herein, is changed by law to another system, all measurements provided for herein shall be interpreted as referring to the applicable equivalent measurement.
- 17.09 The Parties hereto agree that this Agreement shall supersede and replace all prior Renewable Natural Gas (Biomethane) Purchase Agreements and amendments thereof between the Parties and that all prior Renewable Natural Gas (Biomethane) Purchase Agreements between the Parties and all amendments thereto have been cancelled.
- 17.10 Each of the Parties shall perform all further acts reasonably required in order to fulfill and carry out the terms of this Agreement.
- 17.11 Buyer shall have the right to set off against any payments it owes to Seller, any amount of money Seller owes to Buyer.
- 17.12 Seller's obligations with respect to environmental attributes (Article III), indemnity and payment (Articles VII, VIII and XII) and access to facilities (Article XV) shall survive the termination of this Agreement.
- 17.13 The Schedules listed below and attached hereto form part of this Agreement as if found in the body of the Agreement;
- Schedule "A" – Special Terms and Conditions
 - Schedule "B" – Price Escalation Example
 - Schedule "C" – Gas Specifications

IN WITNESS WHEREOF the Parties hereto have executed this Agreement as of the date first above written.

XXXXXXXXXXXXXXXXXXXX

ENBRIDGE GAS DISTRIBUTION INC.

SCHEDULE “A” – SPECIAL TERMS AND CONDITIONS

1. Delivery Location and Term

As provided for in Clause 8.01 of the Agreement Seller shall convey the Gas to be purchased at the Point of Delivery located on the Delivery Location as follows during the Term specified:

Delivery Location #1

Term

2. Maximum Volumes and Nominations

Seller agrees to limit the volume of Gas delivered from the Delivery Location in accordance with the maximum volumes set out below:

Delivery Location	Maximum Daily Volume (m³)	Maximum Annual Volume (m³)

In the event Seller exceeds these maximum volumes, Buyer may, in its sole discretion, accept or suspend receipts of any or all Gas. Buyer shall provide notice to Seller of any such suspension as soon as practicable.

Seller shall submit to Buyer Nominations in accordance with standards and times published by the North American Energy Standards Board, or any successor thereto. Valid Nominations must be submitted regularly, failing which the last regular Nomination accepted by Buyer shall be considered as a standing Nomination applicable to each subsequent Day until varied by Seller.

3. Operating Fee

Seller shall pay to Buyer a monthly operating fee consisting of:

- (i) a fixed charge of \$333 per Delivery Location; plus
- (ii) an additional charge of 2.082 cents per m³ of the Maximum Daily Volume.

In addition, Seller agrees, upon presentation of an itemized account by Buyer to pay Buyer amounts calculated on a “time and materials” basis, for all unforeseen expenses related to labour, maintenance, repairs, parts, materials, upgrades, operation, and inspection of the Connection Facilities or Delivery Location, or for the protection of the Buyers distribution system.

4. Payments

Payments to Seller for Gas received by Buyer, as provided for in Article IV – Payments, and Section 17.04 of the Agreement shall be made by cheque, or other method of payment agreed to by the Parties, payable to Seller's address for payments set out below.

5. **Agreement Notices**

Notices to Seller with respect to this Agreement shall be addressed to Seller at:

Billing and Payment:	
Resident Operator:	
Nominations:	
Emergency/Shut-Down:	
Legal and Other:	

6. **Seller's Resident Operator**

Seller shall notify Buyer of any changes to Seller's Resident Operator within forty-eight (48) hours of any such change taking place.

7. **Pressure Requirements**

Pressure requirements at each Delivery Location shall be as follows:

...
or as otherwise agreed.

8. **Price**

The Price expressed in Canadian Dollars (\$) per GJ is dependent on annual production and is calculated per the following schedule:

Source	Annual Breakpoint (GJ)	Under Annual Breakpoint (\$/GJ)	Over Annual Breakpoint (\$/GJ)
Anaerobic Digester	50,000	\$17.00	\$11.00
Landfill	150,000	\$13.00	\$6.00

Prices in the above table reflect the program starting Prices of January 1st, 2012.

The appropriate Price is applied as the product of the Delivery Month volume in 10^3M^3 and the Heat Value which is determined by Buyer based on monthly analysis of gas sampled from the point of custody transfer.

Total annual volume to determine the Breakpoint will be based on a 12-month consecutive period, and reset on the contract anniversary date. The accumulated total annual volume will be tracked month-to-month based on Delivery Month volumes, whereby Prices will be applied to the additions to the accumulated volume, monthly, within the 12-month consecutive period.

Price adjustments shall be made during the life of this Agreement. Adjustments shall be determined annually, and shall be made effective as of January 1 of each calendar year. Adjustments shall be based on 30% of the difference between the Ontario Consumer Price Index ("**CPI**") as established for the current calendar year relative to the CPI for the previous calendar year. If such an adjustment cannot be made on January 1 of any calendar year, the parties intend for the adjustment to be made as soon as possible thereafter and in any event, effective retroactively to the start of the then-current calendar year.

9. **Prepayment**

The Prepayments for Delivery Location #1 as specified in Article VII, Section 7.05(b) are as follows:

The First Prepayment upon execution of this Agreement is \$_____ (_____).

The Second Prepayment prior to installation of Delivery Location #1 is \$_____ (_____).

SCHEDULE "B" – Price Escalation Example

The following outlines the annual payment schedule escalation for anaerobic digester RNG Prices. This example is for illustrative purposes only, and assumes a flat annual CPI of 2.25%:

Year	Breakpoint (GJ)	Price Under Breakpoint (\$/GJ)	Price Above Breakpoint (\$/GJ)
2012	50,000	\$17.00	\$11.00
2013	50,000	\$17.11	\$11.07
2014	50,000	\$17.23	\$11.15
2015	50,000	\$17.35	\$11.22
2016	50,000	\$17.46	\$11.30
...			

The following outlines the annual payment schedule escalation for landfill RNG Prices. This example is for illustrative purposes only, and assumes a flat annual CPI of 2.25%:

Year	Breakpoint (GJ)	Price Under Breakpoint (\$/GJ)	Price Above Breakpoint (\$/GJ)
2012	150,000	\$13.00	\$6.00
2013	150,000	\$13.09	\$6.04
2014	150,000	\$13.18	\$6.08
2015	150,000	\$13.27	\$6.12
2016	150,000	\$13.35	\$6.16
...			

SCHEDULE "C" – Gas Specifications

Physical Properties	Symbol	Upper Content Limit	Units	Comments
Major Constituents				
Heating Value	-	36.0 to 41.3	MJ/m3	
Wobbe Index	-	47.23 to 51.16	-	
Carbon Dioxide	CO2	1.5	mol %	
Oxygen	O2	0.2	mol %	
Inerts	-	4	mol %	N, O2, CO2, plus Others
Hydrogen Sulphide	H2S	0.5	mg/m3	
Sulphur (Total)	S	7.5	mg/m3	
Mercaptans	-	6 to 8	mg/m3	
Water Content	H2O	35	mg/m3	
Hydrocarbon Dew Point	-	-10	Deg C	
Temperature of Injection Gas for Steel	-	Max 50	Deg C	
Temperature of Injection Gas for PE	-	Max 23	Deg C	
Gas Interchangeability	-	IC & YT Indexes	-	Reference CGA NGI Report 2009
Trace Constituents				
Particulates	-	Free of...	-	0.3 micron filter recommended
Biologicals & Bacteria	-	Free of...	-	0.3 micron filter recommended
Hydrogen	H2	-	-	Any injection amount requires Engineering approval
Ammonia	NH3	3	mg/m3	
Halocarbons and organochlorinated Compounds	-	10	mg/m3	Limited of 1 mg/m3 for vinyl chlorides within the 10 mg/m3
Heavy Metals	-	Mercury 0.05 Arsenic 30	Micro-g/m3	Monitor Gas Stream
Siloxanes	-	1	ppm	Detectable Limits
Volatile & Semi- Volatile Compounds	-	-	-	Monitor Gas Stream

Additional Requirements:

1. Blending of Gas is allowed in order to adjust for BTU and Wobbe numbers.
2. The blending of gas to be used as a means to reduce CO2, H2S, O2, water vapour and trace constituent levels in an RNG stream is not permitted. These constituents are to be at an acceptable level before blending.
3. Gas must be free of objectionable materials.
4. It is recommended that any one constituent not within the specifications shown in the above table will render the RNG unacceptable for injection.
5. Any deviation requires approval from Buyer's Engineering Department.

**ONTARIO PRODUCTION
GAS PURCHASE AGREEMENT**

DATED: XXXX

BETWEEN

ENBRIDGE GAS DISTRIBUTION INC.

AND

XXXXXX

ONTARIO PRODUCTION GAS PURCHASE AGREEMENT

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THIS ONTARIO PRODUCTION GAS PURCHASE AGREEMENT made XXXX

B E T W E E N:

ENBRIDGE GAS DISTRIBUTION INC

(hereinafter called “Buyer”)

OF THE FIRST PART

- and -

XXXXXX

(hereinafter called “Seller”).

OF THE SECOND PART

WHEREAS Buyer is engaged in purchasing, transporting and distributing natural gas in the Province of Ontario;

AND WHEREAS Seller is a producer of natural gas within the Province of Ontario;

AND WHEREAS Seller has agreed to sell and deliver natural gas to Buyer, and Buyer has agreed to receive and purchase natural gas from Seller as hereinafter provided;

AND WHEREAS Seller and Buyer (collectively, the “Parties”) have established or have agreed to establish natural gas Delivery Locations, as hereinafter defined, where natural gas produced from Seller’s wells shall be sold by Seller to Buyer;

AND WHEREAS subject to Regulatory Approval;

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the mutual covenants and agreements hereinafter provided, the Parties hereto each covenant and agree with the other as follows:

GENERAL TERMS AND CONDITIONS

ARTICLE 1 – DEFINITION OF TERMS

The following words and expressions where used in this Agreement mean and are respectively defined as follows. In the event that a term is used but not defined herein, it is agreed that said term shall have the meaning generally accepted by the natural gas industry.

- 1.01 “Agreement” shall mean this Ontario Production Gas Purchase Agreement and all schedules as amended from time to time.
- 1.02 “Cubic Meter” and its symbol M^3 shall mean the volume of Gas which occupies one cubic meter when such Gas is at a temperature of fifteen (15) degrees Celsius, and at a pressure of one hundred and one decimal three two five (101.325) kilopascals absolute.
- 1.03 “Day” shall mean any day, within the term or extended term of this Agreement, with a period of twenty-four (24) consecutive hours beginning at 0800 hours. The reference date for any Day shall be the calendar date upon which the twenty-four (24) hour period shall commence.
- 1.04 “Delivery Location” shall mean each of the site, as specified in Schedule “A”, Clause One (1), where a meter station is located for the purpose of receiving and measuring the volumes of Gas received from Seller hereunder.
- 1.05 “Gas” shall mean gas as defined in the *Ontario Energy Board Act, 1998*, S.O. 1998, C. 15, Schedule B.
- 1.06 “Gross Heating Value” expressed in Megajoules per Cubic Meter or “MJ/M³”, shall mean the total energy produced by the complete combustion at a constant pressure of one Cubic Meter of Gas with air, with the Gas free of water vapour and the temperature of the Gas, air and products of combustion at standard temperature and all water formed by combustion reaction condensed to the liquid state.
- 1.07 “Joule” and its symbol “J” shall mean the work done when the point of application of a force of one (1) Newton is displaced a distance of one (1) meter in the direction of the force. The term “Megajoule”, and its symbol “MJ”, shall mean on million (1,000,000) joules. The term “Gigajoule”, and its symbol “GJ”, shall mean one billion (1,000,000,000) joules.

- 1.08 “Market Demand” shall mean the varying demand for the supply of Gas, as determined by Buyer, carried in Buyer’s pipeline system for users of Gas who are supplied or delivered Gas by Buyer’s pipeline system.
- 1.09 “Maximum Daily Volume” shall mean that volume of Gas for each Delivery Location as set out in Schedule “A”, Clause Two (2).
- 1.10 “Month” shall mean the period of time beginning at 0800 hours EST on the first Day of a calendar month and ending immediately before 0800 hours EST on the first Day of the next succeeding calendar month, however, the first Month shall commence on the date of this Agreement, and the last Month shall terminate on the Day of the Month on which this Agreement expires or is terminated.
- 1.11 “Pascal” and its symbol “Pa” shall mean the pressure produced when a force of one Newton is applied to an area of one square meter. The term “kilopascal” and its symbol “kPa” shall mean one thousand (1,000) Pascal.
- 1.12 “Point of Delivery” for all Gas delivered hereunder shall mean the point at the inlet side of Buyer’s meter which is located at each Delivery Location.
- 1.13 “System Capacity” shall mean the volumetric capacity that exists from time to time within Buyer’s pipeline system which determines Buyer’s ability to accept volumes of Gas into Buyer’s pipeline system hereunder. System Capacity shall be determined by Buyer and such determination, in addition to the physical characteristics of Buyer’s pipeline system, shall also include consideration of Buyer’s local Market Demand, Buyer’s total system Market Demand, availability of Buyer’s Gas storage capacity, other Gas being purchased and delivered into Buyer’s pipeline system and Buyer’s overall Gas supply under contract.
- 1.14 “TransCanada” shall mean TransCanada Pipelines Limited.
- 1.15 “10³M³” shall mean one thousand (1,000) Cubic Meters of Gas.
- 1.16 “Prime Rate” shall mean the rate of interest expressed as a percentage per annum charged to Buyer by its principal banker from time to time and used as a reference rate for determining interest rates on Canadian dollar demand loans.

ARTICLE II – VOLUMES

- 2.01 Seller shall tender for sale to Buyer, at the Point of Delivery, on a best efforts basis, Gas produced from Seller's wells, excepting such volumes of Gas as required by Seller to operate Seller's Gas wells.
- 2.02 Buyer shall receive and purchase, on a best efforts basis, Gas tendered by Seller provided that:
- i) Buyer has sufficient System Capacity to receive the Gas offered for sale by Seller;
 - ii) the quality of such Gas meets the Terms and Conditions of this Agreement, and in particular Article X; and,
 - iii) the volume of Gas tendered at each Point of Delivery does not exceed the corresponding Maximum Daily Volumes as stated in Schedule "A", Clause Two (2) unless mutually agreed upon in writing by both Parties.
- 2.03 Buyer shall have the right, at all times, to reconstruct or modify Buyer's pipeline and the pressure carried therein, notwithstanding that such reconstruction or modification may reduce Buyer's System Capacity available to receive Seller's Gas or Seller's ability to deliver Gas to Buyer.

ARTICLE III - PRICE

- 3.01 The price to be paid by Buyer to Seller for all Gas received by Buyer under this Agreement, in a calendar Month (the "Delivery Month"), shall be determined by Buyer, and shall be calculated as outlined in Schedule "A", Clause Ten (10).
- 3.02 The Price shall be subject to any orders, rules and regulations of any body having jurisdiction over such Price, or the calculation of such Price, now or hereafter in effect during the term of this Agreement.
- 3.03 With respect to the Buyer's cost of Gas allowed by the Ontario Energy Board ("OEB"), in the event that the OEB disallows from Buyer's cost of Gas all or any part of the Price as set out herein, Buyer shall be obligated to pay only such Price as allowed in the Buyer's cost of Gas by the OEB.
- 3.04 If an event occurs or circumstances arise of any nature whatsoever (including but not limited to governmental or regulatory action), which relates to the Price which is not within the control of either Party and which is not specifically provided for herein, and the effect of which is to render a Party's further performance under

this Agreement unduly onerous, such an event or circumstance (herein referred to as “Hardship”) shall cause the Parties to take all reasonable steps to amend the pricing provision. In the event that the Parties cannot agree on the amendments, this Agreement shall terminate upon thirty (30) days written notice being provided by either Party to the other.

- 3.05 If, at any time during the term of this Agreement, the Price payable hereunder is established, prescribed or otherwise set by acts of the Federal or Provincial Parliaments or their Boards, Agencies or Commissions or other governmental authority having jurisdiction whether under present or future acts, rules or orders (hereinafter referred to as “Re-regulation”), the Parties hereto shall immediately determine the terms and conditions in this Agreement that are affected by such Re-regulation and shall take steps to amend such terms and conditions accordingly. In the event that the Parties cannot agree on the amendments this Agreement shall terminate upon thirty (30) days written notice being provided by either Party to the other.

ARTICLE IV – PAYMENT

- 4.01 Buyer shall pay to Seller, the amount of money as calculated in Article III herein (excepting set off amounts) for all Gas received during the Delivery Month, on or before the twentieth (20th) Day of each Month (the “Payment Day”) following the Delivery Month.
- 4.02 Buyer shall deduct from the monies owed by Buyer to Seller pursuant to Article 4.01, a fee (the “Operating Fee”) for Buyer to recover operating and maintenance expenses of purchasing Gas hereunder, for each Delivery Location. The Parties agree that the Operating Fee for each Delivery Location shall be the amount expressed in Schedule “A”, Clause Three (3).
- 4.03 In the event that Buyer, prior to making any payments herein provided for, receives notice in writing of any adverse claim to any money due hereunder or of the filing of any lien which might affect the rights of the Parties hereunder, Buyer shall have the right to withhold, in trust, the payment then becoming due and such other future payments as the Buyer, acting reasonably, estimates to be a sufficient reserve against such adverse claim or lien, in an interest bearing account, until the controversy has been settled and all adverse claims have been withdrawn with notice in writing or have been decided by a Court of competent jurisdiction in Ontario, or until Seller has supplied Buyer with a Letter of Credit in an amount and on conditions satisfactory to Buyer with respect to such claim or lien.
- 4.04 The Parties hereby agree that any error discovered by either Party within eighteen (18) months of the date of the error, regarding billings, invoices or

measurement of Gas shall be corrected on the Payment Day immediately following the date on which the value of the error has been determined, unless otherwise mutually agreed upon by both Parties. Neither Party shall have any claim to an error discovered beyond eighteen (18) months from the date of such error.

ARTICLE V – TERM OF AGREEMENT

This Agreement shall be effective as of the date set out on the first page and shall remain in full force and effect (subject to prior termination as herein provided) until the Expiry Time as set out in Schedule “A”, Clause Seven (7), provided that this Agreement will automatically be renewed on a Month to Month basis thereafter until terminated on or after the Expiry Time at any time by either Party upon sixty (60) days written notice to the other.

Notwithstanding Article 5.01, Buyer shall have the right to terminate this Agreement at any time after the date hereof provided that Buyer shall give Seller sixty (60) days written notice prior to such termination and in any event, at any earlier time if required by regulatory order.

ARTICLE VI – DELIVERY PRESSURE

6.01 The pressure of the Gas delivered by Seller to Buyer at each Delivery Location shall not exceed the corresponding Maximum Allowable Operating Pressure (“MAOP”) of Buyer’s pipeline distribution system as specified in Schedule “A”, Clause Eight (8), which Buyer may change from time to time. In any event the MAOP of Buyer’s pipeline shall not exceed 408 kPa (60 psi) gauge.

ARTICLE VII – INSTALLATION OF EQUIPMENT/DELIVERY LOCATION

7.01 Buyer shall provide, at the Delivery Location, according to the terms hereunder, the meter station required to receive and measure up to the Maximum Daily Volume of Gas received by Buyer from Seller. Seller agrees, if required by Buyer, to provide Buyer with detailed information regarding Seller’s Gas reserves, open flow characteristics and expected daily delivery volumes, in order to aid Buyer in Buyer’s design of the meter station.

7.02 Pursuant to Article 7.01, Buyer shall purchase, install and maintain, on the Delivery Locations:

- a) a meter and any associated recording gauges as are determined necessary by Buyer, in accordance with Article 9.01 herein, and;

- b) a suitable Gas odourizing injection facility where Buyer deems such facility to be necessary;
- 7.03 All equipment installed by Buyer at the Delivery Location shall remain the property of Buyer. Buyer shall be entitled to remove said equipment at any time within a period of sixty (60) days from any termination or expiry of this Agreement. Seller shall take all necessary steps to ensure Buyer may enter onto the Delivery Location to remove such equipment for a period of sixty (60) days after termination or expiry of the Agreement.
- 7.04 Upon Buyer's request Seller shall, at Seller's own cost and expense:
- a) obtain a registered lease or freehold ownership of each Delivery Location sufficient to provide the Buyer with free uninterrupted access to, from, under and above the Delivery Location and the right to construct, maintain, replace and remove Buyer's equipment, for a term (and extended terms) identical to this Agreement, plus sixty (60) days renewal periods and shall provide Buyer with a bona fide copy of such lease agreement prior to Buyer commencing the construction of the meter station;
 - b) deliver Gas to Buyer on a best efforts basis, at each Delivery Location according to the terms set out herein;
 - c) furnish, install and set suitable pressure and volume control equipment and such additional equipment as required on Seller's delivery system, to protect against the over-pressuring of Buyer's facilities, as set out in Article 6.01, and to limit the daily flow of Gas to the corresponding Maximum Daily Volumes as set out in Clause Two (2) of Schedule "A" herein;
 - d) supply, install and maintain a gravel or cut stone covering on each Delivery Location as required by Buyer acting reasonably, and Seller shall maintain such Delivery Location in a safe and workmanlike manner;
 - e) install and maintain a fence and protection barrier satisfactory to Buyer around the perimeter of each Delivery Location which will adequately secure and protect Buyer's equipment therein.
- 7.05 Seller agrees that, when a meter station must be constructed and/or installed in order to give effect to this Agreement, Seller shall pay Buyer for a portion of Buyer's actual cost, as hereinafter defined, for constructing and installing such station. Seller also agrees to pay the actual costs to connect such meter station to Buyer's pipeline. Seller's financial contribution for the actual costs related to

the construction, installation and connecting of such station, shall be herein referred to as the "Capital Contribution Agreement". Buyer shall advise Seller as to the need for a meter station and shall provide Seller with an estimate of the Capital Contribution Agreement. Such Capital Contribution Agreement shall include the actual costs of all pipe, fittings and materials, third party labour costs and Buyer's direct labour, labour saving devices, vehicles and mobile equipment, and shall include the purchase costs of Gas pressure control equipment, Gas meters, and odorant tank should one be required. The Capital Contribution Agreement shall form part of this agreement and is attached hereto in Schedule "C".

- 7.06 Further to 7.05, Seller shall pay to Buyer the total amount defined in Schedule C, "(\$XXXX) XXXXXX" (the "Capital Contribution Agreement") within ten (10) days of the delivery of an invoice from Buyer on which the actual costs for construction and installation of facilities are stated. In the event Seller terminates this Agreement, prior to completion, Seller shall pay to the Buyer, all (\$XXXX) XXXXXX" incurred costs, as setout herein, relative to the construction, installation or connection of the meter station and pipeline, prior to being notified by Seller of Seller's intention to terminate the Agreement.
- 7.07 Seller shall within thirty (30) days of the delivery of an invoice by Buyer, reimburse Buyer for any actual costs incurred by Buyer for any repair replacement, relocation, or upgrading of any meter station, requested by Seller or as required by law, duly constituted regulatory body, or through good engineering practice.

ARTICLE VIII – TITLE AND RISK TRANSFER

- 8.01 Title, possession, custody and control of all Gas shall pass from Seller to Buyer at the Point of Delivery. Buyer shall have no responsibility with respect to any Gas deliverable hereunder until it is delivered to Buyer at the Point of Delivery and subject to Article 8.02, Seller shall have no responsibility with respect to such Gas after its delivery to Buyer at the Point of Delivery provided it meets the terms of this Agreement.
- 8.02 Seller shall be liable for any and all damages suffered by Buyer and shall protect and indemnify and save Buyer harmless from and against any and all loss, claims and damages including claims against Buyer for personal injuries and damages to property, caused by or arising out of delivery of Gas; the quality or condition of which does not conform to the specifications herein contained, or by the delivery of Gas in a manner not in accordance with the terms of this Agreement, or any other breach of this Agreement by the Seller except for any damages resulting from or in any way attributable to Buyer's negligence or failure

to act reasonably. Buyer agrees to use reasonable efforts to mitigate all damages, expenses and costs.

- 8.03 The Seller has insurance policies in full force and effect which provide coverages which are usual and customary in the business of the Seller as to amount and scope, and are adequate to protect the Seller against any reasonably foreseeable risk of loss.

ARTICLE IX – MEASUREMENT

- 9.01 All Gas received and purchased from Seller by Buyer hereunder, shall be measured by a positive displacement, turbine or orifice type meter in accordance with Electricity and Gas Inspection Regulations, pursuant to the *Electricity and Gas Inspection Act* R.S.C. 1985, c.E4 and any modifications and amendments thereof, and such meter shall be installed and operated in accordance with the aforementioned Regulations. Buyer's meter shall be equipped with pressure and temperature compensating, integrating or recording instrumentation so that proper correction of measured volumes for Charles Law, Boyle's Law and Deviation from Boyle's Law can be made. This instrumentation shall be installed and operated in accordance with the aforementioned Electricity and Gas Inspection Act and Regulations.
- 9.02 For the purpose of determining volume hereunder, the unit of volume shall be one (1) Cubic Meter of Gas. The average absolute atmospheric pressure, for the purpose of measurement, shall be assumed to be a constant pressure of ninety-nine decimal two eight five (99.285) kPa, or shall be determined according to methods laid down in the Electricity and Gas Inspection Regulations. The uncorrected volume determined from the metering equipment shall be corrected according to Charles Law, Boyle's Law and deviation from Boyle's Law. The factor for correction for deviation from Boyle's Law shall be determined and applied in accordance either with the method laid down in the American Gas Association's "Manual for Determination of Super compressibility Factors for Natural Gas" (PAR Project NX-19) published in 1962 or with methods laid down in the American Gas Association's "Transmission Measurement Committee Report No. 8" at the discretion of Buyer. Buyer shall notify Seller of the specific method to be used. When the Gas is measured by means other than an orifice meter, the factor for correction for deviation from Boyle's Law shall be the square of the factor determined by following one of the methods above.
- 9.03 Buyer shall at all times, maintain and keep in proper working order all Buyer's metering and associated measurement equipment. Buyer's measurement instrumentation will be calibrated at least once each year by Buyer, and if found to be registering inaccurately, shall be adjusted at once to read as accurately as possible.

- 9.04 In the event either Party to this Agreement shall notify the other that it desires extra tests of any of Buyer's measuring equipment, in addition to the annual test completed by Buyer, the Parties shall co-operate to secure a prompt verification of the accuracy of such equipment. The expense of any such test, if requested by the Seller, shall be borne by Seller where two percent (2%) or less than 2% error is found in the volume measured by the measuring equipment being tested.
- 9.05 If the test conducted in accordance with Article 9.05 shows a percentage of inaccuracy greater than two percent (2%), the financial adjustment, if any, shall be calculated in accordance with the Electricity and Gas Inspection Act Regulations there under; as may be amended from time to time and in accordance with any successor statutes and regulations.
- 9.06 Buyer shall obtain meter readings and where required, change any chart thereon, and Seller may, if it so wishes, have a representative present at such reading.
- 9.07 The records from the measuring equipment of both Buyer and Seller shall remain the property of the owner of such equipment and each Party, upon reasonable request, will submit to the other, copies of its records, together with any calculations there from and make the records available for review.
- 9.08 Each Party shall preserve for a period of at least eighteen (18) months all test data, charts and other similar records.
- 9.09 Seller shall provide a phone line and 110v power supply for the Electronic Meter.

ARTICLE X – QUALITY

- 10.01 All Gas delivered hereunder shall have a Gross Heating Value of at least thirty-six (36.0) MJ/M³ and not more than forty decimal two (40.2) MJ/M³.
- 10.02 The Gas shall be merchantable and commercially free from sand, dust, gums, crude oils, lubricating oils, liquids, chemicals or compounds used in the production, treatment, compression or dehydration of the Gas or any other objectionable substance present in sufficient quantity so as to render the Gas toxic, unmerchantable or cause injury to or interference with the Gas pipelines, regulators, meters or other appliances through which it flows, or their operation.
- 10.03 The Gas shall not contain more than seven (7) milligrams of hydrogen sulphide (H₂S) and not more than one hundred (100) milligrams of total sulphur (S) per Cubic Meter.

- 10.04 Subject to the terms of Schedule "A", Clause Nine (9), the Gas shall not contain more water vapour than an amount equivalent to 5lbs of water per 1,000,000 cubic feet (2.272 kg of water per 28,238 cubic meters) of Gas and water shall not be present in liquid phase.
- 10.05 The Gas shall not contain more than five milligrams per cubic meter (5 mg/M³) of mercaptan sulphurs.
- 10.06 The Gas shall not contain liquid hydrocarbons or hydrocarbons liquefiable at temperatures warmer than minus ten degrees Celsius (-10°C) and a pressure of five thousand five hundred Kilopascals (5500 kPa) absolute.
- 10.07 The Gas shall not contain carbon dioxide (CO₂) in excess of two mole percent (2%) and shall be as free from oxygen (O₂) as possible, but shall not in any event contain more than four-tenths of one mole percent (0.4%) by volume of oxygen.
- 10.08 The temperature of the Gas shall not exceed forty-three degrees Celsius (43°C).
- 10.09 The Gas shall contain less than five tenths of one mole percent (0.5%) by volume of carbon monoxide (CO).
- 10.10 The Gas shall not contain more than a trace amount of hydrogen (H₂).
- 10.11 The Gas shall be interchangeable with Buyer's pipeline Gas with which it co-mingles. Yellow tipping, flashback and lifting factors of appliances using Seller's Gas shall be in the range permitted for Gas according to AGA Research Bulletin No. 36.
- 10.12 The Gas shall not be odorized by Seller.
- 10.13 Seller shall subject any Gas delivered hereunder to compression, cooling, cleaning or other processes to such an extent as may be required to obtain the necessary quality and for transmission to the Delivery Point, provided the quality of the Gas continues to comply with the specifications set out in this Agreement.
- 10.14 Seller may extract hydrocarbon and non-hydrocarbon constituents, other than methane except as required in the processing or compression of the Gas, prior to delivery hereunder, and shall have the right to remove such methane as is removed by necessity from the Gas in removing other constituents, provided that Seller in such processing shall not reduce the Gross Heating Value below that which is stated in Article 10.01 herein and provided that such extraction will not cause a breach of the quality specifications set forth in this Article X.

- 10.15 In the event that the quality of the Gas does not conform or if Buyer, acting reasonably, suspects the quality of the Gas may not conform to the specifications herein, then Seller shall, if so directed by Buyer acting reasonably, forthwith carry out, at Seller's costs, whatever field testing of the Gas quality as may be required to ensure that the quality requirements set out herein are met, and to provide Buyer with a certified copy of such tests. If Seller does not carry out such tests forthwith, Buyer may conduct such tests and Seller shall reimburse Buyer for all costs incurred by Buyer for such testing.
- 10.16 If the Seller's Gas fails at any time to conform to the requirements of this Article X, Buyer, in addition to its other remedies, may refuse to accept delivery of Gas hereunder until such deficiency has been remedied by Seller. Each Party agrees to notify the other verbally, followed by written notification, of any such deficiency of quality.

ARTICLE XI – FORCE MAJEURE

- 11.01 Notwithstanding anything herein contained, it is agreed that neither Party shall be deemed to be in default in respect of any of the Terms and Conditions of this Agreement if and so long as such default is occasioned by force majeure, which term as used herein shall mean, acts of God, or of the Queen's enemies, strikes, lockouts, labour troubles, earthquakes, fire revolution, wars, riots, epidemics, insurrections, explosions, breakage or accidents to machinery or pipelines, the necessity for making repairs to or alterations of machinery or lines of pipe, inability to obtain materials, interference of any civil or military authority of any government, state or municipality whatsoever, or any other cause whether of the kind herein enumerated or otherwise not within the reasonable control of the Party claiming relief hereunder and which by the exercise of due diligence such Party is unable to prevent or overcome. Such causes or circumstances affecting the performance of this Agreement by either Party, however, shall not relieve it of liability in the event of its negligence or in the event of its failure to use due diligence to remedy the situation and remove the cause or circumstances in an adequate manner and with all situation and remove the cause or circumstances in an adequate manner and with all reasonable dispatch. Such causes or circumstances affecting the performance of this Agreement shall not relieve either Party from its obligations to make payments of amounts then due hereunder.
- 11.02 Neither Party shall be entitled to the benefit of the provisions of Article 11.01 under any or all of the following circumstances:
- a) to the extent that the failure was caused by the contributory negligence of the Party claiming suspension;

- b) to the extent that the failure was caused by the Party claiming suspension having failed to remedy the condition and remove the cause or circumstances in an adequate manner, and to resume the performance of such covenants or obligations, with all reasonable dispatch;
 - c) if the failure was caused by lack of money or was related to the payment of any amount or amounts then due hereunder; or.
 - d) unless as soon as possible after the happening of the occurrence relied upon or as soon as possible after determining that the occurrence was in the nature of force majeure and would affect the claiming Party's ability to observe or perform any of its covenants or obligations under this Agreement; the Party claiming suspension shall have given to the other Party notice to the effect that such Party is unable by reason of force majeure (the nature whereof shall be therein specified) to perform the particular covenants or obligations.
- 11.03 The Party claiming suspension shall give notice to the other Party as soon as possible after the force majeure condition has been remedied, to the effect that the same has been remedied and that such Party has resumed, or is then in a position to resume, the performance of the suspended covenants or obligations under this Agreement.
- 11.04 It is understood and agreed that the settlement of strikes and lockouts shall be entirely within the discretion of the Party whose labour force is on strike, and that the above requirement, that any force majeure shall be remedied with all reasonable dispatch, shall not require the settlement of strikes or lockouts by acceding the demands of any opposing person when such course is inadvisable in the discretion of the Party whose labour force is on strike.

ARTICLE XII – GOOD TITLE

- 12.01 Seller warrants that it will at the time of delivery of the Gas to Buyer, (a) possess a license to produce Gas in the Province of Ontario, (b) have good and valid title to all Gas delivered by it under this Agreement, free and clear of all liens, encumbrances and claims whatsoever, and (c) have complete rights to sell Seller's Gas as aforesaid. Seller will indemnify Buyer and save Buyer harmless from all suits, actions, debts, accounts, damages, costs, losses and expenses arising from or out of adverse claims of any and all persons to said Gas or to royalties, taxes, license fees or any charges thereon, which are applicable before the title to the Gas passes to Buyer.
- 12.02 Seller agrees to use reasonable efforts and due diligence to maintain, in good standing, each lease it has to the extent that such lease relates to this

Agreement. Subject to Clause 12.01, the Seller shall have the right to encumber such lease and its production facilities for the purpose of financing Seller's operations on said lease.

ARTICLE XIII – USE OF COMPRESSOR

13.01 In the event that mechanical equipment is used to compress Gas in order to aid in its delivery, Seller agrees that at no time during the term hereof shall the suction pressure at the intake of said mechanical equipment be less than thirteen decimal eight (13.8) kPa gauge. Seller further agrees that the location of said mechanical equipment shall be such that, in Buyer's opinion, measurement at the meter station shall not be adversely affected.

ARTICLE XIV – PLANNED SHUT-DOWN/START-UP

14.01 Excepting instances of emergency, Seller and Buyer agree to give at least twenty-four (24) hours verbal notice before a planned curtailment of receipt or delivery, shut-down or start-up.

ARTICLE XV – ACCESS TO SELLER'S WELLS

15.01 Seller shall provide to Buyer a plan showing Seller's Gas production facilities, including Gas wells and pipelines, on which all emergency shut off valves have been clearly indicated as well as the names and telephone numbers of those persons whom Buyer may contact in the event of an emergency situation arising at the Delivery Location.

15.02 In the event that Buyer is notified by a third party or if Buyer becomes aware of an emergency situation in which Seller's Gas well, pipeline or associated equipment is involved, Buyer shall immediately notify Seller or Seller's representative of such emergency condition, in accordance with Clause 17.03. Even though Buyer is not obligated to take any action to rectify the emergency, if Buyer undertakes any such action, Seller agrees, upon presentation of an itemized account by Buyer, to pay Buyer for all reasonable costs incurred by Buyer in rectifying such emergency.

ARTICLE XVI – BREACH OF CONTRACT

16.01 Excepting circumstances of force majeure, in the event that either Party is in breach of any material term or condition of this Agreement, the other Party may give written notice to the Party in breach requiring it to remedy such breach. If the Party in breach fails to remedy the breach within thirty (30) days of receipt of

such notice, the other Party may, at its sole option, under seven (7) days written notice to the Party in breach, terminate this Agreement. Termination pursuant to this Article 16.01 shall not affect any liabilities accrued to the date of termination or thereafter and the right of termination shall be in addition to any other right or remedy available at law.

- 16.02 No waiver by or on behalf of either Party hereto of any breach of any covenant, proviso, condition, restriction or stipulation herein contained, negative or positive in form, shall take effect or be binding upon such Party, unless the same be expressed in writing by such Party or its duly authorized agent on its behalf, and any waiver so expressed shall not limit or affect such Party's rights with respect to any other or similar future breach.

ARTICLE XVII – MISCELLANEOUS

- 17.01 All operations hereunder of both Parties to this Agreement shall be subject to any applicable laws, taxes, orders, rules and regulations of any governmental authority having jurisdiction therein, now or hereafter in effect during the term of this Agreement.
- 17.02 The terms and conditions of this Agreement express and constitute the entire Agreement between the Parties, and no implied covenant or liability of any kind is created or shall arise by reason of these presents or anything herein contained. No modification of the terms and conditions of this Agreement or any of them shall be made except by contract in writing executed by the Parties hereto.
- 17.03 All written notices required to be given hereunder may be delivered by hand, registered mail, overnight courier or electronically delivered by fax (telecopier), addressed to Seller at the address specified in Schedule "A", Clause Five (5), and to Buyer at:

Enbridge Gas Distribution Inc. and
 3000 Fifth Avenue Place
 425 1st Street S.W.
 Calgary Alberta – T2P 3L8
 Attention: Contracts Administration
 Telephone: 403-663-6639
 Fax: 403-231-7390

Enbridge Gas Distribution Inc.
 500 Consumers Road
 North York, Ontario
 M2J 1P8
 Attention: Gas Supply & Policy
 Telephone: 416-495-5255
 Fax: 416-495-5657

or to such other address as Seller or Buyer may from time to time designate by notice in writing one to the other. Notice shall be deemed to be received when the records of the mode of communication verifies the receipt of such notice.

Emergency notices shall be delivered to Seller's Resident Operator as set out in Schedule "A" Clause Six (6).

- 17.04 All monies payable by Buyer for Gas received hereunder shall be made to the address so stated under Schedule "A", Clause Four (4) of this Agreement or to such other address as may be authorized in writing from time to time by notice from the Seller to the Buyer. Buyer shall pay only one payee unless a division thereof is consented to by Buyer and Seller.
- 17.05 This Agreement shall extend to and be binding upon the Parties hereto and each of them, their respective heirs, executors, administrators, successors and assigns, provided that this Agreement shall not be assigned by Seller, without the express written consent of Buyer, which shall not be unreasonably withheld, provided that the Seller shall have the right to include its interest in this Agreement in any mortgage, charge or hypothec for the purpose of financing its Gas producing operations.
- 17.06 In this Agreement, wherever the singular or neuter is used, it shall be construed as if the plural or the masculine or the feminine, as the case may be, had been used, where the context of the Party or Parties hereto so require, and the rest of the sentence shall be construed as if the grammatical or terminological changes thereby rendered necessary had been made.
- 17.07 This Agreement and the rights and obligations of the Parties hereunder are subject to all applicable present and future laws, rules, regulations and orders of any Ontario legislative body or duly constituted Ontario authority now or hereafter having jurisdiction. The Parties agree that this Agreement will be governed exclusively by the laws of Ontario and the Parties exclusively attorn to the courts of Ontario.
- 17.08 If the standard of measurement, applicable to the transaction contemplated herein, is changed by law to another system, all measurements provided for herein shall be interpreted as referring to the applicable equivalent measurement.
- 17.09 The Parties hereto agree that this Agreement shall supersede and replace all prior Ontario Production Gas Purchase Agreements and amendments thereof between the Parties and that all prior Ontario Production Gas Purchase Agreements between the Parties and all amendments thereto have been cancelled.
- 17.10 Each of the Parties shall perform all further acts reasonably required in order to fulfill and carry out the terms of this Agreement.

17.11 Buyer shall have the right to set off against any payments it owes to Seller, any amount of money Seller owes to Buyer.

17.12 The Schedules listed in this Article 17.12 and attached hereto form part of this Agreement as if found in the body of the Agreement;

- Schedule "A" – Special Terms and Conditions
- Schedule "B" – Price Calculation Example
- Schedule "C" – Capital Contribution Agreement

IN WITNESS WHEREOF the Parties hereto have hereunto affixed their corporate seals, as attested by the hands of their proper officials duly authorized in the behalf, as of the day and year first above written.

XXXXXXXXXXXXXXXXXXXX

ENBRIDGE GAS DISTRIBUTION INC.

SCHEDULE “A” – SPECIAL TERMS AND CONDITIONS

To the Ontario Production Gas Purchase Agreement (the “Agreement”) dated XXXX, between XXXXXX (“Seller”) and Enbridge Gas Distribution Inc. (“Buyer”).

1. Delivery Location

As provided for in Clause 8.01 of the Agreement Seller shall convey the Gas to be purchased at the Point of Delivery located on the Delivery Location as follows:

Delivery Location #1

2. Maximum Daily Volume

Seller agrees to limit the volume of Gas delivered in any one Day at the Delivery Location as hereinafter stated:

Delivery Location #1 shall have a Maximum Daily Delivery of $2 \times 10^3 \text{M}^3$ of Gas.

In the event the Seller exceeds its cumulative Maximum Daily Delivery volumes, Buyer may, at Buyer’s option, suspend receipts of Gas until Buyer’s receipts of Gas matches the cumulative Maximum Daily Delivery volumes.

3. Operating Fee

Seller shall pay to Buyer a monthly operating fee in the amount of \$90 per Delivery Location. In addition, Seller agrees, upon presentation of an itemized account by the Buyer to pay Buyer amounts calculated on a “Time and Material Basis”, for all costs including but not limited to labor, maintenance, repairs, parts, materials, as such is required to maintain, repair, upgrade, operate, inspect, the metering station and controls, delivery location, which may or may not be the property of the Buyer as is deemed required by the Buyer for maintenance of the delivery location or for the protection of the Buyers distribution system.

4. Payments

Payments to Seller for Gas received by Buyer, as provided for in Article IV – Payments, and Article 17.04 of the Agreement shall be made by cheque payable to:

Address of Seller for Payments

5. Agreement Notices

Notices to Seller with respect to this Agreement, as provided for in Clause 17.03 of the Agreement shall be addressed to Seller at:

Address of Seller

6. **Seller's Resident Operator**

Seller shall notify Buyer of any changes to Seller's resident operator within forty-eight (48) hours of any such change taking place.

7. **Term of the Agreement**

This Agreement shall be in force and effective from XXXX to XXXX ("Expiry Time") or as otherwise provided in Article 5.02 of the Agreement.

8. **Maximum Allowable Operating Pressure (MAOP)**

Seller's MAOP at each Delivery Location shall be as follows:

At Delivery Location #1 MAOP is 275.8 kPa (40 PSI)
or otherwise agreed.

9. **Modified Water Vapour Requirement**

Subject to the terms herein, Buyer will accept, at each Delivery Location, Gas from Seller which contains a maximum water vapour content of 5lbs per MMCF (2.2 kg / 28,328m³) provided that Buyer's pipeline system into which the Seller's Gas is delivered has a maximum operating pressure rating of 1896 kPa (275 psig) or less. Both parties agree that should Buyer at any time experience malfunctioning of or deterioration of the measurement equipment, Gas control equipment, or other appurtenance, in Buyer's pipeline system or should Buyer's customers experience problems with the combustion or usage of Gas in their Gas burning equipment due to excessive moisture content, Buyer at its sole discretion may reduce the maximum water vapour requirement to that which is specified in Clause 10.04, /article X, Quality of the Agreement. In the event Buyer reduces the maximum water vapour requirement to that which is specified in Clause 10.04, Buyer shall continue to purchase Seller's Gas at 5 lbs / MMCF (2.2 kg / 28,328 m³) for ninety (90) days after such notice. Upon the termination of such ninety (90) days Seller's Gas must meet Clause 10.4 requirements.

10. **Price**

The price expressed in Canadian dollars (\$) per GJ is the "Niagara Index Price" which is a price calculated (example attached as Schedule "B") using the monthly Niagara index for the Delivery Month as reported in **the Canadian Gas Price Reporter Canadian and U.S. Spot Gas Price differentials** (where Niagara row and column meet on the chart) less \$.24/GJ (Buyer's balancing and transportation charge). The Price is applied by multiplying it by the product of a) the Delivery Month volume in 10³M³ and b) the Heat Value of 39.00 MJ/M³ which is a volume weighted average of all of Buyer's Ontario Gas producers as calculated on October 2, 2000 or such other Heat Value calculated on another date as determined by Buyer.

SCHEDULE “B” – PRICE CALCULATION EXAMPLE

To the Ontario Production Gas Purchase Agreement (the “Agreement”) dated XXXX, between XXXXXX (“Seller”) and Enbridge Gas Distribution Inc. (“Buyer”).

The following is an illustration of calculating the Niagara Indexed Price as reported for the month of May 2001. This example is for illustration purposes only, since May 2001 does not fall within the term of this Agreement.

May 2001 Niagara Index per Canadian Gas Price Reporter where The Niagara row and column meet on the chart	\$7.542
Less Buyer’s balancing and transportation charge	<u>(.240)</u>
Net price payable (Canadian \$ per GJ) for May 2001 deliveries	<u>\$7.302</u>

Note: This equates to approximately \$284.78 per 103M3 or \$8.067 per MCF.
 To convert \$/GJ to \$/103m3 multiply by 39.00 (Heat Value*)
 To convert \$/103m3 to \$/MCF divide by 35.30096

* Heat value of 39.0 MJ/M3 (or about 1029 Btu/Cu. Ft.) is a volume weighted average of all of Buyer’s Ontario Gas producers (within the maximum allowed heat value) as calculated on October 2, 2004.

Schedule “C” - Capital Contribution Agreement

To the Ontario Production Gas Purchase Agreement (the “Agreement”) dated XXXX, between XXXXXX (“Seller”) and Enbridge Gas Distribution Inc. (“Buyer”).

**ONTARIO RENEWABLE NATURAL GAS (LANDFILL) (BIOMASS)
PURCHASE AGREEMENT**

DATED:

_____ **20XX**

BETWEEN

AND

UNION GAS LIMITED

THIS RENEWABLE NATURAL GAS (LANDFILL)(BIOMASS) PURCHASE AGREEMENT made as of the first day of _____, 20XX.

BETWEEN:

_____, a body corporate, incorporated under the laws of the Province of Ontario, having an office in the City of _____, in the Province of Ontario, (hereinafter called "Seller")

- and -

UNION GAS LIMITED, a body corporate, having a registered office at the City of Chatham, in the Municipality of Chatham-Kent, Province of Ontario, hereinafter called "Buyer")

WHEREAS Buyer is engaged in purchasing, transporting, storing and distributing natural gas and renewable natural gas in the Province of Ontario;

AND WHEREAS Seller is a producer of renewable natural gas within the Province of Ontario;

AND WHEREAS Seller has agreed to sell and deliver gas to Buyer, and Buyer has agreed to receive and purchase gas from Seller as hereinafter provided;

AND WHEREAS Seller and Buyer have established or have agreed to establish gas Delivery Locations, as hereinafter defined, where gas produced from Seller's production facilities shall be sold by Seller to Buyer.

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the mutual covenants and agreements hereinafter provided, the Parties hereto each covenant and agree with the other as follows:

GENERAL TERMS AND CONDITIONS

Article I - Definition of Terms

Except where the context expressly requires or states another meaning, the following terms, when used in this Agreement and in any contract into which this Agreement is incorporated, shall be construed to have the following meanings:

- 1.01 "Agreement" shall mean this Renewable Natural Gas (Landfill)(BioMass) Purchase Agreement and all schedules, (which are hereby incorporated into this agreement) as amended from time to time;
- 1.02 "Aid to Construction" shall include any and all costs, expenses, amounts, damages, obligations, or other liabilities (whether of a capital or operating nature, and whether incurred before or after the date of the Agreement) paid or payable by Buyer (including amounts paid or payable to affiliates for services rendered in accordance with the Affiliate Relationships Code as established by the OEB) in connection with or in respect

of satisfying the conditions precedent set out in Article XVIII herein (including without limitation the cost of construction, installation and connection of any required meter station as described in Article VII, Section 5, the obtaining of all governmental, regulatory and other third party approvals, and the obtaining of rights of way) whether resulting from Buyer's negligence or not, except for any costs that have arisen from the gross negligence, fraud, or wilful misconduct of Buyer;

- 1.03 "Breakpoint" shall mean that quantity of gas in any Contract Year which, when received by Buyer, will result in a change in Price for any subsequent quantities received as more fully laid out in Schedules "A" and "B" hereof.
- 1.04 "Contract Year" shall have the meaning defined in Union's C1 Rate Schedule, General Terms & Conditions.
- 1.05 "cricondenthem hydrocarbon dewpoint" shall mean the highest hydrocarbon dewpoint temperature on the phase envelope;
- 1.06 "cubic metre" shall mean the volume of gas which occupies one cubic metre when such gas is at a temperature of 15 degrees Celsius, and at a pressure of 101.325 kilopascals absolute;
- 1.07 "Day" shall mean a period of twenty-four (24) consecutive hours beginning at 10:00 a.m. Eastern Clock Time. The reference date for any Day shall be the calendar date upon which the twenty-four (24) hour period shall commence;
- 1.08 "Delivery Location" shall mean each of the sites, as specified in Schedule "A", Article 1, where a meter station is located for the purpose of receiving and measuring the volumes of gas received from Seller hereunder;
- 1.09 "Distribution Demand" shall mean the varying demand for the supply of natural gas and renewable natural gas, as determined by Buyer, on Buyer's pipeline and distribution system for users of natural gas and renewable natural gas who are supplied or delivered natural gas and renewable natural gas by Buyer's pipeline and distribution system;
- 1.10 "Environmental Attributes" shall mean the interest or rights arising out of attributes or characteristics relating to the environmental impacts associated with the gas produced by Seller and purchased by Buyer, now or in the future, and the right to quantify and register these with competent authorities, including:
 - (a) all right, title, interest and benefit in and to any renewable energy certificate, credit, reduction right, offset, allocated pollution right, emission reduction allowance or other proprietary or contractual right, whether or not tradable;
 - (b) rights to any fungible or non-fungible attributes or entitlements relating to environmental impacts;
 - (c) any and all rights, title and interest relating to the nature of an energy sources as may be defined and awarded through laws and regulations or voluntary programs; and

- (d) all revenues, entitlements, benefits, and other proceeds arising from or related to the foregoing which may be available in connection with the Seller's facilities.
- 1.11 "gas" shall mean renewable natural gas as defined herein.
- 1.12 "gross heating value" shall mean the total heat expressed in megajoules per cubic metre (MJ/m³) produced by the complete combustion at constant pressure of one (1) cubic metre of gas with air, with the gas free of water vapour and the temperature of the gas, air and products of combustion at standard temperature and all water formed by the combustion reaction condensed to the liquid state;
- 1.13 "hydrocarbon dewpoint" shall mean temperature at a specific pressure where hydrocarbon vapour condensation begins;
- 1.14 "Interconnecting Pipeline" shall mean a pipeline that directly connects to Buyer's pipeline and distribution system;
- 1.15 "joule" (J) shall mean the work done when the point of application of a force of one (1) newton is displaced a distance of one (1) metre in the direction of the force. The term "megajoule" (MJ) shall mean 1,000,000 joules. The term "gigajoule" (GJ) shall mean 1,000,000,000 joules;
- 1.16 "m³" shall mean cubic metre of gas and "10³m³" shall mean 1,000 cubic metres of gas;
- 1.17 "MAOP" shall mean the maximum allowable operating pressure of Buyer's pipeline and distribution system and as further defined in Schedule 1 of the Agreement;
- 1.18 "Maximum Annual Volume" shall mean that volume of gas for each Delivery Location as set out in Schedule "A", Article 2;
- 1.19 "Maximum Daily Volume" shall mean that volume of gas for each Delivery Location as set out in Schedule "A", Article 2;
- 1.20 "Month" shall mean the period beginning at 10:00 a.m. Eastern Clock Time on the first day of a calendar month and ending at 10:00 a.m. Eastern Clock Time on the first day of the following calendar month;
- 1.21 "natural gas" shall have the meaning given that term in the Ontario Energy Board Act, 1998, S.O. 1998, c. 15, Sch.B.
- 1.22 "OEB" means the Ontario Energy Board;
- 1.23 "pascal" "(Pa)" shall mean the pressure produced when a force of one (1) newton is applied to an area of one (1) square metre. The term "kilopascal" "(kPa)" shall mean 1,000 pascals;
- 1.24 "Point of Delivery" for all gas delivered hereunder shall mean the point at the inlet side of Buyer's meter which is located at each Delivery Location;

- 1.25 "Prime Rate" shall mean the rate of interest expressed as a percentage per annum charged to Buyer by its principal banker from time to time and used as a reference rate for determining interest rates on Canadian dollar demand loans;
- 1.26 "production facilities" shall mean any facility producing gas meeting the quality standards required in this Agreement; and
- 1.27 "renewable natural gas" shall mean a primarily methane-based product produced by Seller which includes:
- (i) landfill gas created from organic decomposition at a landfill site; and
 - (ii) biogas created from an anaerobic digester,
- which in either case has been processed to meet the minimum quality standards of natural gas such that it is interchangeable with natural gas.
- 1.28 "specific gravity" shall mean density of the gas divided by density of air, with both at a temperature of 15 degrees Celsius, and at a pressure of 101.325 kilopascals absolute;
- 1.29 "System Capacity" shall mean the volumetric capacity that exists from time to time within Buyer's pipeline and distribution system which determines Buyer's ability to accept volumes of natural gas and renewable natural gas into Buyer's pipeline and distribution system hereunder. System Capacity shall be determined by Buyer and such determination, in addition to the physical characteristics of Buyer's pipeline and distribution system Distribution Demand, shall also include consideration of Buyer's local Distribution Demand, Buyer's total system Distribution Demand, availability of Buyer's natural gas and renewable natural gas storage capacity, and other natural gas and renewable natural gas being purchased and/or delivered into Buyer's pipeline and distribution system;
- 1.30 "Taxes" shall mean any tax (other than tax on income or tax on property), duty, royalty, levy, license, fee or charge not included in the charges and rates as per the applicable rate schedule (including but not limited to charges under any form of cap and trade, carbon tax, or similar system) and that is levied, assessed or made by any governmental authority on the gas itself, or the act, right, or privilege of producing, severing, gathering, storing, transporting, handling, selling or delivering gas under the Agreement;
- 1.31 "Wobbe Number" shall mean gross heating value of the gas divided by the square root of its specific gravity.

Article II - Volumes

- 2.01 Seller shall tender for sale to Buyer, at the Point of Delivery, on a reasonable efforts basis (such receipt and purchase to also be known as "Services", gas produced from Seller's production facilities, excepting such volumes of gas as required by Seller to operate Seller's gas production facilities.
- 2.02 Buyer shall receive and purchase, on a reasonable efforts basis, gas tendered by Seller provided that:

- (i) Buyer has sufficient System Capacity to receive and sell the gas offered for sale by Seller;
 - (ii) the quality of such gas meets the Terms and Conditions of this Agreement, and in particular Article X; and,
 - (iii) the volume of gas tendered at each Point of Delivery for any day does not exceed the corresponding Maximum Daily Volumes as stated in Schedule "A", Article 2 unless mutually agreed upon in writing by both Parties.
- 2.03 Buyer shall have the right, at all times, to reconstruct or modify Buyer's pipeline and distribution system and the pressure carried therein, notwithstanding that such reconstruction or modification may reduce the System Capacity available to receive Seller's gas, or Seller's ability to deliver gas to Buyer. Should Buyer expect any such reconstruction or modification to reduce the delivery or receipt of gas by either party, Buyer will, where able, provide Seller with six (6) months' notice or as much notice as is reasonably practical in the circumstances. Buyer shall use reasonable efforts to assist the Seller in meeting its Market Quantity in these circumstances.

Article III - Price

- 3.01 The "Price" to be paid by Buyer to Seller for all gas received by Buyer under this Agreement, in a calendar Month (the "Delivery Month"), shall be determined by Buyer, and shall be calculated as outlined in Schedule "A", Article 9.
- 3.02 The Price paid shall be subject to any orders, rules and regulations of any entity having jurisdiction over such Price, or the calculation of such Price, now or hereafter in effect during the term of this Agreement.
- 3.03 With respect to the Buyers' cost of gas allowed by the Ontario Energy Board ("OEB"), in the event that the OEB disallows from Buyers' cost of gas all or any part of the Price as set out herein, Buyer shall be obligated to pay only such Price as allowed in the Buyer's cost of gas by the OEB.
- 3.04 If an event occurs or circumstances arise of any nature whatsoever (including but not limited to governmental or regulatory action), which relates to the Price which is not within the control of either Party and which is not specifically provided for herein, and the effect of which is to render a Party's further performance under this Agreement unduly onerous, such an event or circumstance (herein referred to as "Hardship") shall cause the Parties to take all reasonable steps to amend the pricing provision. In the event that the Parties cannot agree on the amendments within 180 days of the occurrence of a Hardship, this Agreement shall terminate upon sixty (60) days written notice being provided by either Party to the other.
- 3.05 (a) Seller hereby transfers and assigns to, or to the extent transfer or assignment is not permitted, holds in trust for, Buyer who thereafter shall retain, all rights, title, and interest in all Environmental Attributes associated with the gas produced by Seller and purchased by Buyer under this Agreement.

- (b) Seller shall from time to time, upon written direction of Buyer, take all such actions and do all such things necessary to effect the transfer and assignment to, or holding in trust for, the Buyer, all rights, title, and interest in all Environmental Attributes.
- (c) Seller shall, from time to time, at Buyer's expense and upon written agreement by Buyer as to costs, upon written direction of Buyer, take all such actions and do all such things necessary to certify, obtain, qualify, and register with the relevant authorities or agencies Environmental Attributes that are created and allocated or credited with respect to the Seller's facilities pursuant to laws and regulations from time to time (collectively, the "**Regulatory Environmental Attributes**") for the purposes of transferring such Regulatory Environmental Attributes to Buyer.

Article IV - Payments

- 4.01 Buyer shall pay to Seller, the amount of money as calculated in Article III herein (excepting set off amounts) for all gas received during the Delivery Month, on or before the twentieth (20th) Day of each Month (the "Payment Day") following the Delivery Month.
- 4.02 Buyer shall deduct from the monies owed by Buyer to Seller pursuant to Article IV Section 1, a fee (the "Operating Fee") for Buyer to recover operating and maintenance expenses of purchasing gas hereunder, for each Delivery Location. The Parties agree that the Operating Fee for each Delivery Location shall be the amount expressed in Schedule "A", Article 3.
- 4.03 In the event that Buyer, prior to making any payments herein provided for, receives notice in writing of any adverse claim to any money due hereunder or of the filing of any lien which might affect the rights of the Parties hereunder, Buyer shall have the right to withhold, in trust, the payment then becoming due and such other future payments as the Buyer, acting reasonably, estimates to be a sufficient reserve against such adverse claim or lien, in an interest bearing account, until the controversy has been settled and all adverse claims have been withdrawn with notice in writing or have been decided by a Court of competent jurisdiction in Ontario, or until Seller has supplied Buyer with a Letter of Credit in an amount and on conditions satisfactory to Buyer with respect to such claim or lien.
- 4.04 The Parties hereby agree that any error discovered by either Party within eighteen (18) months of the date of the error, regarding billings, invoices or measurement of gas shall be corrected on the Payment Day immediately following the date on which the value of the error has been determined, unless otherwise mutually agreed upon by both Parties. In the event that Buyer has underpaid Seller, Buyer shall pay interest thereon at the rate of the Prime Rate calculated from the date when such error occurred and compounded monthly. No interest shall be paid by Seller for any adjustments caused by said errors. Neither Party shall have any claim to an error discovered beyond eighteen (18) months from the date of such error.

Article V - Term of Agreement

5.01 This Agreement shall be effective as of the date of execution hereof, however, the obligations of the Parties herein shall commence on the later of

(a) Month, Day, Year and

(b) the day following the date that the last condition precedent in Article XVIII is satisfied or waived by the party entitled to satisfy or waive that condition (such later date to be known as the “**Commencement Date**”) and

shall continue in full force and effect for a period of 20 Contract Years (the “Initial Term”).

Article VI - Delivery Pressure

6.01 The pressure of the gas delivered by Seller to Buyer at each Delivery Location shall be sufficient to move gas into Buyer's pipeline but may not exceed the MAOP at the Delivery Location(s) as specified in Schedule “A”. Buyer may change the MAOP from time to time and Buyer shall provide to Seller six (6) months’ notice of such change in accordance with the provisions of Article II Section 2.03 herein

Article VII - Installation of Equipment/Delivery Location

7.01 Buyer shall provide, at the Delivery Location(s) according to the terms hereunder, the meter station required to receive and measure the Maximum Daily Volume of gas received by Buyer from Seller. Seller agrees, if requested by Buyer, to provide Buyer with sufficient detailed information regarding Seller's current and expected operations in order to aid Buyer in Buyer's design of the meter station.

7.02 Pursuant to Article VII, Section 1, Buyer shall purchase, install and maintain, on the Delivery Location:

a) a meter and any associated recording gauges as are determined necessary by Buyer, in accordance with Article IX, Section 1 herein, and;

b) a suitable gas odourizing injection facility where Buyer deems such facility to be necessary;

7.03 All equipment installed by Buyer at the Delivery Location(s) shall remain the property of Buyer at all times, notwithstanding the fact that it may be affixed to Seller’s property. Buyer shall be entitled to remove said equipment at any time within a period of sixty (60) days from any termination or expiry of this Agreement. Seller shall take all necessary steps to ensure Buyer may enter onto the Delivery Location(s) to remove such equipment for a period of sixty (60) days after termination or expiry of this Agreement.

7.04 Upon Buyer's request Seller shall, at Seller's own cost and expense:

- a) obtain a registered lease or freehold ownership at the Delivery Location(s) sufficient to provide Buyer with free uninterrupted access to, from, under and above the Delivery Location(s) and the right to construct, maintain, replace and remove Buyer's equipment, for a term (and extended terms) identical to the Agreement, plus sixty (60) days, and shall provide Buyer with a bona fide copy of such lease agreement prior to Buyer commencing the construction of the meter station;
- b) deliver gas to Buyer on a reasonable efforts basis, at each Delivery Location according to the terms set out herein;
- c) furnish, install, set, and maintain suitable pressure and volume control equipment and such additional equipment as required on Seller's delivery system, to protect against the over-pressuring of Buyer's facilities, and to limit the daily flow of gas to the corresponding Maximum Daily Volumes applicable to the Delivery Location(s);
- d) supply, install and maintain a gravel or cut stone covering on each Delivery Location and shall maintain such Delivery Location(s) in a safe and workmanlike manner;
- e) install and maintain a fence and protection barrier satisfactory to Buyer around the perimeter of each Delivery Location which will adequately secure and protect Buyer's equipment therein; and
- f) install and maintain required electrical power and telecommunications equipment and capabilities as identified as necessary by Buyer.

7.05 a) Station and Connection Costs: In the event that a meter station must be constructed and/or installed in order to give effect to this Agreement, Seller agrees to pay Buyer for a portion, as determined by Buyer, of Buyer's actual cost, as hereinafter defined, for constructing and installing such station. Seller also agrees to pay the actual costs to connect such station to Buyer's pipeline and distribution system. Buyer shall advise Seller as to the need for a meter station and shall provide Seller with an estimate of the Aid to Construction. Such Aid to Construction shall include the costs of all pipe, fittings and materials, third party labour costs and Buyer's direct labour, labour saving devices, vehicles and mobile equipment, but shall exclude the purchase costs of gas pressure control equipment and gas meters installed by Buyer.

- b) Aid to Construction payments ("Prepayments") for additional meter stations will be handled by written mutual agreement between the parties. Seller shall pay Buyer the difference if the actual Aid to Construction is more than the Prepayments, within thirty (30) days of the delivery of an invoice from Buyer on which the actual costs for construction and installation of facilities are stated. Buyer shall pay Seller the difference if the actual Aid to Construction is less than the Prepayments. In the event Seller terminates this Agreement prior to the Buyer incurring any costs related to the construction, installation or connection of the meter station, Seller's Prepayments shall be returned to Seller, without interest, within fifteen (15) days notice to Buyer of such termination by Seller. In the event Buyer has incurred costs, as set out herein, relative to the construction, installation or connection of the meter station

prior to being notified by Seller of Seller's intention to terminate the Agreement, Buyer shall deduct such actual costs from Buyer's return of Seller's Prepayments.

- 7.06 Seller shall within thirty (30) days of the delivery of an invoice by Buyer, reimburse Buyer for any actual costs reasonably incurred by Buyer for any repair, replacement, relocation, or upgrading of any meter station requested by Seller, or as required by law, or by duly constituted regulatory body, or through good engineering practice. Buyer shall be responsible for any costs incurred by Buyer to correct an error made by Buyer.

Article VIII - Title and Risk Transfer

- 8.01 Title, possession, custody and control of all gas shall pass from Seller to Buyer at the Point of Delivery. Buyer shall have no responsibility with respect to any gas deliverable hereunder until it is delivered to Buyer at the Point of Delivery and subject to Article VII, Section 2, Seller shall have no responsibility with respect to such gas after its delivery to Buyer at the Point of Delivery provided it meets the terms of this Agreement.
- 8.02 Seller shall be liable for any and all damages suffered by Buyer and shall protect and indemnify and save Buyer harmless from and against any and all loss, claims and damages including claims against Buyer for personal injuries and damages to property, caused by or arising out of delivery of gas: the quality or condition of which does not conform to the specifications herein contained; or by the delivery of gas in a manner not in accordance with the terms of this Agreement, or any other breach of this Agreement by the Seller except for any damages resulting from or in any way attributable to Buyer's negligence or failure to act reasonably. Buyer agrees to use reasonable efforts to mitigate all damages, expenses and costs.
- 8.03 Seller agrees that Buyer is not a common carrier and is not an insurer of Seller's gas, and that Buyer shall not be liable to Seller or any third party for loss of gas in Seller's possession, except to the extent such loss is caused entirely by Buyer's negligence or wilful misconduct.

Article IX – Measurement

- 9.01 Determination of Volume and Energy:
- a) The volume and energy amounts determined under the Agreement shall be determined in accordance with the Electricity and Gas Inspection Act (Canada), RSC 1985, c E-4- (the “**Act**”) and the Electricity and Gas Inspection Regulations, SOR 86/131 (the “**Regulations**”), and any documents issued under the authority of the Act and Regulations and any amendments thereto.
 - b) The supercompressibility factor shall be determined in accordance with either the “**Manual for Determination of Supercompressibility Factors for Natural Gas**” (PAR Project NX-19) published in 1962 or with American Gas Association Transmission Measurement Committee Report No. 8, Nov. 1992, at Buyer's discretion, all as amended from time to time.
 - c) The volume and/or energy of the gas delivered to/by Buyer hereunder shall be

determined by the measurement equipment designated in Article IX herein.

- 9.02 Metering by Buyer: Buyer will install and operate meter and related equipment as required and in accordance with the Act and Regulations referenced in Article IX herein.
- 9.03 Calibration and Test of Measuring Equipment: The accuracy of Buyer's measuring equipment shall be verified by Buyer at reasonable intervals, and if requested, in the presence of representatives of Seller, but Buyer shall not be required to verify the accuracy of such equipment more frequently than once in any thirty (30) day period. In the event either party notifies the other that it desires a special test of any measuring equipment, the parties shall co-operate to secure a prompt verification of the accuracy of such equipment. The expense of any such special test, if called for by Seller, shall be borne by Seller if the measuring equipment tested is found to be in error by not more than two per cent (2%). If, upon test, any measuring equipment is found to be in error by not more than two per cent (2%), previous recordings of such equipment shall be considered accurate in computing receipts of gas, but such equipment shall be adjusted at once to record as near to absolute accuracy as possible. If the test conducted shows a percentage of inaccuracy greater than two percent (2%), the financial adjustment, if any, shall be calculated in accordance with the Act and Regulations, as may be amended from time to time and in accordance with any successor statutes and regulations.
- 9.04 Buyer shall obtain meter readings and where required, change any chart thereon, and Seller may, if it so wishes, have a representative present at such readings.
- 9.05 The records from the measuring equipment of both Buyer and Seller shall remain the property of the owner of such equipment and each Party, upon reasonable request, will submit to the other, copies of its records, together with any calculations therefrom and make the records available for review.
- 9.06 Preservation of Metering Records: Buyer and Seller shall each preserve for a period of at least six (6) years all test data, and other relevant records.

Article X – Quality

- 10.01 Natural Gas: The minimum gross heating value of the gas delivered to Buyer hereunder, shall be thirty-six (36) megajoules per cubic metre. The maximum gross heating value of the gas delivered to Buyer hereunder shall be forty point two (40.2) megajoules per cubic metre.
- 10.02 Freedom from objectionable matter: The gas to be delivered to Buyer hereunder,
- a) shall be commercially free from bacteria, sand, dust, gums, crude oils, lubricating oils, liquids, chemicals or compounds used in the production, treatment, compression or dehydration of the gas or any other objectionable substance in sufficient quantity so as to render the gas toxic, unmerchantable or cause injury to or interference with the proper operation of the lines, regulators, meters or other appliances through which it flows.

- b) shall not contain more than seven (7) milligrams of hydrogen sulphide per cubic metre of gas, nor more than one hundred (100) milligrams of total sulphur per cubic metre of gas,
- c) shall not contain more than five (5) milligrams of mercaptan sulphur per cubic metre of gas,
- d) shall not contain more than two point zero (2.0) molar percent by volume of carbon dioxide in the gas,
- e) shall not contain more than zero point four (0.4) molar percent by volume of oxygen in the gas,
- f) shall not contain more than zero point five (0.5) molar percent by volume of carbon monoxide in the gas,
- g) shall not contain more than four point zero (4.0) molar percent by volume of hydrogen in the gas,
- h) shall not contain more than eighty (80) milligrams of water vapour per Cubic Metre of gas subject to the terms of Schedule "A", Section Eight (8) herein,
- i) shall not have a cricondenthem hydrocarbon dewpoint exceeding minus eight (-8) degrees Celsius,
- j) shall have Wobbe Number from forty seven point fifty (47.50) megajoules per cubic meter of gas to fifty one point forty six (51.46) megajoules per cubic meter of gas, maximum of one point five (1.5) mole percent by volume of butane plus (C4+) in the gas, and maximum of four point zero (4.0) mole percent by volume of total inerts in the gas in order to be interchangeable with other Interconnecting Pipeline gas,
- k) shall not exceed forty-three degrees Celsius (43°C),
- l) shall not be odourized by Seller.

10.03 Non-conforming Gas:

- a) In the event that the quality of the gas does not conform or if Buyer, at any time, acting reasonably, suspects the quality of the gas may not conform to the specifications herein, then Seller shall, if so directed by Buyer acting reasonably, forthwith carry out, at Seller's cost, whatever field testing of the gas quality as may be required to ensure that the quality requirements set out herein are met, and to provide Buyer with a certified copy of such tests. If Seller does not carry out such tests forthwith, Buyer may conduct such test and Seller shall reimburse Buyer for all costs incurred by Buyer for such testing;
- b) If the Seller's gas fails at any time to conform to the requirements of this Article X, Buyer, in addition to its other remedies, may refuse to accept delivery of gas hereunder until such deficiency has been remedied by Seller. Each Party agrees to

notify the other verbally, followed by written notification, of any such deficiency of quality.

- 10.04 Quality of Gas Received: The quality of the gas to be received by Buyer hereunder is to be of a merchantable quality and in accordance with the quality standards as set out by Buyer in this Article X, but, Buyer will use reasonable efforts to accept gas of a quality that may deviate from the quality standards set out therein.

Article XI - Force Majeure

- 11.01 The term "**force majeure**" as used herein shall mean acts of God, strikes, lockouts or any other industrial disturbance, acts of the public enemy, sabotage, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests and restraints of governments and people, civil disturbances, explosions, breakage or accident to machinery or lines of pipe, freezing of production facilities or lines of pipe, inability to obtain materials, supplies, permits or labour, any laws, orders, rules, regulations, acts or restraints of any governmental body or authority (civil or military), any act or omission that is excused by any event or occurrence of the character herein defined as constituting force majeure, any act or omission by parties not controlled by the party having the difficulty and any other similar cases not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome.
- 11.02 In the event that either the Seller or Buyer is rendered unable, in whole or in part, by force majeure, to perform or comply with any obligation or condition of the Agreement, such party shall give notice and full particulars of such force majeure in writing delivered by hand, fax or other direct written electronic means to the other party as soon as possible after the occurrence of the cause relied on and subject to the provision of this Article.
- 11.03 Neither party shall be entitled to the benefit of the provisions of force majeure hereunder if any or all of the following circumstances prevail: the failure resulting in a condition of force majeure was caused by the negligence of the party claiming suspension; the failure was caused by the party claiming suspension where such party failed to remedy the condition by making all reasonable efforts (short of litigation, if such remedy would require litigation); the party claiming suspension failed to resume the performance of such condition obligations with reasonable dispatch; the failure was caused by lack of funds; the party claiming suspension did not, as soon as possible after determining, or within a period within which it should acting reasonably have determined, that the occurrence was in the nature of force majeure and would affect its ability to observe or perform any of its conditions or obligations under the Agreement, give to the other party the notice required hereunder.
- 11.04 The party claiming suspension shall likewise give notice as soon as possible after the force majeure condition is remedied, to the extent that the same has been remedied, and that such party has resumed or is then in a position to resume the performance of the obligations and conditions of the Agreement.
- 11.05 An event of force majeure on Buyer's system will excuse or the failure to accept gas by Buyer hereunder and both parties shall be excused from performance of their obligations

hereunder, except for payment obligations, to the extent of and for the duration of the force majeure.

- 11.06 Upstream or Downstream Force Majeure: An event of force majeure upstream or downstream of Buyer's system shall not relieve Seller of any payment obligations.
- 11.07 It is understood and agreed that the settlement of strikes and lockouts shall be entirely within the discretion of the Party whose labour force is on strike, and that the above requirement, that any force majeure shall be remedied with all reasonable dispatch, shall not require the settlement of strikes or lockouts by acceding to the demands of any opposing person when such course is inadvisable in the discretion of the Party whose labour force is on strike.

Article XII - Good Title

- 12.01 Title to Gas: Seller represents and warrants to Buyer that Seller shall have good and marketable title to, or legal authority to deliver to Buyer, all gas delivered to Buyer hereunder. Furthermore, Seller hereby agrees to indemnify and save Buyer harmless from all suits, actions, debts, accounts, damages, costs, losses and expenses arising from or out of claims of any or all third parties to such gas or on account of Taxes, or other charges thereon.
- 12.02 Licence: Seller represents and warrants to Buyer that Seller possesses a licence, if required, to produce gas in the Province of Ontario.
- 12.03 Subject to Seller's rights to terminate this Agreement according to Article V herein Seller agrees to use reasonable efforts and due diligence to maintain, in good standing, each lease it has to the extent that such lease relates to this Agreement. Subject to Article XII, Section 1, the Seller shall have the right to encumber such lease and its production facilities for the purpose of financing Seller's operations on said lease.

Article XIII - Use of Compressor

- 13.01 In the event that mechanical equipment is used to compress gas in order to aid in its delivery, Seller agrees that at no time during the term hereof shall the suction pressure at the intake of said mechanical equipment be less than thirteen decimal eight (13.8) kPa gauge. Seller further agrees that the location of said mechanical equipment shall be such that, in Buyer's opinion, measurement at the meter station shall not be adversely affected.

Article XIV - Planned Shut-Down/Start-Up

- 14.01 Excepting instances of emergency, Seller and Buyer agree to give at least twenty-four (24) hours verbal notice before a planned curtailment of receipt or delivery, shut-down or start-up.

Article XV - Access to Seller's Production Facilities

- 15.01 Seller shall complete and maintain a plan which depicts all of the Seller's gas production facilities including all emergency shut off valves and emergency equipment and provide a

copy to Buyer upon Buyer's request. Seller shall provide to Buyer the names and telephone numbers of those persons whom Buyer may contact in the event of an emergency situation arising within the Seller's facilities.

- 15.02 In the event that Buyer is notified by a third party or if Buyer becomes aware of an emergency situation in which Seller's gas production site, pipeline or associated equipment is involved, Buyer shall immediately notify Seller or Seller's representative of such emergency condition.

Even though Buyer is not obligated to take any action to rectify the emergency, if Buyer undertakes any such action, Seller agrees, upon presentation of an itemized account by Buyer, to pay Buyer for all reasonable costs incurred by Buyer in rectifying such emergency.

Article XVI - Breach of Contract

- 16.01 In case of the breach or non-observance or non-performance on the part of either party hereto of any covenant, proviso, condition, restriction or stipulation contained in the Agreement (but not including herein failure to take or make delivery in whole or in part of the gas delivered to/by Buyer hereunder occasioned by any of the reasons provided for in Article XI herein) which has not been waived by the other party, then and in every such case and as often as the same may happen, the non-defaulting party may give written notice to the defaulting party requiring it to remedy such default and in the event of the defaulting party failing to remedy the same within a period of thirty (30) days from receipt of such notice, the non-defaulting party may at its sole option declare the Agreement to be terminated and thereupon the Agreement shall be terminated and be null and void for all purposes other than and except as to any liability of the parties under the same incurred before and subsisting as of termination. The right hereby conferred upon each party shall be in addition to, and not in derogation of or in substitution for, any other right or remedy which the parties respectively at law or in equity shall or may possess.

In the event that this Agreement is terminated pursuant to this Article XVI, the parties hereto agree that they shall continue to be bound only by the terms and conditions set forth in the Agreement. Such extended period of time shall not exceed one (1) year from the date of termination of this Agreement.

- 16.02 No waiver of any provision of the Agreement shall be effective unless the same shall be in writing and signed by the party entitled to the benefit of such provision and then such waiver shall be effective only in the specific instance and for the specified purpose for which it was given. No failure on the part of Seller or Buyer to exercise, and no course of dealing with respect to, and no delay in exercising, any right, power or remedy under the Agreement shall operate as a waiver thereof.

Article XVII - Miscellaneous

- 17.01 The Agreement and the respective rights and obligations of the parties hereto are subject to all present and future valid laws, orders, rules and regulations of any competent legislative body, or duly constituted authority now or hereafter having jurisdiction and the Agreement shall be varied and amended to comply with or conform to any valid order or

direction of any board, tribunal or administrative agency which affects any of the provisions of the Agreement.

- 17.02 This Agreement (including Schedule A and Schedule B), all applicable rate schedules and price schedules, and any applicable Precedent Agreement constitutes the entire agreement between the parties hereto pertaining to the subject matter hereof. This Agreement supersedes any prior or contemporaneous agreements, understandings, negotiations or discussions, whether oral or written, of the parties in respect of the subject matter hereof.
- 17.03 Conflict: In the event of any conflict between the provisions of the main body of this Agreement and Schedules A and B the provisions of Schedules A and B, as defined below, shall prevail over the provisions of the main body of this Agreement.
- 17.04 All communications provided for or permitted hereunder shall be in writing, personally delivered to an officer or other responsible employee of the addressee or sent by registered mail, charges prepaid, or by facsimile or other means of recorded telecommunication, charges prepaid, to the applicable address set forth below or to such other address as either party hereto may from time to time designate to the other in such manner, provided that no communication shall be sent by mail pending any threatened, or during any actual, postal strike or other disruption of the postal service. Any communication personally delivered shall be deemed to have been validly and effectively received on the date of such delivery. Any communication so sent by facsimile or other means of telecommunication shall be deemed to have been validly and effectively received on the Business Day following the day on which it is sent. Any communication so sent by mail shall be deemed to have been validly and effectively received on the seventh Business Day following the day on which it is postmarked.

Union Gas Limited
50 Keil Drive North
P. O. Box 2001
Chatham, Ontario N7M 5M1

Telephone (519) 436-5413
Fax Number (519) 436-4651
Attention: Gas Supply Department

or to such other address as Seller or Buyer may from time to time designate by notice in writing one to the other. Notice shall be deemed to be received when the records of the mode of communication verifies the receipt of such notice. Emergency notices shall be delivered to Seller's Resident Operator as set out in Schedule "A" Article 6.

- 17.05 All monies payable by Buyer for gas received hereunder shall be made to the address so stated under Schedule "A", Article 4 of this Agreement or to such other address as may be authorized in writing from time to time by notice from the Seller to the Buyer. Buyer shall pay only one payee unless a division thereof is consented to by Buyer and Seller.
- 17.06 Assignment: Seller may assign the Agreement to a third party ("**Assignee**"), up to the Maximum Daily Volume, (the "**Capacity Assigned**"). Such assignment shall require the

prior written consent of Buyer and release of obligations by Buyer for the Capacity Assigned from the date of assignment. Such consent and release shall not be unreasonably withheld. Any such assignment will be for the full rights, obligations and remaining term of the Agreement as relates to the Capacity Assigned. Buyer may assign the Agreement to any party.

- 17.07 Extended Meaning: Unless the context otherwise requires, words importing the singular include the plural and vice versa, and words importing gender include all genders. The words "herein" and "hereunder" and words of similar import refer to the entirety of this Agreement, including the Schedules incorporated into this Agreement, and not only to the Section in which such use occurs.
- 17.08 The Parties hereto agree that this Agreement shall supersede and replace all prior Renewable Natural Gas Purchase Agreements and all amendments thereof between the Parties and that all prior Renewable Natural Gas Purchase Agreements between the Parties and all amendments thereto have been cancelled.
- 17.09 Each of the Parties shall perform all further acts reasonably required in order to fulfill and carry out the terms of this Agreement.
- 17.10 If either party shall, at any time, be in arrears under any of its payment obligations to the other party under the Agreement, then the party not in arrears shall be entitled to reduce the amount payable by it to the other party in arrears under the Agreement, or any other contract, by an amount equal to the amount of such arrears or other indebtedness to the other party. In addition to the foregoing remedy, Buyer may, upon forty-eight (48) hours verbal notice, to be followed by written notice, take possession of any or all of Seller's gas under the Agreement, which shall be deemed to have been assigned to Buyer, to reduce such arrears or other indebtedness to Buyer.
- 17.11 Schedules: Refers to the schedules attached hereto which are specifically included as part of this Agreement, and include:
Schedule "A" - Special Terms and Conditions
Schedule "B" - Price Calculation Example
- 17.12 Counterparts: This Agreement may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original but all of which together shall constitute one and the same agreement. This Agreement may be executed by facsimile or other electronic communication and this procedure shall be as effective as signing and delivering an original copy.
- 17.13 Severability: If any provision hereof is invalid or unenforceable in any jurisdiction, to the fullest extent permitted by law, (a) the other provisions hereof shall remain in full force and effect in such jurisdiction and shall be construed in order to carry out the intention of the parties as nearly as possible and (b) the invalidity or unenforceability of any provision hereof in any jurisdiction shall not affect the validity or enforceability of any provision in any other jurisdiction.
- 17.14 General Liability: The liability of the parties hereunder is limited to direct damages only and all other remedies or damages are waived. In no event shall either party be liable for consequential, incidental, punitive, or indirect damages, in tort, contract or otherwise.

Article XVIII - Preconditions to Services

- 18.01 The obligations of Buyer to provide Services hereunder are subject to the following conditions precedent, which are for the sole benefit of Buyer and which may be waived or extended in whole or in part in the manner provided in the Agreement:
- a) Buyer shall have obtained, in form and substance satisfactory to Buyer, and all conditions shall have been satisfied under, all governmental, regulatory and other third party approvals, consents, orders and authorizations, that are required to provide the Services; and,
 - b) Buyer shall have obtained all internal approvals that are necessary or appropriate to provide the Services; and,
 - c) Buyer shall, where applicable, have completed and placed into service those facilities including the meter station as per Section 7.01 herein, necessary to provide the Services hereunder; and,
 - d) Seller shall have complied with all of Seller's obligations under Article VII herein, including having paid all amounts pursuant to Section 7.05(a) to the extent such payments are to be made prior to the Commencement Date.
- 18.02 Buyer and Seller shall each use due diligence and reasonable efforts to satisfy and fulfil the conditions precedent specified in this Article XVIII Section 1 a, c, and d. Each party shall notify the other forthwith in writing of the satisfaction or waiver of each condition precedent for such party's benefit. If a party concludes that it will not be able to satisfy a condition precedent that is for its benefit, such party may, upon written notice to the other party, terminate the Agreement and upon the giving of such notice, the Agreement shall be of no further force and effect and each of the parties shall be released from all further obligations thereunder.
- 18.03 If any of the conditions precedent in this Article XVIII are not satisfied or waived by the party entitled to the benefit of that condition, then Buyer may, upon written notice to the other party, terminate the Agreement and upon the giving of such notice, the Agreement shall be of no further force and effect and each of the parties shall be released from all further obligations hereunder, provided that any rights or remedies that a party may have for breaches of the Agreement prior to such termination and any liability a party may have incurred before such termination shall not thereby be released.

THIS AGREEMENT SHALL BE BINDING UPON and shall enure to the benefit of the parties hereto and their respective successors and permitted and lawful assigns.

IN WITNESS WHEREOF this Agreement has been properly executed by the parties hereto by their duly authorized officers as of the date first above written.

UNION GAS LIMITED

Chris Shorts
Director, Gas Supply

SELLER

SCHEDULE "A" - SPECIAL TERMS AND CONDITIONS

To the Renewable Natural Gas (Landfill)(BioMass) Purchase Agreement (the "Agreement") dated the ____ day of _____, between _____ ("Seller") and Union Gas Limited (Buyer").

1. Delivery Location

As provided for in Article 8.01 of the Agreement Seller shall convey the gas to be purchased at the Point of Delivery located on the Delivery Location as follows:

Delivery Location #1: _____ The gas production facilities metered by Buyer's delivery meter _____ located _____ at _____, Station # _____

Delivery Location #2: _____ The gas production facilities metered by Buyer's delivery meter _____ located _____ at _____ Station # _____

Delivery Location #3: _____ The gas production facilities metered by Buyer's delivery meter _____ located _____ at _____, Station # _____

2. Maximum Daily Volume

Seller agrees to limit the volume of gas delivered in any one Day at the Delivery Location as hereinafter stated:

Delivery Location #1 shall have a Maximum Daily Volume of ____ 10^3M^3 of gas.

Delivery Location #2 shall have a Maximum Daily Volume of ____ 10^3M^3 of gas.

Delivery Location #3 shall have a Maximum Daily Volume of ____ 10^3M^3 of gas.

In the event the Seller exceeds its cumulative Maximum Daily Volume for all Delivery Locations, Buyer may, at Buyer's option, suspend receipts of gas until the Buyer's receipts of gas matches the cumulative Maximum Daily Volume for all Delivery Locations.

3. Maximum Annual Volume

Seller agrees to limit the volume of gas delivered in any one Contract Year at the Delivery Location as hereinafter stated:

Delivery Location #1 shall have a Maximum Annual Volume of ____ 10^3M^3 of gas.

Delivery Location #2 shall have a Maximum Annual Volume of ____ 10^3M^3 of gas.

Delivery Location #3 shall have a Maximum Annual Volume of ____ 10^3M^3 of gas.

In the even the Seller exceeds its cumulative Maximum Annual Volume for all Delivery Locations, Buyer may, at Buyer's option, suspend receipts of gas until the Buyer's receipts of gas matches the cumulative Maximum Annual Volume for all Delivery Locations.

4. **Operating Fee**

Seller shall pay to Buyer a monthly operating fee in the amount of the “Monthly fixed charge per Customer Station” in the OEB Rate Schedule M13 for Union Gas Limited (as amended from time to time) per Delivery Location.

5. **Payments**

Payments to Seller for gas received by Buyer, as provided for in Article IV - Payments, and Article 17.05 of the Agreement shall be made by cheque or electronic funds transfer (as directed by Seller) payable to:

Attention: _____

6. **Agreement Notices**

Notices to Seller with respect to this Agreement, as provided for in Section 17.04 of the Agreement shall be addressed to Seller at:

Attention: _____

Telephone: _____

Fax: _____

7. **Seller's Resident Operator**

Telephone: _____

Fax: _____

Seller shall notify Buyer of any changes to Seller's resident operator within forty-eight (48) hours of any such change taking place.

8. **Maximum Allowable Operating Pressure (MAOP)**

Seller's MAOP at each Delivery Location shall be as follows:

At Delivery Location #1 MAOP is _____ kPa.

At Delivery Location #2 MAOP is _____ kPa.

At Delivery Location #3 MAOP is _____ kPa.

9. **Modified Water Vapour Requirement**

Subject to the terms herein, Buyer will accept, at each Delivery Location, gas from Seller which contains a maximum water vapour content of 230 MG per M³ (14 Lbs./MMCF) provided that Buyer's pipeline system into which Seller's gas is delivered has a maximum operating pressure rating of 1900 kPa or less. In the event Seller's gas is delivered into Buyer's pipeline system at a pressure of more than 1900 kPa, the conditions of Article X, Section 10.02h will apply. Both Parties agree that should Buyer at any time experience malfunctioning of or deterioration of the

measurement equipment, gas control equipment, or other appurtenance, in Buyer's pipeline system or should Buyer's customers experience problems with the combustion or usage of gas in their gas burning equipment due to excessive moisture content, Buyer at its sole discretion may reduce the maximum water vapour requirement for gas delivered under the Agreement to that which is specified in Article X Section 10.02h, , Quality of the Agreement. In the event Buyer reduces the maximum water vapour requirement to that which is specified in Section 10.02h, Buyer shall continue to purchase Seller's gas at 230 MG per M³ (14 Lbs./MMCF) for ninety (90) days after such notice. Upon the termination of such ninety (90) days Seller's gas must meet Section 10.02h requirements.

10. **Price, Payment and Escalation**

- a) The price expressed in Canadian Dollars (\$) per GJ is dependent on production and is calculated per the following schedule:

Source	Contract Year Breakpoint (GJ)	Price Under Contract Year Breakpoint (\$/GJ)	Price Over Contract Year Breakpoint (\$/GJ)
Anaerobic Digester (Biomass)	50,000	\$17.00	\$11.00
Landfill	150,000	\$13.00	\$6.00

Notes: 1. Prices in the above table reflect the program starting prices of January 1st, 2012.
2. Notwithstanding anything in this Agreement, all prices shall be subject to all regulatory orders including OEB orders.
3. The Breakpoint shall be adjusted in the event of any Contract Year less than 12 calendar months, on a pro rata basis

- b) Monthly payment: The monthly payment is calculated by applying the appropriate price is applied to the product of the total volume in 10³M³ received by Buyer hereunder and the gross heating value which is determined by Buyer based on monthly analysis of gas sampled from the Point of Delivery.
- c) Price adjustments shall be made during the life of this Agreement. Adjustments shall be determined annually, and shall be made effective as of January 1 of the calendar year. Price shall change by a factor equal to 30% of the annual change in the "Ontario Consumer Price Index, All Items Not Seasonally Adjusted", for the previous calendar year as published monthly in "The Consumer Price Index" as published by Statistics Canada (Catalogue No. 62-001-X). If such an adjustment cannot be made on January 1 of any calendar year, the parties intend for the adjustment to be made as soon as possible thereafter and in any event, effective retroactively to the start of the then-current calendar year.

ONTARIO PRODUCTION GAS PURCHASE AGREEMENT

DATED :

BETWEEN

AND

UNION GAS LIMITED

ONTARIO PRODUCTION GAS PURCHASE AGREEMENT

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THIS ONTARIO PRODUCTION GAS PURCHASE AGREEMENT made as of the ____ day of _____, 20__

BETWEEN:

_____,
(hereinafter called "Seller")

OF THE FIRST PART

- and -

UNION GAS LIMITED, a body corporate, having an office in Chatham, Ontario
Ontario, hereinafter called "Buyer")

OF THE SECOND PART

WHEREAS Buyer is engaged in purchasing, transporting and distributing natural gas in the Province of Ontario;

AND WHEREAS Seller is a producer of natural gas within the Province of Ontario;

AND WHEREAS Seller has agreed to sell and deliver natural gas to Buyer, and Buyer has agreed to receive and purchase natural gas from Seller as hereinafter provided;

AND WHEREAS Seller and Buyer have established or have agreed to establish natural gas Delivery Locations, as hereinafter defined, where natural gas produced from Seller's wells shall be sold by Seller to Buyer.

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the mutual covenants and agreements hereinafter provided, the Parties hereto each covenant and agree with the other as follows:

GENERAL TERMS AND CONDITIONS

Article I - Definition of Terms

The following words and expressions where used in this Agreement mean and are respectively defined as follows: In the event that a term is used but not defined herein, it is agreed that said term shall have the meaning generally accepted by the natural gas industry.

- 1.01 "Agreement" shall mean this Ontario Production Gas Purchase Agreement and all schedules as amended from time to time.
- 1.02 "Cubic Metre" or its symbol M³ shall mean the volume of Gas which occupies one cubic metre when such Gas is at a temperature of fifteen (15) degrees Celsius, and at a pressure of one hundred and one decimal three two five (101.325) kilopascals absolute.
- 1.03 "Day" shall mean any day, within the term or extended term of this Agreement, with a period of twenty-four (24) consecutive hours beginning at 0800 hours. The reference

date for any Day shall be the calendar date upon which the twenty-four (24) hour period shall commence.

- 1.04 "Delivery Location" shall mean each of the sites, as specified in Schedule "A", Clause One (1), where a meter station is located for the purpose of receiving and measuring the volumes of Gas received from Seller hereunder.
- 1.05 "Gas" shall mean natural gas as defined in the Ontario Energy Board Act, R.S.O. 1990, C.O. 13.
- 1.06 "Gross Heating Value" expressed in megajoules per Cubic Metre or "MJ/M³", shall mean the total energy produced by the complete combustion at a constant pressure of one Cubic Metre of Gas with air, with the Gas free of water vapour and the temperature of the Gas, air and products of combustion at standard temperature and all water formed by combustion reaction condensed to the liquid state.
- 1.07 "Joule" and its symbol "J" shall mean the work done when the point of application of a force of one (1) newton is displaced a distance of one (1) metre in the direction of the force. The term "Megajoule", and its symbol "MJ", shall mean one million (1,000,000) joules. The term "Gigajoule", and its symbol "GJ", shall mean one billion (1,000,000,000) joules.
- 1.08 Local Chatham Time ("LCT") means the time used in the community of Chatham, Ontario.
- 1.09 "Market Demand" shall mean the varying demand for the supply of Gas, as determined by Buyer, carried in Buyer's pipeline system for users of Gas who are supplied or delivered Gas by Buyer's pipeline system.
- 1.10 "Maximum Daily Volume" shall mean that volume of Gas for each Delivery Location as set out in Schedule "A", Clause Two (2).
- 1.11 "Month" shall mean the period of time beginning at 0800 hours LCT on the first Day of a calendar month and ending immediately before 0800 hours LCT on the first Day of the next succeeding calendar month, however, the first Month shall commence on the date of this Agreement, and the last Month shall terminate on the Day of the Month on which this Agreement expires or is terminated.
- 1.12 "Pascal" (Pa) shall mean the pressure produced when a force of one newton is applied to an area of one square metre. The term "kilopascal", or its symbol "kPa" shall mean one thousand (1,000) Pascal.
- 1.13 "Point of Delivery" for all Gas delivered hereunder shall mean the point at the inlet side of Buyer's meter which is located at each Delivery Location.
- 1.14 "System Capacity" shall mean the volumetric capacity that exists from time to time

within Buyer's pipeline system which determines Buyer's ability to accept volumes of Gas into Buyer's pipeline system hereunder. System Capacity shall be determined by Buyer and such determination, in addition to the physical characteristics of Buyer's pipeline system, shall also include consideration of Buyer's local Market Demand, Buyer's total system Market Demand, availability of Buyer's Gas storage capacity, other Gas being purchased and delivered into Buyer's pipeline system and Buyer's overall Gas supply under contract.

- 1.15 "TransCanada" shall mean TransCanada Pipelines Limited.
- 1.16 "10³M³" shall mean one thousand (1,000) Cubic Metres of Gas.
- 1.17 "Prime Rate" shall mean the rate of interest expressed as a percentage per annum charged to Buyer by its principal banker from time to time and used as a reference rate for determining interest rates on Canadian dollar demand loans.

Article II - Volumes

- 2.01 Seller shall tender for sale to Buyer, at the Point of Delivery, on a reasonable efforts basis, Gas produced from Seller's wells, excepting such volumes of Gas as required by Seller to operate Seller's Gas wells.
- 2.02 Buyer shall receive and purchase, on a reasonable efforts basis, Gas tendered by Seller provided that:
 - i) Buyer has sufficient System Capacity to receive and sell the Gas offered for sale by Seller;
 - ii) the quality of such Gas meets the Terms and Conditions of this Agreement, and in particular Article X; and,
 - iii) the volume of Gas tendered at each Point of Delivery does not exceed the corresponding Maximum Daily Volumes as stated in Schedule "A", Clause Two (2) unless mutually agreed upon in writing by both Parties.
- 2.03 Buyer shall have the right, at all times, to reconstruct or modify Buyer's pipeline and the pressure carried therein, notwithstanding that such reconstruction or modification may reduce Buyer's System Capacity available to receive Seller's Gas or Seller's ability to deliver Gas to Buyer. Should Buyer expect any such reconstruction or modification to reduce the delivery or receipt of Gas by either Party, Buyer shall provide Seller with six (6) months notice or as much notice as is reasonably practical of such undertakings.

Article III - Price

- 3.01 The "Price" to be paid by Buyer to Seller for all Gas received by Buyer under this Agreement, in a calendar Month (the "Delivery Month"), shall be determined by Buyer, and shall be calculated as outlined in Schedule "A", Clause Nine (9).
- 3.02 The Price paid shall be subject to any orders, rules and regulations of any body having jurisdiction over such Price, or the calculation of such Price, now or hereafter in effect during the term of this Agreement.
- 3.03 With respect to the Buyers' cost of Gas allowed by the Ontario Energy Board ("OEB"), in the event that the OEB disallows from Buyers' cost of Gas all or any part of the Price as set out herein, Buyer shall be obligated to pay only such Price as allowed in the Buyer's cost of Gas by the OEB.
- 3.04 If an event occurs or circumstances arise of any nature whatsoever (including but not limited to governmental or regulatory action), which relates to the Price which is not within the control of either Party and which is not specifically provided for herein, and the effect of which is to render a Party's further performance under this Agreement unduly onerous, such an event or circumstance (herein referred to as "Hardship") shall cause the Parties to take all reasonable steps to amend the pricing provision. In the event that the Parties cannot agree on the amendments, this Agreement shall terminate upon sixty (60) days written notice being provided by either Party to the other.
- 3.05 If at any time during the term of this Agreement the Price payable hereunder is established, prescribed or otherwise set by acts of the Federal or Provincial Parliaments or their Boards, Agencies or Commissions or other governmental authority having jurisdiction whether under present or future acts, rules or orders (hereinafter referred to as "Re-regulation"), the Parties hereto shall immediately determine the terms and conditions in this Agreement that are affected by such Re-regulation and shall take steps to amend such terms and conditions accordingly. In the event that the Parties cannot agree on the amendments this Agreement shall terminate upon sixty (60) days written notice being provided by either Party to the other.

Article IV - Payments

- 4.01 Buyer shall pay to Seller, the amount of money as calculated in Article III herein (excepting set off amounts) for all Gas received during the Delivery Month, on or before the twentieth (20th) Day of each Month (the "Payment Day") following the Delivery Month.
- 4.02 Buyer shall deduct from the monies owed by Buyer to Seller pursuant to Clause 4.01, a fee (the "Operating Fee") for Buyer to recover operating and maintenance expenses of purchasing Gas hereunder, for each Delivery Location. The Parties agree that the Operating Fee for each Delivery Location shall be the amount expressed in Schedule "A", Clause Three (3).
- 4.03 In the event that Buyer, prior to making any payments herein provided for, receives

notice in writing of any adverse claim to any money due hereunder or of the filing of any lien which might affect the rights of the Parties hereunder, Buyer shall have the right to withhold, in trust, the payment then becoming due and such other future payments as the Buyer, acting reasonably, estimates to be a sufficient reserve against such adverse claim or lien, in an interest bearing account, until the controversy has been settled and all adverse claims have been withdrawn with notice in writing or have been decided by a Court of competent jurisdiction in Ontario, or until Seller has supplied Buyer with a Letter of Credit in an amount and on conditions satisfactory to Buyer with respect to such claim or lien.

- 4.04 The Parties hereby agree that any error discovered by either Party within eighteen (18) months of the date of the error, regarding billings, invoices or measurement of Gas shall be corrected on the Payment Day immediately following the date on which the value of the error has been determined, unless otherwise mutually agreed upon by both Parties. In the event that Buyer has underpaid Seller, Buyer shall pay interest thereon at the rate of the Prime Rate calculated from the date when such error occurred and compounded monthly. No interest shall be paid by Seller for any adjustments caused by said errors. Neither Party shall have any claim to an error discovered beyond eighteen (18) months from the date of such error.

Article V - Term of Agreement

- 5.01 This Agreement shall be effective as of the date set out on the first page and shall remain in full force and effect until terminated at any time by either Party upon sixty (60) days written notice to the other.

Article VI - Delivery Pressure

- 6.01 The pressure of the Gas delivered by Seller to Buyer at each Delivery Location shall not exceed the corresponding Maximum Allowable Operating Pressure ("MAOP") of Buyer's pipeline distribution system as specified in Schedule "A", Clause Seven (7), which Buyer may change from time to time. Buyer shall provide to Seller six (6) months notice of such change according to clause 2.03. In any event the MAOP of Buyer's pipeline shall not exceed 6895 kPa gauge.

Article VII - Installation of Equipment/Delivery Location

- 7.01 Buyer shall provide, at the Delivery Location, according to the terms hereunder, the meter station required to receive and measure up to the Maximum Daily Volume of Gas received by Buyer from Seller. Seller agrees, if requested by Buyer, to provide Buyer with detailed information regarding Seller's Gas reserves, open flow characteristics and expected daily delivery volumes, in order to aid Buyer in Buyer's design of the meter station.
- 7.02 Pursuant to Clause 7.01, Buyer shall purchase, install and maintain, on the Delivery Location:

- a) a meter and any associated recording gauges as are determined necessary by Buyer, in accordance with Clause 9.01 herein, and;
 - b) a suitable Gas odourizing injection facility where Buyer deems such facility to be necessary;
- 7.03 All equipment installed by Buyer at the Delivery Location shall remain the property of Buyer. Buyer shall be entitled to remove said equipment at any time within a period of sixty (60) days from any termination or expiry of this Agreement. Seller shall take all necessary steps to ensure Buyer may enter onto the Delivery Location to remove such equipment for a period of sixty (60) days after termination or expiry of the Agreement.
- 7.04 Upon Buyer's request Seller shall, at Seller's own cost and expense:
- a) obtain a registered lease or freehold ownership of each Delivery Location sufficient to provide the Buyer with free uninterrupted access to, from, under and above the Delivery Location and the right to construct, maintain, replace and remove Buyer's equipment, for a term (and extended terms) identical to this Agreement, plus sixty (60) days renewal periods and shall provide Buyer with a bona fide copy of such lease agreement prior to Buyer commencing the construction of the meter station.
 - b) deliver Gas to Buyer on a reasonable efforts basis, at each Delivery Location according to the terms set out herein;
 - c) furnish, install and set suitable pressure and volume control equipment and such additional equipment as required on Sellers' delivery system, to protect against the overpressuring of Buyer's facilities, as set out in Clause 6.01, and to limit the daily flow of Gas to the corresponding Maximum Daily Volumes as set out in Clause Two (2) of Schedule "A" herein;
 - d) supply, install and maintain a gravel or cut stone covering on each Delivery Location as required by Buyer acting reasonably, and Seller shall maintain such Delivery Location in a safe and workmanlike manner.
 - e) install and maintain a fence and protection barrier satisfactory to Buyer around the perimeter of each Delivery Location which will adequately secure and protect Buyer's equipment therein.
- 7.05 a) When a meter station must be constructed and/or installed in order to give effect to this Agreement, Seller agrees to pay Buyer for a portion of Buyer's actual cost, as hereinafter defined, for constructing and installing such station. Seller also agrees to pay the actual costs to connect such meter station to Buyer's pipeline. Seller's financial contribution for the actual costs related to the construction, installation and connecting of such station, shall be herein referred to as an Aid to

Construction. Buyer shall advise Seller as to the need for a meter station and shall provide Seller with an estimate of the Aid to Construction. Such Aid to Construction shall include the actual costs of all pipe, fittings and materials, third party labour costs and Buyer's direct labour, labour saving devices, vehicles and mobile equipment, but shall exclude the purchase costs of Gas pressure control equipment and Gas meters.

- 7.05 b) Further to 7.05(a), Seller shall pay to Buyer a payment ("First Prepayment") towards the Aid to Construction at the time of the execution of this Agreement. Seller shall pay a payment prior to installation of the meter station ("Second Prepayment"). The foregoing payments are specified in the attached Schedule "A" for the first meter station ("Delivery Location #1") to be installed under this contract. Payments for additional meter stations will be handled by written mutual agreement between the parties. Seller shall pay Buyer the difference if the actual Aid to Construction is more than the Prepayments, within thirty (30) days of the delivery of an invoice from Buyer on which the actual costs for construction and installation of facilities are stated. Buyer shall pay Seller the difference if the actual Aid to Construction is less than the Prepayments. In the event Seller terminates this Agreement prior to the Buyer incurring any costs related to the construction, installation or connection of the meter station, Seller's Prepayments shall be returned to Seller, without interest, within fifteen (15) days notice to Buyer of such termination by Seller. In the event Buyer has incurred costs, as set out herein, relative to the construction, installation or connection of the meter station prior to being notified by Seller of Seller's intention to terminate the Agreement, Buyer shall deduct such actual costs from Buyer's return of Seller's Prepayments. "Prepayments" shall mean the sum of the First Prepayment and the Second Prepayment.
- 7.06 Seller shall within thirty (30) days of the delivery of an invoice by Buyer, reimburse Buyer for any actual costs incurred by Buyer for any repair, replacement, relocation, or upgrading of any meter station requested by Seller or as required by law, duly constituted regulatory body, or through good engineering practice.

Article VIII - Title and Risk Transfer

- 8.01 Title, possession, custody and control of all Gas shall pass from Seller to Buyer at the Point of Delivery. Buyer shall have no responsibility with respect to any Gas deliverable hereunder until it is delivered to Buyer at the Point of Delivery and subject to Clause 8.02, Seller shall have no responsibility with respect to such Gas after its delivery to Buyer at the Point of Delivery provided it meets the terms of this Agreement.
- 8.02 Seller shall be liable for any and all damages suffered by Buyer and shall protect and indemnify and save Buyer harmless from and against any and all loss, claims and damages including claims against Buyer for personal injuries and damages to property, caused by or arising out of delivery of Gas: the quality or condition of which does not conform to the specifications herein contained; or by the delivery of Gas in a manner not

in accordance with the terms of this Agreement, or any other breach of this Agreement by the Seller except for any damages resulting from or in any way attributable to Buyer's negligence or failure to act reasonably. Buyer agrees to use reasonable efforts to mitigate all damages, expenses and costs.

Article IX – Measurement

- 9.01 All Gas received and purchased from Seller by Buyer hereunder, shall be measured by a positive displacement, turbine or orifice type meter in accordance with Electricity and Gas Inspection Regulations effective January 25, 1986, pursuant to the Electricity and Gas Inspection Act R.S.C. 1985 Ch.E4 and any modifications and amendments thereof, and such meter shall be installed and operated in accordance with the aforementioned Regulations.

Buyer's meter shall be equipped with pressure and temperature compensating, integrating or recording instrumentation so that proper correction of measured volumes for Charles Law, Boyles Law and Deviation from Boyles Law can be made. This instrumentation shall be installed and operated in accordance with the aforementioned Electricity and Gas Inspection Act and Regulations.

- 9.02 For the purpose of determining volume hereunder, the unit of volume shall be one (1) Cubic Metre of Gas. The average absolute atmospheric pressure, for the purpose of measurement, shall be assumed to be a constant pressure of ninety-nine decimal two eight five (99.285) kPa, or shall be determined according to methods laid down in the Electricity and Gas Inspection Regulations. The uncorrected volume determined from the metering equipment shall be corrected according to Charles Law, Boyle's Law and deviation from Boyle's Law. The factor for correction for deviation from Boyle's Law shall be determined and applied in accordance either with the method laid down in the American Gas Association's "Manual for Determination of Supercompressibility Factors for Natural Gas" (PAR Project NX-19) published 1962 or with methods laid down in the American Gas Association's "Transmission Measurement Committee Report No. 8" at the discretion of Buyer. Buyer shall notify Seller of the specific method to be used. When the Gas is measured by means other than an orifice meter, the factor for correction for deviation from Boyle's Law shall be the square of the factor determined by following one of the methods above.

- 9.03 Buyer shall at all times, maintain and keep in proper working order all Buyer's metering and associated measurement equipment. Buyer's measurement instrumentation will be calibrated at least once each year by Buyer, and if found to be registering inaccurately, shall be adjusted at once to read as accurately as possible.

- 9.04 In the event either Party to this Agreement shall notify the other that it desires extra tests of any of Buyer's measuring equipment, in addition to the annual test completed by Buyer, the Parties shall co-operate to secure a prompt verification of the accuracy of such equipment. The expense of any such test, if requested by the Seller, shall be borne by Seller where two percent (2%) or less than 2% error is found in the volume measured by

the measuring equipment being tested.

- 9.05 If the test conducted in accordance with Clause 9.05 shows a percentage of inaccuracy greater than two percent (2%), the financial adjustment, if any, shall be calculated in accordance with the Electricity and Gas Inspection Act R.S.C. 1985 Ch.E4 and regulations thereunder, as may be amended from time to time and in accordance with any successor statutes and regulations.
- 9.06 Buyer shall obtain meter readings and where required, change any chart thereon, and Seller may, if it so wishes, have a representative present at such readings.
- 9.07 The records from the measuring equipment of both Buyer and Seller shall remain the property of the owner of such equipment and each Party, upon reasonable request, will submit to the other, copies of its records, together with any calculations therefrom and make the records available for review.
- 9.08 Each party shall preserve for a period of at least two eighteen (18) months all test data, charts and other similar records.

Article X – Quality

- 10.01 All Gas delivered hereunder shall have a Gross Heating Value of at least thirty-six (36.0) MJ/M³ and not more than forty decimal two (40.2) MJ/M³.
- 10.02 The Gas shall be merchantable and commercially free from sand, dust, gums, crude oils, lubricating oils, liquids, chemicals or compounds used in the production, treatment, compression or dehydration of the Gas or any other objectionable substance present in sufficient quantity so as to render the Gas toxic, unmerchantable or cause injury to or interference with the Gas pipelines, regulators, meters or other appliances through which it flows, or their operation.
- 10.03 The Gas shall not contain more than seven (7) milligrams of hydrogen sulphide (H₂S) and not more than one hundred (100) milligrams of total sulphur (S) per Cubic Metre.
- 10.04 Subject to the terms of Schedule "A", Clause Eight (8) herein, the Gas shall not contain more water vapour than an amount equivalent to eighty (80) milligrams of water per Cubic Metre (M³) of Gas and water shall not be present in liquid phase.
- 10.05 The Gas shall not contain more than five milligrams per cubic metre (5 mg/M³) of mercaptan sulphurs.
- 10.06 The Gas shall not contain liquid hydrocarbons or hydrocarbons liquifiable at temperatures warmer than minus ten degrees Celsius (-10°C) and a pressure of five thousand five hundred Kilopascals (5500 kPa) absolute.
- 10.07 The Gas shall not contain carbon dioxide (CO₂) in excess of two mole percent (2%) and

shall be as free from oxygen (O₂) as possible, but shall not in any event contain more than four-tenths of one mole percent (0.4%) by volume of oxygen.

- 10.08 The temperature of the Gas shall not exceed forty-three degrees Celsius (43°C).
- 10.09 The Gas shall contain less than five tenths of one mole percent (0.5%) by volume of carbon monoxide (CO).
- 10.10 The Gas shall not contain more than a trace amount of hydrogen (H₂).
- 10.11 The Gas shall be interchangeable with Buyer's pipeline Gas with which it co-mingles. Yellow tipping, flashback and lifting factors of appliances using Seller's Gas shall be in the range permitted for Gas according to AGA Research Bulletin No. 36.
- 10.12 The Gas shall not be odorized by Seller.
- 10.13 Seller shall subject any Gas delivered hereunder to compression, cooling, cleaning or other processes to such an extent as may be required to obtain the necessary quality and for transmission to the Delivery Point, provided the quality of the Gas continues to comply with the specifications set out in this Agreement.
- 10.14 Seller may extract hydrocarbon and non-hydrocarbon constituents, other than methane except as required in the processing or compression of the Gas, prior to delivery hereunder, and shall have the right to remove such methane as is removed by necessity from the Gas in removing other constituents, provided that Seller in such processing shall not reduce the Gross Heating Value below that which is stated in Clause 10.01 herein and provided that such extraction will not cause a breach of the quality specifications set forth in this Article X.
- 10.15 In the event that the quality of the Gas does not conform or if Buyer, acting reasonably, suspects the quality of the Gas may not conform to the specifications herein, then Seller shall, if so directed by Buyer acting reasonably, forthwith carry out, at Seller's cost, whatever field testing of the Gas quality as may be required to ensure that the quality requirements set out herein are met, and to provide Buyer with a certified copy of such tests. If Seller does not carry out such tests forthwith, Buyer may conduct such tests and Seller shall reimburse Buyer for all costs incurred by Buyer for such testing.
- 10.16 If the Seller's Gas fails at any time to conform to the requirements of this Article X, Buyer, in addition to its other remedies, may refuse to accept delivery of Gas hereunder until such deficiency has been remedied by Seller. Each Party agrees to notify the other verbally, followed by written notification, of any such deficiency of quality.

Article XI - Force Majeure

11.01 Notwithstanding anything herein contained, it is agreed that neither Party shall be deemed to be in default in respect of any of the Terms and Conditions of this Agreement if and so long as such default is occasioned by force majeure, which term as used herein shall mean, acts of God, or of the Queen's enemies, strikes, lockouts, labour troubles, earthquakes, fire, revolution, wars, riots, epidemics, insurrections, explosions, breakage or accidents to machinery or pipelines, the necessity for making repairs to or alterations of machinery or lines of pipe, inability to obtain materials, interference of any civil or military authority of any government, state or municipality whatsoever, or any other cause whether of the kind herein enumerated or otherwise not within the reasonable control of the Party claiming relief hereunder and which by the exercise of due diligence such Party is unable to prevent or overcome. Such causes or circumstances affecting the performance of this Agreement by either Party, however, shall not relieve it of liability in the event of its negligence or in the event of its failure to use due diligence to remedy the situation and remove the cause or circumstances in an adequate manner and with all reasonable dispatch. Such causes or circumstances affecting the performance of this Agreement shall not relieve either Party from its obligations to make payments of amounts then due hereunder.

11.02 Neither Party shall be entitled to the benefit of the provisions of Clause 11.01 under any or all of the following circumstances:

- a) to the extent that the failure was caused by the contributory negligence of the Party claiming suspension;
- b) to the extent that the failure was caused by the Party claiming suspension having failed to remedy the condition and remove the cause or circumstances in an adequate manner, and to resume the performance of such covenants or obligations, with all reasonable dispatch;
- c) if the failure was caused by lack of money or was related to the payment of any amount or amounts then due hereunder; or,
- d) unless as soon as possible after the happening of the occurrence relied upon or as soon as possible after determining that the occurrence was in the nature of force majeure and would affect the claiming Party's ability to observe or perform any of its covenants or obligations under this Agreement; the Party claiming suspension shall have given to the other Party notice to the effect that such Party is unable by reason of force majeure (the nature whereof shall be therein specified) to perform the particular covenants or obligations.

11.03 The Party claiming suspension shall give notice to the other Party as soon as possible after the force majeure condition has been remedied, to the effect that the same has been remedied and that such Party has resumed, or is then in a position to resume, the performance of the suspended covenants or obligations under this Agreement.

- 11.04 It is understood and agreed that the settlement of strikes and lockouts shall be entirely within the discretion of the Party whose labour force is on strike, and that the above requirement, that any force majeure shall be remedied with all reasonable dispatch, shall not require the settlement of strikes or lockouts by acceding to the demands of any opposing person when such course is inadvisable in the discretion of the Party whose labour force is on strike.

Article XII - Good Title

- 12.01 Seller warrants that it will at the time of delivery of the Gas to Buyer, (a) possess a licence to produce Gas in the Province of Ontario, (b) have good and valid title to all Gas delivered by it under this Agreement, free and clear of all liens, encumbrances and claims whatsoever, and (c) have complete rights to sell Seller's Gas as aforesaid. Seller will indemnify Buyer and save Buyer harmless from all suits, actions, debts, accounts, damages, costs, losses and expenses arising from or out of adverse claims of any and all persons to said Gas or to royalties, taxes, licence fees or any charges thereon, which are applicable before the title to the Gas passes to Buyer.
- 12.02 Subject to Seller's rights to terminate this Agreement according to Clause 5.02 herein Seller agrees to use reasonable efforts and due diligence to maintain, in good standing, each lease it has to the extent that such lease relates to this Agreement. Subject to Clause 12.01, the Seller shall have the right to encumber such lease and its production facilities for the purpose of financing Seller's operations on said lease.

Article XIII - Use of Compressor

- 13.01 In the event that mechanical equipment is used to compress Gas in order to aid in its delivery, Seller agrees that at no time during the term hereof shall the suction pressure at the intake of said mechanical equipment be less than thirteen decimal eight (13.8) kPa gauge. Seller further agrees that the location of said mechanical equipment shall be such that, in Buyer's opinion, measurement at the meter station shall not be adversely affected.

Article XIV - Planned Shut-Down/Start-Up

- 14.01 Excepting instances of emergency, Seller and Buyer agree to give at least twenty-four (24) hours verbal notice before a planned curtailment of receipt or delivery, shut-down or start-up.

Article XV - Access to Seller's Wells

- 15.01 Seller shall provide to Buyer a plan showing Seller's Gas production facilities, including Gas wells and pipelines, on which all emergency shut off valves have been clearly indicated as well as the names and telephone numbers of those persons whom Buyer may contact in the event of an emergency situation arising at the Delivery Location.

- 15.02 In the event that Buyer is notified by a third party or if Buyer becomes aware of an emergency situation in which Seller's Gas well, pipeline or associated equipment is involved, Buyer shall immediately notify Seller or Seller's representative of such emergency condition, in accordance with Clause 17.03. Even though Buyer is not obligated to take any action to rectify the emergency, if Buyer undertakes any such action, Seller agrees, upon presentation of an itemized account by Buyer, to pay Buyer for all reasonable costs incurred by Buyer in rectifying such emergency.

Article XVI - Breach of Contract

- 16.01 Excepting circumstances of force majeure, in the event that either Party is in breach of any material term or condition of this Agreement, the other Party may give written notice to the Party in breach requiring it to remedy such breach. If the Party in breach fails to remedy the breach within thirty (30) days of receipt of such notice, the other Party may, at its sole option, upon seven (7) days written notice to the Party in breach, terminate this Agreement. Termination pursuant to this Clause 16.01 shall not affect any liabilities accrued to the date of termination or thereafter and the right of termination shall be in addition to any other right or remedy available at law.
- 16.01 No waiver by or on behalf of either Party hereto of any breach of any covenant, proviso, condition, restriction or stipulation herein contained, negative or positive in form, shall take effect or be binding upon such Party, unless the same be expressed in writing by such Party or its duly authorized agent on its behalf, and any waiver so expressed shall not limit or affect such Party's rights with respect to any other or similar future breach.

Article XVII - Miscellaneous

- 17.01 All operations hereunder of both Parties to this Agreement shall be subject to any applicable laws, taxes, orders, rules and regulations of any governmental authority having jurisdiction therein, now or hereafter in effect during the term of this Agreement.
- 17.02 The terms and conditions of this Agreement express and constitute the entire Agreement between the Parties, and no implied covenant or liability of any kind is created or shall arise by reason of these presents or anything herein contained. No modification of the terms and conditions of this Agreement or any of them shall be made except by contract in writing executed by the Parties hereto.
- 17.03 All written notices required to be given hereunder may be delivered by hand, registered mail, overnight courier or electronically delivered by fax (telecopier), addressed to Seller at the address specified in Schedule "A", Clause Five (5), and to Buyer at:

Union Gas Limited
50 Keil Drive North

P. O. Box 2001
Chatham, Ontario N7M 5M1

Telephone (519) 436-5413
Fax Number (519) 436-4651
Attention: Gas Supply Department

or to such other address as Seller or Buyer may from time to time designate by notice in writing one to the other. Notice shall be deemed to be received when the records of the mode of communication verifies the receipt of such notice. Emergency notices shall be delivered to Seller's Resident Operator as set out in Schedule "A" Clause 6.

- 17.04 All monies payable by Buyer for Gas received hereunder shall be made to the address so stated under Schedule "A", Clause Four (4) of this Agreement or to such other address as may be authorized in writing from time to time by notice from the Seller to the Buyer. Buyer shall pay only one payee unless a division thereof is consented to by Buyer and Seller.
- 17.05 This Agreement shall extend to and be binding upon the Parties hereto and each of them, their respective heirs, executors, administrators, successors and assigns, provided that this Agreement shall not be assigned by Seller, without the express written consent of Buyer, which shall not be unreasonably withheld, provided that the Seller shall have the right to include its interest in this Agreement in any mortgage, charge or hypothec for the purpose of financing its Gas producing operations.
- 17.06 In this Agreement, wherever the singular or neuter is used, it shall be construed as if the plural or the masculine or the feminine, as the case may be, had been used, where the context of the Party or Parties hereto so require, and the rest of the sentence shall be construed as if the grammatical or terminological changes thereby rendered necessary had been made.
- 17.07 This Agreement and the rights and obligations of the Parties hereunder are subject to all applicable present and future laws, rules, regulations and orders of any Ontario legislative body or duly constituted Ontario authority now or hereafter having jurisdiction. The Parties agree that this Agreement will be governed exclusively by the laws of Ontario and the Parties exclusively attorn to the courts of Ontario.
- 17.08 If the standard of measurement, applicable to the transaction contemplated herein, is changed by law to another system, all measurements provided for herein shall be interpreted as referring to the applicable equivalent measurement.
- 17.09 The Parties hereto agree that this Agreement shall supersede and replace all prior Ontario Production Gas Purchase Agreements and amendments thereof between the Parties and that all prior Ontario Production Gas Purchase Agreements between the Parties and all amendments thereto have been cancelled.

- 17.10 Each of the Parties shall perform all further acts reasonably required in order to fulfill and carry out the terms of this Agreement.
- 17.11 Buyer shall have the right to set off against any payments it owes to Seller, any amount of money Seller owes to Buyer.
- 17.12 The Schedules listed in this Clause 17.11 and attached hereto form part of this Agreement as if found in the body of the Agreement;

Schedule "A" - Special Terms and Conditions

Schedule "B" - Price Calculation Example

IN WITNESS WHEREOF the Parties hereto have executed this Agreement in duplicate.

UNION GAS LIMITED

COUNTERPARTY

SCHEDULE "A" - SPECIAL TERMS AND CONDITIONS

To the Ontario Production Gas Purchase Agreement (the "Agreement") dated the ____ day of _____ between _____ ("Seller") and Union Gas Limited (Buyer").

1. Delivery Location

As provided for in Clause 8.01 of the Agreement Seller shall convey the Gas to be purchased at the Point of Delivery located on the Delivery Location as follows:

Delivery Location #1:

Located at Lot ____, Concession ____, _____ Township, Station No. _____.

2. Maximum Daily Volume

Seller agrees to limit the volume of Gas delivered in any one Day at the Delivery Location as hereinafter stated:

Delivery Location #1 shall have a Maximum Daily Delivery of ____ 10³M³ of Gas.

In the event the Seller exceeds its cumulative Maximum Daily Delivery volumes, Buyer may, at Buyer's option, suspend receipts of Gas until the Buyer's receipts of Gas matches the cumulative Maximum Daily Delivery volumes.

3. Operating Fee

Seller shall pay to Buyer a monthly operating fee in the amount of \$90.00 per Delivery Location.

4. Payments

Payments to Seller for Gas received by Buyer, as provided for in Article IV - Payments, and Clause 17.04 of the Agreement shall be made by electronic funds transfer payable to:

5. Agreement Notices

Notices to Seller with respect to this Agreement, as provided for in Clause 17.03 of the Agreement shall be addressed to Seller at:

Attention: _____

6. **Seller's Resident Operator**

Seller shall notify Buyer of any changes to Seller's resident operator within forty-eight (48) hours of any such change taking place.

7. **Maximum Allowable Operating Pressure ("MAOP")**

Seller's delivery MAOP at each Delivery Location shall be as follows:

At Delivery Location #1 MAOP is _____ kPa.

8. **Modified Water Vapour Requirement**

Subject to the terms herein, Buyer will accept, at each Delivery Location, Gas from Seller which contains a maximum water vapour content of 230 MG per M³ (14 Lbs./MMCF) provided that Buyer's pipeline system into which Seller's Gas is delivered has a maximum operating pressure rating of 1900 kPa or less. In the event Seller's Gas is delivered into Buyer's pipeline system at a pressure of more than 1900 kPa, the conditions of Article X, Clause 10.04 will apply. Both Parties agree that should Buyer at any time experience malfunctioning of or deterioration of the measurement equipment, Gas control equipment, or other appurtenance, in Buyer's pipeline system or should Buyer's customers experience problems with the combustion or usage of Gas in their Gas burning equipment due to excessive moisture content, Buyer at its sole discretion may reduce the maximum water vapour requirement for Gas delivered under the Agreement to that which is specified in Clause 10.04, Article X, Quality of the Agreement. In the event Buyer reduces the maximum water vapour requirement to that which is specified in Clause 10.04, Buyer shall continue to purchase Seller's Gas at 230 MG per M³ (14 Lbs./MMCF) for ninety (90) days after such notice. Upon the termination of such ninety (90) days Seller's Gas must meet Clause 10.04 requirements.

9. **Price**

The Price expressed in Canadian dollars (\$) per GJ is the "Niagara Indexed Price" which is a price calculated (example attached as Schedule "B") using the monthly Niagara index for the Delivery Month as reported in the **Canadian Gas Price Reporter Canadian and U.S. Spot Gas Price differentials** (where Niagara row and column meet on the chart) less \$.24/GJ (Buyer's balancing and transportation charge). The Price is applied by multiplying it by the product of a) the Delivery Month volume in 10³M³ and b) the Heat Value which is a volume weighted average of all of Buyer's Ontario Gas producers as determined by Buyer.

10. **Prepayment**

The Prepayments for Delivery Location #1 as specified in Article 7, Clause 7.05 (b) are as

follows:

The First Prepayment upon execution of this Agreement is \$_____ (_____).

The Second Prepayment prior to installation of Delivery Location #1 is \$_____ (_____).

SCHEDULE "B" - PRICE CALCULATION EXAMPLE

The following is an illustration of calculating the Niagara Indexed Price as reported for the month of June 2007. This example is for illustration purposes only, since June 2007 does not fall within the term of this agreement:

June 2007 Niagara Index per Canadian Gas Price Reporter where The Niagara row and column meet on the chart	\$8.008
Less Buyer's balancing and transportation charge	(.240)
Net price payable (Canadian \$ per GJ) for June 2007 deliveries	<u>\$7.768</u>

Note: This equates to approximately \$302.95 per 10^3M^3 or \$8.582 per MCF.
To convert \$/GJ to \$/ 10^3m^3 multiply by 39.00 (Heat Value*)
To convert \$/ 10^3m^3 to \$/MCF divide by 35.30096

* Heat value of 39.0 MJ/M^3 (or about 1029 Btu/Cu.Ft.) is a volume weighted average of all of Buyer's Ontario Gas producers (within the maximum allowed heat value) as calculated on January 11, 2008.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO AGRIENERGY PRODUCERS' ASSOCIATION OF ONTARIO
INTERROGATORY #3

Cost Consequences/Environmental Attributes

B, T1, pg. 28

Can you provide the final version of the technical gas quality guidelines provided by the CGA and the established renewable natural gas specifications for each of the utilities?

Response:

A summary of the Canadian Gas Association Biomethane Guideline is publicly available at the CGA website (<http://www.cga.ca/resources/publications/cga-guidelines/>) and is also attached.

Canadian Gas Association

Standing Committee on Operations Biomethane Task Force

Biomethane Guidelines for the Introduction of Biomethane into Existing Natural Gas Distribution & Transmission Systems

February 2012

Legal Notice

This document is for information purposes only & does not constitute a standard. Information in the document should not be relied upon as the sole source of information relating to its content and no warranty, either express or implied, is made with respect to the information contained herein. The Canadian Gas Association, its members, respective employees and contractors are not responsible for any loss, inconvenience, damage (whether special or consequential) or claims arising out of the use of the information contained in this document.

Acknowledgements

The Canadian Gas Association would like to thank the following Biomethane Task Force members for their contribution to the work represented in this document.

Dana Engler	TransCanada
Drew Everett	Union Gas
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Scott Gramm	Terasen Gas
Jonathan Kaida	ATCO Midstream
Abdelhaq El Ouardi	Gaz Métro
Gunther Pratteringer	Enbridge Gas Distribution
Diane L. Saber	REEthink, Inc.
Tim Starodub	Manitoba Hydro
Jim Tweedie	Canadian Gas Association

Executive Summary

The purpose of this Guidance Document is to establish a common framework for the introduction of biomethane into existing natural gas distribution and transmission networks. There is a shared and important need to understand the quality and potential impacts of introduced gases to these pipeline networks. ***However, this Document does not provide specific “cleanup standards” or conditions for introduction of biomethane to the pipeline network.*** Rather, it may serve as an industry-wide reference covering basic biomethane quality parameters, characteristics, and analytical techniques that may be used in contracts or new tariff gas quality specifications.

This document provides Biomethane Quality Guidelines

Specifications and recommendations for specific equipment, processes and techniques needed to clean and purify biogas to become biomethane will **not** be discussed within this Guidance Document. The natural gas industry’s responsibility is assumed to begin at the reception point of biomethane, at an injection/mixing point for a transmission or distribution system.

Introduction

Operators of distribution and transmission pipeline systems are now frequently approached to purchase and/or take delivery of biomethane. Many wish to take advantage of this opportunity to transport and/or distribute a “green product” or renewable energy product but are somewhat reluctant due to limited experience with it. Currently, gas quality specifications only exist for geologically formed natural gas. There is very limited industry experience with biomethane or renewable natural gas (RNG) and many questions about its application.

Biogas must be cleaned sufficiently to biomethane for consideration for introduction to the natural gas pipeline network. Based on the biomass source material, produced raw biogas contains constituents and compounds that pose hazards to the pipeline network, human health and the environment. In addition, insufficiently cleaned biogas may contain trace or residual compounds that compromise the integrity and operation of gas utilization equipment.

The quality of geologically-derived natural gas is specified in gas transportation tariffs agreed upon by the supplier and the local distribution or transportation system contracting for the gas. These specifications can vary by region and by individual tariff. Biomethane is not sufficiently characterized by these existing tariff provisions.

Biomethane quality is very important to natural gas companies and to acceptance to the pipeline network. In order to accept biomethane as a viable renewable energy product, a Guidance Document covering quality and common practices is necessary. This Guidance Document can then be used as a reference for producers, suppliers and receivers of this renewable natural gas product.

This Document intends to create common understanding of biomethane between all stakeholders: natural gas companies, farmers, landfill and wastewater treatment owners/operators, developers and providers of biogas cleanup technologies.

Scope & Mandate

The mandate of the CGA Biomethane Task Force was to identify, understand and evaluate the impacts of biomethane on transmission & distribution systems as well as end-use equipment, and, from that knowledge, develop a Canadian natural gas delivery industry guideline for pipeline grade biomethane suitable for mixing with existing and future natural gas supplies.

The boundaries of Guidance Document work executed by the Task Force are from the point of biomethane injection into any given transmission or distribution system to the point of end use. Additionally, the Task Force was asked to include the known impacts (safety and operational) of gas quality variations and appropriate test methodologies required to ensure biomethane is acceptable to all CGA members and Canadian stakeholders, i.e. in compliance with the operational aspects of CSA Z662 and CSA B149. The scope does not consider the possibility of injecting raw (un-cleaned) biogas or semi-processed biogas/not fully upgraded gas into natural gas delivery or transportation systems. This Guidance Document also does not address the design, construction, maintenance and/or operation of a biogas to biomethane plant.

Background

Biomethane is a *cleaned biogas product* produced from the anaerobic digestion of a wide variety of biomass materials. Interest in biomethane as an interchangeable product for natural gas has been noted throughout North America due to environmental, political, and economic drivers. Sources of this increasingly popular fuel include landfill waste, wastewater treatment digestion, agricultural waste, food-processing waste, and animal/bird farming by-products (manure digestion). Historically, raw or partially-cleaned biogas has been used primarily for on-site electrical power generation or other site specific energy needs.

Biogas is produced from the breakdown of organic material (landfill, wastewater, animal waste, and biomass) and contains a mixture of methane, carbon dioxide, and trace contaminants. The raw gas mixture is known as biogas. This gas mixture can be “cleaned up” or processed to produce *biomethane*.

The application of biogas as an energy source began in India in the 1800s and has proved popular around the world at different scales and application. Over 5 million plants are claimed to be in operation in China as a source of cooking fuel. During the energy crisis of the late 1970s and early 1980s significant effort was put into research of industrial scale production of biogas. The momentum for this work was generally lost as oil prices came down. Work did continue in Denmark and several large digesters were built in the late 1980s and 1990s. Germany used the Danish experience and established a biogas program for the generation of electricity in 2000. By 2008, this German program has resulted in the construction of over 3000 plants. Sweden implemented the application of biogas in 2002 with upgrading of the biogas to biomethane for natural gas grid injection, primarily for vehicle fuel use. By 2008, biomethane was being used to operate 130,000 vehicles. As of 2010, Germany leads in the production of biomethane, generated from energy crops exclusively, in Europe with the gas being injected into the natural gas distribution system.

Raw biogas that is produced from an anaerobic digester contains up to 68% methane gas. The bulk of the remaining 30% or more is carbon dioxide, and small percentages of sulfur compounds or trace amounts of other constituents. The gas also contains significant amounts of water. *Biogas would not be acceptable for injection into a pipeline system due to concerns with low heating content, system integrity risks (corrosion and freezing) and potential risks to human health.* Cleaning of the biogas in a properly

designed and operated treatment plant can produce a biomethane with a methane content of 96% or higher and removal of the contaminants of concern.

There are a small number of biomethane upgrading facilities operating in the United States that inject gas into the distribution system (less than forty). There are two known biomethane upgrading facilities operating in Canada and injecting gas into the local distribution system as of fall 2010. One is located in Quebec using a landfill as the gas source with the second in Abbotsford, BC with a digester as the biogas source.

The paper “Renewable Natural Gas in Canada” produced by the Alberta Research Council with sponsorship of the CGA evaluated potential means of production of gas from various biomass waste streams and estimated the total potential gas volumes available. These estimates indicate that the biomass volumes available could produce gas equivalent to 1.3 times the amount of natural gas used by Canadian residential and commercial consumers and equal to about 20% of the total current natural gas production. While these volumes will not be reached due to location of the biomass and economics, it does provide an indication of the potential magnitude of the energy source.

The use of biogas for electrical generation is an inefficient application of the gas as only about 35% of the available energy is recovered due to the efficiency of the internal combustion engine powering the generator. If waste heat from the engine can be used the overall plant efficiency can be increased. However, German experience has shown that installations that can usefully apply the available heat in all seasons are rare. The introduction of biomethane into a natural gas transmission or distribution system would permit the available energy of this gas to be better utilized.

Biomethane Quality Guidelines

The Biomethane Guidelines below were created from a compilation of existing Canadian natural gas quality specifications, recommended component limits cited in European standards and in the United States, and practices recommended by this Task Force. The Guidelines compiled below are supported by references. However it is important to consider the particular situation in which the biomethane will be injected, as specifics between systems may vary and other considerations may dominate in a decision for biomethane introduction to the pipeline network. These Guidelines are not prescriptive and final decision for biomethane introduction should be carefully considered by the gas utility.



Physical Properties	Reference	Symbol	Upper Content Limit	Units	Comments	Test Methods
Heating Value	Published Canadian Tariffs	-	36 to 41.3	MJ/M3		ASTM D1945 or GPA 2261
Wobbe Index	Published Canadian Tariffs	-	47.23 to 51.16	-		
Carbon Dioxide	Published Canadian Tariffs	CO ₂	2	mol%		ASTM D1945/1946
Oxygen	Published Canadian Tariffs	O ₂	0.4	mol%		ASTM D1945/1946
Inerts	Published Canadian Tariffs	-	4	mol%	N, O ₂ , CO ₂ + others	ASTM D1945/1946
Hydrogen Sulphide	Published Canadian Tariffs & CSA Z662	H ₂ S	6 or 7 to 23	mg/M3	7 is Distribution (Z662), 23 is Transmission (Tariffs)	ASTM D4084
Sulphur (in total)	Published Canadian Tariffs	S	115	mg/M3		ASTM D3246
Mercaptans or Methyl Mercaptan	Published Canadian Tariffs	-	6 to 8	mg/M3		
Water Content	Published Canadian Tariffs	H ₂ O	35 to 65	mg/M3		ASTM D1142 or ASTM D5454
Hydrocarbon Dew Point	Published Canadian Tariffs	HCDP	-10	°C		
Gas Interchangeability	Published Canadian Tariffs & CGA NGI Report (2009)	-	IC & YT Indexes		Weaver Incomplete Combustion & AGA Yellow Tipping indices	
Temperature Steel	Published Canadian Tariffs	-	Max 49 to 50	°C	(Temperature of the injection gas)	
Temperature Plastic	CSA Z662	-	Max 30	°C	(Temperature of the injection gas)	
Particulates	Published Canadian Tariffs	-	Free of...			
Biologicals/Bacteria	Published Canadian Tariffs	-	Free of...		0.3 micron filter separator recommended	
Hydrogen	TBD	H ₂	TBD		TBD relative to individual pipe material considerations concerning Hydrogen embrittlement and stress cracking. Hydrogen permeability regarding threaded and gasketed joints and non-metallic pipe systems needs to be well understood.	
Ammonia	MarcoGaz compilation of European specifications (TBC)	NH ₃	3	mg/M3		ASTM D1945/1946
Halocarbons and Organochlorinated Compounds	MarcoGaz (France) compilation of European specifications & AFSSET Reports. Vinyl Chloride based on NIOSH & OSHA	-	10	mg/M3	Limit of 1 mg/M3 for vinyl chlorides within the 10 mg/M3 total	EPA TO-15
Heavy Metals	Laboratory Detection limits for mercury & arsenic	-	Mercury 0.05 Arsenic 30	micro-grams /M3	For copper, zinc & other metals; comparison to existing metals in current Natural Gas stream, i.e. metals from biomethane do not substantially contribute to background levels.	
Siloxanes	Based on end use requirements. Twice the lab detection limit of 0.5.	-	1	ppm		
Volatile and Semi-Volatile Compounds	-	-			Monitor & establish presence in NG stream; must know what's in both Natural Gas & Biomethane streams	EPA Method 8270
Other Considerations: This is not a complete listing of potential trace constituents. Refer to published reports concerning trace constituents that may be present in various biogas sources. (See GTI Reports: Pipeline Quality Biogas: Guidance Document for Dairy Waste, Wastewater Treatment Sludge and Landfill Conversion, Pipeline Quality Biomethane: North American Guidance Document for Introduction of Dairy Waste Derived Biomethane into Existing Natural Gas Networks).						
Footnotes: There may be circumstances, based on the judgement of the gas system operator, where specific component limits may differ from the information above.						

The Biomethane Guidelines provided here are not a “black and white” set of parameters for the introduction of biomethane into natural gas delivery systems throughout Canada, but rather a flexible set of considerations that a specific gas system operator can use to determine specific limits suitable for specific biomethane contracts. Biogas sources and potential trace constituents should be considered.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO AGRIENERGY PRODUCERS' ASSOCIATION OF ONTARIO
INTERROGATORY #5

Cost Consequences/Environmental Attributes

B, T1, pg. 26, line 16:

You state that the inflation factor in the twenty year RNG contract will be 0.3 of the annual increase in the Ontario CPI. What was the average increase in the Ontario CPI over the last ten years, and how does that compare with the average increase in costs incurred by farm-based biogas producers over the same period; and if the data is available to you, with the increase in costs experienced by American dairy producers and German producers over the same period.

Response:

The average increase in Ontario CPI from 2002 to 2011 was 2.1% per year. Using the Statistics Canada Series 328-0015, Farm input price index, CANSIM (database), the Ontario Farm Input Total Price Index averaged 3.3%. per year. A comparison table is provided below.

As the RNG program contemplated by EGD and Union was restricted to the province of Ontario, inflation factors outside of the province or country were not considered.

Year	Ontario CPI	Ontario CPI Growth Rate	*Ontario Farm Input Total Price Index	Ontario Farm Input Total PI Growth Rate
2002	100.0		99.9	
2003	102.7	2.7%	102.3	2.4%
2004	104.6	1.9%	103.5	1.2%
2005	106.9	2.2%	106.9	3.3%
2006	108.8	1.8%	111.1	3.9%
2007	110.8	1.8%	115.7	4.1%
2008	113.3	2.3%	126.9	9.7%
2009	113.7	0.4%	130.2	2.6%
2010	116.5	2.4%	123.4	-5.2%
2011	120.1	3.1%	133.2	7.9%
Average 2002 - 2011		2.1%		3.3%
Source: Statistics Canada. *Table 328-0015 - Farm input price index, annual (index, 2002=100), CANSIM (database).				

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO AGRIENERGY PRODUCERS' ASSOCIATION OF ONTARIO
INTERROGATORY #6

Issue 2.0 – Cost Consequences

B, T1, App 1

Preamble

According to the APAO's information, there are a total of ten farm-based biogas power systems currently operating in Ontario, delivering approximately 5 MW of electricity to the power grid under FIT contracts. The majority of the biogas projects built to date are sized between 250 to 500 kW. An additional twenty biogas power projects are in development, in the stages of planning, design, or construction, but most of which do not yet have FIT contracts. However, given the limited number of biogas power contracts approved to date by the OPA, and the difficulty of projects with contracts getting connected to the distribution grid, interest in FIT is waning. On the other hand, the farm producers' capital costs are much higher under the RNG program than under FIT (for equivalent sized projects) due to the need for the producer to pay for the upgrading process (for example, Ex. B, T1, App. 4, pg. 23, Table 2, Total Capital Costs for agricultural scenarios (Electrigas Cost Study)).

1. Did Enbridge review the price structure with farm producers prior to preparing the RNG program?
2. How many farmers with the ability to produce more than 700 kWe of RNG (large farm minimum) do Enbridge and Union estimate there are in their respective franchise areas in Ontario, and are located within a kilometre of a gas distribution line?

Response:

1. EGD and Union did not review the price structure with farm producers prior to preparing the RNG program.
2. A detailed investigation of the projected production capacity of individual or multiple farms supplying a potential central RNG production facility was not undertaken. The “Large Agricultural” scenario referenced assumes that this size of project is “unlikely to happen on small singular farms” (please see at Exhibit B, Tab 1, Appendix 4, page 3) and the Utilities do not have any information on potential farm co-ops that might be created. The RNG production ranges for this scenario were defined by the capacities of commercially available biogas purification equipment, rather than specific farm operations.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO AGRIENERGY PRODUCERS' ASSOCIATION OF ONTARIO
INTERROGATORY #8

Connection Costs

B, T1, App. 4 and C – Monthly Fixed Charge for Producers

In some other jurisdictions, notably British Columbia and Germany, the utility pays either the whole connection cost to the grid (B.C.) or shares the cost with the producer. What would be the impact on the customer bill if the utility paid:

- (i) fifty percent of the connection cost of farm-based projects,
- (ii) one hundred percent of the connection cost of farm-based projects.

Response:

EGD and Union are proposing that the costs associated with connecting a RNG producer to their distribution systems be borne by the producer through a contribution in aid of construction. This approach ensures that the connection costs have no negative impacts on distribution customers.

The connection costs are factored in the RNG producer costs when the RNG program is designed. Reduction in the connection costs will result in a reduction of the RNG prices paid to the producers.

If the target volume of RNG remains the same, this change will translate to a reduction of RNG gas cost, but an increase in distribution costs arising from an increase in rate base.

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ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO AGRIENERGY PRODUCERS' ASSOCIATION OF ONTARIO
INTERROGATORY #9

Connection Costs

B, T1, App. 1

Please provide a forecast of the amount of natural gas likely to be displaced by Renewable Natural Gas under this program, each of the next ten years, beginning in 2012, and from what sources, municipal or farm-based.

Response:

The Utilities do not have a specific annual forecast volume of RNG under this program.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BUILDING OWNERS AND MANAGERS ASSOCIATION,
TORONTO ("BOMA") INTERROGATORY #1

Cost Consequences/Environmental Attributes

Reference: B, T1, pg. 24; B, T1, pg. 8

You note that environmental attributes will accrue to utility ratepayers through offsets to the RNG purchase costs, and that the "maximum near term (up to ten years) potential for GHG reduction from RNG in Ontario is thirteen million tonnes of CO₂ emissions per year, or more than forty-five percent of Ontario's GHG emission reduction target" (our emphasis). For representative RNG contractual volumes/GHG prices scenarios, please calculate the likely future value of these attributes to ratepayers.

Response:

Please see response to APAO Interrogatory #1 (Exhibit I-2-1).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BUILDING OWNERS AND MANAGERS ASSOCIATION,
TORONTO ("BOMA") INTERROGATORY #2

Cost Consequences/Environmental Attributes

Reference: B, T1, pg. 26

Can you provide a copy of the draft Enbridge/Union RNG purchase contract, as well as a copy of their existing contracts used to purchase natural gas from existing Ontario producers?

Response:

Please see response to APAO Interrogatory #2 (Exhibit I-2-2).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BUILDING OWNERS AND MANAGERS ASSOCIATION,
TORONTO ("BOMA") INTERROGATORY #4

Issue 2.0 – Cost Consequences

Reference: B, T1, App 1

Preamble

According to the BOMA's information, there are a total of ten farm-based biogas power systems currently operating in Ontario, delivering approximately 5 MW of electricity to the power grid under FIT contracts. The majority of the biogas projects built to date are sized between 250 to 500 kW. An additional twenty biogas power projects are in development, in the stages of planning, design, or construction, but most of which do not yet have FIT contracts. However, given the limited number of biogas power contracts approved to date by the OPA, and the difficulty of projects with contracts getting connected to the distribution grid, interest in FIT is waning. On the other hand, the farm producers' capital costs are much higher under the RNG program than under FIT (for equivalent sized projects) due to the need for the producer to pay for the upgrading process (for example, Ex. B, T1, App. 4, pg. 23, Table 2, Total Capital Costs for agricultural scenarios (Electrigas Cost Study)).

1. Did Enbridge review the price structure with farm producers prior to preparing the RNG program?
2. How many farmers with the ability to produce more than 700 kWe of RNG (large farm minimum) do Enbridge and Union estimate there are in their respective franchise areas in Ontario, and are located within a kilometre of a gas distribution line?

Response:

Please see response to APAO Interrogatory #6 (Exhibit I-2-6).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BUILDING OWNERS AND MANAGERS ASSOCIATION,
TORONTO ("BOMA") INTERROGATORY #6

Connection Costs

Reference: B, T1, App. 4 and C – Monthly Fixed Charge for Producers

In some other jurisdictions, notably British Columbia and Germany, the utility pays either the whole connection cost to the grid (B.C.) or shares the cost with the producer. What would be the impact on the customer bill if the utility paid:

- (i) fifty percent of the connection cost of farm-based projects,
- (ii) one hundred percent of the connection cost of farm-based projects.

Response:

Please see response to APAO Interrogatory #8 (Exhibit I-2-8).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BUILDING OWNERS AND MANAGERS ASSOCIATION,
TORONTO ("BOMA") INTERROGATORY #7

Connection Costs

Reference: B, T1, App. 1

Please provide a forecast of the amount of natural gas likely to be displaced by Renewable Natural Gas under this program, each of the next ten years, beginning in 2012, and from what sources, municipal or farm-based.

Response:

Please see response to APAO Interrogatory #9 (Exhibit 1-2-9).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BULLFROG POWER INC. INTERROGATORY #1

ISSUE 1 - Role of the Utilities

Aside from the Ipsos Reid survey conducted (Ex. B, Tab 1, App. 3):

- (a) What examinations have Union Gas Limited (“Union”) and Enbridge Gas Distribution Inc. (“Enbridge”) performed to evaluate the impact of this initiative on the retail market, and in particular the retail market for RNG?
- (b) In what ways and to what extent will the proposal affect the current and future retail market?
- (c) Please provide all relevant information on the anticipated impact, including pricing, volumes, access to distribution, etc.

Response:

- a) The Utilities have not conducted a formal examination of the impacts on the retail market.
- b) Refer to a). Generally the program would have the effect of raising current system gas costs, thereby indirectly increasing the financial competitiveness of all alternate retail supply options.
- c) Refer to a). The Utilities do not have any information on the anticipated impact regarding pricing or volume as it relates to retailers.

At Union, access to distribution is open to retailers who want to contract with RNG suppliers to transport their gas using the existing M13 rate. The RNG Program will have no impact on this access for retailers who want to contract with RNG suppliers.

EGD may, in the future, develop a transportation rate for RNG producers who do not participate in the Utilities’ RNG Program but wish to connect to EGD’s network. This application does not preclude retailers from participating in Ontario through open access to the distribution system and does not affect any arrangements that retailers may have or plan to have with sources of supply outside of Ontario.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BULLFROG POWER INC. INTERROGATORY #7

ISSUE 2 – Cost Consequences

Please confirm which potential Environmental Attributes (“EAs”) will be acquired by Union and Enbridge. In particular, please confirm whether any or all of the following will be acquired as EAs by Union and Enbridge:

- (a) credits associated with destruction of methane emissions from the fuel source;
- (b) credits associated with displacement of conventional natural gas by biomethane; and/or
- (c) other credits for activities related to RNG (please specify).

Response:

- a) – c) The Utilities propose to acquire all environmental attributes associated with the commercial operation of RNG generation, following approved and applicable Federal or Provincial compliance requirements. The value of the attributes will be accrued to system customers through a deferral account mechanism.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO BULLFROG POWER INC. INTERROGATORY #9

ISSUE 2 – Cost Consequences

Will EAs be retired on behalf of consumers?

(a) If yes, which EAs?

(b) If yes, how?

Response:

Please see response to Shell Interrogatory #14 (Exhibit I-14-14).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #2

ISSUE 1 - ROLE OF THE UTILITIES

What is EGD/Union's contribution to enabling the development of a viable RNG industry in Ontario?

Response:

EGD and Union are making the following contributions toward enabling the development of a viable RNG industry in Ontario:

- The Utilities have investigated the potential for the development of a RNG industry in Ontario including, but not limited to, customer attitudes, equipment availability and capability, sources of supply, and health and safety. These contributions have culminated in this application.
- The Utilities have examined in depth the gas composition and specification requirements to facilitate RNG injection and are prepared to provide physical access to their distribution systems for potential producers.
- The Utilities have proposed a solution/means of enabling an RNG industry by virtue of this application.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #3

ISSUE 1 - ROLE OF THE UTILITIES

Did EGD/Union's parent or any of EGD/Union's affiliates consider developing or contributing to the development of an RNG industry in Ontario? If so, why was the idea rejected?

Response:

Neither EGD/ Union's parent or any EGD/Union affiliate considered developing or contributing to the development of the RNG industry in Ontario. Please see response to CCC Interrogatory #1 (Exhibit I-5-1).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #7

ISSUE 1 - ROLE OF THE UTILITIES

(B/T1/p. 8)

Please indicate why the Ontario Biogas Systems Financial Assistance Program was concluded in 2010. Did either Union or EGD seek to have the Program continued for purposes of the proposal embodied in this application?

Response:

It is the Utilities understanding that the Ontario Biogas Systems Financial Assistance Program had been established with a specific timeframe and that it concluded in 2010 at the end of the planned timeframe. The Utilities did not ask to have the program continued.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #9

ISSUE 1 - ROLE OF THE UTILITIES

(B/T1/p. 10)

Please indicate to what extent EGD/Union and/or its affiliates considered other options to "enable" a viable RNG industry in Ontario. Please indicate what those other options were and why they were rejected.

Response:

Please see responses to Board Staff Interrogatory #5 (Exhibit I-1-5) and to Bullfrog Power Interrogatory #6 (Exhibit I-4-6).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #10

ISSUE 1 - ROLE OF THE UTILITIES

(B1/T1/p. 11)

The evidence states that the Utilities are uniquely positioned with the provincial energy market to enable the RNG industry on behalf of consumers throughout the Province. Do customers other than system supply customers stand to benefit from the development of an RNG industry? If not, why not?

Response:

The Utilities are of the view that all residents of Ontario will benefit from the development of a viable RNG industry. Please refer to the Overall RNG Benefits section of the evidence, at Exhibit B, Tab 1, pages 8 to 10.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #14

ISSUE 1 - ROLE OF THE UTILITIES

(B/T1/p. 11)

With respect to the Ipsos Reid survey, how were the participants selected?

Response:

Participants were drawn from a balanced sample of Ontario panellists, drawn from Ipsos Reid's iSay proprietary panel, representing the Ontario population. To qualify for the survey, the participant was required to be the individual in the household who has primary or joint responsibility for making decisions about utility services and be the one who receives the natural gas bill.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #19

ISSUE 1 - ROLE OF THE UTILITIES

(B/T1)

Please list jurisdictions in which RNG programs similar to the ones being proposed have been developed without government subsidy. Please provide examples of RNG programs in place in other jurisdictions similar to the one being proposed by the Utilities. Please list and describe the situations where pipeline-quality biomethane is being produced and marketed without government incentives or subsidies.

Response:

The Utilities are unaware of programs reasonably similar to the ones being proposed either with or without government subsidy or incentives.

The programs the Utilities are aware of are:

- a. FortisBC (former Terasen Gas) Biomethane Service Office as described in the responses to Board Staff Interrogatory #7 (Exhibit I-1-7) and VECC Interrogatory #8 (Exhibit I-15-8).
- b. German ordinance of gas network access (Gasnetzzugangsverordnung – GasNZV)
- c. French Decree n ° on 2011-1597
- d. U.S. projects as outlined below.

In the United States approximately 30 projects exist where pipeline quality RNG is being produced for injection into the pipeline transportation network. Few projects operate without any form of government incentive or subsidy. Government incentives and subsidies take a number of forms, be they direct monetary contributions to project proponents in the form of grants, capital cost reductions, tax incentives and higher than usual tax depreciation rates, production tax credits, low cost loans, direct legislation, policy statements, regulations which favour the operations of renewable systems or control the operations of non-renewable system such as clean air and emission reduction legislation, and lastly where a project partner was a government.

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #21

ISSUE 2 - COST CONSEQUENCES

(B/T1)

Please provide a schedule setting out the following:

- The total costs of the joint application;
- The costs of the Ipsos Reid Survey, the Alberta Innovates Report, the Electrigaz Biogas Plant Costing Report, the Electrigaz Program Pricing Report;
- The costs of any other consulting studies undertaken to support the development of the RNG Program; and
- External legal costs associated with the application and the development of the RNG Program.

Response:

Please see the attached table.

Application Costs		Cost	HST	Total	Enbridge Share	Enbridge Cost
OEB Directed Newspaper Ads		\$ 157,765	\$ 20,509	\$ 178,274	100%	\$ 178,274
Application Printing		\$ 1,175	\$ 153	\$ 1,328	100%	\$ 1,328
Application Courier		\$ 851	\$ 111	\$ 962	100%	\$ 962
Stakeholder Consultation		\$ 4,190	\$ 545	\$ 4,735	50%	\$ 2,367
Total Application Costs						\$ 182,931
Consultants Costs						
Alberta Innovates Report		\$ 26,000	\$ 3,380	\$ 29,380	50%	\$ 14,690
Electrigaz Reports		\$ 79,282	\$ 10,307	\$ 89,589	50%	\$ 44,795
Ipsos Reid Survey		\$ 41,800	\$ 5,434	\$ 47,234	50%	\$ 23,617
Total Consultant Costs						\$ 83,102
Other Consultant Costs						
None						
External Legal						
		\$ 49,519	\$ 6,437	\$ 55,956	100%	\$ 55,956
Total Costs						\$ 321,989

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #23

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 18)

Please explain, specifically, how the annual volume caps were developed.

Response:

The volume caps were determined through the following steps.

First was the design of the pricing structure of the RNG program. Once the prices were developed, it provided the basis to determine the cost consequence that would be applied to the system gas purchase portfolio.

An average cost of \$15.00/GJ was used. The average cost was based on the RNG pricing framework as provided at Exhibit B, Tab 1, page 21 and assumed 50% of RNG volumes sourced from landfill gas priced at \$13/GJ and 50% of RNG volume sourced from anaerobic digestion priced at \$17/GJ. The maximum price level for each type of production was used as a conservative estimate.

Next a maximum volume level of RNG was estimated and confirmed by calculating the bill impact, such that the cost impact on system gas was not more than two percent of the total cost or was not more than \$1.50 per month, or \$18.00 per year.

Please see EB-2011-0242, Exhibit C, Tab 1, Schedule 1, pages 1 to 3.

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #24

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 19)

The evidence states that the costs of the RNG supply will be incorporated into the Utilities' system costs portfolios. Will the entire costs of the program be borne by system gas customers only? Will all of the costs of the program be recovered through gas supply charges?

Response:

EGD is proposing that the incremental commodity cost incurred from purchasing RNG be borne by system gas customers thorough the gas supply commodity charge. The costs associated with the operating and maintenance of the connecting pipeline and station (which include quality control), and measuring and regulating equipment will be paid for from the producers through the proposed RNG producer operating and maintenance charge as outlined at Exhibit C, Tab 1, Schedule 2.

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #26

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 22)

The pricing models were developed with a view to settling on prices that would support an ROE in the proximity of 11% without the price exceeding "a threshold determined by the utilities to be excessive and unlikely to be supported by their customer base". What is that threshold and how did the Utilities determine it? Did the Utilities consider a lower ROE? If not, why not? If so, why was it rejected?

Response:

The 11% ROE was chosen as appropriate and necessary based on the existing OPA feed-in-tariff program. Simulations were performed to establish optimal and acceptable RNG price points and energy volume thresholds to yield an overall target of 11% ROE. The threshold in the pricing model was selected since survey results show that a majority of residential customers supported paying for RNG as long as the impact on their bill did not exceed \$18 per year.

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #29

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 21)

Does EGD agree that the economics of each potential project will vary? If so, does EGD agree that the returns to each producer will vary?

Response:

- i. Yes, EGD agrees that the economics of each potential project will vary.
- ii. EGD agrees that the returns to each producer will vary.

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #30

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 26)

Please provide a sample supply contract for the RNG program.

Response:

Please see the response to APAO Interrogatory #2, (Exhibit I-2 2), Attachment 1.

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #31

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 26)

Please explain why EGD arrived at a price escalator of 30 of CPI.

Response:

Please see the response to APAO Interrogatory #5 (Exhibit I-2 5). The choice of a 30% CPI was informed by the OPA CHP Standard Offer Program. The use of a factor is to recognize that the price paid to producers reflects the initial capital costs which are generally fixed (with the exception of taxes and variable interest costs), and future operating costs and improvements to capital, such as equipment maintenance which are costs that are subject to inflation. The use of a 30% factor was to ensure a reasonable compromise between the ongoing operating costs and the initial invested capital.

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #32

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 26)

To the extent the producers costs are reduced over time will there be provisions for a reduction in the pricing. If not, why not?

Response:

No. The use of a factored inflation index ensures that future operating expenses are properly balanced against the initial capital outlays which are fixed. The RNG programs the Utilities have proposed have a five year contract acceptance window and pricing would not change over the 5 year life of this program. At that time the programs will be reviewed.

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #34

ISSUE 3 - IMPACTS ON THE DISTRIBUTION SYSTEM

(C/T1/S2/p. 1)

Please provide a copy of a draft EGD RNG gas purchase agreement.

Response:

Please see responses to APAO Interrogatory #2, (Exhibit I-2-2), Attachment 1.

UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #21

ISSUE 2 - COST CONSEQUENCES

(B/T1)

Please provide a schedule setting out the following:

- The total costs of the joint application;
- The costs of the Ipsos Reid Survey, the Alberta Innovates Report, the Electrigaz Biogas - Plant Costing Report, the Electrigaz Program Pricing Report;
- The costs of any other consulting studies undertaken to support the development of the RNG Program; and
- External legal costs associated with the application and the development of the RNG Program.

Please provide the allocation between Union and EGD. Please indicate how those costs have been, or will be recovered (ratepayer vs. shareholder). If the utilities are proposing recovery from ratepayers what is the basis for the allocation among rate classes?

Response:

Please see the attached table.

Application Costs	Cost	HST	Total	Union Gas Share	Union Gas Cost
Publication of Notice	\$ 158,112	\$	20,555 \$	100%	\$ 178,667
Other	\$ 9,000	\$	1,170 \$	100%	\$ 10,170
External Legal 2011	\$ 24,906	\$	3,238 \$	100%	\$ 28,144
External Legal 2012	\$ 12,357	\$	1,606 \$	100%	\$ 13,964
Total Application Costs	\$ 204,376	\$	26,569 \$	100%	\$ 230,945
Consultants Costs					
Alberta Innovates Report	\$ 26,000	\$	3,380 \$	50%	\$ 14,690
Electrigaz Reports	\$ 79,282	\$	10,307 \$	50%	\$ 44,795
Ipsos Reid Survey	\$ 41,800	\$	5,434 \$	50%	\$ 23,617
Total Consultant Costs	\$ 147,082	\$	19,121 \$		\$ 83,102
Other Consultant Costs					
Total Costs	\$ 351,458	\$	45,690 \$	100%	\$ 314,047

The costs associated with this application will form part of Union's regulated operating and maintenance costs.

UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #22

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 18)

Please explain, specifically, how the annual volume caps were developed.

Response:

The volume caps were determined through the following steps.

First, the design of the pricing structure of the RNG program was determined. Once the prices were developed, it provided the basis to determine the cost consequence that would be applied to the system gas purchase portfolio. An average cost of \$15.00/GJ was used for this purpose (Exhibit B, Tab 1, page 21 and EB-2011-0283, Exhibit C, pages 1 to 5).

Next, a maximum volume level of RNG was determined by calculating the bill impact, such that the cost impact on system gas was not more than two percent of the total cost or was not more than approximately \$1.50 per month (\$18.00 per year).

The calculation of the Union South RNG volume cap can be found at Attachment 1. The Calculation of the Union North RNG volume cap can be found at Attachment 2.

<u>Line No.</u>	<u>Calculation of Union South RNG Volume Cap</u>		
1	Annual RNG Bill Impact on Average Rate M1 Sales Service Customer	\$	17.96
2	Average Consumption (m ³)		2,600
3	Unit Rate (cents/m ³) ((line 1/line 2)*100) (1)		0.6908
4	Unit Rate (\$/GJ) (Line 3/3.775)		0.184
5	South Sales Service Consumption Volumes (PJ)		99.8
6	Incremental RNG Purchase Cost (line 4 * line 5 * 1000000) (2)	\$	18,363,200
7	South System Supply Purchases (PJ)		98.827
8	Average Price of Supply Replaced	\$	4.38
9	RNG Purchase Price	\$	15.00
10	RNG Premium (line 9 - line 8)	\$	10.62
11	Union South RNG Volume Cap (PJ) ((line 6/line 10)/1000000))		<u>1.7</u>

Notes:

- (1) Exhibit C, Appendix 1, Schedule 2, Line 12, column (e)
(2) Exhibit C, Appendix 1, Schedule 6, Line 29, column (f)

<u>Line No.</u>	<u>Calculation of Union North RNG Volume Cap</u>	
1	Annual RNG Bill Impact on Average Rate 01 Sales Service Customer	\$ 18.28
2	Average Consumption (m ³)	2,600
3	Unit Rate (cents/m ³) ((line 1/line 2)*100) (1)	0.7032
4	North Sales Service Consumption Volumes (10 ³ m ³)	824,123
5	Incremental RNG Purchase Cost (line 3 * line 4 * 10) (2)	\$ 5,795,233
6	North System Supply Purchases (PJ)	41.387
7	Average Price of Supply Replaced	\$ 3.53
8	RNG Purchase Price	\$ 15.00
9	RNG Premium (line 8 - line 7)	\$ 11.47
10	Union North RNG Volume Cap (PJ) ((line 5/line 9)/1000000))	<u>0.5</u>

Notes:

- (1) Exhibit C, Appendix 1, Schedule 3, Line 12, column (e)
- (2) Exhibit C, Appendix 1, Schedule 7, Line 29, column (f) plus Exhibit C, Appendix 1, Schedule 8, Line 29, column (d)

UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #23

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 19)

The evidence states that the costs of the RNG supply will be incorporated into the Utilities' system costs portfolios. Will the entire costs of the program be borne by system gas customers only? Will all of the program be recovered through gas supply charges?

Response:

All costs associated with the purchase of RNG will be borne by system gas customers.

The costs of purchasing RNG will be recovered through gas supply charges. Specifically, the costs in Union North will be recovered from system gas customers in the gas commodity and fuel price adjustment rate. The costs in Union South will be recovered from system gas customers in the transportation rate.

Operating and maintenance costs as well as capital related costs associated with the customer station and pipe lateral to connect the RNG producer to Union's system will be collected through a connection charge. Union proposes to charge RNG producers the existing Board-approved monthly fixed charge per customer station as identified in the M13 Rate Schedule.

UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #25

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 22)

The pricing models were developed with a view to settling on prices that would support an ROE in the proximity of 11% without the price exceeding "a threshold determined by the utilities to be excessive and unlikely to be supported by their customer base". What is that threshold and how did the Utilities determine it? Did the utilities consider a lower ROE? If not, why not? If so, why was it rejected?

Response:

The 11% ROE was chosen as appropriate and necessary based on the existing OPA feed-in-tariff program. Simulations were performed to establish optimal and acceptable RNG price points and energy volume thresholds to yield an overall target of 11% ROE. The threshold in the pricing model was selected since survey results show that a majority of residential customers supported paying for RNG as long as the impact on their bill did not exceed \$18 per year.

UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #28

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 21)

Does EGD agree that the economics of each potential project will vary? If so, does EGD agree that the returns to each producer will vary?

Response:

- i. Yes, Union agrees that the economics of each potential project will vary.
- ii. Union agrees that the returns to each producer will vary.

UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #29

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 26)

Please provide a sample supply contract for the RNG Program.

Response:

Please see response to APAO Interrogatory #2 (Exhibit I- 2- 2), Attachment 3.

UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #30

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 26)

Please explain why Union arrived at a price escalator of 30 of CPI.

Response:

Please see the response to APAO Interrogatory #5 (Exhibit I-2-5). The choice of a 30% CPI was informed by the OPA CHP Standard Offer Program. The use of a factor is to recognize that the price paid to producers reflects the initial capital costs which are generally fixed (with the exception of taxes and variable interest costs), and future operating costs and improvements to capital, such as equipment maintenance which are costs that are subject to inflation. The use of a 30% factor was to ensure a reasonable compromise between the ongoing operating costs and the initial invested capital.

UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #31

ISSUE 2 - COST CONSEQUENCES

(B/T1/p. 26)

To the extent the producers costs are reduced over time will there be provisions for a reduction in the pricing. If not, why not?

Response:

No. The use of a factored inflation index ensures that future operating expenses are properly balanced against the initial capital outlays which are fixed. The RNG programs the companies have proposed have a five year contract acceptance window and pricing would not change over the 5 year life of this program. At that time the programs will be reviewed.

UNION GAS LIMITED
RESPONSE TO CONSUMERS COUNCIL OF CANADA INTERROGATORY #32

ISSUE 3 - IMPACTS ON THE DISTRIBUTION SYSTEM

(B/T1/p. 27)

To the extent an RNG project negatively impacts the operation of the distribution or transmission system who bears that risk?

Response:

The risk should be borne by whichever party is responsible for the negative impact.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO CANADIAN MANUFACTURERS & EXPORTERS INTERROGATORY #4

Issue: Role of the Utilities

Reference: Exhibit B, Tab 1, Page 25, Lines 23-24

EGD and Union have indicated that they will contract for RNG Supply with RNG producers using “standard RNG contracts” to be offered by each of EGD and Union respectively.

- a) Please provide any draft “standard RNG contracts” that have been developed by both EGD and Union.
- b) Please confirm whether EGD and/or Union anticipate to include “take or pay” provisions in their standard RNG contracts. If so, please provide details of the proposed “take or pay” obligations.

Response:

- a) EGD and Union Gas RNG contracts are attached as part of APAO Interrogatory #2 (Exhibit I-2-2).
- b) There are no “take or pay” provisions in the RNG contracts.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO DIRECT ENERGY INTERROGATORY #3

Reference: Exhibit B/Tab 1/General

Issue: 1.0 Role of the Utilities

Please provide any and all communications, presentations, business cases, project proposals, and other materials presented to the following individuals and/or groups prior filing of this application:

- a) Energy industry stakeholders;
- b) Bio-methane industry stakeholders; and
- c) Municipal and Provincial government representatives.

Response:

a) – c) Please see response to Board Staff Interrogatory #3 (Exhibit I-1-3).

In addition to the above, EGD and Union made the following presentations at industry events.

- Smog Summit Speech, May 27, 2011 – R. Fennell - Attachment 1
- GTM B3D Presentation – Union – D. Everett – Attachment 2
- RNG – Making Green Energy Happen Workshop, April 2009 – B. Goulden – Attachment 3
- Union Gas RNG Presentation for Biogas Conference, March 1, 2011, B. Goulden – Attachment 4
- Union Gas RNG Presentation for QUEST Ontario Caucus, June 13, 2011 – Attachment 5

CLEAN AIR COUNCIL REMARKS – ROB FENNELL

5 minutes

Thank you, John, and thank you to the organizers of today's meeting for bringing us together to create meaningful action on the environment.

I'm very pleased to be here today, for three reasons. First, as a founding sponsor of the Smog Summit some 12 years ago, Enbridge takes great pride in the group's significant achievements in improving air quality and raising awareness about climate change.

Secondly, we understand that addressing complex environmental issues will require sustained effort. It's the commitment of the people in this room, working together year-in and year-out, that will help the GTA and Southwestern Ontario remain one of Canada's most inviting places to live.

Lastly, I believe municipalities will play an increasingly pivotal role in the energy decisions that affect their communities, and that everyone can benefit from utilities and municipalities collaborating to find solutions to the environmental challenges we collectively face.

As you may know, Enbridge Gas Distribution has been in existence for more than 160 years, and today delivers safe, reliable natural gas to more than 1.9 million homes and businesses.

We have an important role to play in creating a clean energy economy. So we've worked hard to help our customers – including our municipal customers – use natural gas more efficiently:

- In 2009 alone, our energy efficiency programs reduced natural gas consumption by more than 74 million cubic metres, even as we increased the total number of customers. That reduction in emissions had the same impact as taking 30,000 average cars off the road for a full year.**
- Speaking of cars, Enbridge's commercial fleet was the first in Canada to receive the E3 Fleet 'Gold Rating' from the Fraser Basin Council for excellence in environmentally-friendly fleet management in 2008.**
- We also have eight natural gas employee-vanpools, which have reduced emissions to date by 1,400 tonnes of CO₂ equivalent and 10 tonnes of NO_x, SO_x and total particulate matter.**

- **Our efforts extend beyond natural gas: We also delivered the OPA's commercial new construction electricity conservation program for all of Ontario, outside the 416 area. The build-out of that program wraps up in 2012 but I am told we are well on our way to hitting the target of 50MW of electricity saved.**
- **We continue to be involved with a number of LDCs to help them meet their conservation targets.**

So you can see that Enbridge has undertaken much in the way of energy efficiency and conservation and has succeeded in working with our customers and business partners to achieve results.

Now we want to go to the next level: how can we deliver energy more sustainably, and how can we make the product we deliver more sustainable?

One option is to use our experience in energy delivery to build and manage District Energy Systems. In this scenario, homes and businesses in high-density developments would be built to have their heating and cooling needs met by one central plant instead of having traditional HVAC equipment cycle on and off individually.

The result is increased efficiency, lower maintenance costs for the customer and the ability to upgrade the plant as new technologies come online, or even the flexibility to switch to alternative energy sources.

We also have the opportunity to make the product we deliver more sustainable. You may have heard the term ‘biogas’ before. It’s the gas that is created in landfills, waste water treatment facilities and farms – essentially, wherever organic material decays.

Biogas can be used to generate electricity and can even receive a Feed-in-Tariff from the Ontario Power Authority because it’s considered a renewable and carbon-neutral source of energy for power generation.

What you may *not* know is that biogas can also be cleaned and injected into existing natural gas pipelines to use for space and water heating, manufacturing processes, and transportation.

We refer to it as *Renewable* Natural Gas and it’s catching on in many jurisdictions.

In fact, we’re in the process of writing an application to our regulator that would help us turn the waste in your communities into sustainable, made-in-Ontario Renewable Natural Gas.

What does this mean for Enbridge? No, it's not an opportunity for us to make money – we're not allowed to profit on the sale of gas.

But it does mean the infrastructure we've built under your roads – the infrastructure we've all invested in as gas customers – could be a big part of that clean energy future we are all working towards.

It also means our customer base of 1.9 million could use their existing equipment to meet their needs with even less impact on the environment.

For municipalities, Renewable Natural Gas could mean lower disposal costs, increased local investment and fewer emissions.

It also means more choices on the municipal menu, at a time when we are all hungry for local solutions to a global problem.

If you are interested in finding out how your municipality could potentially be involved, please feel free to follow up with me afterwards.

Thank you for your time this morning. I look forward to discussing how we can all work towards a more sustainable future.



uniongas

A Spectra Energy Company

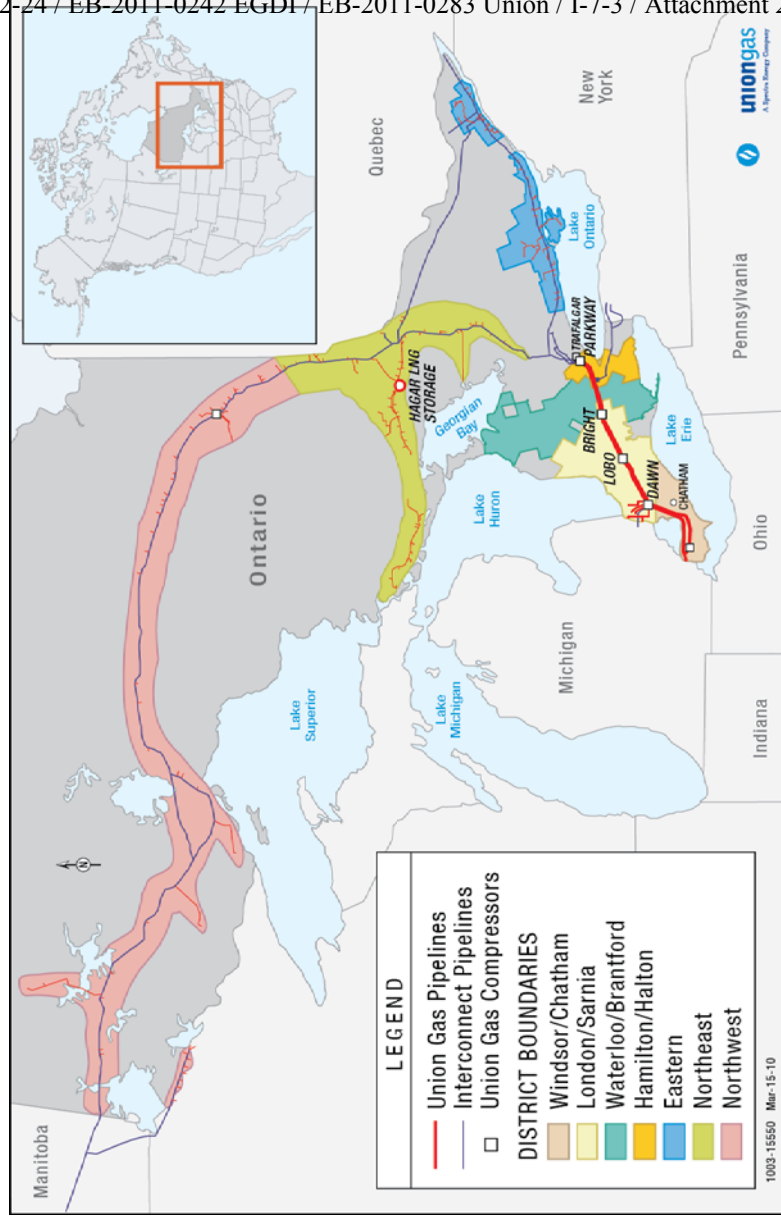
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100 YEARS
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Biomethane Injection into Union Gas Limited's Distribution / Transmission System



Drew Everett, P.Eng.
3rd Annual Canadian Farm and Food Biogas Conference

- 100 years old!
- Ontario-based natural gas storage, transmission, and distribution company
- 2nd largest natural gas distributor in Canada (1.3 million customers)
- Service the bulk of Ontario, geographically





- Original business was based entirely on the distribution of locally (Ontario) produced natural gas
- Continue to receive gas produced in Ontario from 100+ locations:
 - Chatham-Kent
 - Sarnia-Lambton
 - London-Middlesex
 - St. Thomas-Elgin
 - Woodstock-Oxford
 - Brantford-Brant
 - Simcoe-Norfolk/Haldimand
 - Hamilton-Wentworth
 - Kitchener-Waterloo
- Locally produced gas is received either at distribution or transmission pressures



- Acceptance of biomethane by Union Gas is technically feasible
 - Treated similar to conventional reservoir production tie-in
 - ~20 biomethane injection inquiries have been received (sources include: agricultural waste, commercial waste aggregation, waste water treatment, and landfill)
 - No biomethane injection, to date
- Gas quality must meet Union Gas' pipeline quality standards
- Transmission and distribution constraints are a reality
 - Not every biomethane opportunity will be cost effective to connect



- Injection pressures regulated so as not to exceed the maximum operating pressure (MOP) of the system
- Summer market consumption may be the limiting factor
- Gas quality must meet Union Gas' GT&Cs for gas quality:
 - Gross heating value: > 36.0 MJ/m³ and < 40.2 MJ/m³
 - Hydrogen sulphide: < 7 mg/m³
 - Total sulphur: < 100 mg/m³
 - Carbon dioxide: < 2%
 - Carbon monoxide: < 0.5%
 - Oxygen: < 0.4%
 - Hydrogen: < 4.0%
 - Water: < 80 mg/m³
 - Hydrocarbon dewpoint: < -10°C at 5,500 kPa
 - Merchantable quality ... free of other objectionable substances
 - **Shall at all times be interchangeable with other pipeline gas...**



- Pressure regulation, relief, and flow measurement
- Redundancy in monitoring considered unnecessary ... except for minimum requirements
- Minimum station monitoring:
 - Remote telemetry unit ... heated cabinet and post mount
 - Real-time monitoring of CO₂, temperature, and pressure
 - Auto-sampling for monthly lab analysis of gross heating value
- Maximum station monitoring:
 - Remote telemetry unit ... building and pad required
 - Real-time monitoring of CO₂, **CO**, **O₂**, **H₂S**, **H₂**, **sulphur**, **water vapour**, temperature, and pressure
 - Auto-sampling for monthly lab analysis of gross heating value

- Union Gas will treat biomethane injection as all other Ontario production is treated ... cost to connect is paid by the producer

	Minimum Monitoring	Maximum Monitoring
Station	~ \$300,000	~ \$550,000
Interconnection	• Dependent on type and size of service required (low-pressure vs. high-pressure): - Low pressure (plastic) service ~ \$25 - \$50/m - High pressure (steel) service ~ \$90 - \$150/m • Dependent on connection obstacles (roadways, waterways, right-of-ways...)	

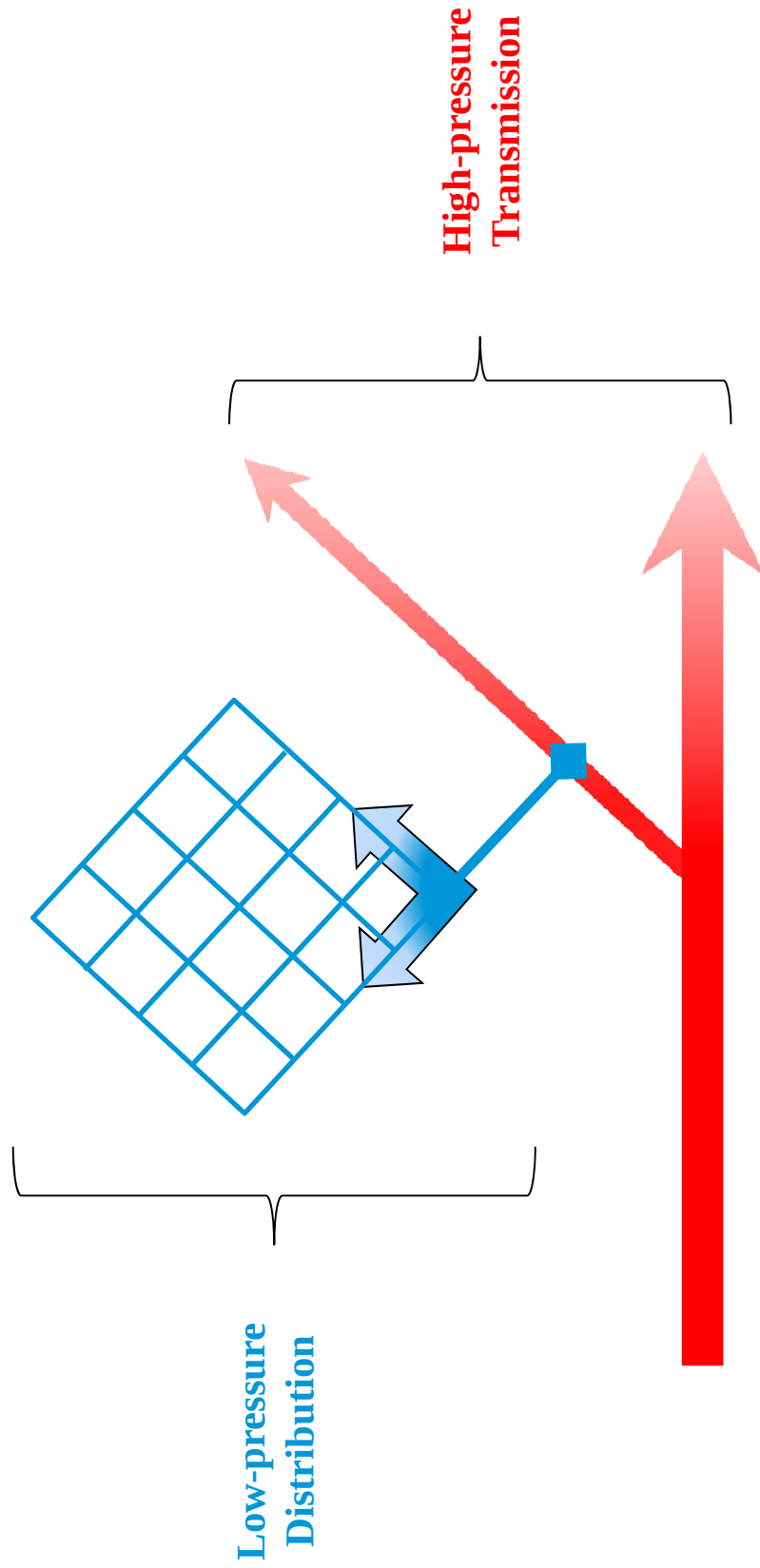
Note: pricing is illustrative, only (based on a small sample set of biomethane connections which Union Gas has evaluated)



- Distribution service and main system:
 - ~ 60,000 km of distribution lines
 - Servicing 400+ communities in Ontario
 - MOP in the range of 60 psig – 125 psig
 - Typically a plastic service
- Transmission/storage system:
 - ~ 5,000 km of transmission lines (includes Dawn-Trafalgar)
 - Transmission lines are the main arteries to the distribution systems
 - MOP in the range of 275 psig – 900 psig
 - Steel service

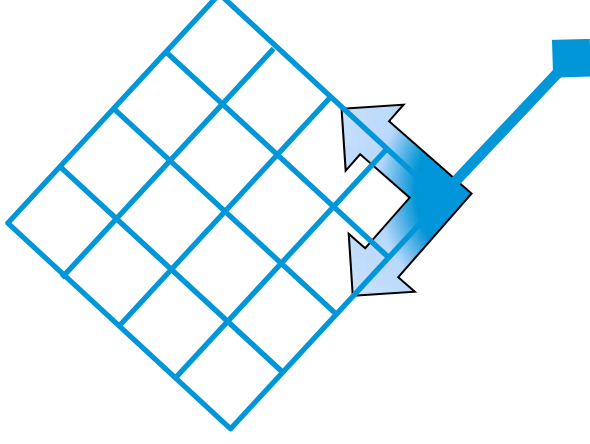


- Achieved via a pressure gradient:
 - Molecules move through the pipe from areas of high-pressure to low-pressure

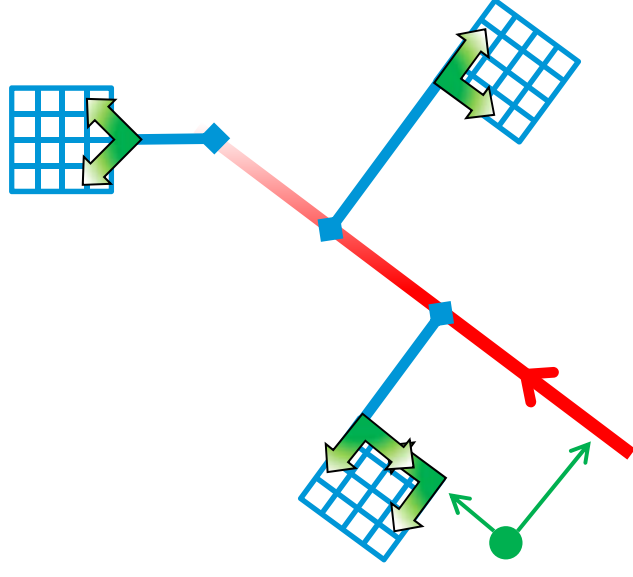




- Each distribution system is considered to be an independent market (isolated by pressure)
- Market consumption in each system is affected by the number and type of customers attached
- Systems are designed to meet a winter peak demand (largest flow of gas through the system)
- Intra-day demand changes hourly
- Weather influences market demand significantly

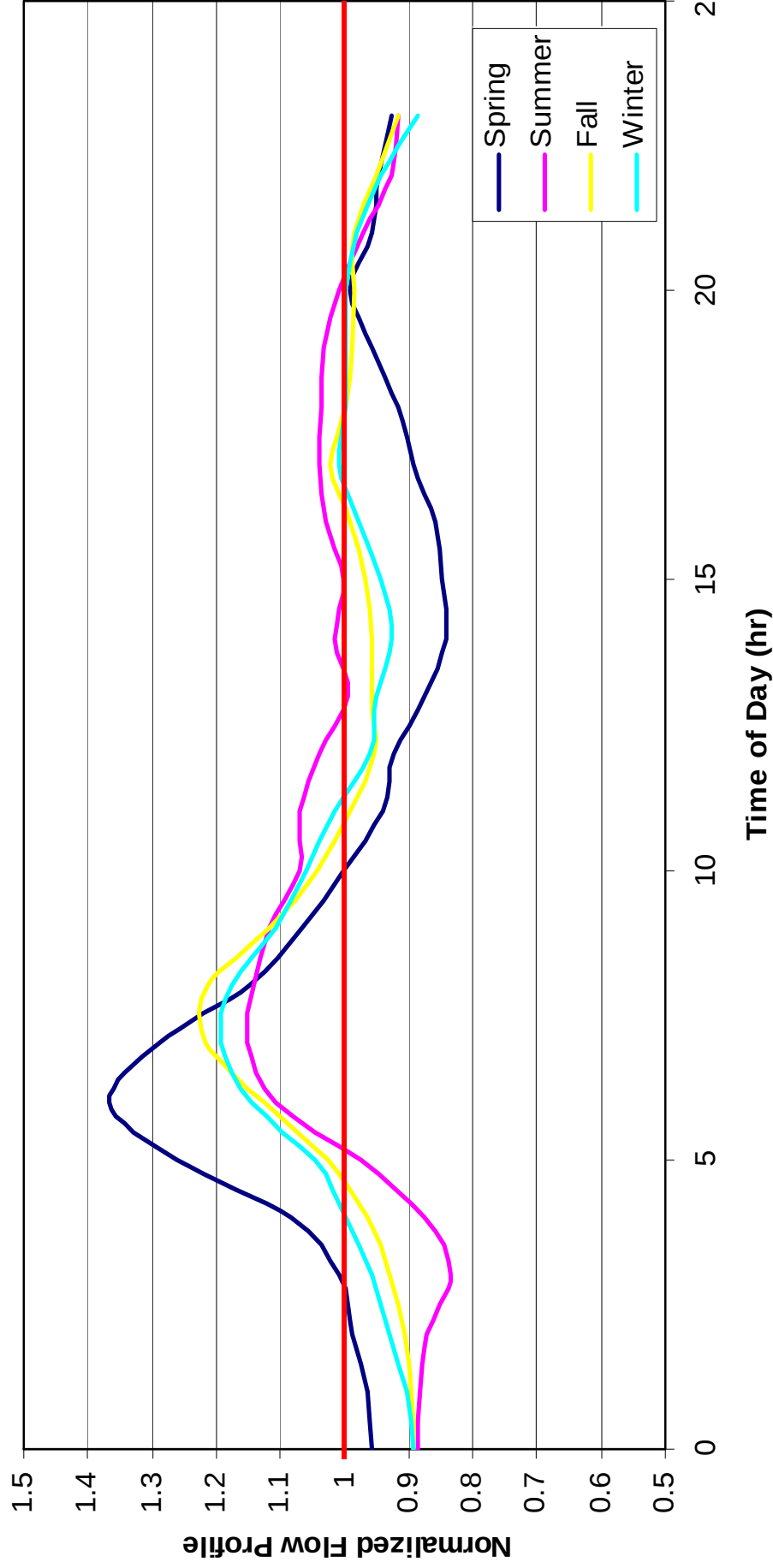


- Direct injection into the distribution system will be the most commonly available option
- Market size and consumption is limited in rural areas
- Takeaway opportunity can be greatly improved when injecting into a transmission line, although:
 - Higher compression/connection costs
 - Fewer opportunities exist



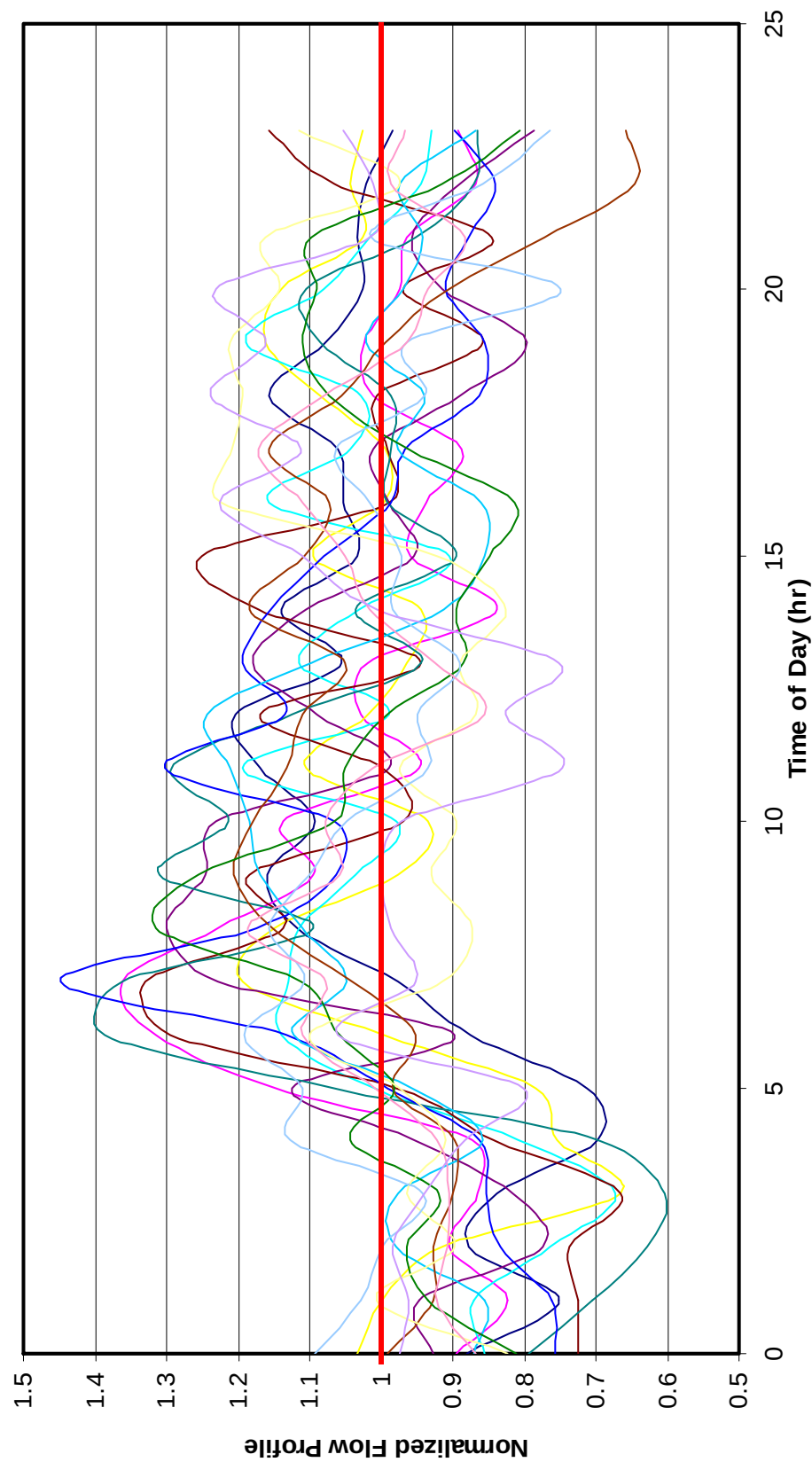


Illustrative Seasonal Normalized Flow Profile





Illustrative Normalized Summer Daily Flow Results





- Union Gas purchases gas supply based on the energy value of the gas delivered into our system
- Currently, value is based on the Niagara Index natural gas reference price
 - Reflects the landed price of natural gas in Ontario (updated monthly)
 - In the past decade, natural gas has been valued in a range as low as \$3/GJ and as high as \$12/GJ
- Union Gas is working towards a **renewable** biomethane reference price
 - Working with Enbridge Gas Distribution on a rate application to the Ontario Energy Board to propose a reference price that will enable a biomethane market in Ontario
 - The strategy is to provide a long-term, guaranteed renewable reference price that reflects the costs to generate, clean-up, compress, and connect a biomethane producer to a gas utility (in Ontario)
 - Need to balance absolute reference price value against natural gas customer impacts
 - More to come...



1. Seasonal market takeaway assessment
 - Physical address of the production location required
 - Clean gas (biomethane) production rate (m³/hr) required
2. Takeaway opportunity evaluated
 - High and low pressure, if available
3. Union Gas completes station and interconnection design, provides cost estimate
 - Producer and Union Gas cooperate to determine gas quality monitoring requirements
4. Producer enters into a purchase agreement or transportation contract with Union Gas
5. Station equipment procurement and construction commence
 - Payment is provided by producer in advance

Contact: Drew Everett
Market Opportunity Development Engineer
Union Gas Limited
Phone: 519-358-4239
Email: deverett@uniongas.com



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Topic #2 UPDATING INFRASTRUCTURE – BIOGAS INITIATIVE

Presenter • BRYAN GOULDEN
Manager, Market Development, Union Gas Ltd.

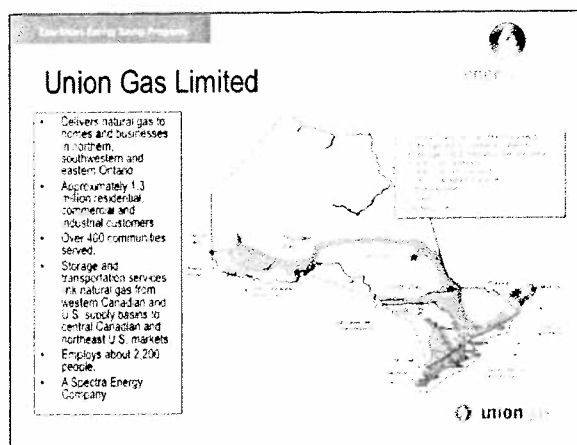
PRESENTATION OVERVIEW

This presentation discusses the merits of a "second option" for biogas. This option involves generating biogas by existing technologies, then cleaning and filtering the gas to produce biomethane for injection into the natural gas distribution grid. This is an alternative to the more typical Ontario option of using the biogas produced to generate power for sale into the Ontario electricity grid. Operational and market opportunities associated with this approach will be identified, as well as the current challenges that need to be overcome.



BACKGROUND

Union Gas is one of Ontario's largest distributors of natural gas, and is responsible for the delivery of natural gas to homes and businesses in northern, southwestern, and eastern Ontario. Figure 1 illustrates their delivery coverage.



Bryan Goulden, Union Gas 2009

FIGURE 1

Union Gas is currently participating in research regarding the viability of biomethane, a refined version of biogas that could be used as a substitute for natural gas. Biogas has two common uses:

- **Power Generation:** Generate electric power by utilizing biogas produced in a combined cycle power plant. Electricity is the primary energy produced, followed with the production of energy from wasted heat.
- **Biomethane:** Clean and separate biogas and inject it into the natural gas distribution system (less than 95% methane). This can substitute for natural gas in end use applications.

Biogas can be produced from a number of sources including agricultural waste, crops, food industry waste, sewage treatment and landfill. The gas produced is typically 50% to 60% methane, with the remainder primarily CO₂.

Biogas can be used in power generation, which means using an anaerobic digester to process agricultural materials and convert it into biogas. The gas is then fired in a combined cycle power plant to produce electricity. This process is very efficient as long as there is use for the excess heat. The other purpose of biogas would be the production of biomethane.

Biomethane is essentially biogas that has been treated and filtered to a gas that is at least 95% methane. This can then be injected into the natural gas distribution system and ultimately used by end users for applications like a residential furnace, resulting in 70% to 90% efficiency.

Part of Premier Dalton McGuinty's plan to replace coal in Ontario relies on the province becoming more dependant on natural gas as a fuel for electricity generation. The Government has directed that natural gas generation will increase from roughly 4,350 MW (2003) to 9,400 MW by 2025 in order to replace coal.

Purchase, Bryne, "The Future of Coal in Ontario? Towards a Clean, Secure and Competitive Energy Portfolio," pg. 4, 2007, Queen's University.

For every six cubic meters of gas sent to Ontario from Alberta, one cubic meter is used as fuel to transport the other five here.

Chris Hariton, AgEnergy Cooperative

Significant opportunity exists in the area of biomethane:

- It replaces non-renewable conventional natural gas
- Burns as cleanly as natural gas
- Full environmental value of biomethane is high, although currently uncertain
- Delivery infrastructure may already be in place
- Can be produced effectively with existing technologies

Issue #1 • Capacity

Similarly to biogas used in electricity production, biomethane has distribution capacity issues. The issue with natural gas infrastructure is that biomethane is typically produced and injected into the local natural gas distribution system, which may have limited seasonal market demand, such as in the summer when customer space heating requirements are low. Like electricity, tie-in opportunities to the natural gas system can also be challenging due to the lack of transmission and distribution infrastructure.

"Many of the biogas opportunities are not where people are located and not where demand is located."

Bryan Goulden

"In terms of a break-even price for biogas vs. conventional natural gas, the challenge we have is with the current pricing model... we pay market price. Market price is not going to get development going, so we need to figure out the full environmental value calculation, and recover that in our rates."

Bryan Goulden

"Ultimately all energy ends up as heat. One of the fundamental difficulties with central generation is that you only use 30%, if you're lucky, of the energy that's available in the fuel that's being combusted."

Jan Buijk

Issue #2 • Pricing

An issue that is unique to biomethane, and the natural gas industry, is the current market pricing model, which creates significant uncertainty for potential investors. Because there is no feed-in tariff for biomethane, and because the price of natural gas can fluctuate anywhere from \$4 to \$15 per GJ, it makes it very difficult for developers to predict a rate of return on their investment. The lack of purchase price stability leaves this market unattractive due to the significant capital costs involved with building a facility that could create biomethane from biogas.

Biogas Impact Comparison	
Electricity System	Natural Gas System
• Feed-in Tariff (FIT) are able to encourage development • Rural supply, urban demand • Regional transmission system constraints • Renewable, environmentally positive energy	• Current supply strongly commodity based • Rural supply, urban demand • Local distribution market constraints • Renewable, environmentally positive energy

Bryan Goulden, Union Gas 2009

FIGURE 2

Solutions

Four Energy Policy Considerations:

1. Provide funding assistance for industry to determine the environmental value of biomethane.
 - Although there is a high level of agreement that biogas production through anaerobic digestion is environmentally beneficial, quantification of this value is not well established. For example, the offset credits generated by specific biogas applications require some research and analysis to be determined. Provision of funding assistance to quantify the environmental value of these potential projects would provide more information for all stakeholders and more certainty for project developers.
2. Provide funding assistance for first pilot and demonstration sites.
 - Pilot or demonstration biogas project funding would allow the first small number of projects to be built with less risk for project developers. This would also improve the knowledge and familiarity with these technology applications that are new to Ontario.

3. Provision of incremental utility infrastructure.
 - Utility infrastructure to tie-in potential biomethane projects to the natural gas distribution system can be expensive since potential biogas sites can be located a significant distance from existing natural gas distribution infrastructure. Developers are required to pay these costs since they are typically the only party benefitting from this connection. Funding assistance would lower the overall cost of these projects.
4. Consider a natural gas feed-in-tariff to reflect the full cycle environmental value.
 - A natural gas feed-in tariff could be created to encourage the development of renewable natural gas energy, consistent with the recent electricity feed-in tariffs introduced by the OPA. This would help provide another viable supply option and revenue stream for biogas developers. Their production of renewable energy significantly reduces greenhouse gases (GHG) and agricultural waste while generating a valuable digestate²¹ for use on farmland.





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Renewable Natural Gas: Enabling Biomethane Industry Development in Ontario

Bryan Goulden

Manager Market Development

Union Gas

Presentation to the 3rd Annual Biogas Conference and Exhibition
London, Ontario, March 1, 2011

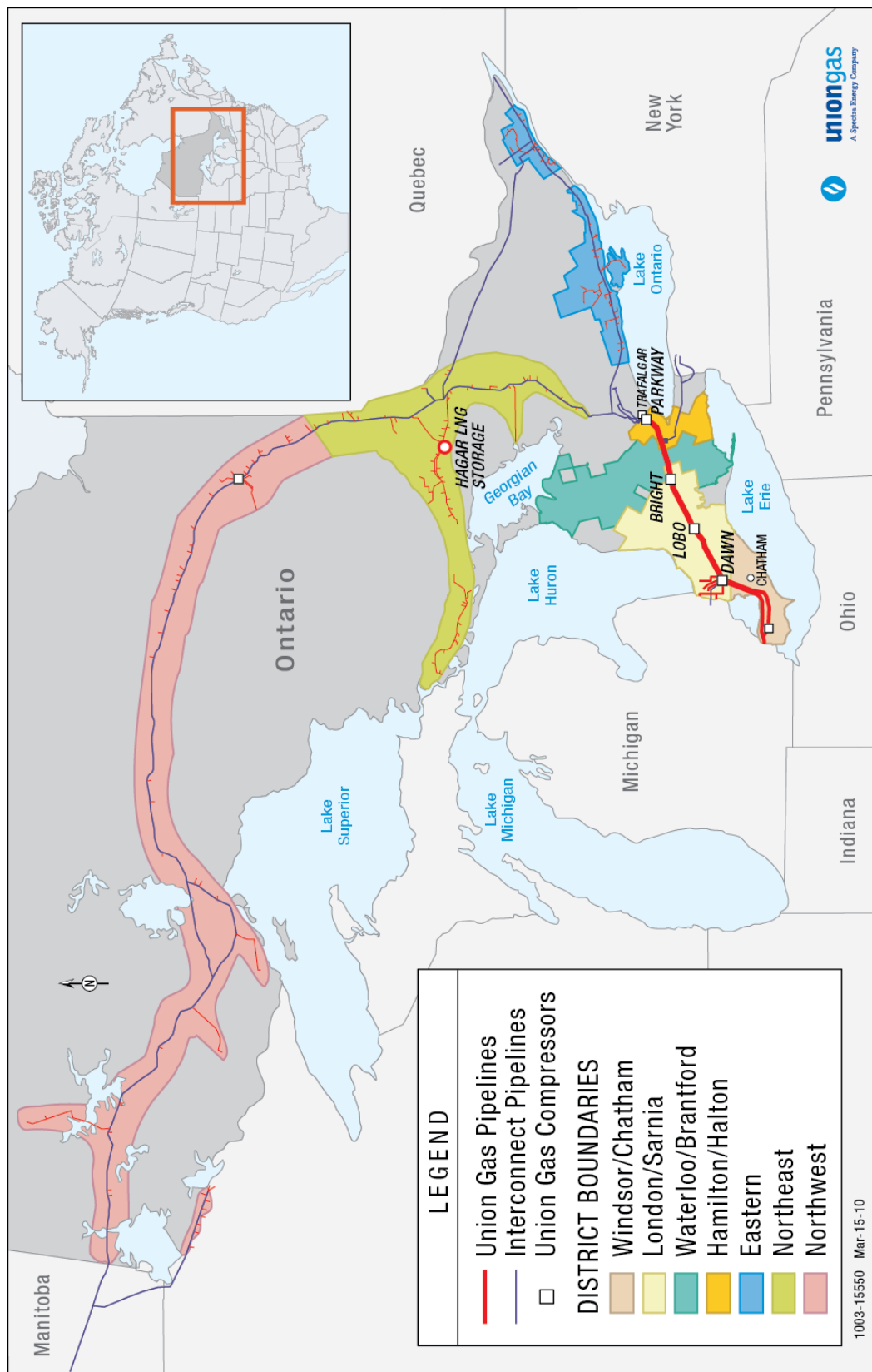
Union Gas Distribution Area



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Filed: 2012-02-24 / EB-2011-0242 EGDI / EB-2011-0283 Union / I-7-3 / Attachment 4 / Page 2 of 14



Potential Sources of Biomethane



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- Biogas from Anaerobic Digesters:
 - ❖ On-Farm Commercial Operations
 - ❖ Off-Farm Commercial Operations
 - ❖ Municipal Green Waste
 - ❖ Waste Water Treatment Plants
- Landfill Gas

Biogas vs. Biomethane



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What's the difference?

- ❖ Biogas consists of about 60% methane and 40% CO₂
- ❖ Biomethane is created by stripping out the CO₂ and other impurities so that it is interchangeable with natural gas



1. Power Generation

- Unless rejected heat from engine can be utilized, end-use efficiency is only about 33%

2. Injection into the Natural Gas system

- Creating biomethane from biogas and injecting it into the existing natural gas pipeline system would be a more efficient use of the energy as it would be consumed by end-use appliances with up to 95% efficiency (e.g., condensing gas furnaces)

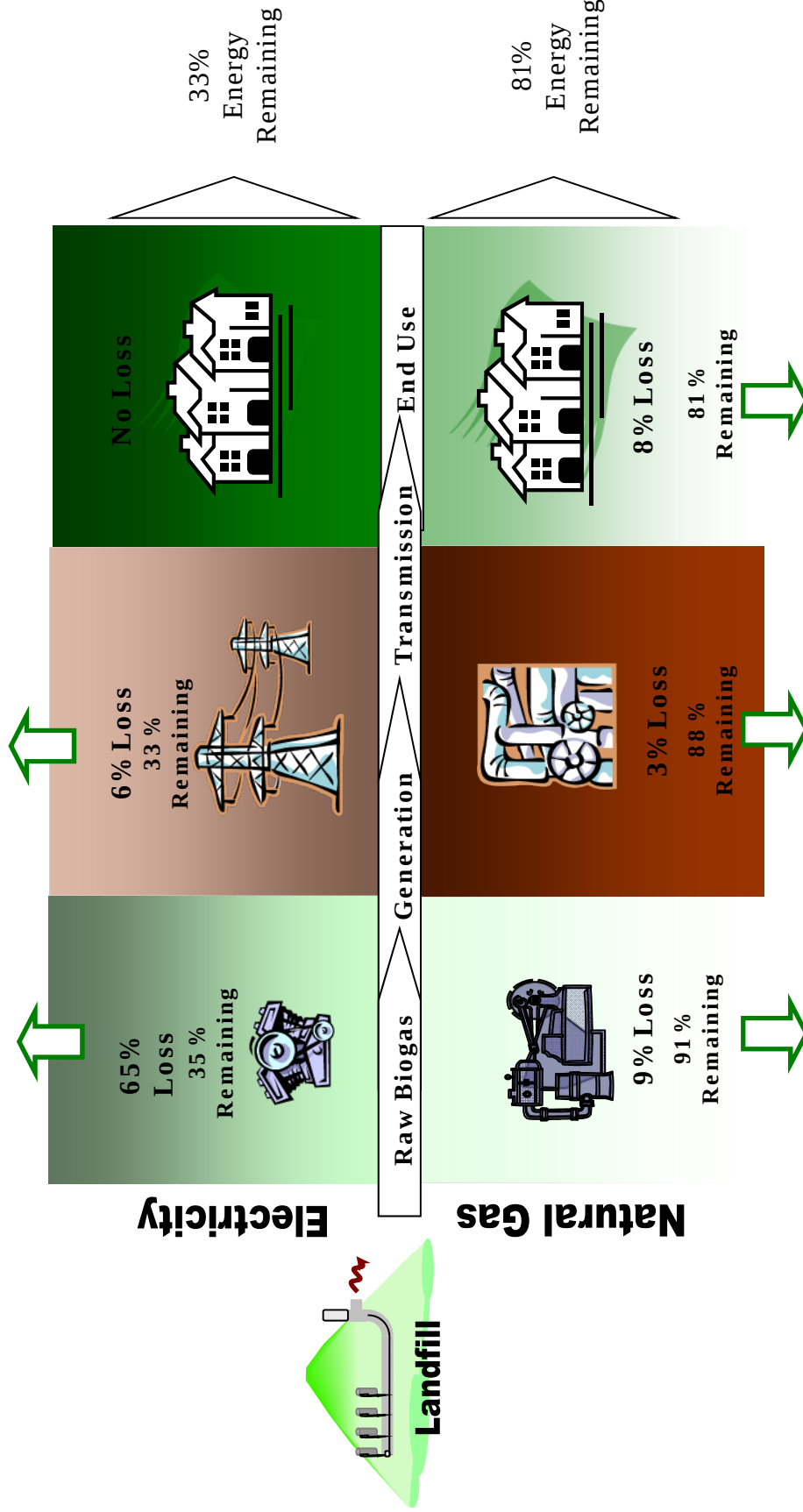
Biomethane Efficiency



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Source: TGI

Biogas Impact Comparison



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Power Generation (Electricity System)

- Feed in Tariff (FIT) available to encourage Development
- Rural supply, urban demand
- Regional transmission system constraints
- Renewable, environmentally positive energy

Natural Gas System

- Current supply pricing is commodity based
- Rural supply, urban demand
- Local distribution market constraints
- Renewable, environmentally positive energy

Biomethane Industry Development Challenges



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- Gas quality
 - Technically manageable with existing technology
- Natural gas system market consumption
 - Market availability can be limited in rural areas, especially when demand is low in the summer
- Stable long term pricing
 - Natural gas prices have been volatile over the past few years

Natural Gas Price Volatility

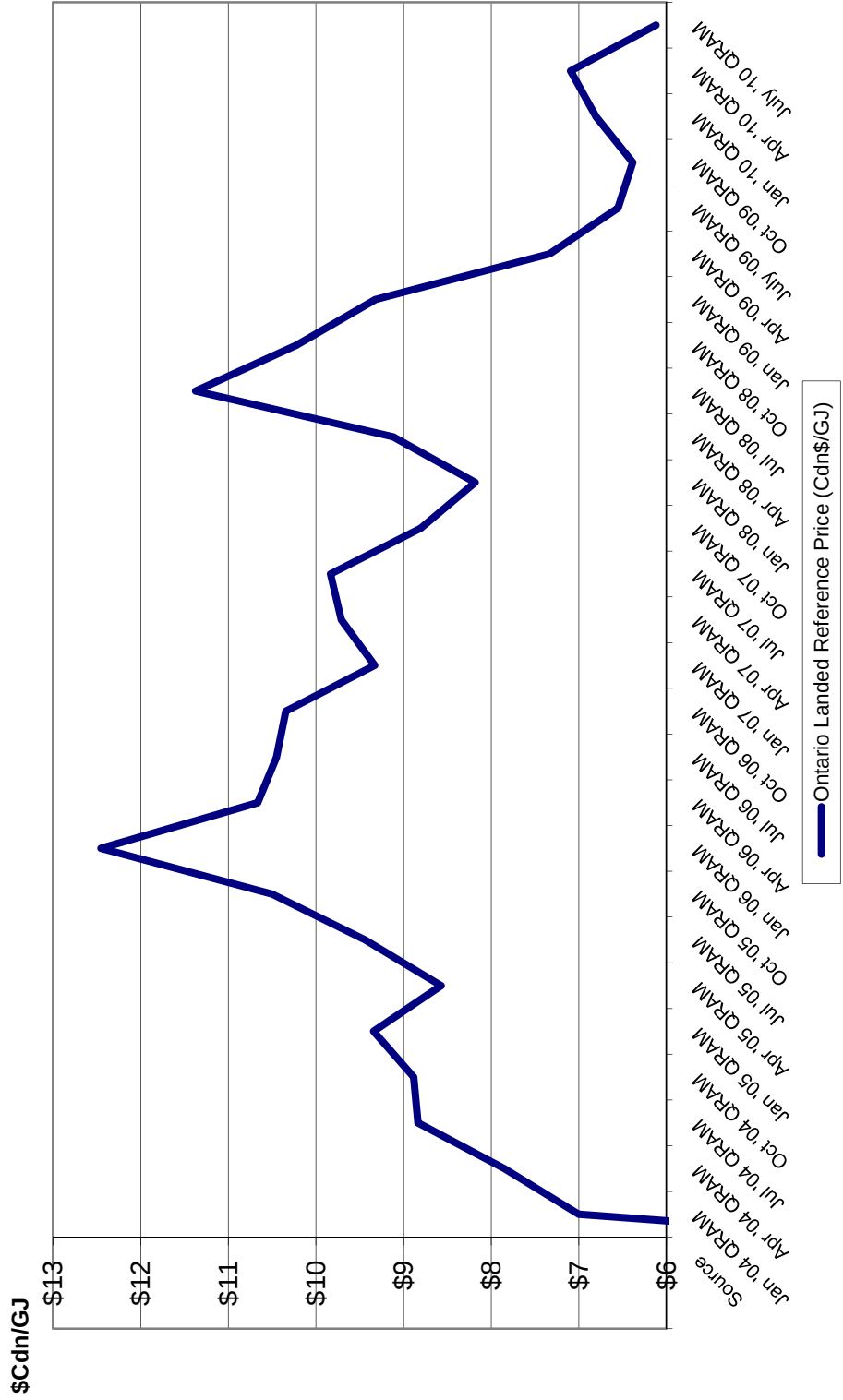


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Filed: 2012-02-24 / EB-2011-0242 EGDI / EB-2011-0283 Union / I-7-3 / Attachment 4 / Page 9 of 14

Ontario Landed Reference Pricing 2004 to Present





- Biomethane is a renewable energy
- Enabling a biomethane market to establish in Ontario supports the Ontario government's objectives as outlined with the Green Energy Act
- Biomethane will not develop in Ontario without a pricing mechanism
 - The current low, volatile price of natural gas restricts market based biomethane
- The Ontario gas utilities are in an unique position, through their gas supply portfolios, to add a biomethane supply stream

Market Transformation



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- The goal is to transform the Ontario market
- Transformation is defined as the ability for biomethane producers to effectively compete as suppliers with traditional sources of natural gas
- Full market transformation will depend on the number of producers and the future value of natural gas

Our Proposal



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- Union Gas & Enbridge are working to establish a biomethane reference price
- This biomethane reference price will require the approval of our regulator, the Ontario Energy Board
- In other words, the biomethane will simply be another supply stream
- Customer impacts will be managed by an agreed to supply cap of what the utility will purchase
- This cap will be expressed as a per cent of total volume

The Balance Required: Customers and Producers



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- For producers, price and contract term must be sufficient to encourage investment
- For customers, price and contract term must be established so that gas rate impacts are seen as reasonable
- One way to achieve this balance may be to encourage economies of scale—larger producing projects
- We need to discuss business models that can include the agricultural community and also achieve necessary economies of scale



Why implement a Renewable Gas Reference Price?

- It is the necessary first step in creating a market transformation process that can create a biomethane industry:
 - Broaden Ontario's efforts to develop green energy
 - Will add to Ontario's security of supply of natural gas
 - Measureable action to reduce Ontario's carbon footprint
 - Increase number of anaerobic digesters which are important in managing waste: agricultural, green waste and water treatment

Renewable Natural Gas: A Supply Approach to ICES

Ed Seaward
Manager Market Opportunity Development
Union Gas

QUEST Ontario Caucus
June 13, 2011

What is biogas?



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- A byproduct of a naturally occurring, biological process
- Generated by microorganisms through the anaerobic decomposition of organic material
- Contains approximately 60% CH₄ and 40% CO₂
- Produced in Anaerobic Digesters or Landfill Sites

What is RNG?



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- Biogas which has been treated such that it can be used as an interchangeable fuel with natural gas
- Created by stripping out the CO₂ and other impurities so that the resulting product is mostly CH₄

Uses of biogas and RNG



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Filed: 2012-02-24 / EB-2011-0242 EGDI / EB-2011-0283 Union / I-7-3 / Attachment 5 / Page 4 of 9

1. Power Generation

- Unless rejected heat from engine can be utilized, end-use efficiency is only about 33%

2. Injection into the Natural Gas system

- Creating RNG from biogas and injecting it into the existing natural gas pipeline system would be a more efficient use of the energy as it would be consumed by end-use appliances with up to 95% efficiency (e.g., condensing gas furnaces)

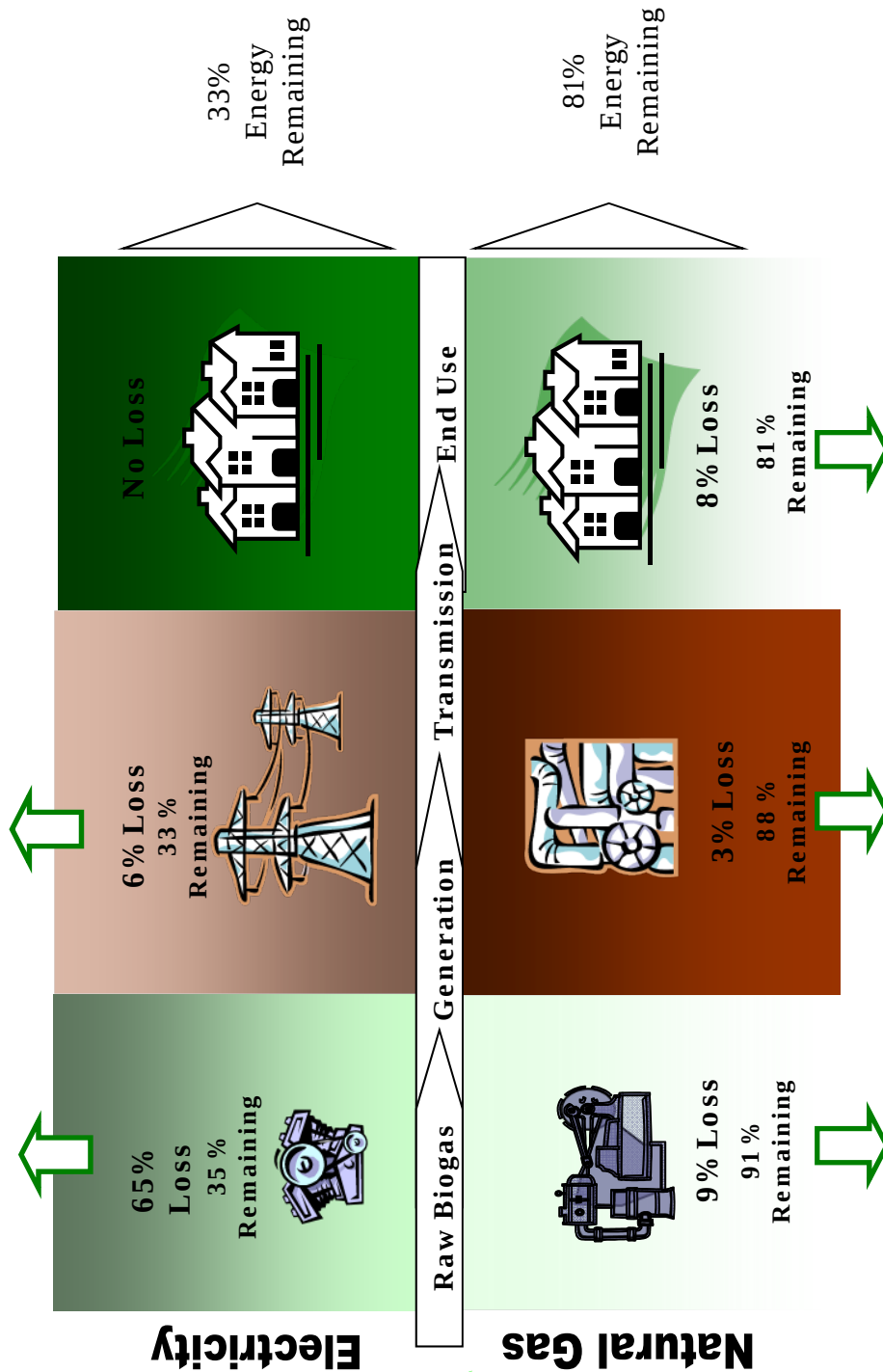
Why RNG?



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Filed: 2012-02-24 / EB-2011-0242 EGDI / EB-2011-0283 Union / I-7-3 / Attachment 5 / Page 5 of 9



Source: TGI

Enabling the Ontario Market



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- Biomethane is a renewable energy
- Enabling a RNG market to establish in Ontario supports the Ontario governments objectives as outlined with the Green Energy Act
- RNG will not develop in Ontario without a pricing mechanism
 - The current low, volatile price of natural gas restricts market based RNG
- The Ontario gas utilities are in an unique position, through their gas supply portfolios, to add a RNG supply stream

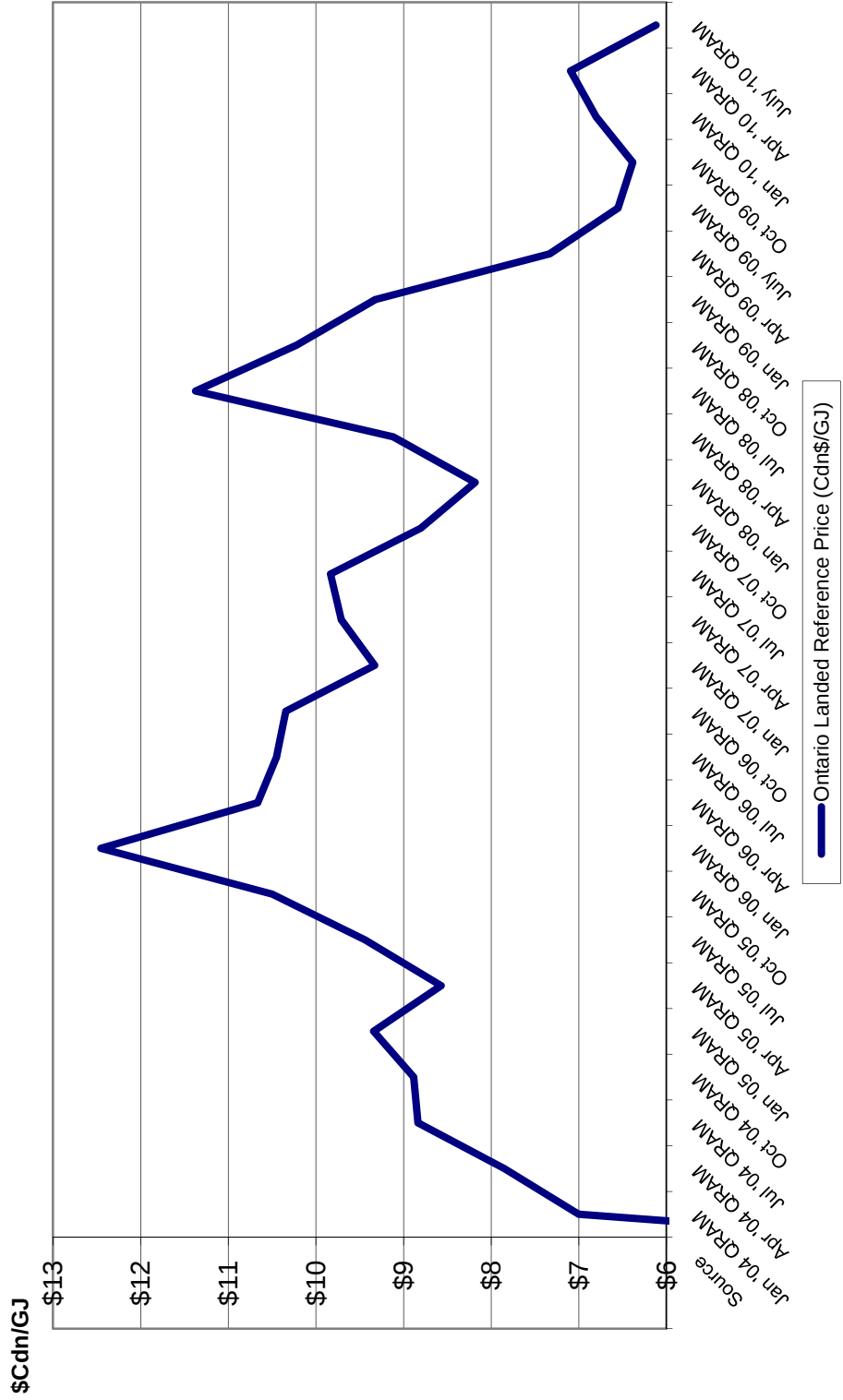
Natural Gas Price Volatility



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Ontario Landed Reference Pricing 2004 to Present





- Ontario has an existing robust urban natural gas distribution system
- Delivery of RNG in the existing gas distribution system reduces carbon without modification to customer's behaviour or their equipment:
 - In the short term, through AD & Landfill up to 6% of Ontario's natural gas supply can be replaced by RNG
 - In the long term, through gasification of biomass, up to 18%

Estimates by Alberta Innovates



- Immediate barrier is price which the Enbridge & Union Gas joint proposal addresses
- If successful then the short term establishment of RNG in Ontario can begin
- Long term barrier to reach full potential of RNG is overcoming technology issues with respect to gasification

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO DIRECT ENERGY INTERROGATORY #6

Reference: Exhibit B/Tab 1/Page 2, line 11 through 18

Issue: 2.0 Cost Consequences

Preamble: The Companies have proposed a five year window for the contracting of 20 year RNG supply agreement.

Please confirm the cost consequences of the Companies' proposals have the potential to extend for a period of 25 years.

Response:

The cost consequences of any single contract can extend for a maximum period of twenty years

If a contract becomes effective on the last day of the five year window, and the contract has a maximum term, that particular contract does not expire until 20 years from effective date, or 25 years from the first day of the RNG program.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO DIRECT ENERGY INTERROGATORY #8

Reference: Exhibit B/Tab 1/Page 11, line 20 through 25

Issue: 1.0 Role of the Utilities

- a. Please explain how the respondents to the survey were selected.
 - b. What is the percentage of respondents in the survey compared to the total combined customer base of the Companies?
-

Response:

- a. The residential survey was conducted among a sample of 1,052 residential natural gas consumers in Ontario. Participants were drawn from Ipsos Reid's iSay proprietary panel. The iSay Panel is one of Canada's largest proprietary panels with membership of over 300,000 Canadian households.

The commercial survey was conducted by telephone among 500 respondents drawn from a random listing of Enbridge Commercial Customers.

- b. There were 1,552 respondents in the residential and commercial surveys from a total combined customer base of 3.3 million customers resulting in an incidence of 0.05%.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO DIRECT ENERGY INTERROGATORY #9

Reference: Exhibit B/Tab 1/Page 12, lines 6 through 8; and Page 13, line 4

Issue: 1.0 Role of the Utilities

Please clarify whether the Companies' evidence should reflect the percentage of respondent's opinions, as opposed to "Ontario residential gas customers".

Response:

The Companies' evidence reflects the percentage of respondents' opinions. However, one could project that conclusion to residential customers, as a whole, with a high degree of confidence and accuracy.

A survey with an un-weighted probability sample of this size (n=1052) and a 100% response rate would have an estimated margin of error of +/-3.1 percentage points, 19 times out of 20, of what the results would have been had the entire population of residential natural gas customers in Ontario been polled.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO DIRECT ENERGY INTERROGATORY #10

Reference: Exhibit B/Tab 1/Page 26, lines 23 through 26

Issue: 2.0 Cost Consequences

Please confirm that a 20 year RNG supply contract would in fact be a long-term utility supply contract.

Response:

Confirmed, as noted at Exhibit B, Tab 1, page 26, Line 25:

“For clarity, the Utilities are not proposing to pursue any long term fixed price supply contracts outside of this RNG program. The RNG Program relates to contracts that are narrowly defined with respect to term, price and volumes for the purposes of enabling the development of a viable RNG industry in Ontario. Only those RNG supply contracts will be pursued, and only within the limits of the program.”

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO DIRECT ENERGY INTERROGATORY #12

Reference: Exhibit B/Tab 1/Appendix 2

Issue: 1.0 Role of the Utilities

Given the duplicative nature of the statements in most of the letters of comment, please confirm that the Companies provided a form letter to individuals and organizations to modify and return to the Companies for submission in this Application.

Response:

At the request of individuals and organizations, a form letter was made available to assist them in writing their letter.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO FEDERATION OF RENTAL-HOUSING PROVIDERS OF ONTARIO
INTERROGATORY #1

REFERENCES REFER TO THE COMMON EVIDENCE OF THE UTILITIES

REF: EX.B., TAB 1, PG. 4

Preamble: The evidence states: "Relative to CO₂, methane has the effect of creating 21 times more greenhouse gases ("GHGs")."

Please provide the basis for this statement and a reference to the source of this information.

Response:

Each greenhouse gas has a certain atmospheric lifetime and heat trapping ability. The combination of these two qualities has been termed Global Warming Potential (GWP). By definition, CO₂ has a GWP of 1 and methane has been calculated by the Intergovernmental Panel on Climate Change (IPCC) to have a GWP of 21; which means that 1 ton of methane has the same GHG effect as 21 tons of CO₂.

Under the Kyoto protocol, each country is required to use these GWP values when calculating their national GHG inventories. Further information can be found in the following Canadian Government publication and the methane GWP value of 21 can be found in Table 1.1 of the report .

"Environment Canada. 2011. National Inventory Report 1990–2009: Greenhouse Gas Sources and Sinks in Canada. Part 1"

Accessed as (<http://www.ec.gc.ca/Publications/492D914C-2EAB-47AB-A045-C62B2CDACC29/NationalInventoryReport19902008GreenhouseGasSourcesAndSinksInCanada.pdf>)

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO FEDERATION OF RENTAL-HOUSING PROVIDERS OF ONTARIO
INTERROGATORY #2

REFERENCES REFER TO THE COMMON EVIDENCE OF THE UTILITIES

REF: EX.B., TAB 1, PG. 5

Preamble: The evidence states: "The electrical conversion efficiency of these on-site generators is normally less than 40%."

Electric conversion efficiency.

- a) Is the stated efficiency taking into account a refined stream that has removed the carbon dioxide component?
- b) Is the stated efficiency assuming no utilization of the excess heat?
- c) Was the 40% figure used in the Utilities assessment of other alternative uses for the Biogas?

Response:

- a) Combustion engines and turbines that can generate electricity from biogas, are designed to operate directly on biogas without removing the carbon dioxide component. The efficiencies stated are for the conversion of methane into electricity.
- b) Yes, the stated efficiency assumes no utilization of the excess heat. Please see response to LPMA Interrogatory #5 (Exhibit I-11-5).
- c) The 40% value is a characteristic of one given type of conversion device, in this case an electrical generator, therefore it would be inappropriate to use for other alternative uses of Biogas where characteristics are different. Biogas refined into RNG can be used in a wide variety of applications and devices, including, combined heat and power applications and directly in end use natural gas appliances in homes, businesses, etc. which have efficiencies up to 95+%.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO FEDERATION OF RENTAL-HOUSING PROVIDERS OF ONTARIO
INTERROGATORY #6

REFERENCES REFER TO THE COMMON EVIDENCE OF THE UTILITIES

REF: EX.B., TAB 1, PG. 15

Preamble: The evidence states: "Written letters of support offered by stakeholders are attached in Exhibit B, Tab 1, Appendix 2".

Letters of Support.

- a) Did the Utilities provide a script or framework to these stakeholders to solicit their support in preparing their letters of support?
- b) Do the Utilities have letters that were provided without solicitation? If so, please provide those letters.

Response:

- a) When requested, the utilities provided a template that stakeholders could use as a guide to draft their letters of support. A copy of the Enbridge templates are attached.
- b) No. All letters resulted from the Utilities contacting municipalities to advise them of the proposed application.

Ontario Energy Board
P.O. Box 2319
2300 Yonge Street
Toronto, Ontario, Canada
M4P 1E4

August , 2011

RE: Renewable Natural Gas Application by Enbridge Gas Distribution

The City of _____ is encouraged that Enbridge Gas Distribution is taking steps to green Ontario's natural gas supply stream by developing a program where biomethane (Renewable Natural Gas) can be accepted directly into their pipeline system, and we urge the Ontario Energy Board to support the company's recent *Renewable Natural Gas Application*.

Biomethane is a renewable energy that is created from landfill gas and other sources of biogas so that it is interchangeable with natural gas. Ontario gas utilities are in a unique position, through their gas supply portfolios, to add a Renewable Natural Gas supply stream, which is a highly efficient use of a raw energy source that utilizes existing utility infrastructure and customer equipment.

Incorporating Renewable Natural Gas into the existing supply stream provides us with an opportunity to reduce Ontario's carbon footprint and minimize local waste issues, while at the same time providing a source of consistent, predictable local supply. Developing a market for renewal natural gas has the added benefit of stimulating regional development.

The City of _____ is committed to moving forward on sustainable energy, climate change and air quality issues within its community and we understand that renewable sources of energy must play a greater role in our future.

We urge the Ontario Energy Board to carefully review this important initiative so that another green energy source is available to Ontario citizens.

Respectfully,

Mayor, City of _____

Ontario Energy Board
P.O. Box 2319
2300 Yonge Street
Toronto, Ontario, Canada
M4P 1E4

August , 2011

RE: Renewable Natural Gas Application by Enbridge Gas Distribution

The *{organization name}* is encouraged that Enbridge Gas Distribution is taking steps to green Ontario's natural gas supply stream by developing a program where biomethane (Renewable Natural Gas) can be accepted directly into their pipeline system, and we urge the Ontario Energy Board to support the company's recent *Renewable Natural Gas Application*.

Biomethane is a renewable energy that is created from the biogas of Anaerobic Digesters and landfill gas so that it is interchangeable with natural gas. Ontario gas utilities are in a unique position, through their gas supply portfolios, to add a Renewable Natural Gas supply stream, which is a highly efficient use of a raw energy source that utilizes existing utility infrastructure and customer equipment.

Incorporating Renewable Natural Gas into the existing supply stream provides us with an opportunity to reduce Ontario's carbon footprint and minimize local waste issues, while at the same time providing a source of consistent, predictable local supply. Developing a market for renewable natural gas has the added benefit of stimulating regional development.

The *{organization name}* is committed to moving forward on sustainable energy, climate change and air quality issues and we understand that renewable sources of energy must play a greater role in our future.

We urge the Ontario Energy Board to carefully review this important initiative so that another green energy source is available to Ontario citizens.

Respectfully,

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO FEDERATION OF RENTAL-HOUSING PROVIDERS OF ONTARIO
INTERROGATORY #7

REFERENCES REFER TO THE COMMON EVIDENCE OF THE UTILITIES

REF: EX. B., TAB 1, PG.16

Preamble: The evidence states: "In the first phase, customers will have the option of designating 10% of the natural gas they use as RNG. FortisBC will then inject the equivalent amount of renewable gas into its system."

FortisBC experience. Please provide for year end 2011 (or the latest data in 2011):

- a) The number of customers who chose this option broken down between residential and business.
 - b) What percentage of the total customers do the positive electors represent? represent.
 - c) The total GJ of Biomethane designated for 2012.
 - d) The percentage of total distribution sales that the designated Biomethane volumes represent.
-

Response:

- a) Neither FortisBC or the BCUC have published figures of customer uptake in the RNG program.
- b) See previous. N/A.
- c) FortisBC estimates RNG production between 180,000-230,000 GJ.¹
- d) FortisBC indicates natural gas demand of 203,914,000 GJ for 2012. Therefore, the RNG designated represents 0.08%-0.11% of the total distribution sales.²

¹ Terasen Gas Biomethane Application, June 28, 2010. pg. 65, Figure 7-1

² FortisBC Energy Utilities 2012-2013 Revenue Requirements and Rates Application, Volume 1. May 4, 2011. pg. 76, Table 4.2-1

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO FEDERATION OF RENTAL-HOUSING PROVIDERS OF ONTARIO
INTERROGATORY #8

REFERENCES REFER TO THE COMMON EVIDENCE OF THE UTILITIES

REF: EX. B., TAB 1, PG.17

Preamble: The evidence states: "The NARUC resolution on RNG urged the U.S. Congress to pass legislation to provide 'unequivocal support for pipeline quality RNG development in order to achieve significant greenhouse gas reductions in the transition to a clean energy economy'."

NARUC follow-up:

- a) Has the legislation been passed?
- b) If so, what insights can be learned from their direction that are applicable to the Ontario market?

Response:

- a) The Utilities cannot confirm the passage of this legislation by the U.S. Congress.
- b) Pipeline quality RNG is being investigated as a viable way of transitioning to a clean energy economy and can be used to achieve GHG reductions. As governments in the United States are examining this, it will likely have implications on Ontario with respect to GHG policies and support for the industry in the future.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO FEDERATION OF RENTAL-HOUSING PROVIDERS OF ONTARIO
INTERROGATORY #12

REFERENCES REFER TO THE COMMON EVIDENCE OF THE UTILITIES

REF: EX. B, TAB 1, APPENDIX 1, PG. v, vi

Preamble: The evidence states: "Anaerobic digestion has the potential to produce 1372 M m3/yr (31% of total) and represents the near-term potential of all the RNG production in Ontario. The use of gasification has the potential to produce most of the RNG as we estimated that an additional 3063 M m3/yr (69% of total) can be produced by this process, however this potential would be realized over the long-term through further technology development.". Further, the Potential Timeline for RNG in Ontario figure on page v shows the advent of RNG Production from Gasification beyond the initial 5 horizon of the Utilities proposed program offering.

Contribution of Gasification to RNG

- a) What technological development is required to make gasification a viable source of RNG in Ontario?
- b) What investment would be required?
- c) How would that be encouraged if potential gasification providers face a potentially constrained demand market (system capability) that is met in part by Anaerobic Digestion suppliers who have firm supply prices guaranteed?
- d) Asked differently, would the establishment of the Utilities RNG program aid or inhibit the opportunity for Gasification providers to invest in overcoming the technological hurdles referred to in the evidence? Please explain the answer including all assumptions and forecasts utilized to develop the conclusion.

Response:

- a) To date, there are no fully operational plants producing RNG from waste using gasification. There is one pilot plant that produces RNG from waste using gasification followed by methanation technology (1 MW plant at Gussing, Austria). Several European plants are in the planning stages (e.g. 140 MW plant at Goteberg, Sweden). The major technological developments that are being studied include those related to gasification (hydrogasification and catalytic gasification), syngas conditioning (hot gas cleanup, tar catalysis and multi-contaminant processes) and methanation (contaminant resistant catalysts and slurry reactors).

- b) As gasification technology is still only in the pilot plant phase and is not commercially available at this time, a meaningful value of the investment required is currently unknown.
- c) The study outlines the potential to produce RNG from Ontario wastes. It does not attempt to address the economic aspects of providing RNG from gasification technologies or the issues with implementation of gasification. The RNG program did not contemplate the potential to supply RNG from gasification during the five year duration of the program as gasification is considered to be a supply source beyond five years. One could conclude from the study that it is unlikely that commercial scale RNG gasification facilities production volumes will have a material geographic overlap with anaerobic digestion based RNG suppliers that would impact overall system delivery capability. As the raw material for most gasification applications will be biomass and forestry products, which are typically produced and sourced in Northern Ontario, whereas anaerobic digestion facilities will be based on agricultural lands, near landfills, and in cities and towns in Southern Ontario this is most likely.
- d) The RNG program will help the potential gasification providers as it will lead to more acceptance of the addition of RNG into the natural gas grid.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #4

Ref: Exhibit B, Tab 1, page 9
Issue 3.2

- a) Can biomethane gas be used as a firm source of peaking gas supply? In other words, could this gas be purchased only when required for seasonal requirements? If not, why not?
 - b) Could a local producer of conventional natural gas in Ontario use biomethane gas as a source of production to ensure firm deliveries into a distribution system? If not, why not?
 - c) Would Union consider the delivery of biomethane gas into its distribution system to be more, less or of the same level of reliability as that from local Ontario producers?
-

Response:

- a) As with conventional Ontario production, there is no obligation on the part of the producer to supply a minimum amount of gas on any day. RNG production is correlated to the availability of raw biogas. Therefore, RNG would not be considered as a firm source of peaking gas supply.
- b) Since RNG is not considered a firm source of supply, adding RNG to conventional supply would not ensure firm deliveries.
- c) RNG is considered to have the same level of reliability as gas from a conventional Ontario producer.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #5

Ref: Exhibit B, Tab 1, pages 5 & 10
Issue 2.6

The evidence states that biomethane results in increased energy utilization efficiency relative to the current alternative of generating electric power for connection to the electricity grid. Does this conclusion include situations where combined heat and power ("CHP") facilities could be built? Please provide the efficiency rating of a CHP facility in a manner similar to the 40% and 80% figures noted on page 5.

Response:

No, this does not consider situations where combined heat and power (CHP) facilities could be built. The energy utilization efficiency of a CHP system depends on the amount of waste heat captured from the exhaust of a generator. Commercially available CHP systems may have a total system efficiency in the order of 60 – 85% (including the generation of electric power). However, a local thermal demand equivalent to that captured is necessary for the full efficiency to be realized. Where a local thermal demand is less than the amount captured through a CHP system, the total system efficiency will be less.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #6

Ref: Exhibit B, Tab 1, page 10
Issue 1.2

The evidence indicates that unless biomethane prices are set, a viable biomethane industry will not develop in Ontario in the near term.

- a) Please define "near term".
- b) Could a viable industry in Ontario be established if the biomethane was sold outside of Ontario? If not, please explain why not.

Response:

- a) "Near term" is intended to refer to approximately 1 to 5 years into the future.
- b) Yes, a viable RNG industry in Ontario could theoretically be established if the RNG was sold outside of Ontario and it provided "a sufficient level of income or planning certainty for the revenue stream to be realized from the sale of the RNG commodity" (Ex B T1, p 10).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #7

Ref: Exhibit B, Tab 1, page 11
Issue 4.1

- a) Please explain how the utilities are positioned within the provincial energy market to enable the biomethane industry on behalf of consumers throughout the province, when many consumers are not system gas consumers.
 - b) Do the utilities believe that gas and electricity marketers are positioned within the provincial energy market to enable the biomethane industry on behalf of consumers throughout the province, given that they supply the direct purchase market? If not, please explain.
-

Response:

- a) The Utilities combined customer bases represent a majority of all gas consumers in the province of Ontario. Other consumers who are not customers of either utility will also benefit in areas like waste alleviation and economic spin-off.
- b) The gas and electricity marketers may be positioned within the provincial energy market to enable the RNG industry on behalf of consumers. However to date, the Utilities are not aware that marketers have achieved any significant market penetration with locally produced biomethane related market offerings to consumers.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #13

Ref: Exhibit B, Tab 1, page 21
Issue 2.3

The evidence indicates that the contracts would have a maximum term of 20 years. Is there a minimum term and, if so, what is it?

Response:

The specified term of the contracts will be 20 years. There is no minimum term.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #14

Ref: Exhibit B, Tab 1, page 21

Issue 2.4

Please explain why a 5 year contract acceptance window is required when many projects may take only 2 years to start commercial operation.

Response:

While any single project may take two or more years to start commercial operation, a five year window is required to allow the market to adequately respond to the RNG program.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #15

Ref: Exhibit B, Tab 1, page 21

Issue 2.1 & 2.2

What is the current price charged to customers in \$ per GJ for system gas customers?

Response:

Enbridge

Based on EGD's January 1, 2012 QRAM rates (EB-2011-0390), the System Sales Gas Supply Charge is \$3.14 \$/GJ or 11.8492 cents/m³ as shown in EB-2011-0390, Exhibit Q1-3, Tab 4, Schedule 3, Page 1, line 1.08, column 5 from the January 1, 2012 QRAM.

Union

Per the current Board-approved January 2012 QRAM (EB-2011-0382), the current approved gas commodity and fuel rates, including price adjustments, in \$/GJ by zone is provided in the table below:

	Gas Commodity and Fuel Rate (cents/m ³)	Gas Commodity and Fuel Price Adjustment Rate (cents/m ³)	Total Gas Commodity and Fuel Rate (cents/m ³)	Total Gas Commodity and Fuel Rate (\$/GJ)
Union North				
Fort Frances Zone (R01, R10)	11.9660	(0.9243)	11.0417	2.926
Fort Frances Zone (R20, R100)	12.0092	(0.9243)	11.0849	2.926
Western Zone (R01, R10)	12.0283	(0.9243)	11.1040	2.942
Western Zone (R20, R100)	12.0718	(0.9243)	11.1475	2.942
Northern Zone (R01, R10)	12.1083	(0.9243)	11.1840	2.963
Northern Zone (R20, R100)	12.1520	(0.9243)	11.2277	2.963
Eastern Zone (R01, R10)	12.1783	(0.9243)	11.2540	2.982
Eastern Zone (R20, R100)	12.2223	(0.9243)	11.2980	2.982
Union South				
M1, M2, M4, M5A, M10	12.1783	(1.0070)	11.1713	2.959

Notes:

All rates sourced from EB-2011-0382, Appendix A.

Reflects heat value of 37.75 GJ/10³m³ for Union North R01, R10 and Union South.

Reflects heat value of 37.89 GJ/10³m³ for Union North R20 and R100.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #18

Ref: Exhibit B, Tab 1, page 24
Issue 3.2 & 2.1 & 2.2

The evidence states that given the possibility that more than one producer may approach Union with a potential project in the same area and that Union may not have the capacity to accept more than one project, a transparent allocation system is required to ensure potential producers have equitable gas network access. The system would be based on a first-come, first-served basis with an onus on the producer to confirm their serious intent to construct a project.

Please explain why Union is not proposing that the price requested by the competing proposals be taken into consideration when the utility decides which proposal should go forward.

Response:

As indicated at Ex B T1, page 21 the RNG purchase price is specified based on the source of supply and volume. Consequently all potential suppliers will be considered on a first-come, first-served basis provided there is distribution system capacity available to accept the project. The Utilities believe there will be minimal capacity allocation constraints between competing projects for the same distribution system capacity since the project developer is also required to commit to payment of the capital costs of connection before the capacity is specifically allocated to them.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #19

Ref: Exhibit B, Tab 1, page 26
Issue 2.1 & 2.2

- a) Please explain why the annual price escalator has been determined to be based on the Consumer Price Index rather than some other price index.
 - b) Is the Consumer Price Index proposed the Canadian CPI or the Ontario CPI?
 - c) How was the 30% factor determined?
-

Response:

- a) The Consumer Price Index (CPI) was used as it is a widely available, reliable and robust index published by Statistics Canada. It is used as the basis for contracts in the energy sector in Ontario and reflects price changes from a wide variety of factors in the economy which impact consumers.
- b) The CPI is proposed to be the consumer price index for “All Items” published or established by Statistics Canada (or its successor) for any relevant calendar month in relation to the Province of Ontario.
- c) The 30% factor aligns with the Ontario Power Authority CHP Standard Offer Program contract.

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #24

Ref: Exhibit C, Tab 1, Schedule 1
Issue 2.1 & 2.2

- a) What is the annual net bill increase for a typical commercial system gas customer served under rates 6 and 100?
- b) What is the annual increase in total gas costs that would be paid for by system gas customers if the biomethane volumes is at the 87 million m³ level compared to current gas costs as of January 1, 2012?
- c) Based on the current composition of system gas sales, please disaggregate the amount calculated in part (b) into each of the rate classes that contain system gas sales.

Response:

- a) The EB-2011-0242 filing was based on EGD's July 1, 2011 QRAM rates (EB-2011-0129). Based on these rates, the impact from an RNG assumed producer price of \$15/GJ on a typical Rate 6 system gas commercial customer consuming 22,606 m³ annually would be \$133 or 2% annually.
- b) The annual increase in gas costs based on the January 1, 2012 QRAM (EB-2011-0390) would be approximately \$36.2 million. Please also see response to Direct Energy #11 a). The annual increase based on the July 1, 2011 QRAM (EB-2011-0129) was approximately \$34.4 million as outlined at Exhibit C, Tab 1, Schedule 1, Page 2, Table 1.
- c) The \$36.2 million would be allocated to the customer rate classes based on forecast sales (i.e. system gas) volumes and recovered through system gas customers from the gas supply commodity charge. The allocation would be as follows:

TOTAL ('000)	1	6	9	100	110	115	125	135	145	170	200
\$36,232.6	\$20,773.8	\$13,837.8	\$2.5	\$0.0	\$399.2	\$2.5	\$0.0	\$3.7	\$138.3	\$309.0	\$765.7

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #25

Ref: Exhibit C, Tab 1, Schedule 2
Issue 4.1

- a) Please provide the average impact on customers in Rates 6 and 100 if the biomethane gas was purchased for company use and included in the costs allocated to all customers. Please provide the impact on both a percentage and annual dollar basis.
- b) How much of the annual increase in total gas costs requested in Interrogatory #24(b) above would be allocated to ex-franchise customers, if any, if the biomethane gas was purchased by EGD for company use as requested in part (a) above.

Response:

- a) EGD's Company Use forecast based on 2011 is approximately 5.6 million m3 (EB-2010-0142, Exhibit B, Tab 4, Schedule 2, Page 2, Item 4.7). The amount of Company Use gas is significantly below the threshold level that the Company has set for the maximum procurement of RNG supplies and likely insufficient to facilitate the development of RNG in Ontario. As indicated at Exhibit B, Tab 1, Page 23 under the heading Volume Cap, EGD is proposing to set a volume cap of 87 million m3 in any given year within the 5 year acceptance period related to the purchase of RNG supplies. This volume cap limits the annual bill impact for a typical residential customer on system gas to \$18 annually or 1.7%. The incremental cost of the RNG purchases will be recovered from the system gas customers through their gas supply commodity charge.
- b) Please see response to part a) above.

UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #23

Ref: Exhibit B, Tab 1, Appendix 3
Issue 4.1

- a) How many of the residential customers included in the sample were direct purchase customers and how many were system gas customers?
- b) How many of the commercial customers included in the sample were direct purchase customers and how many were system gas customers?
- c) Were the respondents to the survey offered any incentive to complete the online survey?

Response:

- a) The sample did not distinguish between residential system gas customers and direct purchase customers. Through the survey, 88% of the residential respondents indicated they were system gas customers and 12% indicated that they were direct purchase customers.
- b) The sample did not distinguish between commercial system gas customers and direct purchase customers. 80% indicated they were system gas customers, 16% thought they were direct purchase customers, and 4% did not know.
- c) For the residential survey, respondents are part of a panel that responds to surveys of all types on an ongoing basis. Ipsos Reid does provide a small incentive to complete these surveys.

For the commercial survey, no incentive was offered.

UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #24

Ref: Exhibit B, Tab 1, Appendix 4, page 14
Issue 2.1 & 2.2

Please provide a copy of all of the assumptions that were informed by the Ontario Power Authority (OPA) feed in tariff.

Response:

As noted in Exhibit B, Tab 1, Appendix 5, page 6 “References” (for the Macro-economic references made on page 2) the following economic assumptions were informed by the OPA feed in tariff:

- Global Inflation: 2.25%
- RNG price escalation factor: 30% of inflation (changed from 20, though, to reflect OPA CHPSOP)
- Straight-line depreciation of 20 years.
- Interest on loan: 7%
- ROE: 11%

UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #26

Ref: Exhibit B, Tab 1, Appendix 5

- a) What are the current rates available from Infrastructure Ontario for a 20 year loan?
- b) Please update the SSO and WWTP scenarios to reflect the rate in part (a) above in place of the 4.5% used and show the impact on the RNG pricing with all other assumptions unchanged.
- c) Please explain why an equity ratio of 40% and a debt ratio of 60% were used when the Ontario Power Authority material noted in Reference 2 uses a 30% equity ratio and a 70% debt ratio?
- d) Please recalculate the RNG pricing using a 30% equity and 70% debt ratio for the agricultural and industrial scenarios as well as the landfill scenarios.
- e) Please explain why the depreciation rate is based on a 20 year life of the assets. Is this assumption based on the maximum 20 year contract or on the expected life of the assets? What is the expected life of the assets?
- f) Please recalculate the RNG pricing using a straight-line depreciation on 30 years.
- g) Please recalculate the RNG pricing using a return on equity of 9.42%.

Response:

- a) The current rates, as of February 7, 2012 available from Infrastructure Ontario for a 20 year loan is 3.91% for a similar type of asset. Please see the attached print out from:
<http://www.infrastructureontario.ca/Templates/RateForm.aspx?ekfrm=2147483942§or=pow>

b) Please see below for the evaluation at 4.5%:

SSO (Municipal)	\$ 31,524,253	1.3%
WWTP	\$ 2,492,935	-

Please see below for the evaluation at 3.91%:

SSO (Municipal)	\$ 31,356,775	3.6%
WWTP	\$ 2,486,195	-

c) Please see attached reference – OPA Document number 10147 – FIT Price Schedule Stakeholder s Engagement Session 4, pages 29-30. <http://fit.powerauthority.on.ca/archive-april-7-session-info-fit-price-schedule-ie-technologies-size-and-prices>

d) Scenarios at 40% Equity and 60% Debt:

Results	Project Cost	ROE
<i>AD scenarios</i>		
Baseline Farm	\$ 4,448,919	-
Large Farm	\$ 5,751,962	10.0%
Coop Farm	\$ 8,200,289	11.1%
SSO (Municipal)	\$ 31,524,253	1.3%
Industrial	\$ 29,282,343	-
WWTP	\$ 2,492,935	-
<i>Landfill scenarios</i>		
Small landfill	\$ 5,077,647	10.5%
Medium landfill	\$ 9,107,041	13.4%
Large landfill	\$ 17,482,106	13.6%

All scenarios at 30% Equity and 70% Debt:

Results	Project Cost	ROE
<i>AD scenarios</i>		
Baseline Farm	\$ 4,466,800	-
Large Farm	\$ 5,775,080	12.9%
Coop Farm	\$ 8,233,248	14.7%
SSO (Municipal)	\$ 31,364,559	2.3%
Industrial	\$ 29,514,837	-
WWTP	\$ 2,486,509	-
<i>Landfill scenarios</i>		
Small landfill	\$ 5,098,055	11.7%
Medium landfill	\$ 9,143,644	15.9%
Large landfill	\$ 17,579,920	17.0%

Based on market observations and experience, Electrigaz estimates that private biogas projects become bankable with equity near 40% or more.

- e) It is assumed that the project will last the life of the energy contract (20 years). Equipment residual value at the end of 20 years is a function of operation and maintenance throughout the life of the project. It is assumed that the potential residual value of equipment will be offset by the cost of demolition and site reconditioning, therefore equating to the project residual value to zero.
- f) The following tables show depreciation at 20 yrs & 30 yrs
 - a. 20 yrs (Baseline)

Results	Project Cost	ROE
<i>AD scenarios</i>		
Baseline Farm	\$ 4,448,919	-
Large Farm	\$ 5,751,962	10.0%
Coop Farm	\$ 8,200,289	11.1%
SSO (Municipal)	\$ 31,524,253	1.3%
Industrial	\$ 29,282,343	-
WWTP	\$ 2,492,935	-
<i>Landfill scenarios</i>		
Small landfill	\$ 5,077,647	10.5%
Medium landfill	\$ 9,107,041	13.4%
Large landfill	\$ 17,482,106	13.6%

b. 30 yrs:

Results	Project Cost	ROE
<i>AD scenarios</i>		
Baseline Farm	\$ 4,448,919	-
Large Farm	\$ 5,751,962	15.1%
Coop Farm	\$ 8,200,289	16.1%
SSO (Municipal)	\$ 31,524,253	10.2%
Industrial	\$ 29,282,343	-
WWTP	\$ 2,492,935	8.4%
<i>Landfill scenarios</i>		
Small landfill	\$ 5,077,647	13.3%
Medium landfill	\$ 9,107,041	16.4%
Large landfill	\$ 17,482,106	17.6%

Model was changed to perform a 30 years straight line depreciation. Resulting ROE are skewed upwards due to the fact that the project does operate only over 20 years, not 30 years. See LPMA U-26e.

g) Please see response to Enbridge Gas Distribution LPMA Interrogatory #16 (I-11-16).

UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #27

Ref: Exhibit B, Tab 1, Appendix A
Issue 2.1 & 2.2

Please provide live Excel spreadsheets for the pro-formas shown on pages 9 through 17 (Appendix 1).

Response:

Neither EGD nor Union Gas Limited contracted with Electrigaz to provide a live Excel model (the Consultant's proprietary biogas calculation software). The two parties contracted to have the outputs only of their proprietary biogas calculation model. . The relevant section of the contract with Electrigaz is sited below [Emphasis added].

*(d) The Consultant retains all right, title and interest in and to the Consultant Materials. The Consultant hereby grants to Enbridge a non-exclusive, perpetual, irrevocable, non-terminable, transferable, assignable and royalty-free license to copy, disclose, use, operate, maintain, repair, modify, enhance, make derivative works, license, sub-license and otherwise commercially exploit without limitation or restriction those Consultant Materials used in connection with the delivery of the consulting services or to the extent contained within any Work Product, **provided that with respect to the Consultant's proprietary biogas calculation software, such license shall only pertain to the results produced by such software to the extent contained within any Work Product.***

UNION GAS LIMITED
RESPONSE TO LONDON PROPERTY MANAGEMENT ASSOCIATION
INTERROGATORY #29

Ref: Exhibit C
Issue 4.1

- a) Please provide the average impact on customers in Rates M1, 01, M2, M4 and 10 if the biomethane gas was purchased for company use and included in the costs allocated to all customers. Please provide the impact on both a percentage and annual dollar basis.
- b) How much of the annual increase in total gas costs requested in Interrogatory #28(b) above would be allocated to ex-franchise customers if the biomethane gas was purchased by Union for company use as requested in part (a) above.

Response:

- a) If RNG was purchased for company use and included in the 2007 Board-approved costs allocated to all customers, the incremental cost when compared to the Board-approved January 2012 QRAM would be \$21.050 million. The calculation of incremental cost is summarized below:

Total RNG Volume	58,000 10 ³ m ³
RNG Price (\$15/GJ)	56.6250 cents/m ³
January 2012 QRAM WACOG	<u>20.3322</u> cents/m ³
Price Variance	36.2928 cents/m ³
Incremental Cost related to RNG	\$21.050 million

The impact on both a percentage and annual dollar basis for an average system gas customer by rate class is summarized in the table below:

Rate Class	Annual Impact (\$)	Annual Impact (%)
R01	2.69	0.3
R10	36.42	0.1
M1	1.36	0.2
M2	60.74	0.4
M4	1,312.07	0.3

- b) The increase to ex-franchise rates is estimated to be \$15.157 million and represents 72 percent of the total gas cost increase of \$21.050 million.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #1

Issue 1.1

For each objective for gas under section 2 of the OEB Act that the Applicants rely on, please explain how the proposed biomethane program fits within.

Response:

The RNG proposal is consistent with objective 5 in section 2 of the OEB Act, both in relation to energy conservation and energy efficiency.

Board objectives, gas

2.

5. To promote energy conservation and energy efficiency in accordance with the policies of the Government of Ontario, including having regard to the consumer's economic circumstances.

RNG's contribution to energy conservation and energy efficiency is explained in the pre-filed evidence Exhibit B Tab 1 pages 5 and 10.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #3

Issue 1.2

Have the Applicants undertaken any formal cost-benefit analyses of the proposed program (either produced internally or externally)? If so, please provide them.

Response:

Please refer to the pre-filed evidence Exhibit B Tab 1 pages 7 to 10 for the benefits.

There is currently no robust mechanism for the determination of the value of GHG emission credits in Ontario. In addition, many of the benefits such as waste alleviation, improved odour control, pathogen reduction and contribution to the local economy are difficult to quantify. As a result, no formal cost-benefit analysis of the proposed program has been undertaken.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #7

Issues 1.1, 1.2, 2.1, 2.2

Reference: Ex.B/1/p.9

Have the Applicants quantified the “economic benefits through local job creation” outlined in the Application? If so, please provide all documentation to support the analysis.

Response:

No, the applicants have not quantified the economic benefits through local job creation.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #8

Issues 2.1, 2.2

Reference: Ex.B/1/p.10

Have the Applicants calculated or studied the biomethane price that is necessary to create the incentive for a potential biogas producer under the Ontario Government's Feed-in-Tariff program to instead take part in the proposed biomethane program?

Response:

Please see response to Board Staff Interrogatory1 and VECC Interrogatory 10 (I-1-1 and I-15-10).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #10

Issues 2.1, 2.2

Reference: Ex.B/1/p.26

Please provide a copy of each of the Applicant's current Ontario gas production contacts.

Response:

Please see response to APAO Interrogatory 2, (Exhibit I-2-2) Attachment #2 and Attachment #4.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #11

Issues 2.1, 2.2

Reference: Ex.B/1/4

For each of the five suppliers listed, what is the current market share of each company?

Response:

As the market for RNG purification equipment is still relatively new, there are no global or national statistics for market share published as would be for consumer products like cars, electronics or food products, nor are there comprehensive lists of all projects operating in the world.

The manufacturers listed do have project specific information available on their websites, but that information is not organized by geographic area nor is it comprehensive.

For Canada, only three projects are either commissioning or fully operational.

1. EBI énergie – Québec – Custom membrane system used to treat landfill gas to pipeline system specifications
2. Catalyst Power – British Columbia – Flotech/ Greenlane waterwash system to treat AD biogas to distribution system specifications
3. City of Hamilton Woodward Avenue Waste Water Treatment Plant (WWTP) – Ontario – Greenlane/Flotech waterwash system to treat WWTP biogas to distribution system specifications

Based on the known Canadian projects the market share of suppliers is:

- i. Flotech/Greenland – 67%
- ii. Xebec - 0%
- iii. Purac - 0%
- iv. Haase - 0%
- v. Air Liquide - 0%
- vi. Other - 33%

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #12

Issues 2.1, 2.2

Reference: Ex.B/1/4/p.11

What concerns does Electrigaz have with the battery limits established by the Applicants?

Response:

From a biomethane pricing analysis stand-point, the described battery limits are considered acceptable, since they include all capital and operational costs necessary to generate biomethane. From an operational stand-point, it is expected that the producer will assume the capital and operational costs of monitoring, metering and odourization station, but it will be operated by the utilities.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #13

Issues 2.1, 2.2

Reference: Ex.B/1/4/p.14]

With respect to macro-economic references, please explain how Electrigaz derived the operations labour salary of \$40/hr from the two reports it cited as a basis.

Response:

Reference #13. Paragraph "Operation Labor potential"

70 000\$/yr at 35 hrs/wk for 52 weeks/yr = 38.46\$/hr

70 000\$/yr at 35 hrs/wk for 49 weeks/yr = 40.82\$/hr

70 000\$/yr at 40 hrs/wk for 52 weeks/yr = 33.65\$/hr

70 000\$/yr at 40 hrs/wk for 49 weeks/yr = 35.71\$/hr

Reference #14.

Control Centre Operators:

Entry-level compensation for typical pipeline control centre operators in training will range from \$60,000 to \$68,000 per annum excluding overtime, shift differential and bonus if applicable.

68 000\$/yr at 35 hrs/wk for 52 weeks/yr = 37.36\$/hr

68 000\$/yr at 35 hrs/wk for 49 weeks/yr = 39.65\$/hr

68 000\$/yr at 40 hrs/wk for 52 weeks/yr = 32.69\$/hr

68 000\$/yr at 40 hrs/wk for 49 weeks/yr = 34.69\$/hr

These rates do not included employers wage overhead. Electrigaz conservatively rounded it up to \$40/hr to reflect these wages overhead.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #14

Issues 2.1, 2.2

Reference: Ex.B/1/4/p.15-21

Please provide the basis for the assumptions made for the:

- a) Anaerobic digestion scenario
- b) SSO scenario
- c) WWTP scenario
- d) Industrial scenario
- e) Landfill scenario
- f) Small and medium scenario

Response:

The basis for general assumptions is noted in the filed evidence, EB-2011-0242/EB-20110-0283 Exhibit B/Tab 1/Appendix 4 pg. 11. The basis for scenario specific assumptions can be found as follows:

- a) Anaerobic digestion - EB-2011-0242/EB-20110-0283 Exhibit B/Tab 1/Appendix 4 pg. 15-16
- b) SSO - EB-2011-0242/EB-20110-0283 Exhibit B/Tab 1/Appendix 4 pg. 17-18
- c) WWTP - EB-2011-0242/EB-20110-0283 Exhibit B/Tab 1/Appendix 4 pg. 19
- d) Industrial - EB-2011-0242/EB-20110-0283 Exhibit B/Tab 1/Appendix 4 pg. 20
- e) Large landfill - EB-2011-0242/EB-20110-0283 Exhibit B/Tab 1/Appendix 4 pg. 21-22
- f) Small/Medium landfill - EB-2011-0242/EB-20110-0283 Exhibit B/Tab 1/Appendix 4 pg. 21-22

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #15

Issues 2.1, 2.2

Reference: Ex.B/1/5/p.2

With respect to financial model economic assumptions:

- a) What is the basis for the debt/equity assumption used for SSO and WWTP scenarios?
- b) Please explain how Electrigaz derived the equity/debt ratio for 'Agriculture and Industrial' and 'All Landfill' scenarios from the *Policy instrument design to reduce financing costs in renewable energy technology projects* Report.

Response:

- a) The basis for the debt/equity assumption used for the SSO and WWTP scenarios was a derivation based on the need to determine a debt to equity ratio for financial modeling purposes and what is practically possible with Municipal finance. The value of debt 80% was used since many municipalities would use 80% to 100% debt to fund projects like the ones being modeled.
- b) New link for this reference (link in report now broken) http://www.solar-hot-water.ca/resources/RETD_financing-report_Main.pdf We used reference in page 117 of report (or p.126 in PDF). See LPMA U-26c for further answer on Equity/Debt ratio assumption.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SCHOOL ENERGY COALITION INTERROGATORY #17

Issue 3.1

Please outline the current process for an Ontario biomethane producer to inject their supply into either of the Applicant's systems.

Response:

The current process for an Ontario producer to inject their supply into Union Gas' system is summarized as follows:

- 1) **Customer Contact** - Producer contacts Union Gas, and supplies: Producer contact information, site location, approximate hourly, daily, and annual production volumes (minimum and maximum).
- 2) **Initial Market Analysis** – Union Gas's Distribution Planning evaluates the nearest market availability and determines pressure requirements and approximate tie-in length for Producer.
- 3) **Response to Producer** – Tie-in opportunities are shared by Union Gas with the Producer, and provided market availability exists, Union Gas informs Producer of Purchase Agreement vs. M13 Transportation arrangements.
- 4) **Producer chooses to proceed** – Upon confirmation that the Producer has an interest to proceed, Union Gas completes a tie-in cost estimate, including a station design for the proposed facility (measurement, pressure regulation, and gas quality monitoring requirements).
- 5) **Contract and pre-payment** – Upon confirmation that the Producer chooses to proceed, Union Gas and the Producer enter into a contractual arrangement for either the purchase or transportation of gas. The Producer is required to pay the estimated cost of the tie-in as a 100% aid to construction upon entering into a contractual arrangement (prior to construction).
- 6) **Producer station and tie-in construction** – Upon receipt of payment, Union Gas completes construction of the required producer station and tie-in facilities.
- 7) **Station and Producer commissioning** – Union Gas coordinates with Producer to confirm gas quality prior to enabling injection into Union Gas' system (including gas quality lab analysis and system performance).

- 8) **Production** – Upon confirmation of system performance and approved gas quality results, Producer may inject to Union Gas' system.

This process will also be followed for RNG producers.

The process for connecting RNG supply into Enbridge's system is in development and will be similar to those of Union and follow generally accepted utility practices and sound engineering principles and safety procedures.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #1

Issue 1.2

Reference: Exhibit B, Tab 1, pages 11, 15, and 26

The utilities describe their roles as necessary to establish the RNG market, and state, “In the absence of RNG prices and a supporting program, the development of this market is unlikely in the next several years.”

Please provide the sources of information and explain the rationale used to arrive at this conclusion, including how many years is estimated by “several”.

Response:

The utilities and their expert consultants have used the evidence contained herein and their judgement to reach this conclusion. “Several” is estimated to be around 5 years.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #4

Issue 1.2

Reference: Exhibit B, Tab 1, pages 11, 15, and 26

The utilities describe their roles as necessary to establish the RNG market, and state, “In the absence of RNG prices and a supporting program, the development of this market is unlikely in the next several years.”

Do the utilities support the development of a RNG market that would function much like the current market for conventional natural gas (multiple participants, liquidity, etc.) with contracting and flow both out of Ontario and into Ontario?

Response:

Yes, the Utilities support the development of an RNG market over the longer term where RNG is considered “just another natural gas supply choice”. This might, but not necessarily, include contracting and flow both out of Ontario and into Ontario. However the scope of this application pertains to the Utilities’ role in enabling a viable RNG production industry within Ontario.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #5

Issues 2.1 and 2.2

Reference: Exhibit B, Tab 1, page 14 and Appendix 3

The utilities describe the types of stakeholder meetings held along with the Ipsos Reid survey as sources of information for the application, including the proposed costs related to purchasing biomethane.

Did either utility discuss with stakeholders the availability and pricing of biomethane in jurisdictions neighbouring Ontario? If yes, what was discovered regarding the availability of supply and pricing?

Response:

At a telephone discussion initiated by Shell, the Utilities were informed that biomethane was available in other jurisdictions. The discussion did not include any specifics on pricing, quantities, or whether the jurisdictions were truly neighbouring, but only that the supplies could be accessed through pipeline networks.

EGD was also informed of a potential source from a landfill in Ohio in another discussion.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #6

Issues 2.1 and 2.2

Reference: Exhibit B, Tab 1, page 14 and Appendix 3

The utilities describe the types of stakeholder meetings held along with the Ipsos Reid survey as sources of information for the application, including the proposed costs related to purchasing biomethane.

In choosing to contract directly with proposed developers rather than utilize a competitive process seeking offers from developers and marketers inside and outside Ontario, did either utility assess the costs of the options to determine which provided the most benefit at the least cost? If yes, please provide the results and materials.

Response:

The utilities did not assess the costs associated with other processes, inside or outside of Ontario. The utilities chose to pursue the RNG program as the best way to enable the development of a viable RNG production industry inside Ontario.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #7

Issues 2.1 and 2.2

Reference: Exhibit B, Tab 1, page 14 and Appendix 3

The utilities describe the types of stakeholder meetings held along with the Ipsos Reid survey as sources of information for the application, including the proposed costs related to purchasing biomethane.

Did either utility request any of their consultants to survey suppliers or investigate the availability of product, pricing, or the functioning of biomethane markets in neighbouring jurisdictions? If yes, what was discovered, and please provide any materials.

Response:

No, the utilities did not request our consultants to do a review of biomethane supplies outside of Ontario as the intent of the RNG program was to foster the development of Ontario RNG based production.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #8

Issues 2.1 and 2.2

Reference: Exhibit B, Tab 1, page 14 and Appendix 3

The utilities describe the types of stakeholder meetings held along with the Ipsos Reid survey as sources of information for the application, including the proposed costs related to purchasing biomethane.

Based on the research or activities of the utilities and / or their affiliates, please describe the utilities' understandings with respect to the availability and pricing of biomethane in neighbouring jurisdictions? Please provide any documentation or materials related to this understanding.

Response: The utilities did not specifically research the availability and pricing of RNG in neighbouring jurisdictions. The utilities did not look for supply of RNG supplies outside of Ontario as the intent of the RNG program is to develop an Ontario RNG based supply. Regarding awareness of neighbouring jurisdictions, the utilities are aware of a dairy farm RNG operation in Michigan, a landfill operation in Ohio and a landfill RNG operation in Quebec.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #9

Issues 2.1 and 2.2

Reference: Exhibit B, Tab 1, page 14 and Appendix 3

The utilities describe the types of stakeholder meetings held along with the Ipsos Reid survey as sources of information for the application, including the proposed costs related to purchasing biomethane.

For any research or analysis performed related to supply from outside Ontario, was there any distinction made between supply from a potential new project developer versus supply from an existing project that could be purchased at market prices from a competitive supplier? If yes, what was analysis?

Response:

No analysis was performed related to supply from outside Ontario on supply from a potential new project developer versus supply from an existing project.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #10

Issues 2.1 and 2.2

Reference: Exhibit B, Tab 1, page 14 and Appendix 3

The utilities describe the types of stakeholder meetings held along with the Ipsos Reid survey as sources of information for the application, including the proposed costs related to purchasing biomethane.

Do the utilities agree that biomethane produced outside of Ontario can be nominated and transported on existing gas pipelines for delivery to Ontario? If no, why not?

Response:

Yes.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #11

Issues 2.1 and 2.2

Reference: Exhibit B, Tab 1, page 14 and Appendix 3

The utilities describe the types of stakeholder meetings held along with the Ipsos Reid survey as sources of information for the application, including the proposed costs related to purchasing biomethane.

When describing biomethane to survey respondents and seeking their views on whether or not they support utilities purchasing this source of supply, were the respondents made aware that biomethane could be purchased either inside Ontario, or outside Ontario? If yes, were there any preferences stated and recorded regarding the source options, and what were they?

Response:

No.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #12

Issues 2.1 and 2.2

Reference: Exhibit B, Tab 1, page 14 and Appendix 3

The utilities describe the types of stakeholder meetings held along with the Ipsos Reid survey as sources of information for the application, including the proposed costs related to purchasing biomethane.

Why were commercial customers of Union Gas excluded from the survey?

Response:

Union's commercial customers were not included in the survey as it was assumed that their responses would be similar to Enbridge Gas Distribution commercial customers.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #13

Issue 2.6

Reference: Exhibit B, Tab 1, page 24

The evidence related to this issue appears to be limited to a single sentence regarding ownership of environmental attributes on page 24.

Please confirm that this is the only evidence filed with respect to this issue. If it is not, please identify such evidence and how it relates to the issue.

Response:

Confirmed. This is the only evidence filed with respect to the issue, as is indicated at Exhibit B, Tab 1, Page 24.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #14

Issue 2.6

Reference: Exhibit B, Tab 1, page 24

The evidence related to this issue appears to be limited to a single sentence regarding ownership of environmental attributes on page 24.

Does the reference to “benefits” of attributes accruing to gas purchase costs imply that the utilities plan to, or may, sell or otherwise monetize the value of the attributes obtained through their purchase of biomethane? If yes, please describe how this would take place under the program or within a market structure.

Response:

At this time the Province of Ontario does not have a formal structure in place to formally deal with environmental attributes. The utilities will retire or monetize the attributes and apply the benefits to gas purchase costs, as directed by the board, when a formal structure is in place in Ontario.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO SHELL ENERGY INTERROGATORY #15

Issue 2.6

Reference: Exhibit B, Tab 1, page 24

The evidence related to this issue appears to be limited to a single sentence regarding ownership of environmental attributes on page 24.

If a GHG or other carbon based regulatory pricing or compliance regime is implemented in Ontario, will a system gas customer be able to request from the utilities a transfer of ownership or possession of the attributes the utilities hold on behalf of the customer?

Response:

No. If GHG or other carbon based regulatory pricing or compliance regime is implemented in Ontario the value of the attributes will be accrued to system customers through a deferral account mechanism.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO VECC INTERROGATORY #2

1.0: Role of the Utilities

Reference: Exhibit B Tab1 Appendices

a. Provide the Costs of the following preparatory work:

- i. Alberta Innovates Technology Study
- ii. Ipsos Reid Survey
- iii. Electrigas Study
- iv. Pricing Model

Response:

Please see responses to Consumers Council of Canada Interrogatory #21 (Exhibit I-5-21).

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO VECC INTERROGATORY #3

1.0: Role of the Utilities

References: Exhibits B Tab 1 Page 7 of 28; Exhibit B Tab 1 Appendix 1 Table 8 page 18

Preamble:

In June 2008, amendments to Ontario Regulation 232/98 and Revised Regulations of Ontario 1990, Regulation 347 under the *Environmental Protection Act* resulted in requirements for all landfills emitting in excess of 1.5 million m³ to collect landfill gas and flare it or use it in a manner that achieves a similar end. These requirements had previously applied only to landfills emitting in excess of 3 million m³, and to those landfills that were new and expanding.

- a. What is the target for the landfill gas RNG program-Landfills falling under Reg 347 or those that are under the threshold?
- b. How many of the former (>1.5 MMm³) and how many of the latter (<1.5MMm³)?
- c. Provide Lists and locations and legal ownership.
- d. Indicate which are in each Utilities franchise area and which are already capturing emissions and or utilizing the energy (or will do so in the near future)
- e. Map the sites based on proximity to the Union and EGD transmission and distribution systems including compression and storage facilities.
- f. Do EGD and Union plan to procure RNG from landfills other than those listed in this response? If yes provide additional details.

Response:

- a. The Utilities do not have a “target” for any landfill gas projects whether under Reg 347 or under the Reg. 347 threshold.
- b. As per part a), there are no “targets”.
- c. A list large landfill sites (defined as having capacities greater than 1.5 MM m³) is presented in the filed evidence, Exhibit B, Tab 1, Appendix 1, pages 18-19. A list of small landfills

with capacities less than 1.5 MM m³ can be obtained from Landfill Inventory Management Ontario (LIMO) at:

http://www.ene.gov.on.ca/environment/en/monitoring_and_reporting/limo/index.htm.

The complete dataset, as of January 12, 2011, contains over 2,400 sites. Information regarding site location relative to the Utilities franchise areas is presented in the filed evidence, Exhibit B, Tab 1, Appendix 1, pages 17-18.

- d. The following table is compiled from information publicly available from Landfill Inventory Management Ontario (“LIMO”).

http://www.ene.gov.on.ca/environment/en/monitoring_and_reporting/limo/STD01_078377.html

Details regarding emissions capture are not available from LIMO for small landfills.

Name	Required to Collect Landfill Gas	Landfill Gas Collected
Bensforth Rd - Peterborough	Yes	Yes
City of Thunder Bay Solid Waste and Recycling Facility	Yes	Yes
Cornwall Landfill - Cornwall	Yes	Yes
Deloro Landfill	No	No
EWSWA Regional Landfill - Essex Windsor	Yes	Yes
Glanbrook - Hamilton	Yes	Yes
Green Lane - St. Thomas	Yes	Yes
Halton Regional Landfill - Milton	Yes	Yes
Humberstone - Niagara Region	Yes	No
Lafleche - Stormont	Yes	Yes
Lindsay-Ops - Kawartha Lakes	Yes	Yes
Line 5 Landfill - Sault Ste. Marie	Yes	Yes
Merrick Landfill - North Bay	Yes	Yes
Mohawk Street - Brantford	Yes	No
Newalta Stoney Creek Landfill	Yes	Yes
Niagara Regional Road 12 - Niagara Region	No	No
Petrolia - Lambton	Yes	Yes
Richmond - Napanee	Yes	Yes
Ridge Landfill - Blenheim	Yes	Yes
Salford - Oxford County	Yes	No
Sandy Hollow - Barrie	No	No
Springhill - Ottawa	No	No
Stratford - Stratford	Yes	No
Sudbury Regional Landfill	Yes	Yes
Tom Howe - Haldimand	Yes	Yes

Trail Road - Ottawa	Yes	Yes
W12A - London	Yes	Yes
Walker Bros Landfill	Yes	Yes
Warwick - Lambton	No	No
Waterloo Landfill	Yes	Yes
West Carlton - Ottawa Carp Rd	Yes	Yes
WSI - Ottawa - Navan Rd	Yes	No

- e. See maps attached as Attachment 1.
- f. Per a. and b. above, the Utilities have no targets.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO VECC INTERROGATORY #4.1

1.0: Role of the Utilities

References: Exhibit B Tab 1 Page 7/8: Exhibit B Tab 1 Appendix 1.

Preamble: The benefits of anaerobic digestion facilities on farms and in waste processing facilities (such as municipal waste water treatment and source separated organics facilities) include an opportunity to increase organic waste diversion rates, reduce waste management costs, improve odour control and reduce the level of pathogens through the treatment of manure and other organic materials that might otherwise be disposed of on land.

- a. Provide lists of Municipal and private anaerobic digestion facilities including legal ownership.
- b. Designate which are agricultural or other wastes (e.g. food processing) and which are other waste processing, e.g. SSO and WWTP.
- c. Map the known sites in proximity to the Union and EGD transmission and distribution systems including compression and storage facilities.

Response:

- a. The following are lists of private and public AD facilities available from public sources, which the Utilities believe are representative of those in Ontario, but may not be fully exhaustive.

The Ontario Ministry of Agriculture, Food and Rural Affairs (“OMAFRA”) list biogas systems constructed under Ontario Biogas Systems Financial Assistance (“OBSFA”) Program. http://www.omafra.gov.on.ca/english/engineer/biogas/proj_list.htm

Business Name	County/District
Bayview Greenhouses (Jordan Station) Inc.	Niagara
Vandermeer Greenhouses	Niagara
Maryland Farms	Kawartha Lakes
Pinehedge Farms Inc.	Prescott & Russell
Terryland Farms Inc.	Prescott & Russell
FEPRO Farms	Renfrew
Ledgcroft Farms Inc.	Leeds & Grenville

Kirchmeier Farms Inc	Prescott & Russell
Petrocorn Inc.	Prescott & Russell
Clearydale Farms	Grenville
Donnandale Farms Inc.	Hastings
Schouton Corner View Farms Ltd.	Ottawa/Carlton
Ferme Geranik Inc.	Prescott & Russell
De Bruin Farms Ltd.	Frontenac
Ferme Lanidrac	Prescott & Russell
Hydro-Gen Farms Ltd.	Ottawa/Carlton
Jockvalley Farms Ltd.	Ottawa/Carlton
Schouten Dairy Farms Inc.	Ottawa/Carlton
Carlton Corner Farms Ltd.	Ottawa/Carlton
Stanton Bros. Ltd.	Middlesex
Finnie Distributing (1977) Inc.	Perth
Seacliff Energy Inc.	Essex
Clovermead Farms Inc.	Wellington
Delft Blue Veal Inc.	Hamilton-Wentworth
Ben Gardiner Farms Inc.	Perth
ENS Poultry	Wellington
Birchlawn Farms	Perth

The Ontario Ministry of the Environment, Business – Environmental Monitoring & Reporting Section, provided a list of waste water treatment plants currently managed by either the Ministry of the Environment or the Ontario Water Conservation Alliance. The following sites are indicated to utilize anaerobic digestion as part of the existing treatment processes.

Works Number	Name	Address
120000391	MAIN WPCP (TORONTO)	1091 EASTERN AVE , TORONTO
120000729	ROBERT PICKARD ENV CENTRE	800 GREEN CREEK DR. , GLOUCESTER
120000382	HUMBER WPCP (ETOBICOKE)	130 THE QUEENSWAY , TORONTO
120001504	HAMILTON-WOODWARD AVE UPCP(PHILIP UTIL. MGT. CORP)	71 MAIN STREET WEST , HAMILTON
120001915	DUFFIN CREEK WPCP (YORK-DURHAM)	105 CONSUMERS DRIVE , WHITBY
120000373	HIGHLAND CREEK WPCP (SCARBOROUGH)	51 BEECH GROVE DRIVE , WEST HILL
110000374	KITCHENER WPCP	368 MILL PARK DRIVE , KITCHENER
120001050	KINGSTON WPCP	216 ONTARIO ST. , KINGSTON
110000043	BRANTFORD WPCP	MOHAWK ROAD , BRANTFORD
110000793	WATERLOO WPCP	190 UNIVERSITY AVE. , WATERLOO

120001363	NIAGARA FALLS-STAMFORD WPCP	3450 STANLEY AVE. , NIAGARA FALLS
120000907	SARNIA WPCP	333 ST. ANDREW STREET , SARNIA
120003094	GUELPH WPCP	500 WELLINGTON STREET W. , GUELPH
120001309	WELLAND WPCP	505 RIVER RD - WELLAND , THOROLD
110000016	BELLEVILLE WPCP	ST PAUL STREET , BELLEVILLE
110000533	NORTH BAY WPCP	650 QUEEN STREET , NORTH BAY
110000132	CORNWALL WPCP	MONTREAL RD. , CORNWALL
120000676	PETERBOROUGH WPCP	425 KENNEDY RD , PETERBOROUGH
120000578	BARRIE WPCP	249 BRADFORD ST. , BARRIE
110000276	GALT WPCP	WATER STREET S.-(G) , CAMBRIDGE
120000738	CORBETT CREEK WPCP	105 CONSUMERS DRIVE , WHITBY
110000766	MATTAGAMI WPCP	220 ALGONQUIN EAST , TIMMINS
120000364	NORTH TORONTO WPCP (EAST YORK)	NORTH TORONTO TREATMENT PLANT , TORONTO
120000685	WOODSTOCK WPCP	195 ADMIRAL STREET , WOODSTOCK
110000098	CHATHAM WPCP	P.O. BOX 640 , CHATHAM
120000569	ORILLIA WPCP	40 KITCHENER ST. , ORILLIA
110000702	STRATFORD WPCP	WEST GORE STREET , STRATFORD
110000365	KINGSTON WEST WPCP	475 FRONT ROAD , KINGSTON
120000550	COLLINGWOOD WPCP	3 BIRCH ST. , COLLINGWOOD
110000551	OWEN SOUND WPCP	2050 THIRD AVE. E. , OWEN SOUND
120001292	ANGER AVE. WPCP	1 ANGER AVENUE- FORT ERIE , THOROLD
120000998	OAKVILLE SOUTH EAST WPCP	2477 LAKESHORE RD. OAKVILLE , OAKVILLE
120000630	PEMBROKE WPCP	98 RANKIN ST. (613)-735-0409 , PEMBROKE
110000971	CARLETON PLACE WPCP	FRANCIS STREET , CARLETON PLACE
120000122	BROCKVILLE WPCP	1 KING ST EAST VICTORIA BUILD , BROCKVILLE
120002282	MID-HALTON WPCP	2195 NORTH SERVICE RD. , OAKVILLE
120001684	GRIMSBY-BAKER ROAD WPCP	347 BAKER RD./GRIMSBY L3M 4G1 , THOROLD
120001372	HAMILTON-DUNDAS KING ST. WPCP	71 MAIN STREET WEST , HAMILTON
110000383	LINDSAY WPCP	180 KENT ST. W. (TOWN HALL) , LINDSAY
110000622	PRESTON WPCP	396 MONTROSE STREET S.-(P) , CAMBRIDGE
120000097	COBOURG WPCP NO 1	420 KING STREET W. , COBOURG
120001121	ESTEN LAKE WPCP	45 HILLSIDE DR. N. , ELLIOT LAKE
110000775	TRENTON WPCP (MUN. FROM MARCH 2005)	BAY STREET , TRENTON
110000677	NORFOLK-SIMCOE WPCP	16 OAKWOOD AVENUE , SIMCOE
120001906	PORT COLBORNE-SEAWAY WPCP	30 PROSPERITY AVE./PT COLBORNE , THOROLD

110000542	ORANGEVILLE WPCP	10 TOWNLINE E. , ORANGEVILLE
110000463	MIDLAND WPCP	200 BAY ST. , MIDLAND
110000294	GEORGETOWN WPCP	275 MOUNTAINVIEW RD. SOUTH , OAKVILLE
120001014	MILTON WPCP	161 FULTON ST - MILTON , OAKVILLE
110001541	VALLEY EAST WPCP	200 BRADY STREET , SUDBURY
110000784	WALLACEBURG WPCP	795 GILLARD ST. , WALLACEBURG
120001283	FORT ERIE-CRYSTAL BEACH WPCP	500 RIDGEWAY ROAD-CRYSTAL BEAC , THOROLD
120003101	PRINGLE CREEK WPCP NO 2	105 CONSUMERS DRIVE , WHITBY
120000079	PORT HOPE WPCP	56 QUEEN STREET , PORT HOPE
120000186	NAPANEE WPCP	75 EAST STREET , NAPANEE
120001443	HALDIMAND-DUNNVILLE WPCP	700 MAIN STREET EAST , DUNNVILLE
120001489	WALKERTON WPCP	300 DURHAM STREET WEST , WALKERTON
110000560	PARRY SOUND WPCP	35 MCFARLANE STREET , PARRY SOUND
110000249	FERGUS WPCP	350 QUEEN ST. WEST , FERGUS
120001461	HANOVER WPCP	341-10TH STREET , HANOVER
110000864	KINCARDINE LAGOON	520 BRUCE AVE. , KINCARDINE
110000757	WESTMINISTER WPCP	CORONATION PARK , TILLSONBURG
120003192	COBOURG WPCP NO 2	55 KING STREET WEST , COBOURG
120000747	PRINGLE CREEK WPCP NO 1	105 CONSUMERS DRIVE , WHITBY
120000587	PETAWAWA WPCP	PETAWAWA WPCP , PETAWAWA
110001275	ST MARYS WPCP	309 THOMAS STREET , ST. MARYS
120000667	PICTON WPCP	5 LALOR ST. , PICTON
110000604	NORFOLK-PORT DOVER WPCP	R.R. NO. 3 - HWY # 6 , NANTICOKE
120000159	IROQUOIS WPCP	GOLF COURSE ROAD , IROQUOIS
120001023	ACTON WPCP + LAGOON	202 CHURCHILL RD SOUTH , OAKVILLE
110000150	ELMIRA WPCP (COMBINED FLOW)	FIRST STREET E. , ELMIRA
110000347	HUNTSVILLE WPCP (MOUNTVIEW)	37 MAIN ST. E , HUNTSVILLE
120003076	PORT DARLINGTON WPCP	105 CONSUMERS DRIVE , WHITBY
110001435	STURGEON FALLS WPCP	, STURGEON FALLS
120002380	GOLDEN PHEASANT WPCP	37 MAIN. ST. E , HUNTSVILLE
120000113	KEMPTVILLE WPCP (TERTIARY)	C/O CARLETON PLACE WTP , CARLETON PLACE
110001122	PRESCOTT WPCP	HIGHWAY 2 EAST , PRESCOTT
120001951	CRAIGLEITH WPCP	, THORNBURY
110000953	BRIGHTON LAGOON	35 ALICE STREET , BRIGHTON
120000756	UXBRIDGE BROOK WPCP	105 CONSUMERS DRIVE , WHITBY
110000597	POINT EDWARD WPCP	92 ALEXADRA AVE. , SARNIA
120000809	GRAVENHURST WPCP (DUAL OPERATION)	MUSKOKA BEACH ROAD , BRACEBRIDGE
120000131	LONG SAULT W.P.C.P	R.R. # 1 , INGLESIDE
110001355	IGNACE WPCP	, IGNACE

120001381	MOUNT FOREST WPCP	290 QUEEN STREET WEST , MOUNT FOREST
110001042	LONGLAC WPCP	, LONGLAC
110001195	NORFOLK-WATERFORD LAGOON	C/O SIMCOE WPCP , SIMCOE
120000514	NIPIGON WPCP	25 SECOND STREET , NIPIGON
110001462	LAKEFIELD LAGOON	1 QUEEN STREET , LAKEFIELD
110003638	ST.MARY'S CATHOLIC SCHOOL	,
110003585	ECHO BAY WPCP	PUC SERVICES INC, 765 QUEEN ST , SAULT STE. MARIE
120002683	CREEMORE	, STAYNER
120000088	COLBORNE WPCP	1 TORONTO STREET , COLBORNE
120000140	INGLESIDE WPCP	HWY 2 , INGLESIDE
120001817	RED ROCK WPCP	122 BRAMPTON RD. , RED ROCK
110002461	PARKHILL LAGOON	P. O. BOX 40 , GRAND BEND
110000668	BATAWA WPCP (OCWA. FROM MARCH 2005)	C/O TRENTON WPCP , TRENTON
120002585	KOMOKA WPCP	10227 ILBERTON RD. , ILBERTON
110001113	NORFOLK-PORT ROWAN LAGOON	C/O SIMCOE WPCP , SIMCOE
120002638	PORT SEVERN W.P.C.P	, BRACEBRIDGE
120002905	COURTICE WPCP	100 OSBOURNE RD , COURTICE
110002899	CLIFFORD STP	350 QUEEN ST , FERGUS
110002906	FLESHERTON STP	R R # 2 FLESHERTON , SOUTHAMPTON
110002443	NEUSTADT LAGOON	C/O MILD MAY WPCP , MILD MAY
120002763	NEWBURY WPCP	22280 KOMOKA ROAD , KOMOKA
120001808	BELLE VALLEE LAGOON	C/O NEW LISKEARD LAGOON , NEW LISKEARD
120002068	GLACKMEYER LAGOON	130 17TH AVENUE , COCHRANE
110003610	SNOW VALLEY HIGHLAND	100 WOODLAND DRIVE , WASAGA BEACH
110003870	SOUTH WOODLSEE	, Belle River
110000356	INGERSOLL WPCP	MC KEAND STREET , INGERSOLL
120002825	SKYWAY DEVELOPMENT WPCP	P.O. BOX 219 , KINGSVILLE
110001328	CLARKSON WPCP SOUTH-PEEL SYSTEM	2307 LAKESHORE RD. MISSISSAUGA , MISSISSAUGA

The City of Toronto has operates an AD at the Dufferin Transfer Station.¹ Construction of an additional AD at the Disco Road Transfer Station is underway.²

¹ Construction at Dufferin Green Bin Facility, City of Toronto. October 14, 2011.

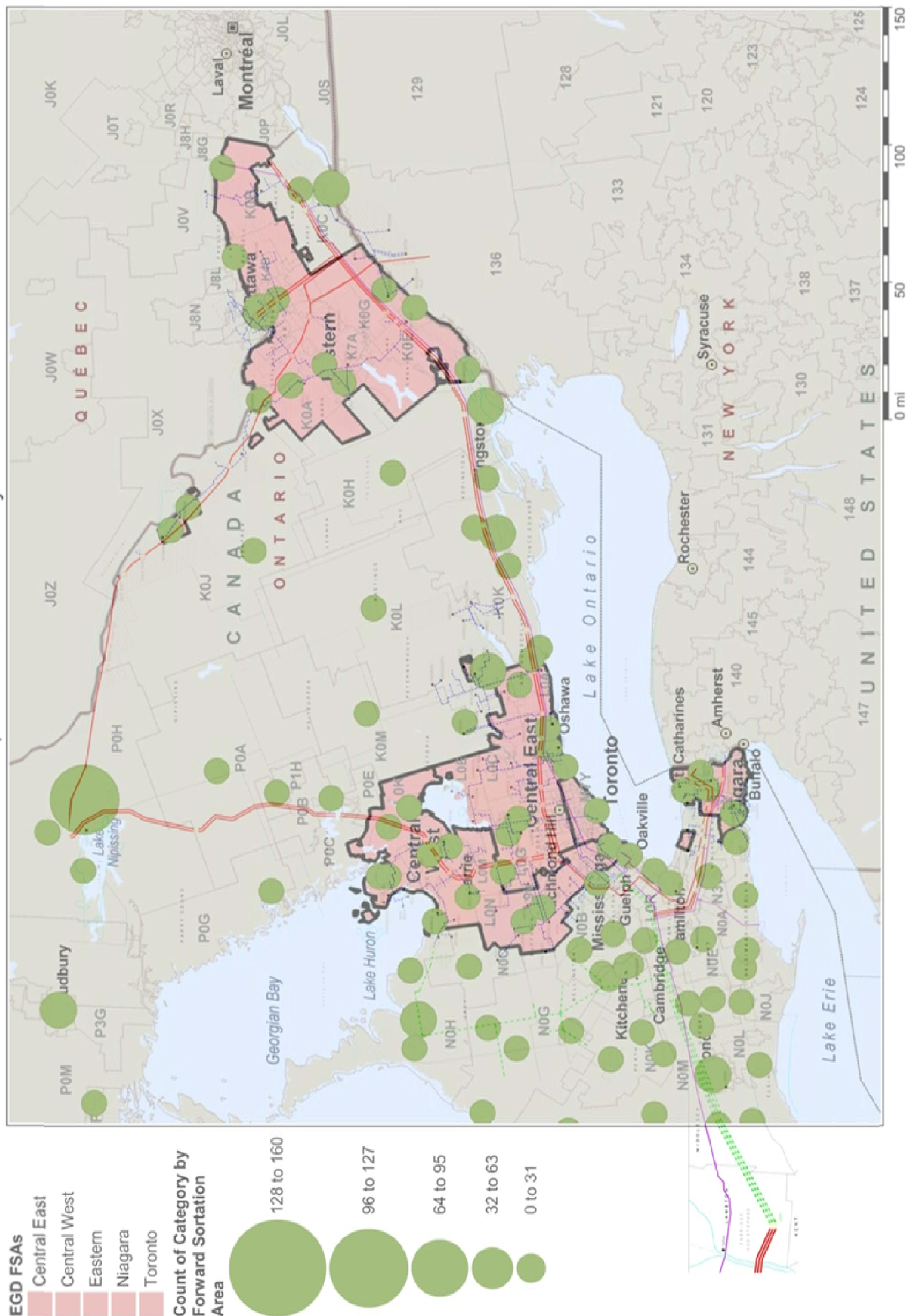
http://www.toronto.ca/involved/projects/dufferin_green_bin_facility/

² New Disco Road Green Bin Processing Facility, City of Toronto. January 5, 2012.

http://www.toronto.ca/involved/projects/disco_greenbin/

- b. The data sources referenced in the response to 4a. serve to designate the categories (municipal, agricultural, and waste water) or anaerobic digester.
- c. See maps attached as Attachment 1.

Landfills, WWTP & AD Overlay



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		Landfill Site Name	Municipal Address
1	City of Thunder Bay – Solid Waste and Recycling Centre	City of Thunder Bay – Solid Waste and Recycling Centre	5454 Maplewood Road Thunder Bay, ON
2	Corrival Regional Landfill	Corrival Regional Landfill	2500 Corrival Centre Rd West Corrival, ON
3	Deloro Landfill	Deloro Landfill	2128 Pine St South Tremont, ON
4	EWASA Regional Landfill – Windsor Essex	EWASA Regional Landfill – Windsor Essex	7000 Essex Commons Rd 18 Windsor, ON
5	Glanbrook – Hamilton	Glanbrook – Hamilton	1500 Haddrell Road Haddrell, ON
6	Green Lake – St. Thomas	Green Lake – St. Thomas	3850 1/2 Third Line London, ON
7	Haldon Regional Landfill – Milton	Haldon Regional Landfill – Milton	10000 Highway 25, Lot 3 & 4 – Concession 2 Milton, ON
8	Line 5 Landfill – Sault Ste. Marie	Line 5 Landfill – Sault Ste. Marie	402 Fifth Line E Sault Ste. Marie, ON
9	Merrick Landfill – North Bay	Merrick Landfill – North Bay	Sault Dam Rd (Merrick Township) North Bay, ON
10	Mohawk St. – Brantford	Mohawk St. – Brantford	10000 Highway 24 Brantford, ON
11	Nowata Stony Creek Landfill	Nowata Stony Creek Landfill	65 Green Mountain Rd W Stoney Creek, ON
12	Perrillo – Lambton	Perrillo – Lambton	4052 Old Heritage Rd Perrillo, ON
13	Richmond – Napanee	Richmond – Napanee	10000 Highway 24 Napanee, ON
14	Ridge Landfill – Blenheim	Ridge Landfill – Blenheim	20202 Lismar Rd Blenheim, ON
15	Sailford – Oxford County	Sailford – Oxford County	34000 Sailford Rd Sailford, ON
16	Stratford	Stratford	777 1/2 St. South Stratford, ON
17	Sudbury Regional Landfill	Sudbury Regional Landfill	2879 Kingsway Rd. Sudbury, ON
18	Tom How – Haldemond	Tom How – Haldemond	County Road 55, Lot 7 & 8 – Concession 16 Haldemond, ON
19	W12A – London	W12A – London	3625 Manning Drive London, ON
20	Warwick – Lambton	Warwick – Lambton	925 1st St West Warwick, ON
21	Waterloo Landfill	Waterloo Landfill	Waterloo, ON

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO VECC INTERROGATORY #4.2

1.0: Role of the Utilities

Reference: Exhibit B Tab 1 Page 10.

Preamble: As noted above, an alternative is electricity generation as part of the OPA's FIT program. For those projects where that option is available, the FIT program approach provides a predictable revenue stream over a 20-year term. A similar approach is required to enable a viable RNG industry.

- a. Provide a list of landfill gas and other facilities contracted and pending under the OPA administered FIT program.
- b. List the major qualifying criteria for each type of facility and a summary of the main contractual terms and conditions.
- c. Compare in tabular form, the RNG Program qualifying criteria and terms and conditions to those of the FIT program.

Response:

- a. Please see the update of the FIT program from the OPA – Bi-Weekly FIT and microFIT Report, Attachment 1.

	Not Executed Contracts		Executed Contracts		
	Offers	Expired Offers	Pending Pre/PostNTP	Operating Projects	Operating MW
Biogas	0	2	17	5	2
Biogas (on farm)	0	5	16	3	1
Landfill	0	0	3	1	6

- b. Please see the program rules and contract document from the OPA, Attachment 2 and Attachment 3, and responses to c. below.

c. Please see the table below.

Qualifying Criteria	FIT	RNG
Project must be based in Ontario	Yes	Yes
Renewable Fuel Source is Biogas or Landfill Gas	Yes	Yes
Maximum Capacity is 10MW and 50MW for waterpower	Yes	No
Agricultural Land Restriction on Solar PV	Yes	No
Domestic Content Requirement for Wind/Solar	Yes	No
OEB Electrical Distribution System Code Exemption for under 500kW	Yes	N/A
Must have available connection capacity	Yes	Yes
Additional revenue for Aboriginal or Community proponents	Yes	No
Program Review	Every 2 Year	Pgm Ends at 5 Years
Maximum Program Capacity	No	Yes
Major Contract Terms	FIT	RNG
Standard form agreement	Yes	Yes
Term	20 Year	20 Years
Volume based payments	Yes	Yes
Maximum contract capacity	Yes	Yes
All output must go to purchaser	Yes	Yes
Price Structure is fixed	Yes	Yes
Proportion of Price is indexed to CPI	Yes	Yes
Prices for various sources, types and capacities	Yes	Yes
Price includes capital and O&M of connection	Yes	Yes
Environmental Attributes Belong to Contract Issuer	Yes	Yes

BI-WEEKLY FIT and microFIT REPORT
Data as of February 3rd, 2012

FIT PROJECT STATUS SUMMARY
Count of Applications

FIT PROJECT STATUS SUMMARY												
Count of Applications		Application Stage				Not Executed		Contract Stage				
Energy Groups	Source Type	Submitted	Under Review	Awaiting ECT	Rejected/ Withdrawn	Not Executed		Contract Stage		Contract Stage		Grand Total
						Contract Offered	Offer Expired	Terminated	Pre-NTP	Post-NTP	Commercial Operation	
Bioenergy	BioGas	15	4	3	4	0	2	0	11	6	5	50
	BioGas (on Farm)	7	0	1	3	0	5	0	13	3	3	35
	Biomass	13	0	4	7	0	1	0	5	0	0	30
	Landfill	7	0	3	1	0	0	0	2	1	1	15
Solar PV	PV Rooftop	4,897	69	3	751	24	407	18	1,131	338	169	7,807
	PV Groundmount	1,274	4	187	199	0	6	3	148	4	1	1,826
Hydroelectric	Hydroelectric	12	0	30	10	0	3	0	41	8	0	104
Wind	Wind On-Shore	38	1	123	43	0	4	2	67	5	4	287
	Wind Off-Shore	1	0	0	6	0	0	0	1	0	0	8
Total Count of Applications		6,264	78	354	1,024	24	428	23	1,419	365	183	10,162

Note: Each status is mutually exclusive (i.e. a single application will only be counted in one of the statuses).

Sum of Applications (MW)

Sum of Applications (MW)													
Energy Groups		Source Type	Application Stage				Not Executed		Contract Stage				Grand Total
			Submitted	Under Review	Awaiting ECT	Rejected/ Withdrawn	Contract Offered	Offer Expired	Terminated	Pre-NTP	Post-NTP	Commercial Operation	
Bioenergy		BioGas	10	2	11	6	0	1	0	17	3	2	52
		BioGas (on Farm)	2	0	2	1	0	1	0	3	0	1	9
		Biomass	33	0	61	100	0	1	0	18	0	0	214
		Landfill	29	0	17	1	0	0	0	7	2	6	61
Solar PV		PV Rooftop	871	11	10	169	4	78	2	210	65	26	1,446
		PV Groundmount	3,372	19	1,592	1,076	0	1	8	908	31	0	7,006
Hydroelectric		Hydroelectric	12	0	143	18	0	5	0	136	53	0	366
		Wind On-Shore	1,085	1	5,118	2,414	0	2	30	2,576	42	215	11,482
Wind		Wind Off-Shore	2	0	0	61	0	0	0	300	0	0	363
			5,414	33	6,954	3,846	4	88	39	4,175	195	251	20,998
Total Sum (MW)													
Note: Each status is mutually exclusive (i.e. a single application will only be counted in one of the statuses).													

Note: Each status is mutually exclusive (i.e. a single application will only be counted in one of the statuses).

BI-WEEKLY FIT and microFIT REPORT
Data as of February 3rd, 2012

FIT REGIONAL BREAKDOWN

Count of Executed Contracts	Region	Contract Executed
	Bruce	115
	Central	134
	East	427
	GTA	610
	Niagara	366
	Northeast	86
	Northwest	33
	West of London	219
Total Count of Contracts		1,990

Sum of Executed Contracts (MW)	Region	Contract Executed
	Bruce	766
	Central	591
	East	1,151
	GTA	140
	Niagara	940
	Northeast	398
	Northwest	102
	West of London	572
Total Sum (MW)		4,659

FIT LEGEND

Submitted	Applications currently submitted that have not yet undergone review
Under Review	Applications currently under review for eligibility requirements
Awaiting ECT	Applications that did not successfully pass Transmission Availability Test and Distribution Availability Test and are awaiting the next Economic Connection Test
Rejected/Withdrawn	Applications that have been rejected based on eligibility requirements or withdrawn by the applicant
Not Executed	Applications that have not executed their FIT contract offer
Contract Offered	Applications that have been offered a FIT contract
Offer Expired	Applications that did not accept their FIT contract offer
Terminated	Contracts that have been terminated by either the OPA or the contract counterparty
Executed	Applications that have executed their FIT Contract offer
Pre-NTP	Executed contracts that have not yet been issued Notice to Proceed (NTP)
Post-NTP	Contracts that have been issued Notice to Proceed following submission of a valid request for NTP, Renewable Energy Approval (if applicable), financing plan, impact assessments, and Domestic Content Plan in the case of wind or solar projects
In Commercial Operation	Executed contracts that have reached Commercial Operation

microFIT LEGEND

Submitted	Applications currently submitted that have not undergone review
In Process	Applications that have been received by the OPA and are under review for eligibility requirements
Rejected / Withdrawn	Applications that have been rejected based on eligibility requirements or withdrawn by the applicant
Pending LDC Offer to Connect	Applications that have been approved by the OPA and are pending a screening by the local distribution company to determine available connection capacity
Denied Connection	Applications that have been terminated as a result of being denied an Offer to Connect from their local distribution company
Conditional Offer	Applications that have been issued a Conditional Offer as a result of receiving Offer to Connect from their local distribution company
Connected	Applications that have been physically connected but have not yet executed a microFIT contract
Contract Executed	Applications that have been connected and successfully executed a microFIT contract



FEED-IN TARIFF PROGRAM

FIT RULES Version 1.5.1

July 15, 2011

RULE CHANGE (October 31, 2011)

**FIT REVIEW COMMENCED. AMENDMENTS WILL APPLY TO ALL APPLICATIONS
THAT HAVE NOT RECEIVED OFFER NOTICE.**

A review of the FIT Program, including the FIT Rules and Price Schedule is currently underway. Amendments resulting from such review will apply to all Applications in relation to which an Offer Notice has not been issued as of October 31, 2011.

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SECTION 1 – INTRODUCTION

1.1 Background to the Feed-In Tariff Program

The Ontario Power Authority has developed this Feed-In Tariff Program for the Province to encourage and promote greater use of renewable energy sources including wind, waterpower, Renewable Biomass, Bio-gas, landfill gas and solar (PV) for electricity generating projects in Ontario. The fundamental objective of the FIT Program, in conjunction with the Green Energy and Green Economy Act, 2009 is to facilitate the increased development of Renewable Generating Facilities of varying sizes, technologies and configurations via a standardized, open and fair process. The FIT Program is for Renewable Generating Facilities of any size, except for waterpower Projects which are subject to a maximum capacity of 50 MW and solar (PV) Projects which are subject to a maximum capacity of 10 MW.

Projects that are 10 kW or less in capacity can apply under the microFIT Rules and should refer to the Website, which contains the rules for this streamlined process.

This document contains the rules with respect to the FIT Program, which will be reviewed periodically and may be amended in accordance with Section 10.

The OPA will maintain an application package, including the application form, the FIT Contract and detailed instructions on how to apply for a FIT Contract, on the Website. Any conflict or inconsistency between the FIT Contract and the FIT Rules shall be resolved in favour of the FIT Contract.

All capitalized terms in these FIT Rules are defined in Appendix 1 – Standard Definitions attached to this document and available on the Website.

1.2 Participation in the FIT Program

To participate in the FIT Program, Applicants must be willing to make necessary investments in their facilities, including the connection and metering costs, bear certain ongoing costs and risks of operation and maintenance, and enter into a FIT Contract with the OPA pursuant to which the OPA will pay the Supplier for Electricity delivered from its generating facility for a long-term payment period, in accordance with the terms of the FIT Contract. Applicants must comply with Laws and Regulations, including for greater certainty the Distribution System Code, the Transmission System Code and the IESO Market Rules, as each may be applicable. Applicants must also acknowledge the important role that effective consultation with aboriginal communities may play in the successful planning, development and operation of generating facilities and must be prepared to undertake their appropriate role in such consultations and address the interests or concerns of such communities in good faith and in compliance with Laws and Regulations.

Although the FIT Program and the Green Energy and Green Economy Act, 2009 are intended to promote and facilitate the connection of renewable generating facilities in an efficient manner, Applicants are cautioned that in certain areas of the Province it is not currently economically or technically feasible to connect additional generating facilities to a Distribution System or the IESO-Controlled Grid, including Projects connected directly to Host Facilities. For this reason, Projects in these areas that are not Capacity Allocation Exempt Facilities and that are otherwise eligible to participate in the FIT Program may not be able to obtain a FIT Contract immediately and will instead be reserved until conditions change, as further set out in Section 5 these FIT Rules.

SECTION 2 – PROJECT ELIGIBILITY REQUIREMENTS

2.1 Basic Eligibility Requirements

- (a) To be eligible to participate in the FIT Program, a proposed generating facility must:

- 2 -

- (i) constitute a Renewable Generating Facility;
- (ii) be located in the Province of Ontario;
- (iii) not have a Contract Capacity of more than 10 MW in the case of solar (PV) Projects and 50 MW in the case of waterpower Projects. In the case of an Incremental Project, the Incremental Project together with the Existing Generating Facility to which it is incremental shall not exceed these size limits;
- (iv) in the case of solar (PV) Projects that are not Rooftop Facilities and that have a Contract Capacity greater than 100 kW (alone or in the aggregate with all other solar (PV) Projects that are not Rooftop Facilities and that are located on the same property as the property on which the proposed generating facility is located), not be located on:
 - (A) CLI Class 1 Lands, CLI Class 2 Lands or CLI Class 3 Lands that have not been designated on the Website as Class 3 Available Lands, unless any such lands were zoned by the applicable municipality to permit non-agricultural uses as of October 1, 2009; or
 - (B) Specialty Crop Areas;
- (v) in the case of a Capacity Allocation Exempt Facility, must be deemed by the OPA to be capable of connecting at the proposed Connection Point;
- (vi) not be an Existing Generating Facility at the time of the Application, unless it is an Incremental Project, in which case only the Contract Capacity relating to the Expansion or Upgrade is eligible;
- (vii) connect to a Distribution System, a Host Facility or the IESO-Controlled Grid; and
- (viii) not have or have had a physical or financial power or capacity purchase contract relating to the generation of Electricity by such proposed facility (which, for greater certainty, includes Standard Offer Contracts), or other form of contract relating to Electricity or Related Products relating to such proposed facility (a "Prior Contract"), unless such Prior Contract was terminated prior to March 14, 2009 or more than 12 months before the date that an Application in respect of such proposed generating facility was submitted to the OPA.
 - (A) In determining whether a proposed generating facility that is the subject of an Application is the same facility as a facility that was the subject of a Prior Contract, the OPA will consider whether the proposed generating facility utilizes substantially the same technology and involves any portion of the same site as the facility that was the subject of the Prior Contract.
 - (B) A Prior Contract shall not be considered to be terminated unless the Applicant has a written notice setting out the effective date of such

termination, signed by all parties to the Prior Contract. An Applicant must provide such notice to the OPA within 10 Business Days of any request.

- (b) For any single Property, the total Gross Nameplate Capacity of all solar (PV) generating facilities participating in the FIT Program and located on such Property may not exceed 10 MW. For any single Property, the total Gross Nameplate Capacity of all waterpower generating facilities participating in the FIT Program and located on such property may not exceed 50 MW.
- (c) Only one Project of each Renewable Fuel type shall be permitted on a single Property, except as otherwise set out in the FIT Guidelines: Multiple Projects on One Property policy document prepared by the OPA and available on the Website.
- (d) For the purposes of Sections 2.1(a)(iv), 2.1(b) and 2.1(c), in determining whether Projects and Facilities are considered not to be on a single Property, the OPA will consider, among other things, whether such Projects or Facilities are situated on,
 - (i) lands that may be separately conveyed by deed or transfer for a period of more than 50 years, in accordance with Part VI of the Planning Act (Ontario) excluding conveyances permitted only by Sections 50(3)(c), 50(5)(b), or 50(17)(c) of such act;
 - (ii) provincial or federal Crown lands that are the subject of separate applications to the Crown for Access Rights; or
 - (iii) lands that are "reserve lands" or "special reserves", as set out in the Indian Act (Canada), where the permission to use such lands is granted by way of separate resolutions of the applicable "band council".
- (e) Although it is not an eligibility requirement for purposes of an Application, Applicants should be aware that, pursuant to the FIT Direction, the FIT Contract will require that windpower Projects and solar (PV) Projects achieve a Minimum Required Domestic Content Level.

2.2 Incremental Projects

- (a) An Incremental Project will be eligible for the FIT Program provided the Applicant in respect of the Incremental Project is, or is an Applicant Related Person to, the owner or operator of the Existing Generating Facility or Planned Generating Facility to which it is incremental.
- (b) An Incremental Project in respect of an Existing Generating Facility will be eligible to participate in the FIT Program even where the Existing Generating Facility to which it is incremental is ineligible pursuant to Sections 0 and 2.1(a)(viii).
- (c) An Incremental Project shall make use of the Existing Generating Facility's or Planned Generating Facility's connection to a Distribution System, the IESO-Controlled Grid or a Host Facility, as applicable, subject to any upgrades or modifications that may be necessary.

SECTION 3 – APPLICATION REQUIREMENTS

3.1 Application Materials

- (a) An Applicant must provide with its Application a certified cheque, bank draft or money order payable to the Ontario Power Authority in an amount that is the greater of (i) \$0.50 per kW of proposed Contract Capacity, subject to a maximum of \$5,000, and (ii) \$500, which fee is inclusive of GST and shall be non-refundable regardless of whether the Application is accepted by the OPA (the “Application Fee”).
- (b) An Applicant in respect of a Project other than a Capacity Allocation Exempt Facility must provide security with its Application, payable to and in favour of the “Ontario Power Authority” in the amount of:
 - (i) \$20 per kW of Contract Capacity, in respect of PV Projects, or
 - (ii) \$10 per kW of Contract Capacity, in respect of all other Projects,in the form of a certified cheque, bank draft, money order or an irrevocable and unconditional standby letter of credit issued by a financial institution listed in either Schedule I or II of the Bank Act (Canada), or such other financial institution having a minimum credit rating of (i) A- with S&P, (ii) A3 with Moody’s, (iii) A low with DBRS, or (iv) A with Fitch IBCA, substantially in the form attached as Exhibit A (the “Application Security”). If the Application is accepted and the Applicant is offered to enter into a FIT Contract, the Application Security will be returned to the Applicant upon the OPA’s receipt of the Completion and Performance Security, in accordance with Section 6.1(d). Any interest earned by the OPA on any Application Security provided to the OPA shall be for the sole account of the OPA and the Applicant shall not have any right to such interest. Where the Application is in respect of an Aboriginal Participation Project or a Community Participation Project, the amount of Application Security will be as set out in Section 9.
- (c) All Applicants must provide an authorization letter in the applicable Prescribed Form. The authorization letter must be addressed jointly to the OPA, the IESO, and the LDC (as applicable), and signed by the Applicant and the Host Facility (if applicable). It authorizes the LDC (as applicable) and the IESO to provide to the OPA any and all information relating to the Applicant or the Project, the Host Facility (if applicable) and each of their connections, meters, meter and billing data and accounts as the OPA may require for the purposes of evaluating the Application and/or offering or administering a FIT Contract.
- (d) An Application must include the following connection details regarding the Project: (i) Contract Capacity, (ii) Renewable Fuel(s), (iii) proposed Connection Point, (iv) other information relating to the Connection Point, including distribution feeder designation and voltage, transmission circuit, distribution station or transformer station, as applicable, and (v) such other information as may be required by the FIT application form, as applicable. An Applicant, other than in respect of a Capacity Allocation Exempt Facility or a Behind-the-Meter Facility, may request to proceed directly to the Economic Connection Test, rather than specify connection details, in which case the Application will be processed in accordance with Section 5.2(b).
- (e) An Application must include evidence that the Applicant has either title or rights of access to the Site, sufficient to build, operate and maintain the Project, enforceable

by contract for the term of the FIT Contract ("Access Rights"). Such Access Rights may include a lease, option, letter of intent, memorandum of understanding or other grant conditional only on (i) the Applicant entering into the FIT Contract and (ii) the Supplier under the FIT Contract being issued Notice to Proceed.

- (i) Where an Application is in respect of a Project on provincial Crown lands, the Applicant shall be deemed to have the necessary Access Rights for these purposes where:
 - (A) the Applicant has submitted a completed application to the Ministry of Natural Resources (Ontario) for selection as an "Applicant of Record" in respect of all lands comprising the Site, pursuant to such ministry's applicable Site Release and Development Review policies and procedures; and
 - (B) the Applicant has submitted to the OPA, an "MNR Application Status/Fact Sheet" or an "MNR Applicant of Record Status Letter", and an "MNR Application Map", which (A) for windpower Projects, both outlines in red and lists each of the MNR grid cells that will be required for the Project, or (B) for waterpower Projects, clearly shows the site and the associated "MNR Site ID Number".
- (ii) Where an Application is in respect of a Project on federal Crown lands, the Applicant shall be deemed to have the necessary Access Rights for these purposes where it has a "Priority Permit" issued pursuant to the Dominion Waterpower Act (Canada), or equivalent binding commitment from the federal Crown.
- (iii) Where an Application is in respect of a Project on "reserve land" or "special reserves", as set out in the Indian Act (Canada), the Applicant must have a resolution of the applicable "band council(s)" granting permission to develop the Project.
- (f) An Applicant must provide the OPA with a valid e-mail address for purposes of correspondence related to the FIT Program, which address the Applicant may amend from time to time by providing written notice to the OPA. Applicants must regularly check the "My FIT Homepage" for messages and notices from the OPA. The OPA will not be responsible for an Applicant's failure to comply with this provision.
- (g) Where an Application is in respect of a solar (PV) Project with a Contract Capacity greater than 100 kW that is not a Rooftop Facility, the Application must include evidence, satisfactory to the OPA, of the Canada Land Inventory designations or zoning applicable to the Site.
 - (i) If the Site was zoned for agricultural uses as of October 1, 2009, such evidence must include a map from the Canada Land Inventory showing the Site, Canada Land Inventory classification, and that part of the Site where the Project is proposed to be located.
 - (ii) If the Site was zoned to permit non-agricultural uses as of October 1, 2009, such evidence must include (A) a municipal zoning map showing that the Site was entirely zoned for non-agricultural purposes on October 1, 2009,

and (B) written confirmation from the municipality's Chief Planning Official or clerk certifying that the Site was entirely zoned for non-agricultural purposes on October 1, 2009.

3.2 Prior Impact Assessments

- (a) Applicants in respect of Capacity Allocation Exempt Facilities shall not be permitted to apply for an Impact Assessment prior to executing a FIT contract.
- (b) Pursuant to Section 2.3(c) of the FIT Contract, Applicants in respect of Projects other than Capacity Allocation Exempt Facilities shall not be permitted to apply for an Impact Assessment until the Impact Assessment Priority Start Time, but may apply anytime thereafter. Provided that such an Applicant applies for any necessary Impact Assessments prior to the Impact Assessment Priority Stop Time, no Supplier that was offered a FIT Contract after such Applicant was offered a FIT Contract will be permitted to apply for an Impact Assessment prior to the Applicant.
- (c) Where an Applicant has applied for an Impact Assessment prior to submitting an Application, the Applicant must rescind any such Impact Assessment, and must terminate any Connection Cost Agreement in respect of its Project, prior to applying to the FIT Program, unless physical construction of the connection asset relating to such Impact Assessment had commenced as of September 24, 2009 by or on behalf of the LDC. For greater certainty, physical construction does not include engineering or design work. Any such Applicant must provide evidence to the OPA of the rescission, termination, or commencement of physical construction, as applicable, within 10 Business Days of any request.
- (d) A Project will be considered the same facility as one that was the subject of a prior Impact Assessment where such Project utilizes substantially the same technology as was proposed to be used by the facility that was the subject of the original application for such Impact Assessment, and no changes to the facility have been made that would necessitate a new Impact Assessment.

3.3 Responsibility for Project Viability

Despite anything contained in these FIT Rules or in the FIT Contract, Applicants are solely responsible for ensuring the technical, regulatory and financial viability of their Projects, and the OPA shall have no responsibility whatsoever to independently assess the viability of any Application or Project nor any liability whatsoever in the event that a Project turns out not to be viable in any respect.

SECTION 4 – APPLICATION REVIEW AND ACCEPTANCE

4.1 Application

- (a) Applicants who wish to participate in the FIT Program shall submit an Application to the OPA in accordance with instructions posted on the Website from time to time, together with all documents required to establish that the Applicant has satisfied all of the Project and Application eligibility criteria set out in Section 2 and Section 3, respectively. Applicants are required to submit Applications electronically, at which point they will be issued a Time Stamp and a reference number. A copy of the application form, the Application Fee, Application Security (if applicable), schedules, attachments and other documents specified in the FIT Application

Instructions must be delivered in hard copy format to the OPA at 120 Adelaide Street West, Suite 1600, Toronto ON, M5H 1T1, Attention: Feed-In Tariff Program, no later than five Business Days after the electronic submission of the Application, and in accordance with the specific details set out in the FIT Application Instructions. The reference number must be clearly marked on the envelope containing the hard copy materials and on all of the hard copy materials.

- (b) If the OPA does not receive all the required materials by 5:00 p.m. local time on the fifth Business Day after the day the Application was submitted electronically, any hard copy materials will be returned to the Applicant and the Time Stamp and reference number on the electronic submission of the Application will be forfeited.

4.2 Review of Mandatory Requirements

- (a) Each Application will be reviewed in detail by the OPA to confirm that the overall Application is complete and that all constituent elements of such Application confirm that the Project satisfies all of the eligibility requirements set out in Section 2 and that the Application satisfies all of the eligibility requirements set out in Section 3.
- (b) The OPA reserves the right, but is not obligated, to request clarification, additional information, documentation and statements in relation to any Application at any time. Any such requested clarification, additional information, documentation or statements must be submitted to the OPA by e-mail within 10 Business Days of the date of such request, or by such other means and within such other time frame as may be requested by the OPA, failing which the Application may be rejected as being incomplete.
- (c) The OPA reserves the right to reject any incomplete Application, any Application that does not satisfy all of the eligibility requirements set out in Section 2 and Section 3 or any Application in respect of which the included information is not satisfactory to the OPA or its advisers in any respect. The Application Fee will not be refunded in such circumstances.
- (d) Where an Application that is not in respect of a Capacity Allocation Exempt Facility has been accepted as having met the requirements set out in Section 2 and Section 3, the OPA will assess by order of Time Stamp whether connection resources are currently available to connect the Project, in accordance with Section 5. The OPA may, in its discretion, contact an Applicant to discuss amendments to a Project, but where an Applicant declines to make any such amendments, it shall be without prejudice to the unamended Application.
- (e) Where an Application in respect of a Capacity Allocation Exempt Facility has been accepted as having met the requirements set out in Section 2 and Section 3, the OPA will offer a FIT Contract in accordance with Section 6.1(a).
- (f) Where an Application has been rejected, the OPA shall give reasons for rejecting the Application and shall return the Application Security, if any, within 20 Business Days of providing such notice. Rejection of an Application shall be without prejudice to submitting a revised Application to the extent that an Applicant believes an Application can be improved and thereby accepted, provided that such revised Application shall be issued a new Time Stamp and reference number at the time of

resubmission and shall be subject to the FIT Rules and FIT Contract in effect at the time of resubmission.

- (g) A decision by the OPA to accept or reject an Application shall be final and binding and not subject to appeal.

SECTION 5 – CONNECTION AVAILABILITY MANAGEMENT

5.1 Connection Availability

- (a) The OPA, in consultation with the IESO, applicable LDCs, applicable Transmitters and other agencies and stakeholders as appropriate, will identify, publish on the Website and update at least semi-annually the Transmission Availability and Project Status (TAPS) Tool. All interested Applicants are urged to consider the TAPS Tool and consult with the applicable LDC or Transmitter prior to submitting an Application to determine the likelihood that and the timeline within which their Project can be connected.
- (b) When the OPA determines that an Application is complete following receipt of any clarification, additional information, documentation and statements required by the OPA in accordance with Section 4.2(b), it will provide notice to the Applicant. The OPA's target for processing Applications in accordance with Sections 5.2 and 5.3 is 60 days following such notice, provided that where an Application is in respect of a Project in a region for which the Economic Connection Test is in progress or is about to be run, the OPA may take longer than the target time for such processing.

5.2 Transmission Availability Test

- (a) Upon the acceptance of an Application that is not in respect of a Capacity Allocation Exempt Facility in accordance with Section 4.2(d), the OPA, along with the IESO and applicable Transmitters, will determine whether the Transmission System has sufficient connection resources to accommodate the connection of the Project, taking into consideration Planned In-Service Transmission Developments; all prior Applications that have been processed; Applications in the FIT Production Line and FIT Reserve with an earlier Time Stamp; and any other generating facilities that are existing, committed or are the subject of a ministerial direction.
- (b) If the analysis set out in Section 5.2(a) determines that there are insufficient Transmission System resources to connect the Project, or if the Applicant has requested to proceed directly to the Economic Connection Test rather than specify connection details, the Application will be subjected to the next Economic Connection Test, together with all other Projects whose Applications are awaiting the Economic Connection Test. Unless an Application is already in the FIT Production Line, the Applicant may withdraw it from the FIT Program prior to the submission of their Application to the next Economic Connection Test by providing written notice to the OPA, in which case the Time Stamp and application reference number will be forfeited and the OPA will return the Application Security to the Applicant within 20 Business Days.
- (c) Where a Project is to be directly connected to the IESO-Controlled Grid or to a Host Facility on the IESO-Controlled Grid, if the analysis set out in Section 5.2(a) determines that there are sufficient Transmission System resources to accommodate

the connection of the Project, the OPA will offer a FIT Contract in accordance with Section 6.1(a).

5.3 Distribution Availability Test

- (a) Where a Project is to be connected to a Distribution System or to a Host Facility connected to a Distribution System, and if the Transmission Availability Test has determined that there are sufficient Transmission System resources to accommodate the connection of the Project, the OPA will coordinate with any applicable LDCs and confirm such LDCs' determination as to whether the applicable Distribution System has, or will have sufficient connection resources to accommodate the connection of the Project, taking into account all prior Applications that have been processed; Applications in the FIT Production Line and FIT Reserve with an earlier Time Stamp; and any other generating facilities that are existing, committed or are the subject of a ministerial direction. For greater certainty, all Projects subject to the Distribution Availability Test are also subject to the Transmission Availability Test, as distribution-connected Projects may also require the use of Transmission System resources. Where an Application in respect of a Project to be connected to a Distribution System does not specify a Connection Point, it is deemed not to pass the Distribution Availability Test.
- (b) If the analysis in Section 5.3(a) determines that there are, or will be prior to the Milestone Date for Commercial Operation that would be applicable to a Project, sufficient Distribution System resources necessary to accommodate the connection of the Project, the OPA will offer a FIT Contract in accordance with Section 6.1(a).
- (c) If the analysis in Section 5.3(a) determines that there are OEB-approved plans for the construction of the Distribution System resources necessary to accommodate the connection of a Project, but such resources are not planned to be in service prior to the Milestone Date for Commercial Operation that would be applicable to such Project, then the Applicant will be sent a Production Line Confirmation in accordance with Section 5.4(c)(iii).
- (d) If the analysis in Section 5.3(a) determines that there are not currently, nor has the OEB-approved plans for the construction of, the Distribution System resources necessary to accommodate the connection of a Project, the Application will be subjected to the next Economic Connection Test, together with all other Projects whose Applications are awaiting the Economic Connection Test. Prior to this, the Applicant in respect of such Application will be permitted to change or delete the proposed Connection Point without impacting their Time Stamp.

5.4 Economic Connection Test

- (a) The Economic Connection Test will be run for each region of the Province at least every six months. The intent of the Economic Connection Test is to ensure that costs of connecting a Project that would be ultimately borne by rate-payers are reasonable in light of the best available information regarding ongoing transmission developments and other proposed generating facilities. The Economic Connection Test will assess the economics related to the investments necessary to connect proposed new generation, to the extent that such investments will be allocated to Transmitters, and ultimately passed on to rate-payers in accordance with the Transmission System Code.

- (b) As part of running the Economic Connection Test, the OPA will determine if since the completion of the previous Economic Connection Test there has been a change in the resources available to accommodate the connection of any Projects as a result of new Planned In-Service Transmission Developments, a previously allocated connection resource that has become available as a result of the cancellation of another Project, a previously unallocated connection resource that is no longer available as a result of being allocated to a new generating facility, new LDC plans in accordance with the Distribution System Code for the construction of Distribution System resources, sufficient progress in the construction of Distribution System resources, or otherwise. In such case, the OPA will provide an Offer Notice in accordance with Section 6.1(a). Projects will be assessed in order of Time Stamp such that, to the extent that multiple Projects require the same connection resource, Projects with an earlier Time Stamp will have priority over Projects with a later Time Stamp.
- (c) Upon the completion of the Economic Connection Test, all Applicants whose Applications were submitted to the test will be provided with a notice from the OPA stating the outcome of the Economic Connection Test (the "Economic Test Notice"). The outcome of the Economic Connection Test for each Project submitted to the test as a result of not passing the Transmission Availability Test will be either:
 - (i) The Network Upgrades associated with the Project are deemed to be economic. If the Application was not previously in the FIT Production Line, the Applicant will be given the option to return a signed Production Line Confirmation in the form set out in Exhibit B within 20 Business Days of receiving the Economic Test Notice, to enter into the FIT Production Line. If the Applicant does not return a signed Production Line Confirmation by the end of the prescribed time period, the Applicant will be considered to have withdrawn its Application, the Time Stamp will be forfeited and the OPA will return the Application Security within 20 Business Days. If the Application was previously in the FIT Production Line, it will remain in the FIT Production Line in accordance with Section 5.5.
 - (ii) The Network Upgrades associated with the Project are not deemed to be economic. The Application will be placed in, or will remain in, as applicable, the FIT Reserve, to be re-evaluated by the Economic Connection Test during the following iteration, in accordance with Section 5.4. If the Application was previously in the FIT Production Line, and as a result of a significant change in circumstances the Network Upgrades associated with the Project are no longer deemed to be economic, it will be moved to the FIT Reserve in accordance with this Section, and any previously at-risk Application Security shall no longer be at-risk.

The outcome of the Economic Connection Test for each Project submitted to the test as a result of not passing the Distribution Availability Test will be either:

- (iii) There are LDC plans in accordance with the Distribution System Code for the construction of the Distribution System resources necessary to accommodate the connection of the Project, but such resources are not planned to be in service prior to the Milestone Date for Commercial Operation that would be applicable to such Project. If the Application was not previously in the FIT Production Line, the Applicant will be given the option to return a signed Production Line Confirmation in the form set out in

Exhibit B within 20 Business Days of receiving the Economic Test Notice, to enter into the FIT Production Line. If the Applicant does not return a signed Production Line Confirmation by the end of the prescribed time period, the Applicant will be considered to have withdrawn its Application, the Time Stamp will be forfeited and the OPA will return the Application Security within 20 Business Days. If the Application was previously in the FIT Production Line, it will remain in the FIT Production Line in accordance with Section 5.5; or

- (iv) There are not currently the Distribution System resources necessary to accommodate the connection of the Project, nor are there LDC plans in accordance with the Distribution System Code for the construction of the Distribution System resources necessary to accommodate the connection of the Project. The Application will be placed in, or will remain in, as applicable, the FIT Reserve, to be re-evaluated during the following iteration, in accordance with Section 5.4.

5.4.1 Newly Enabled Bruce-to-Milton Transmission Capacity

- (a) Notwithstanding any other provision of this Section 5, pursuant to the Direction of the Minister of Energy dated June 3, 2011, the OPA may, subject to Section 5.4.1(c), offer a FIT Contract in accordance with Section 6.1(a) to an Applicant in respect of a Newly Enabled Project.
- (b) At any time, the OPA may, by notice posted on the Website, provide a period of not less than five (5) Business Days during which Applicants may, in respect of a Newly Enabled Project, change the Project's proposed Connection Point by amending Section 3 of the Application accordingly and submitting it to the OPA, in accordance with instructions posted on the Website from time to time.
- (c) Offers made under Section 5.4.1(a) shall be subject to:
 - (i) available connection resources, including connection resources made available:
 - A. by the Bruce-to-Milton transmission project; and
 - B. through new or modified connection facilities, or any expansion to the Distribution System or the Transmission System, whose costs are Connection Costs;
 - (ii) reservation of capacity in the West of London Transmission Area and Bruce Transmission Area for future Capacity Allocation Exempt Facilities and future Renewable Generation Facilities under the microFIT Program in accordance with FIT and microFIT Guidelines: Connection Capability dated February 2011 and posted on the Website (the "Guidelines"). Pursuant to the Guidelines, for each Connection Point and at the time an offer would be made under Section 5.4.1(a) in respect of one or more Facilities in each such Transmission Area, the OPA shall hold in reserve the Reserved Connection Resources. "Reserved Connection Resources" means resources equal to the lesser of (A) the total connection capacity at such connection point (as measured in MW), and (B) 5 MW of connection capacity. Of the Reserved Connection Resources, the OPA shall further hold in reserve for use by

future Renewable Generation Facilities under the microFIT Program the lesser of (A) the total connection capacity at such connection point (as measured in MW), and (B) 2 MW of connection capacity;

- (iii) connection resources for any other generating facilities that are existing, committed or that are the subject of a ministerial direction; and
- (iv) the following caps in respect of aggregate Contract Capacity for each of the following Transmission Areas:

Bruce Transmission Area	750 MW
West of London Transmission Area	300 MW.

5.5 FIT Production Line

- (a) The Projects in the FIT Production Line are intended to provide input into the transmission and distribution planning processes. Once a Project is in the FIT Production Line, the OPA will assess whether connection capacity has become available to connect the Project, in accordance with Section 5.4(b).
- (b) Upon receipt of a Production Line Confirmation in accordance with Section 5.4(c)(i), the OPA will place the corresponding Application into the FIT Production Line with all other Applications in the FIT Production Line, sequenced according to Time Stamp, at which point 10% of the Application Security will immediately become at-risk, subject to Sections 5.5(e) and 10.2(c). In order to ensure that Applicants with Projects in the FIT Production Line continue to be prepared to develop their Project if offered a FIT Contract, every time following the Production Line Confirmation that the Economic Connection Test is run, an additional 5% of the Application Security will become at-risk, until the entire Application Security has become at-risk or the Application is withdrawn in accordance with the FIT Rules.
- (c) An Applicant may withdraw an Application from the FIT Production Line at any time, by notice in writing to the OPA. In such circumstances, the OPA shall draw the portion of the Application Security that has become at-risk as a result of time spent in the FIT Production Line pursuant to Section 5.5(b), as liquidated damages and not as a penalty, and will return the remaining Application Security to the Applicant within 20 Business Days. If an Applicant fails to replace Application Security that is in the form of a letter of credit within 30 days after the provider of such letter of credit has given notice that it does not wish to extend the letter of credit for an additional term, the Applicant will be deemed to have requested to withdraw their Application from the FIT Production Line, and the OPA shall be entitled to draw the portion of the Application Security that has become at-risk as a result of time spent in the FIT Production Line pursuant to Section 5.5(b), as liquidated damages and not as a penalty.
- (d) If circumstances change which would reasonably be expected to affect the preferred Connection Point of a Project for which an Application is in the FIT Production Line, the Applicant in respect of such Application may, by providing written notice to the OPA, revise any affected aspects of their Application other than the proposed Renewable Fuel, Contract Capacity or Site, to reflect such changes or planned changes in the Distribution System or Transmission System, as applicable, without impacting its Time Stamp.

- (e) In the event that an Application in the FIT Production Line has remained in the FIT Production Line or a combination of the FIT Production Line and the FIT Reserve for more than 10 years, then within 30 days after the ten-year anniversary of the later of the Time Stamp and the date of the Program Launch:
- (i) the Applicant may withdraw its Application from the FIT Production Line by providing written notice to the OPA, or
 - (ii) the OPA may remove the Application from the FIT Production Line by providing written notice to the Applicant,

and in each case the OPA will return the full amount of the Application Security to the Applicant.

5.6 FIT Reserve

- (a) Where an Applicant has received an Economic Test Notice indicating that their Project did not pass the Economic Connection Test and their Application was placed in the FIT Reserve, that Application will retain its Time Stamp and will remain in the FIT Reserve until such time as it receives a subsequent Economic Test Notice indicating that their Project is eligible to enter the FIT Production Line. Applicants may withdraw their Applications from the FIT Reserve at any time, forfeiting their Time Stamp, by written notice to the OPA. Within 20 Business Days of receiving such notice, the OPA will return the full amount of the Application Security to the Applicant.
- (b) If circumstances change which would reasonably be expected to affect the preferred Connection Point of a Project for which an Application is in the FIT Reserve, the Applicant in respect of such Application may, by providing written notice to the OPA, revise any affected aspects of their Application other than the proposed Renewable Fuel, Contract Capacity or Site, to reflect such changes or planned changes in the Distribution System or Transmission System, as applicable, without impacting its Time Stamp.
- (c) In the event that an Application in the FIT Reserve has remained in the FIT Reserve or a combination of the FIT Reserve and the FIT Production Line for more than 10 years, then within 30 days after the ten-year anniversary of the later of the Time Stamp and the date of the Program Launch, the OPA may remove the Application from the FIT Reserve by providing written notice to the Applicant, and will return the full amount of the Application Security to the Applicant. For greater certainty, an Applicant may withdraw an Application from the FIT Reserve at any time pursuant to Section 5.6(a).

5.7 Other Circumstances

Where an Applicant has resubmitted an Application in respect of the same Contract Facility that was the subject of a FIT Contract which was terminated pursuant to Sections 2.1(d) or 2.1(e)(i) of the FIT Contract, no more than 30 days after the date of such termination, then notwithstanding anything in Section 4.1(a) to the contrary, the Time Stamp issued to the original Application that was the subject of the terminated FIT Contract shall be reinstated and issued to the resubmitted Application.

SECTION 6 – FIT CONTRACT FORM AND EXECUTION

6.1 Offer & Acceptance

- (a) Following the acceptance of an Application as having met the requirements set out in Section 2 and Section 3, where the OPA has determined that there are available connection resources for a Project or where the Project is otherwise in respect of a Capacity Allocation Exempt Facility, the OPA will provide notice to the Applicant in respect of such Project in which the OPA shall offer a FIT Contract in its most recent standardized form on the basis of the information set out in the Application (the “Offer Notice”). The Contract Price shall be established in accordance with Section 7.1(b).
- (b) An Applicant will have 10 Business Days from the issuance of the Offer Notice to accept the offered FIT Contract. An Applicant may accept and enter into the FIT Contract by printing and executing the enclosed FIT Contract documents and delivering the executed documents together with the required Completion and Performance Security to the OPA in accordance with the instructions in the Offer Notice.
- (c) Where an Offer Notice is provided in respect of an Application for which the Application Security was provided to the OPA in the form of certified cheque, bank draft or money order, an Applicant that intends to provide Completion and Performance Security in the same form as the Application Security may convert the Application Security into Completion and Performance Security to reduce the amount of Completion and Performance Security outstanding, by enclosing the provided consent form with its response to the Offer Notice.
- (d) Upon receipt of the executed FIT Contract and the Completion and Performance Security, the OPA will return the Application Security (if applicable) to the Supplier within 15 Business Days. If the OPA does not receive the executed FIT Contract and Completion and Performance Security from the Applicant within 10 Business Days of the Offer Notice, the Application shall be deemed to have been withdrawn and the offer of a FIT Contract shall be revoked.
 - (i) In circumstances where the Application has not been in the FIT Production Line or the FIT Reserve, and the OPA does not receive the executed FIT Contract and Completion and Performance Security from the Applicant within 10 Business Days of the Offer Notice, the OPA shall be entitled to draw on 25% of the Application Security as liquidated damages and not as a penalty, and will return the remaining Application Security to the Applicant within 20 Business Days.
 - (ii) In all other circumstances in which the OPA does not receive the executed FIT Contract and Completion and Performance Security from the Applicant within 10 Business Days of the Offer Notice, the OPA shall be entitled to draw on the full amount of the Application Security as liquidated damages and not as a penalty.

6.2 Form of FIT Contract

The form of the FIT Contract will be composed of a Project-specific cover page, a set of standard terms and conditions, special terms and conditions (if applicable), a technology-

specific exhibit, a settlement exhibit specific to the characteristics of the Project and an appendix of standardized definitions.

6.3 Overview of Contractual Provisions

- (a) The FIT Contract requires the Supplier to own the Contract Facility (or lease the Contract Facility for the Term) and to design, build, operate and maintain the Contract Facility as it is outlined in the Application using Good Engineering and Operating Practices and in compliance with Laws and Regulations, including for greater certainty the Distribution System Code, the Transmission System Code and the IESO Market Rules, as each may be applicable. The OPA's payment obligations under the FIT Contract will be, commencing on the Commercial Operation Date, to pay for Hourly Delivered Electricity at the Contract Price for a period of 20 years or, in the case of Contract Facilities using waterpower as their Renewable Fuel, for a period of 40 years, in each case subject to earlier termination in accordance with the FIT Contract's terms.
- (b) The FIT Contract sets out the metering requirements for the Facility, and where the Facility is a Registered Facility, the Supplier must provide a Metering Plan to the OPA for approval. The Supplier must also provide the OPA and its designated agents all rights necessary to receive, retain, audit and use the meter data for the purposes of settling the FIT Contract and any other purpose consistent with the objectives of the FIT Program, and must also provide read only access to the Facility's meter and the Host Facility's meter, as applicable.
- (c) Prior to or commensurate with the execution of the FIT Contract, Suppliers will be required to provide the OPA with Completion and Performance Security, the amount of which varies based on certain characteristics of the Contract Facility or the Supplier. When the Contract Facility achieves Commercial Operation, the Completion and Performance Security will be returned in full. If certain conditions set out in the FIT Contract occur, Suppliers may be required to provide Completion and Performance Security to the OPA after achieving Commercial Operation to secure its obligations under the FIT Contract.
- (d) The FIT Contract provides that the OPA may terminate the FIT Contract with its liability limited to a prescribed limit of Pre-Construction Development Costs until the Supplier receives Notice to Proceed from the OPA. In order to receive Notice to Proceed, a Supplier must submit an NTP Request to the OPA, along with certain prerequisites demonstrating Project development. Following this request, the OPA will have an opportunity to assess the status of any required Planned In-Service Transmission Developments as well the cost of connecting a Contract Facility that is to be allocated to the Transmitter (as determined by a System Impact Assessment and the Transmission System Code), and can either issue Notice to Proceed, terminate the FIT Contract, or defer its decision in accordance with the terms of the FIT Contract.
- (e) The FIT Contract provides that for Applications in respect of Capacity Allocation Exempt Facilities where the applicable LDC seeks direction from the OEB prior to connecting such Capacity Allocation Exempt Facility in accordance with Section 6.2.8B of the Distribution System Code, the Applicant may terminate the FIT Contract with a full return of Completion and Performance Security.

- (f) If after the execution of a FIT Contract there are changes to the IESO Market Rules that affect a Supplier's Economics, the FIT Contract provides for negotiation or arbitration to make the necessary amendments to the FIT Contract to restore the Supplier's Economics to their condition prior to the IESO Market Rule amendment.

6.4 Domestic Content

- (a) The FIT Contract will require that Contract Facilities utilizing windpower with a Contract Capacity greater than 10 kW, or Contract Facilities utilizing solar (PV), achieve a minimum percentage for their Domestic Content Level, which will be set out on the FIT Contract Cover Page (the "Minimum Required Domestic Content Level").
 - (i) For windpower Projects with a Contract Capacity greater than 10 kW, the Minimum Required Domestic Content Level is 25% for FIT Contracts that have a Milestone Date For Commercial Operation prior to January 1, 2012 and 50% for FIT Contracts that have a Milestone Date For Commercial Operation on or after January 1, 2012.
 - (ii) For solar (PV) Projects with a Contract Capacity greater than 10 kW, the Minimum Required Domestic Content Level is 50% for FIT Contracts that have a Milestone Date for Commercial Operation prior to January 1, 2011 and 60% for FIT Contracts that have a Milestone Date For Commercial Operation on or after January 1, 2011.
 - (iii) For solar (PV) Projects with a Contract Capacity less than or equal to 10 kW, the Minimum Required Domestic Content Level is 40% for FIT Contracts that have a Milestone Date for Commercial Operation prior to January 1, 2011 and 60% for FIT Contracts that have a Milestone Date For Commercial Operation on or after January 1, 2011.
- (b) The Domestic Content Level of a Contract Facility will be calculated in accordance with the methodology set out in Exhibit D to the FIT Contract. If a Contract Facility does not meet the Minimum Required Domestic Content Level, the Supplier will be in default under the FIT Contract.
- (c) Applicants in respect of Capacity Allocation Exempt Facilities where the Project utilizes solar (PV) as its Renewable Fuel, may, for purposes of affecting the Minimum Required Domestic Content Level, elect to have a Milestone Date for Commercial Operation of December 31, 2010.
- (d) Applicants in respect of Capacity Allocation Exempt Facilities where the Project utilizes wind power as its Renewable Fuel, may, for purposes of affecting the Minimum Required Domestic Content Level, elect to have a Milestone Date for Commercial Operation of December 31, 2011.
- (e) Where an Applicant has made the election set out in Section 6.4(c) or 6.4(d), the Applicant will be required to include the special terms and conditions set out in Exhibit D of these FIT Rules as Schedule 2 to their FIT Contract, which includes liquidated damages of \$0.25/kW/day for each calendar day that Commercial Operation is late.

- (f) The OPA may from time to time add new "Domestic Content Grids" to Exhibit D of the FIT Contract, which will expand the options for a Supplier to achieve its Minimum Required Domestic Content Level. Any contract offered in accordance with Section 6.1(a) will contain the most up-to-date version of Exhibit D. For greater certainty, (i) the development of new "Domestic Content Grids" and the updating of Exhibit D shall not affect FIT Contracts already executed and (ii) the removal or amendment of any existing "Domestic Content Grids" shall be done in accordance with Section 10.

6.5 Resolving Inconsistencies

Section 6.3 is for descriptive purposes only. For greater certainty, to the extent that there is any inconsistency between Section 6.3 and the FIT Contract, the FIT Contract shall prevail.

SECTION 7 – CONTRACT PRICING

7.1 Price Schedule

- (a) The FIT Program establishes long-term pricing for Hourly Delivered Electricity from Projects. The pricing is based on Renewable Fuel, Contract Capacity and, in certain cases, category of Applicant or other Project characteristics. The prices in the Price Schedule are intended to cover development costs plus a reasonable rate of return for Projects meeting certain assumptions relating to cost and efficiency. The OPA will post the Price Schedule for the FIT Program on the Website, and will revise it in accordance with Section 10.1. Any revisions shall not affect FIT Contracts previously executed.
- (b) The price incorporated into the FIT Contract that will be offered to Applicants whose Applications have been accepted without having been in the FIT Production Line or the FIT Reserve will be the applicable price as set out in the Price Schedule at the time of the Time Stamp. The price incorporated into the FIT Contract that will be offered to Applicants whose Applications have been accepted and that were in the FIT Production Line or the FIT Reserve will be the applicable price at the time of the Offer Notice.
- (c) Projects that use Renewable Biomass, Bio-gas, landfill gas or waterpower as their Renewable Fuel will receive a time differentiated price under the FIT Contract. For all Hourly Delivered Electricity, such Suppliers will receive the price as otherwise determined in accordance with this Section 7, multiplied by the Peak Performance Factor for the corresponding hour. The application of the Peak Performance Factor will result in higher payments during On-Peak Hours and lower payments during Off-Peak Hours to encourage such Projects to schedule their production during On-Peak Hours to the extent practicable.

7.2 Price Escalation

For certain Renewable Fuels, the Price Schedule provides for an annual escalation of a specified percentage of the Contract Price on the basis of increases in the CPI. In these instances, 100% of the Contract Price shall be escalated on the basis of cumulative increases in the CPI between the Base Date of the Price Schedule and the Milestone Date for Commercial Operation, and thereafter, the specified percentage of the Contract Price shall be subject to escalation on the basis of cumulative increases in the CPI. This annual escalation, where applicable, will be calculated in accordance with Exhibit B of the FIT Contract and

the OPA shall establish adjusted prices applicable for each calendar year regardless of the Contract Date. For greater certainty, the application of the Contract Price escalation provisions shall not result in a Contract Price in any year that is less than the Contract Price applicable in the previous year.

7.3 Other Factors

- (a) For the purpose of determining the Contract Price in accordance with Section 7.1 for a Project that uses more than one Renewable Fuel, the Contract Price shall be established based on the Renewable Fuel of the Project that, if used as the exclusive fuel of the Project, would yield the lowest Contract Price.
- (b) The FIT Contract provides that half of all payments received, if any, under the ecoENERGY for Renewable Power Program attributable to the Contract Facility shall be transferred from the Supplier to the OPA.
- (c) The FIT Contract provides that all Environmental Attributes otherwise applicable to the Contract Facility or available to a Supplier in respect thereof are absolutely and unconditionally assigned to the OPA, except to the extent that such Environmental Attributes are needed and consumed for the generation of Hourly Delivered Electricity. The FIT Contract also provides that eighty percent (80%) of the profit generated by any Future Contract Related Products are to the OPA's account.
- (d) The OPA will pay all Sales Taxes exigible on all amounts payable to a Supplier pursuant to a FIT Contract. The Supplier shall remain liable for all Taxes other than Sales Taxes in respect of the Contract Facility. For greater certainty, Applicants are solely responsible for ensuring compliance with "Debt Retirement Charge" requirements under Regulations 493/01 and 494/01 made under the Electricity Act.
- (e) Projects shall not be divided into smaller Projects for the purpose of obtaining a higher Contract Price, circumventing the eligibility requirements set out in Section 2.1, or obtaining any other benefit under the FIT Program. If the OPA determines that a project has been divided into smaller Projects, it may (i) reject all Applications in respect of such Projects, (ii) apply the Contract Price to such Projects that would have applied had all such Projects been the subject of a single Application, or (iii) take such other action as it may determine. For the purpose of determining whether a project has been divided into smaller Projects, the OPA will consider factors such as whether the Applicants in respect of such Projects are the same Person or Applicant Related Persons, the relative Locations of such Projects and the Renewable Fuel(s) used by such Projects.

SECTION 8 – OVERVIEW OF SETTLEMENT

8.1 Settlement for IESO Market Participants

- (a) In the case of a Facility that:
 - (i) is directly connected to the IESO-Controlled Grid;
 - (ii) is a Behind-the-Meter Facility and has one or more Registered Facilities connected between it and the IESO-Controlled Grid; or
 - (iii) is otherwise a Registered Facility,

the payments to the Supplier under the FIT Contract will be adjusted by subtracting the greater of the Hourly Ontario Energy Price and zero in respect of all Hourly Delivered Electricity to account for either payments made in accordance with the IESO Market Rules or benefits conferred on the Host Facility, as applicable.

- (b) The OPA will pay the Supplier or the Supplier will pay the OPA, as applicable, any amounts owing under the FIT Contract by direct settlement.

8.2 Settlement for Non-IESO Market Participants

- (a) In the case of a Facility that is not a Registered Facility and is connected to either a Distribution System or to a Host Facility that is also not a Registered Facility, the OPA will pay the Supplier any amounts owing under the FIT Contract through settlement between the Supplier and the applicable LDC on a periodic basis in accordance with the applicable LDC's monthly, quarterly or other periodic billing cycle.
- (b) In the case of a Facility with a Contract Capacity greater than 5 MW, that is not a Registered Facility or a Behind-the-Meter Facility, the payments to the Supplier under the FIT Contract will be adjusted by subtracting the absolute value of the Hourly Ontario Energy Price for all hours where the Hourly Ontario Energy Price is less than zero, in respect of all Hourly Delivered Electricity.
- (c) For a Facility that is not a Registered Facility and is connected directly to a Host Facility on a Distribution System that is also not a Registered Facility, the Supplier must maintain a settlement account with the applicable LDC in accordance with the Retail Settlement Code.
- (d) Where a Facility that is not a Registered Facility is connected to a Host Facility on a Distribution System and such Host Facility is an Embedded Retail Generator, Contract Payments for any hour will be reduced by the Hourly Delivered Electricity multiplied by the price at which energy sales from such Embedded Retail Generator are settled, in accordance with Section 3.2 of the Retail Settlement Code, unless such Embedded Retail Generator's settlement has already been adjusted to account for the Facility's Hourly Delivered Electricity.

8.3 Incremental Projects and Planned Generating Facilities

Where a Project is a Planned Generating Facility with respect to one or more Incremental Projects, the Hourly Delivered Electricity for such Planned Generating Facility will be adjusted by deducting the amount of Hourly Delivered Electricity attributed to the Incremental Project(s) in accordance with the applicable Incremental Project Ratio(s).

8.4 Alternate Settlement Arrangements

The OPA reserves the right at its sole discretion to make alternate settlement arrangements in respect of the entire FIT Program or in respect of one or more Projects or LDCs at any time and from time to time. Notwithstanding other parties being involved in the settlement process, the OPA shall remain liable to the Supplier for the Contract Payments.

SECTION 9 – ABORIGINAL AND COMMUNITY PROJECTS

9.1 Applicable Definitions

- (a) **Aboriginal Community** means, for the purposes of the FIT Program,
 - (i) a First Nation that is a “Band” as defined in the Indian Act (Canada);
 - (ii) the Métis Nation of Ontario or any of its active Chartered Community Councils;
 - (iii) a Person, other than a natural person, that is determined by the Government of Ontario for the purposes of the FIT Program to represent the collective interests of a community that is composed of Métis or other aboriginal individuals; or
 - (iv) a corporation that is wholly-owned by one or more Aboriginal Communities as described in (i), (ii) or (iii).
- (b) **Aboriginal Participation Level** means, in relation to a Project or a Contract Facility, the percentage of the Economic Interest in the Applicant or the Supplier that is held by an Aboriginal Community.
- (c) **Aboriginal Participation Project** means a Project for which the Aboriginal Participation Level is greater than or equal to 10%.
- (d) **Aboriginal Price Adder** means the amount in ¢/kWh paid to Aboriginal Participation Projects and is calculated as the Maximum Aboriginal Price Adder multiplied by the Aboriginal Participation Level multiplied by two, but such amount shall not in any case exceed the Maximum Aboriginal Price Adder.
- (e) **Community Investment Members** means,
 - (i) one or more individuals Resident in Ontario;
 - (ii) a Registered Charity with its head office in Ontario;
 - (iii) a Not-For-Profit Organization with its head office in Ontario; or
 - (iv) a “co-operative corporation”, as defined in the Co-operative Corporations Act (Ontario), all of whose members are Resident in Ontario.
- (f) **Community Participation Level** means, in relation to a Project or a Contract Facility, the percentage of the Economic Interest of the Applicant or the Supplier that is held by Community Investment Members, provided that the Economic Interest held by any Person (and all those who hold an Economic Interest in such Person) (i) whose primary business or employment is the development of non-community-based electricity generation projects, as determined by the OPA in consultation with the third-party administrator of the “Community Energy Partnership Program” or (ii) that has issued its own securities to the public or is an Affiliate of a Person that has issued securities to the public, shall not count towards the Community Participation Level.

- (g) Community Participation Project means either (i) a Project in respect of which the Applicant or the Supplier is a Community Investment Member or (ii) where the Applicant or Supplier is not itself a Community Investment Member, a Project that has a Community Participation Level greater than or equal to 10%.
- (h) Community Price Adder means the amount in ¢/kWh paid to Community Participation Projects and is calculated as the Maximum Community Price Adder multiplied by the Community Participation Level multiplied by two, but such amount shall not in any case exceed the Maximum Community Price Adder.
- (i) Economic Interest means, with respect to any Person other than an individual, the right to receive or the opportunity to participate in any payments arising out of or return from, and an exposure to a loss or a risk of loss by, the business activities of such Person.
- (j) Maximum Aboriginal Price Adder means the maximum amount in ¢/kWh set out in the Price Schedule for each applicable Renewable Fuel that is eligible to be added to the Contract Price in respect of an Aboriginal Participation Project, in accordance with these FIT Rules.
- (k) Maximum Community Price Adder means the maximum amount in ¢/kWh set out in the Price Schedule for each applicable Renewable Fuel that is eligible to be added to the Contract Price in respect of a Community Participation Project, in accordance with these FIT Rules.

9.2 Provisions for Aboriginal Participation Projects

- (a) Notwithstanding Section 3.1(b), where an Application is in respect of an Aboriginal Participation Project, the Aboriginal Participation Level of such Project as of the date of the Application is greater than or equal to 50%, and the Applicant has provided an Aboriginal Participation Project Declaration as evidence of this, the amount of the Application Security shall be \$5.00 per kW of Contract Capacity, regardless of Renewable Fuel.
- (b) The price incorporated into a FIT Contract in respect of an Aboriginal Participation Project will be the price as determined in accordance with Section 7.1(b), plus the Aboriginal Price Adder as determined at the time of the Offer Notice. In the event that the Aboriginal Participation Level changes following the Contract Date, the Aboriginal Price Adder will be adjusted in accordance with the FIT Contract for any future Contract Payments.
- (c) An Applicant in respect of an Aboriginal Participation Project shall, within 20 Business Days of a request by the OPA, provide written evidence documenting the Aboriginal Participation Level to the satisfaction of the OPA, acting reasonably.
- (d) An Applicant shall not be permitted to decrease the Aboriginal Participation Level in respect of its Project without the prior written consent of the OPA, which consent may not be unreasonably withheld. Where an Application in respect of an Aboriginal Participation Project has obtained the benefit of reduced Application Security pursuant to Section 9.2(a), such Applicant shall be required to increase the level of Application Security to that set out in Section 3.1(b) prior to the OPA consenting to a reduction in the Aboriginal Participation Level from greater than or equal to 50% to below 50%. For greater certainty, where the Aboriginal

Participation Level increases from below 50% to greater than or equal to 50%, there shall be no reduction in the amount of Application Security.

9.3 Provisions for Community Participation Projects

- (a) Notwithstanding Section 3.1(b), where an Application is in respect of a Community Participation Project, the Community Participation Level of such Project as of the date of the Application is greater than or equal to 50%, and the Applicant has provided a Community Participation Project Declaration as evidence of this, the amount of the Application Security shall be \$5.00 per kW of Contract Capacity, regardless of Renewable Fuel.
- (b) The price incorporated into a FIT Contract in respect of a Community Participation Project will be the price as determined in accordance with Section 7.1(b), plus the Community Price Adder as determined at the time of the Offer Notice. In the event that the Community Participation Level changes following the Contract Date, the Community Price Adder will be adjusted in accordance with the FIT Contract for any future Contract Payments.
- (c) An Applicant in respect of a Community Participation Project shall, within 20 Business Days of a request by the OPA, provide written evidence documenting the Community Participation Level to the satisfaction of the OPA, acting reasonably.
- (d) An Applicant shall not be permitted to decrease the Community Participation Level in respect of its Project without the prior written consent of the OPA, which consent may not be unreasonably withheld. Where an Application in respect of a Community Participation Project has obtained the benefit of reduced Application Security pursuant to Section 9.3(a), such Applicant shall be required to increase the level of Application Security to that set out in Section 3.1(b) prior to the OPA consenting to a reduction in the Community Participation Level from greater than or equal to 50% to below 50%. For greater certainty, where the Community Participation Level increases from below 50% to greater than or equal to 50%, there shall be no reduction in the amount of Application Security.

9.4 Combined Aboriginal Participation Projects and Community Participation Projects

- (a) The Economic Interest of any Person shall only qualify towards either the Aboriginal Participation Level or the Community Participation Level.
- (b) Where a Project is both an Aboriginal Participation Project and a Community Participation Project, both the Aboriginal Price Adder and the Community Price Adder shall apply, provided that the total shall be subject to a maximum of the greater of the Maximum Aboriginal Price Adder and the Maximum Community Price Adder (such maximum, the "Maximum Price Adder").
- (c) Notwithstanding Section 3.1(b), where an Application is in respect of an Aboriginal Participation Project that is also a Community Participation Project and the total of the Aboriginal Participation Level and the Community Participation Level of such Project as of the date of the Application is greater than or equal to 50%, the amount of the Application Security shall be \$5.00 per kW of Contract Capacity, regardless of Renewable Fuel.

- (d) Where an Application in respect of a Project that is both an Aboriginal Participation and a Community Participation Project has obtained the benefit of reduced Application Security pursuant to Section 9.4(c), such Applicant shall be required to increase the level of Application Security to that set out in Section 3.1(b) prior to the OPA consenting to a reduction in the total of the Aboriginal Participation Level and Community Participation Level from greater than or equal to 50% to below 50%. For greater certainty, where the total of the Aboriginal Participation Level and the Community Participation Level increases from below 50% to greater than or equal to 50%, there shall be no reduction in the amount of Application Security.

SECTION 10 – PROGRAM REVIEW AND AMENDMENTS

10.1 Program Amendments

- (a) The OPA intends to review and Amend as necessary the FIT Program, the FIT Rules, the form of FIT Contract (which, for greater certainty, shall not affect any executed FIT Contracts) and the Price Schedule at regular two-year intervals, with the first scheduled review to take place two years after the Program Launch (each, a “Scheduled Program Review”). The OPA may make an Amendment outside of a Scheduled Program Review in response to ministerial directions, changes in Laws and Regulations, significant changes in market conditions or other circumstances as required.
- (b) Notice of any Amendment as a result of a Scheduled Program Review will be posted on the Website at least 30 days prior to the effective date of such Amendment. Notice of any Amendment that is not as a result of a Scheduled Program Review will be posted by the OPA on the Website for such time period, if any, prior to the effective date of such Amendment, as circumstances may permit.

10.2 Significant Program Amendments

- (a) Where an Amendment is made, the OPA may determine that such Amendment is a “Significant Program Amendment” with regard to either the FIT Program generally or a specified class of Applicants delineated by Renewable Fuel, Contract Capacity, Site or other factors. Any such determination will be posted on the Website and sent by e-mail to all Applicants for whom it is a Significant Program Amendment. Notwithstanding the foregoing, in no circumstances will an Amendment constitute a Significant Program Amendment in relation to an Application that was submitted to the OPA after notice of the Amendment was posted on the Website.
- (b) If the OPA Amends the Price Schedule in accordance with Section 10.1 such that the Contract Price that would be applicable to an Application in the FIT Production Line is reduced by more than 5% from the price that was applicable at the time of the Time Stamp, then such Amendment shall be a “Threshold Price Amendment” in relation to such Application. A Threshold Price Amendment will constitute a Significant Program Amendment in relation to Applications so affected. Where an Applicant does not withdraw from the FIT Program as set out in Section 10.2(c) following a Threshold Price Amendment, the baseline used in the calculation of any subsequent Threshold Price Amendment for such Applicant shall be the new Contract Price as amended by the current Threshold Price Amendment.
- (c) Within 30 days of notice of a Significant Program Amendment being posted on the Website, an Applicant for whom such Significant Program Amendment applies may:

- (i) withdraw a submitted Application from the FIT Production Line by providing notice in writing to the OPA,
- (ii) decline to execute a FIT Contract offered, or
- (iii) otherwise withdraw an Application from the FIT Program by providing notice in writing to the OPA,

and despite anything to the contrary in these FIT Rules, the OPA will return the full Application Security to the Applicant within 20 Business Days. For greater certainty, this includes any portion of the Application Security that may have previously been at-risk.

- (d) Where an Amendment is made that the OPA has not determined to be a Significant Program Amendment in accordance with Section 10.2(a) in relation to an Applicant, such Applicant may request in writing within 20 Business Days of such Amendment being posted on the Website to withdraw from the FIT Program with a full return of Application Security. Such request must demonstrate to the satisfaction of the OPA, acting reasonably, that the Amendment has a Material Adverse Effect. In response to such a request, the OPA may (i) grant relief by returning the full Application Security to the Applicant and removing the Application from the FIT Program, (ii) deny the request by providing written notice to the Applicant with its reasons for such denial, (iii) request further information that it reasonably requires of such Applicant, or (iv) take such other action as it sees fit.
- (e) Where either the Legislative Assembly of Ontario takes any action which would be considered a Discriminatory Action in relation to an Applicant if such Applicant held a FIT Contract for its Project, or any IESO Market Rule amendment is implemented that would, if such Applicant held a FIT Contract for its Project, materially affect the Supplier's Economics with respect to such Project, then such Applicant may request in writing within 30 days of public notice of such action by the Legislative Assembly or amendment of the IESO Market Rules, as applicable, to withdraw from the FIT Program with a full return of Application Security. Such request must demonstrate to the satisfaction of the OPA, acting reasonably, that the action by the Legislative Assembly or IESO Market Rule amendment (as applicable) has a Material Adverse Effect. In response to such a request, the OPA may (i) grant relief by returning the full Application Security to the Applicant and removing the Application from the FIT Program, (ii) deny the request by providing written notice to the Applicant with its reasons for such denial, (iii) request further information that it reasonably requires of such Applicant, or (iv) take such other action as it sees fit.

SECTION 11 – CONFIDENTIALITY

- (a) All information provided by or obtained from the OPA in any form in connection with the FIT Program, either before or after the execution of a FIT Contract, that is not otherwise publicly available is the sole property of the OPA and must be treated as confidential, and
 - (i) is not to be used for any purpose other than applying to participate in the FIT Program and the performance by the Supplier of its obligations under the FIT Contract;

- (ii) must not be disclosed without the prior written authorization of the OPA, other than to the Applicant's or Supplier's partners, advisors, Connecting Authority, IESO, OEB, contractors, and Secured Lenders, provided the disclosing party obtains similar confidentiality commitments from such third parties; and
 - (iii) shall be returned by the Applicant, Supplier or third party (as applicable) to the OPA immediately upon request of the OPA.
- (b) Information provided by an Applicant or a Supplier is subject to, and may be released in accordance with, the provisions of the FIPPA. Notwithstanding any confidentiality statement provided by the Applicant or Supplier, the OPA may be required to disclose information which is provided to the OPA by an Applicant or Supplier and is otherwise not protected from disclosure through an exemption in FIPPA or any other applicable legislation, regulation or policy. Applicants should not assume that such an exemption is available.
- (c) Information provided by an Applicant in relation to a Project, including technology, capacity, location, date, status within the FIT Program and name of Applicant may be disclosed by the OPA on the Website or otherwise, and such disclosure may be made on an individual basis, or on aggregated with information provided by other Applicants.
- (d) Applicants are advised that their Applications will, as necessary, be disclosed on a confidential basis to the OPA's counsel, consultants, the IESO, Transmitters, LDCs, the Government of Ontario, including the Renewable Energy Facilitation Office, and other advisers retained for the purpose administration of the FIT Program.

SECTION 12 – ADDITIONAL RULES

12.1 Assignment and Change of Control

- (a) Subject to Section 12.1(d), an Applicant shall not assign its Application to another Person other than an Applicant Related Person, except with the prior written consent of the OPA, which consent may not be unreasonably withheld.
- (b) Subject to Section 12.1(d), an Applicant shall not permit or allow a change of Control of such Applicant, except with the prior written consent of the OPA, which consent may not be unreasonably withheld.
- (c) For the purposes of Sections 12.1(a) and 12.1(b), it shall not be unreasonable for the OPA to withhold its consent if the proposed assignment or change of Control would cause an Application in respect of an Incremental Project to violate Section 2.2(a).
- (d) An Applicant shall not be permitted to assign an Application or permit or allow a change of Control of the Applicant until one year following the submission of the Application, and may not assign its Application or permit or allow a change of Control of the Applicant once the OPA has provided an Offer Notice in respect of such Application.
- (e) If an Applicant violates any provision of this Section 12.1, the OPA shall be entitled to reject the Application and draw on the full amount of the Application Security as liquidated damages and not as a penalty.

12.2 General

- (a) Each Application will be prepared at the sole cost and expense of the Applicant.
- (b) The OPA shall not be liable to pay any Applicant's costs or expenses under any circumstances. In particular, the OPA will not reimburse the Applicant in any manner whatsoever in the event of rejection of any or all Applications or in the event of the cancellation or suspension of the FIT Program at any time. By submitting an Application, the Applicant irrevocably and unconditionally waives any claims against the OPA relating to the Applicant's costs and expenses including without limitation, costs in relation to satisfying the Project eligibility criteria described in Section 2 and the Application eligibility criteria described in Section 3, the Application Fee and any costs associated with delivering the Application Security.
- (c) Notwithstanding anything contained in these FIT Rules, the OPA reserves the right, in its sole discretion, to reject any Application in whole or part whether or not completed properly and whether or not it contains all necessary information and reserves the right to discuss different or additional proposals to those included in any Application.
- (d) The OPA reserves the right to cancel all or any part of the FIT Program at any time and for any reason or to suspend the FIT Program in whole or in part for any reason for such period of time as the OPA shall determine in its sole discretion, in each case without any obligation or any reimbursement to the Applicants. In the event that the FIT Program is cancelled, the OPA shall return the full Application Security (as applicable) to all Applicants.
- (e) Each Applicant shall be solely responsible for its own costs and expenses relating to the preparation and submission of its Application and the development of the Contract Facility, whether or not an Application is rejected or the FIT Program is suspended, revoked or revised. Under no circumstances whatsoever shall the OPA be liable for any indirect, punitive or consequential damages associated with the Applicant's participation in the FIT Program.
- (f) The OPA may verify with any Applicant or with any third party any information set out in an Application.
- (g) The OPA may at any time make changes to these FIT Rules, the form of FIT Contract, the Price Schedule or the FIT Program (including substantial changes or a suspension or termination of the FIT Program), without any liability whatsoever to Applicants or prospective Applicants, except for the return of Application Security.
- (h) The OPA reserves the right to waive any informality or irregularity at its discretion with respect to an Application or an Applicant's compliance with these FIT Rules.

12.3 Reserved Rights

- (a) The rights reserved to the OPA in these FIT Rules are in addition to any other express rights or any other rights which may be implied in the circumstances, and the OPA shall not be liable for any expenses, costs, losses or any direct or indirect damages incurred or suffered by any Applicant or any third party resulting from the OPA exercising any of its express or implied rights under the FIT Program.

- (b) By submitting an Application, the Applicant authorizes the collection by the OPA of the information set out in the Application and otherwise collected in accordance with the terms hereof, and the use of such information for the purposes set out in or incidental to these FIT Rules and the FIT Contract, and for the purpose of offering, managing and directing the FIT Program generally.

12.4 Interpretation

- (a) Consent. Whenever a provision requires an approval or consent and the approval or consent is not delivered within the applicable time limit, then, unless otherwise specified, the Party whose consent or approval is required shall be conclusively deemed to have withheld its approval or consent.
- (b) Currency. Unless otherwise specified, all references to money amounts are to the lawful currency of Canada.
- (c) Discretion. Where the OPA may take an action or make a determination under these FIT Rules, the decision to take such action or make such determination shall be at the OPA's sole and absolute discretion.
- (d) Governing Law. These FIT Rules are made under and shall be governed by and construed in accordance with, the laws of the Province of Ontario and the federal laws of Canada applicable in the Province of Ontario.
- (e) Headings. Headings of Sections are inserted for convenience of reference only and do not affect the construction or interpretation of these FIT Rules. References to Sections means Sections of these FIT Rules, unless otherwise specified.
- (f) Liquidated Damages. By submitting an Application, Applicants acknowledge and agree that it would be extremely difficult and impracticable to determine precisely the amount of actual damages that would be suffered by the OPA and Ontario rate-payers as result of an Applicant withdrawing from the FIT Production Line or failing to execute a FIT Contract in response to an Offer Notice. Applicants submitting Applications further acknowledge and agree that the liquidated damages set forth in these FIT Rules are a fair and reasonable approximation of the amount of actual damages that would be suffered by the OPA and Ontario rate-payers as a result of a withdrawal from the FIT Production Line or a failure to execute a FIT Contract in response to an Offer Notice, and does not constitute a penalty.
- (g) No Strict Construction. Despite the fact that these FIT Rules were drafted by the OPA's legal and other professional advisors, Applicants submitting Applications acknowledge and agree that any doubt or ambiguity in the meaning, application or enforceability of any term or provision in these FIT Rules shall not be construed against the OPA in favour of the Applicant when interpreting such term or provision, by virtue of such fact.
- (h) Number and Gender. Unless the context otherwise requires, words importing the singular include the plural and vice versa and words importing gender include all genders.
- (i) Severability. If any provision of these FIT Rules or its application to any Party or circumstance is restricted, prohibited or unenforceable, the provision shall be ineffective only to the extent of the restriction, prohibition or unenforceability

without invalidating the remaining provisions of these FIT Rules and without affecting its application to the other Party or circumstances.

- (j) **Statutory References.** A reference to a statute includes all regulations and rules made pursuant to the statute and, unless otherwise specified, the provisions of any statute, regulation or rule which amends, supplements or supersedes any such statute, regulation or rule.
- (k) **Time.** Time is of the essence in the performance of the Parties' respective obligations.
- (l) **Time Periods.** Unless otherwise specified, time periods within or following which any payment is to be made or act is to be done shall be calculated by excluding the day on which the period commences and including the day on which the period ends and by extending the period to the next Business Day following if the last day of the period is not a Business Day.

SECTION 13 – PROGRAM LAUNCH

13.1 Applicable Definitions

Capitalized terms used in this Section 13 of the FIT Rules but not defined in Appendix 1 – Standard Definitions have the meanings given to them below:

- (a) **Access Rights Date** has the meaning given to it in Section 13.4(b)(ii).
- (b) **Applicant Control Group** has the meaning given to it in Section 13.4(a)(ii).
- (c) **COD Acceleration Days** has the meaning given to it in Section 13.4(b)(i).
- (d) **Criteria Score** means the total number of points awarded to a Project in accordance with Section 13.4(a).
- (e) **Designated Equity Provider** has the meaning given to it in Section 13.4(a)(iv).
- (f) **GAAP** means Canadian or U.S. generally accepted accounting principles approved or recommended from time to time by the Canadian Institute of Chartered Accountants or the Financial Accounting Standards Board, as applicable, or any successor institutes, applied on a consistent basis.
- (g) **IFRS** means the International Financial Reporting Standards, being the accounting standards and interpretations adopted or recommended from time to time by the International Accounting Standards Board (IASB) or any successor organization, applied on a consistent basis.
- (h) **Launch Application** has the meaning given to it in Section 13.2(a).
- (i) **Major Equipment Component** means, (i) with respect to a wind power Project, the tower, the gearbox or the wind turbine blades; (ii) with respect to a solar (PV) Project, the photovoltaic module (i.e. panel) or the inverter; and (iii) with respect to all other Projects, any single component of the Generating Equipment the cost of which is reasonably estimated to be more than 10% of the total cost of the Project.

- (j) Nameplate Capacity means the rated, continuous load-carrying capability net of parasitic or station service loads, expressed in kW, of a generating facility to generate and deliver electricity at a given time.
- (k) REA-Exempt Project means a Project in respect of a Facility that is exempt from the requirement to have a Renewable Energy Approval, which, for greater certainty, includes Facilities that are exempt from such requirement by reason only that they have those permits and approvals necessary to exempt it from the Renewable Energy Approval.
- (l) Similar Facility means an electricity generation facility, other than the Project, that is located anywhere in the world, which (i) uses the same Renewable Fuel as the Project, and (ii) has a Nameplate Capacity of at least 25% of the proposed Contract Capacity of the Project.
- (m) Tangible Net Worth means in respect of a Designated Equity Provider, at any time and without duplication, an amount determined in accordance with GAAP (or IFRS, if the Designated Equity Provider has adopted such standard), and calculated as (a) the aggregate book value of all assets, minus (b) the aggregate book value of all liabilities, minus (c) the sum of any amounts shown on account of patents, patent applications, service marks, industrial designs, copyrights, trade marks and trade names, and licenses, prepaid assets, goodwill and all other intangibles.

13.2 Application Requirements

- (a) Notwithstanding anything to the contrary in Section 4.1(a) or otherwise in these FIT Rules, all Applications (other than those in respect of Capacity Allocation Exempt Facilities) that meet all of the Project and Application eligibility requirements set out in Section 2 and Section 3 and are submitted to the OPA within 60 days following Program Launch (the "Launch Applications") shall be assigned a Time Stamp in accordance with the procedure set out in Section 13.5. For greater certainty, Applications in respect of Capacity Allocation Exempt Facilities will be offered FIT Contracts in accordance with Section 6.1(a).
- (b) Any Application submitted to the OPA within 60 days following Program Launch that does not meet all of the Project and Application eligibility requirements set out in Section 2 and Section 3 will be rejected in accordance with Section 4.2.
- (c) An Applicant may, notwithstanding Section 2.1(a)(viii), submit a Launch Application in respect of a generating facility that is the subject of a Standard Offer Contract which has not achieved commercial operation (as defined in the applicable Standard Offer Contract). Any such Applicant will be required to execute an agreement in the Prescribed Form whereby the Applicant will repudiate and terminate such Standard Offer Contract, and any Impact Assessments and Connection Cost Agreements associated with the facility that is the subject of such Standard Offer Contract. Other than the eligibility requirement set out in Section 2.1(a)(viii), all other requirements of these FIT Rules shall apply to such Launch Applications.

13.3 Advanced RESOP FIT Amendment Option

- (a) Notwithstanding any other provisions of these FIT Rules, a party to a Standard Offer Contract in respect of a generating facility under development and for which a

Certificate of Approval (Noise Emissions) has been issued by the Ontario Ministry of the Environment (an "Advanced RESOP Party") will be eligible to request, no later than 30 days after Program Launch, an amendment to such Standard Offer Contract as set out in this Section 13.3 (the "Advanced RESOP FIT Amendment"). In order to receive the Advanced RESOP FIT Amendment, an Advanced RESOP Party must submit a written request in the Prescribed Form together with supplementary documentation confirming its status as an Advanced RESOP Party, as well as providing financial security in the amount of \$20 per kW of contract capacity (as defined under the applicable Standard Offer Contract) in the form of an irrevocable and unconditional standby letter of credit issued by a financial institution listed in either Schedule I or II of the Bank Act (Canada), or such other financial institution having a minimum credit rating of (i) A- with S&P, (ii) A3 with Moody's, (iii) A low with DBRS, or (iv) A with Fitch IBCA, substantially in the Prescribed Form. The OPA will provide Advanced RESOP Parties that deliver all such requirements an Advanced RESOP FIT Amendment that has been executed by the OPA no later than 40 days following Program Launch. The Advanced RESOP Party will be required to countersign and return the Advanced RESOP FIT Amendment within 14 days of receiving it.

- (b) The Advanced RESOP FIT Amendment will include:
- (i) a substitution of the contract price (as defined under the applicable Standard Offer Contract), replacing item 10 of the Standard Offer Contract with "12.1¢/kWh comprised of: a fixed portion of 9.68 ¢/kWh and an indexed portion of 2.42 ¢/kWh";
 - (ii) relief from the requirement under the Standard Offer Contract to share with the OPA payments it may be able to obtain under the ecoENERGY for Renewable Power Program;
 - (iii) a requirement to maintain the completion and performance security provided pursuant to Section 13.3(a), which will be returned to the Advanced RESOP Party upon the achievement of commercial operation (as defined under the Standard Offer Contract); and
 - (iv) a requirement that the facility achieve commercial operation no later than December 31, 2010, with liquidated damages payable for each day commercial operation is late, culminating in an event of default if commercial operation is not achieved by December 31, 2011.

13.4 Criteria

- (a) Where, in respect of a Launch Application, the Applicant or the Project satisfies any of the criteria set out below, the Applicant may include, along with the other materials required pursuant to Section 3.1, evidence demonstrating that it satisfies such criteria:
- (i) the Project is an REA-Exempt Project;
 - (ii) the Applicant, any Person that Controls the Applicant, or any Person that is Controlled by the Applicant (the "Applicant Control Group"), either owns or has executed a fixed or guaranteed maximum price contract with an equipment supplier, including an engineering-procurement-construction

(EPC) contractor or equipment manufacturer, to supply a Major Equipment Component. In the case of solar (PV) and windpower Projects, such Major Equipment Component must have undergone, or will have undergone prior to delivery to the Applicant Control Group, any one of the Designated Activities set out in the applicable Domestic Content Grid in Exhibit D to the FIT Contract. For the purposes of this subsection, ownership of the Major Equipment Component means that (A) the Applicant Control Group has taken delivery of the Major Equipment Component from the equipment supplier, and (B) registered and beneficial title to the Major Equipment Component has passed from the equipment supplier;

- (iii) the Applicant Control Group has, or any three full-time employees of the Applicant Control Group each have, successful experience with planning and developing one or more Similar Facilities. The Similar Facility(ies) used to support this requirement must have been developed under circumstances where the Applicant Control Group had, or the three full-time employees each had, as applicable, primary responsibility for such Similar Facility(ies), either for planning and development or as design/builder; and
- (iv) that any one Person that accounts for 15% or more of the direct or indirect Economic Interest in the Applicant, or if applicable, any one group of Persons that together account for 15% or more of the Economic Interest in the Applicant (the "Designated Equity Provider(s)"), has an individual Tangible Net Worth (or a collective Tangible Net Worth, in the case of a group of Designated Equity Providers), of \$500 or more per kW of proposed Contract Capacity at the end of the most recent fiscal year.
 - (A) Financial Documentation. The Applicant must attach an audited balance sheet for the Designated Equity Provider(s), in conformity with GAAP (or IFRS if the Designated Equity Provider has adopted such standard), with respect to the most recent fiscal year, provided that where the most recent fiscal year has ended less than 90 days prior to the Program Launch, the Applicant may submit such financial statements in respect of the previous fiscal year. Notwithstanding the foregoing, a Designated Equity Provider who is an individual shall be permitted to provide an unaudited balance sheet or other financial documentation satisfactory to the OPA, acting reasonably, demonstrating Tangible Net Worth, instead of an audited balance sheet, together with a statutory declaration of such person stating that such unaudited balance sheet or other financial documentation presents fairly, in all material respects, the Tangible Net Worth of the Designated Equity Provider. All Designated Equity Provider(s) other than individuals, that do not provide audited balance sheets, do not satisfy the requirements of this Section 13.4(a)(iv)(A).
 - (B) Calculation. The Applicant must attach a summary outlining and describing the calculation used to determine the Tangible Net Worth of Designated Equity Provider(s) pursuant to Section 13.4(a)(iv).

For each criteria set out in Section 13.4(a), where the Applicant has provided evidence satisfactory to the OPA, acting reasonably, that the Project satisfies such

criteria, the Launch Application will be awarded one point, for a maximum possible Criteria Score of four points.

- (b) All Applicants submitting a Launch Application shall include, along with the other materials required pursuant to Section 3.1 and any evidence provided pursuant to Section 13.4(a),
 - (i) a number of days by which the Applicant is willing to reduce the time between the Contract Date and the Milestone Date for Commercial Operation from that which it would otherwise be under the FIT Contract ("COD Acceleration Days"). The COD Acceleration Days shall be subject to (A) a minimum of zero days, and (B) a maximum of 365 calendar days plus 90 calendar days for each point awarded to the Project pursuant to Section 13.4(a); and
 - (ii) evidence of the date that (A) Access Rights were first acquired by the Applicant Control Group, or (B) rights to the Site were first acquired by the Applicant Control Group, where such rights would have qualified as Access Rights had the FIT Program been in place at the time, (the "Access Rights Date"). For greater certainty, such evidence may be the same documentation provided to satisfy the requirements of Section 3.1(e), or may include additional documentation where necessary.

13.5 Time Stamp Assignment

- (a) All Launch Applications will be assigned a Time Stamp in relative priority to one another such that Launch Applications with more COD Acceleration Days shall be assigned earlier Time Stamps than those Launch Applications with fewer COD Acceleration Days. The Time Stamps assigned to all Launch Applications shall be earlier in time than the Time Stamps assigned to Applications received following the deadline for consideration in the first Transmission Availability Test.
- (b) Where two or more Launch Applications propose the same number of COD Acceleration Days, those Launch Applications will be assigned a Time Stamp in relative priority to one another such that Launch Applications with a greater Criteria Score shall be assigned an earlier Time Stamp than those Launch Applications with a lower Criteria Score.
- (c) Where two or more Launch Applications propose the same number of COD Acceleration Days and have the same Criteria Score, those Launch Applications will be assigned a Time Stamp in relative priority to one another such that Launch Applications with an earlier Access Rights Date shall be assigned an earlier Time Stamp than those Launch Applications with a later Access Rights Date.
- (d) In the event that two or more Launch Applications propose the same number of COD Acceleration Days, have the same Criteria Score and have the same Access Rights Date, their Time Stamps will be assigned in relative priority to one another by random draw.

13.6 MNR Site Release Projects

- (a) Applicants that submit Launch Applications in respect of Projects whose Access Rights are a result of a completed application to the Ministry of Natural Resources

(Ontario) for selection as an “Applicant of Record” in respect of all lands comprising the Site, pursuant to such ministry’s applicable Site Release and Development Review policies and procedures (“MNR Site Release Projects”) may be informed following the submission of such Launch Applications that the Applicant does not have priority to obtain “Applicant of Record” status with respect to some or all of the lands comprising the Site.

- (b) Where an Applicant in respect of an MNR Site Release Project is determined by the Ministry of Natural Resources not to have priority to obtain “Applicant of Record” status with respect to some or all of the lands comprising the Site, the OPA will inform the Applicant by notice. The Applicant may then withdraw the Application by providing notice to the OPA no later than 10 Business Days following its receipt of notice from the OPA. In such circumstances, the OPA will withdraw the Application and return the Application Security to the Applicant within 10 Business Days of receiving such request.
- (c) Where a Launch Application in respect of an MNR Site Release Project has been withdrawn in accordance with Section 13.6(b), the Applicant may re-submit an Application for which the Site is comprised of those lands for which it has priority to obtain “Applicant of Record” status, and which were previously part, but not all, of the lands comprising the Site set out in the original MNR Site Release Project (such revised Project, a “Revised MNR Site Release Project”). Where an Application in respect of a Revised MNR Site Release Project is submitted within 30 days after the return of the Application Security in respect of the associated withdrawn MNR Site Release Project, the Application in respect of such Revised MNR Site Release Project will be assigned the Time Stamp originally assigned to the Application in respect of the withdrawn MNR Site Release Project.

13.7 **Enhanced Transition Options**

Projects that are 500 kW or smaller, for which the generating equipment was purchased or was in service by 11:59 p.m. on October 1, 2009, are eligible to transition to the FIT Program and will be deemed to have met the domestic content requirements, so long as a request is made in the Prescribed Form by November 30, 2009. Applicants in respect of Projects that have not achieved commercial operation will be required to provide evidence that the generating equipment was purchased by October 1, 2009. Further detail regarding these transition options is available on the Website at: http://fit.powerauthority.on.ca/Storage/98/10768_FIT_Transition_Options_FINAL.pdf.

13.8 **Applicable Policies**

- (a) All Launch Applications specifying a number of COD Acceleration Days greater than zero that are offered a FIT Contract without being subjected to the Economic Connection Test will be required to include the special terms and conditions set out in Exhibit C of these FIT Rules as part of their FIT Contract. All Launch Applications that are not offered a FIT Contract until after being subjected to the Economic Connection Test will not be required to include special terms and conditions as part of their FIT Contract, but will preserve the Time Stamp issued in accordance with Section 13.5.
- (b) The Minimum Required Domestic Content Level for Launch Applications that specify COD Acceleration Days and are offered FIT Contracts that are subject to the special terms and conditions set out in Exhibit C, shall be determined as though the

FIT Contract was issued on December 24, 2009. For greater certainty, the Milestone Date for Commercial Operation shall be determined using the actual date the FIT Contract is issued.

Examples:

- (i) A wind power Project greater than 10 kW submitting 359 COD Acceleration Days that has its FIT Contract issued on December 28, 2009 – The Project would have its Minimum Required Domestic Content Level set as though the contract was issued on December 24, 2009, and as though the Milestone Date for Commercial Operation was accordingly December 31, 2011. This date is calculated as December 24, 2009, plus three years (December 24, 2012), less 359 COD Acceleration Days. As such, the Minimum Required Domestic Content Level would be 25%. The actual Milestone Date for Commercial Operation would be January 4, 2012, calculated as the date the FIT Contract is issued (December 28, 2009), plus three years, less 359 COD Acceleration Days.
- (ii) A solar (PV) Project greater than 10 kW submitting 724 COD Acceleration Days that has its FIT Contract issued on December 28, 2009 – The Project would have its Minimum Required Domestic Content Level set as though the contract was issued on December 24, 2009, and as though the Milestone Date for Commercial Operation was accordingly December 31, 2010. This date is calculated as December 24, 2009, plus three years (December 24, 2012), less 724 COD Acceleration Days. As such, the Minimum Required Domestic Content Level would be 50%. The actual Milestone Date for Commercial Operation would be January 4, 2011, calculated as the date the FIT Contract is issued (December 28, 2009), plus three years, less 724 COD Acceleration Days.
- (c) Applicants are strongly cautioned against submitting Launch Applications for Projects that they are not prepared to develop, if offered a FIT Contract. Despite Section 6.1(d)(i), and given the damage that a failure to execute a FIT Contract offered in respect of a Launch Application would cause the FIT Program, where Applicants receive an Offer Notice in respect of a Launch Application but the OPA does not receive the executed FIT Contract and Completion and Performance Security from such Applicant within 10 Business Days of the Offer Notice, the OPA shall be entitled to draw on the full amount of the Application Security as liquidated damages and not as a penalty.
- (d) The OPA is anticipating a large number of Launch Applications. In order to ensure that each Application receives full and proper consideration, it may not be possible for the OPA to achieve its target response times.

EXHIBIT A – APPLICATION SECURITY (LETTER OF CREDIT FORM)

DATE OF ISSUE:	[●]
APPLICANT:	[●]
BENEFICIARY:	Ontario Power Authority and its permitted assigns (“Beneficiary”)
AMOUNT:	[●]
EXPIRY DATE:	[●]
EXPIRY PLACE:	Counters of the issuing financial institution in Toronto, Ontario
CREDIT RATING:	[Insert credit rating only if the issuer is not a financial institution listed in either Schedule I or II of the Bank Act]
TYPE:	Irrevocable and Unconditional Standby Letter of Credit Number: [●] (the “Credit”)

The Credit is issued in connection with the Feed-In Tariff Rules issued by the Ontario Power Authority dated ●, as amended (the “FIT Rules”) and the Application dated [Insert Date of Application] submitted by [insert name of FIT Program Applicant] in response thereto (the “Application”).

We hereby authorize the Beneficiary to draw on [Issuing Bank Name/Address], in respect of the Credit, for the account of the Applicant, up to an aggregate amount of \$[●] ([●] Canadian Dollars) available by the Beneficiary’s draft at sight accompanied by the Beneficiary’s signed certificate stating that:

“The Applicant, as such term is defined in the FIT Rules, whose Application has been accepted by the Beneficiary, [has failed to deliver the Completion and Performance Security within 10 Business Days of being notified by the Beneficiary that it has been selected to enter into a FIT Contract,] or [has failed to sign the FIT Contract within 10 Business Days of the date on which the Applicant was given the FIT Contract to sign,] or [has made a material misrepresentation in the Application,][has violated the FIT Rules] or [has withdrawn their Application from the FIT Production Line] and therefore the Beneficiary is entitled to draw upon the Credit in the amount of the draft attached hereto. All capitalized terms used in this certificate that have not been defined herein have the meanings ascribed to them in the definitions appendix of the Feed-in Tariff Program Rules, effective as of the date of the Date of Issue stated above.” [as applicable]

Drafts drawn hereunder must bear the clause “Drawn under irrevocable and unconditional Standby Letter of Credit No. [●] issued by [Issuing Bank Name] dated [Issue Date].”

Partial drawings are permitted.

This Credit will automatically extend for additional, successive terms of one year each (each an “Additional Term”), unless the undersigned provides the Beneficiary with written notice, at least 60 days prior to the expiration date of the then current term, that it does not wish to extend this Credit for an Additional Term.

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We engage with you that all drafts drawn under and in compliance with the terms of the Credit will be duly honoured, if presented at the counters of [Issuing Bank Name/Address] at or before [Expiry Time] (EST) on [Expiry Date], as extended.

The Credit is subject to the International Standby Practices ISP 98, International Chamber of Commerce publication No. 590 and, as to matters not addressed by the ISP 98, shall be governed by the laws of the Province of Ontario and applicable Canadian federal law, and the parties hereby irrevocably agree to attorn to the non-exclusive jurisdiction of the courts of the Province of Ontario.

This Credit is transferable at the written request of the Beneficiary, without the consent of the Applicant, but subject to consent of the issuing financial institution, acting reasonably. All fees incurred by the issuing financial institution in relation to such transfer shall be at the Applicant's expense, but failure of the Applicant to pay such fees shall not restrict the ability of the Beneficiary to transfer the Credit.

In the event of a transfer of this Credit as provided for above, the above name of the Beneficiary will be amended to another entity by way of an amendment hereto, without the consent of the Applicant, and upon receipt by [Issuing Bank Name] of the Beneficiary's dated and signed letter addressed to [Issuing Bank Name] and completed as follows:

"We, the undersigned Beneficiary to [Issuing Bank Name] Letter of Credit No. [●], hereby waive all our rights under the Letter of Credit and request that the current name and address of the Beneficiary thereunder be amended to read [insert name and address of new Beneficiary]. We have enclosed the original Letter of Credit and all amendments (if any) thereto. Please forward the original Letter of Credit and all amendments (if any), including the current amendment to the [new Beneficiary], care of the Applicant."

[Issuing Bank Name]

By: _____

By: _____

EXHIBIT B – FORM OF PRODUCTION LINE CONFIRMATION

[Name]
[Address]
[E-mail]

[Date]

Dear [Applicant]:

FIT Production Line Confirmation with respect to Application #● (the “Application”)

Further to the attached Economic Test Notice, your Project is eligible to enter the FIT Production Line if you sign and return this “Production Line Confirmation” to the OPA within 20 Business Days after the date first set out above. For convenience, capitalized terms used but not defined in this Production Line Confirmation have the meaning given to them in the Feed-in Tariff Program Rules in effect on the date that the Application was submitted to the Ontario Power Authority (the “FIT Rules”).

While your Project is in the FIT Production Line, it will be an input into planning processes relating to the development of transmission and distribution assets, and will be submitted to the Economic Connection Test each time it is run for the region of the Province where your Project is located. Presently, it is run every six months for each region. Following the Economic Connection Test, if there are sufficient connection resources to accommodate the connection of your Project, the OPA will provide an Offer Notice in accordance with the FIT Rules. If there are not sufficient connection resources to accommodate the connection of your Project, you will receive an Economic Test Notice indicating one of the possible outcomes set out in Section 5.4(c) of the FIT Rules.

By signing and returning this Production Line Confirmation, you acknowledge and agree that the OPA will retain your Application Security while your Project is in the FIT Production Line, and that increasing amounts of the Application Security will become “at-risk” and may only be returned to you in accordance with circumstances set out in the FIT Rules. While your Project is in the FIT Production Line you must, at your sole expense, ensure that the Application Security is current, valid, enforceable and in an acceptable form, including promptly providing replacement security for any letter of credit (A) the provider of which has given notice that it does not wish to extend the letter of credit for an additional term, (B) which expires, terminates or fails, or ceases to be in full force and effect, (C) which is disaffirmed, disclaimed, dishonoured, repudiated or rejected in whole or in part by the provider of the letter of credit, or (D) the validity of which is challenged by the provider of the letter of credit.

Your Application will retain the Time Stamp issued to it when it was submitted, and this will be used by the OPA to prioritize the future offer of any FIT Contracts on the basis of newly available connection resources.

If after signing and returning this Production Line Confirmation you withdraw your Project from the FIT Production Line, fail to properly execute a FIT Contract that is offered to you, or fail to renew your Application Security, if applicable, you will forfeit some or all of your Application Security as liquidated damages unless a particular exception set out in the FIT Rules otherwise applies. It is solely your responsibility to ensure that your Application continues to satisfy the eligibility requirements set out in the FIT Rules and that your Project remains viable.

If you do not sign and return this Production Line Confirmation to the OPA within 20 Business Days after the date first set out above, your Application Security will be returned to you, your Project will be

Sample

removed from the FIT Program and your Time Stamp will be forfeited. You may reapply to the FIT Program at any time subject to the FIT Rules in effect at such time by submitting a new Application along with the Application Fee and Application Security required at that time.

Any controversy or dispute arising out of or relating to this Production Line Confirmation, including its validity, existence, breach, termination, construction or application, or the rights, duties or obligations of any Party, shall be referred to and determined by arbitration before a single arbitrator in accordance with the Arbitration Act, 1991 (Ontario).

The rules of interpretation set out in Section 12.4 of the FIT Rules shall apply to this Production Line Confirmation (with the necessary conforming changes being made for those rules to apply to this Production Line Confirmation), along with the following additional rules of interpretation:

- (i) No amendment, supplement, modification, waiver or termination of this Production Line Confirmation and, unless otherwise specified, no consent or approval by any Party, shall be binding unless executed in writing by the Party to be bound; and
- (ii) To the extent that there is any inconsistency between this Production Line Confirmation and the FIT Rules, the FIT Rules shall prevail, but only to the extent of such inconsistency.

Thank you for your participation in the FIT Program. If you have any questions about this Production Line Confirmation or the FIT Program generally, please visit the FIT Program Website at fit.powerauthority.on.ca.

Yours very truly,

Signed,

●

Accepted and agreed to, this ____ day of _____, 20__.

[APPLICANT]

By: _____

Name:

Title:

By: _____

Name:

Title:

Sample

**EXHIBIT C – FORM OF SPECIAL TERMS AND CONDITIONS
(LAUNCH APPLICATIONS)**

Version 1.2A

SECTION 1 - SPECIAL CONDITIONS

1.1 Special Provisions

- (a) Section 1.2(a) of Exhibit A to the Agreement is deleted and replaced with the following “The Milestone Date for Commercial Operation is the date that is ● days following the Contract Date.” [Note to Finalization: This bullet to be filled in with the number of days that the Milestone Date for Commercial Operation would have followed the Contract Date had no COD Acceleration Days been proposed, less the number of COD Acceleration Days.]
- (b) Section 1.2(b) of Exhibit A to the Agreement is deleted and replaced with the following “The NTP Response Date is the date that is ● days following the Contract Date.” [Note to Finalization: This bullet to be filled in with the number of days that the NTP Response Date would normally follow the Contract Date, less the number of COD Acceleration Days, provided that where the result is less than zero, the number of days shall be zero.]
- (c) At the end of Section 10.1(g), the following sentence is added: “For greater certainty, the reference in this Section to the original Milestone Date for Commercial Operations means the Milestone Date for Commercial Operation as amended by the Special Terms and Conditions.”
- (d) The period at the end of Section 2.6(a)(v) is replaced with “; and”, and a new Section 2.6(a)(vi) is inserted as follows, “the Supplier has paid all liquidated damages due to the OPA (if any), pursuant to Section 2.5(a) of this Agreement.”
- (e) The letter “(a)” is inserted before the only paragraph in Section 9.5, and the following Section 9.5(b) is added: “Subject to Section 9.2(d)(i), if the OPA terminates this Agreement as a result of the Supplier Event of Default set out in Section 9.1(j), the Supplier shall not be liable to pay the OPA any liquidated damages pursuant to Section 2.5(a) and any liquidated damages so paid shall be returned by the OPA to the Supplier within 20 Business Days of a written request to do so, provided that all Completion and Performance Security the Supplier is required to provide to the OPA pursuant to Section 5.1 has been so provided.”

1.2 Milestone Date for Commercial Operation

Section 2.5 is deleted and replaced with the following:

- (a) The Supplier acknowledges that time is of the essence to the OPA with respect to attaining Commercial Operation of the Contract Facility by the Milestone Date for Commercial Operation. The Parties agree that Commercial Operation shall be achieved in a timely manner and by the Milestone Date for Commercial Operation, failing which the Supplier shall pay to the OPA within 10 Business Days after receipt of an invoice from the OPA and upon the submission of the certificate referred to in Section 2.6(a)(v), as liquidated damages and not as a penalty, a sum of money equal to 0.25 Dollars per kW

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multiplied by the Contract Capacity for each calendar day after the Milestone Date for Commercial Operation until Commercial Operation is achieved.

- (b) The maximum time period that liquidated damages shall be calculated and payable under Section 2.5(a) by the Supplier for failure to meet the Milestone Date for Commercial Operation shall be ● days. [Note to Finalization: This bullet to be filled in with the number of proposed COD Acceleration Days.]
- (c) The Supplier acknowledges that even if the Contract Facility has not achieved Commercial Operation by the Milestone Date for Commercial Operation, the Term shall nevertheless expire on the day before the twentieth or fortieth (as applicable) anniversary date of the Milestone Date for Commercial Operation, pursuant to Section 8.1.

**EXHIBIT D – FORM OF SPECIAL TERMS AND CONDITIONS
(CAPACITY ALLOCATION EXEMPT FACILITIES WITH AN ACCELERATED MILESTONE
DATE FOR COMMERCIAL OPERATION)**

Version 1.2B

SECTION 1 - SPECIAL CONDITIONS

1.1 Special Provisions

- (a) Section 1.2(a) of Exhibit A to the Agreement is deleted and replaced with the following “The Milestone Date for Commercial Operation is ●.” [Note to Finalization: This bullet to be filled in with December 31, 2010 for solar (PV) Projects or December 31, 2011 for wind power Projects.]
- (b) Section 1.2(b) of Exhibit A to the Agreement is deleted and replaced with the following “The NTP Response Date is the date that is 0 days following the Contract Date.”
- (c) At the end of Section 10.1(g), the following sentence is added: “For greater certainty, the reference in this Section to the original Milestone Date for Commercial Operations means the Milestone Date for Commercial Operation as amended by the Special Terms and Conditions.”
- (d) The period at the end of Section 2.6(a)(v) is replaced with “; and”, and a new Section 2.6(a)(vi) is inserted as follows, “the Supplier has paid all liquidated damages due to the OPA (if any), pursuant to Section 2.5(a) of this Agreement.”
- (e) The letter “(a)” is inserted before the only paragraph in Section 9.5, and the following Section 9.5(b) is added: “Subject to Section 9.2(d)(i), if the OPA terminates this Agreement as a result of the Supplier Event of Default set out in Section 9.1(j), the Supplier shall not be liable to pay the OPA any liquidated damages pursuant to Section 2.5(a) and any liquidated damages so paid shall be returned by the OPA to the Supplier within 20 Business Days of a written request to do so, provided that all Completion and Performance Security the Supplier is required to provide to the OPA pursuant to Section 5.1 has been so provided.”

1.2 Milestone Date for Commercial Operation

Section 2.5 is deleted and replaced with the following:

- (a) The Supplier acknowledges that time is of the essence to the OPA with respect to attaining Commercial Operation of the Contract Facility by the Milestone Date for Commercial Operation. The Parties agree that Commercial Operation shall be achieved in a timely manner and by the Milestone Date for Commercial Operation, failing which the Supplier shall pay to the OPA within 10 Business Days after receipt of an invoice from the OPA and upon the submission of the certificate referred to in Section 2.6(a)(v), as liquidated damages and not as a penalty, a sum of money equal to 0.25 Dollars per kW multiplied by the Contract Capacity for each calendar day after the Milestone Date for Commercial Operation until Commercial Operation is achieved.

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- (b) The maximum time period that liquidated damages shall be calculated and payable under Section 2.5(a) by the Supplier for failure to meet the Milestone Date for Commercial Operation shall be ● days. [Note to Finalization: This bullet to be filled in with 180 days for solar (PV) Projects and 545 days for wind power Projects.]

The Supplier acknowledges that even if the Contract Facility has not achieved Commercial Operation by the Milestone Date for Commercial Operation, the Term shall nevertheless expire on the day before the twentieth or fortieth (as applicable) anniversary date of the Milestone Date for Commercial Operation, pursuant to Section 8.1.

9502844.5



FEED-IN TARIFF CONTRACT (FIT CONTRACT)

Version 1.5.1 (July 15, 2011)

**CONTRACT
IDENTIFICATION #** FIT-

FIT REFERENCE # FIT-

CONTRACT DATE

SUPPLIER

**SUPPLIER'S
ADDRESS**

Contact Person:

Fax:
Phone:
Email:

**SUPPLIER
INFORMATION**

☐ Not a Non-Resident of Canada
☐ Non-Resident of Canada

**GROSS
NAMEPLATE
CAPACITY**

_____ kW

**INCREMENTAL
PROJECT**

☐ Yes ☐ No

**CONTRACT
CAPACITY**

_____ kW

CONTRACT PRICE

_____ ¢/kWh

☐ Peak Performance Factor applies
☐ Peak Performance Factor does not apply

**(a) ABORIGINAL
PRICE ADDER (as of
the Contract Date)**

_____ ¢/kWh

Aboriginal Participation Level (if applicable)
_____ %

**(b) COMMUNITY
PRICE ADDER (as of
the Contract Date)**

_____ ¢/kWh

Community Participation Level (if applicable)
_____ %

**PERCENTAGE
ESCALATED**

_____ %

13. **MINIMUM
REQUIRED
DOMESTIC
CONTENT LEVEL** _____%

14. **BASE DATE**

15. **AUTOMATIC NTP
FACILITY** ☐ Yes ☐ No

16. **RENEWABLE FUEL** ☐ Biogas
☐ Biogas (On-Farm)
☐ Landfill gas
☐ Renewable Biomass
☐ Solar (PV) (Rooftop)
☐ Solar (PV) (Ground Mount)
☐ Waterpower
☐ Wind (On-Shore)

17. **LOCATION:** Municipal Address:
Legal Description:

18. **IMPACT
ASSESSMENT
PRIORITY START
TIME**

**IMPACT
ASSESSMENT
PRIORITY STOP
TIME**

19. **CONNECTION
POINT** ☐ IESO-Controlled Grid
☐ Distribution System
(if so state LDC: _____)

☐ Host Facility (behind-the-meter)

Technical Description of Connection Point:

20. **HOST FACILITY (IF APPLICABLE)** Name:
Municipal Address:
Legal Description:
21. **FIT RULES** Applicable version: _____
22. **INCORPORATED SCHEDULES, APPENDICES AND EXHIBITS** Schedule 1 – General Terms and Conditions, version ____
Exhibit A – Technology-Specific Provisions, type ____
Exhibit B – Metering and Settlement, type ____
Exhibit C – Form of Irrevocable Standby Letter of Credit
Exhibit D – Domestic Content, version ____
Exhibit E – Arbitration Provisions Applicable to Sections 1.7, 1.8, 2.10 & 12.2
Exhibit F – Form of Supplier Certificate re: Commercial Operation
Exhibit G – Form of Independent Engineer Certificate re: Commercial Operation
Exhibit H – Form of Secured Lender Consent and Acknowledgement
Schedule 2 – Special Terms and Conditions, version ____ or ☐ N/A
Appendix 1 – Standard Definitions, version ____

For valuable consideration, the OPA and the Supplier hereby mutually agree to be bound by the terms and conditions set out in this FIT Contract and the Schedules, Appendices and Exhibits attached hereto as noted in item 22 above (the "Agreement"). Each of the OPA and the Supplier confirms that it has received a copy of and has reviewed this Agreement, and that its representations and warranties set out herein are true and correct.

IN WITNESS OF WHICH, and intending to be legally bound, the Parties have executed this Agreement by the undersigned duly authorized representatives as of the date first stated above.

[Note to Finalization: Insert name of Supplier, or where Supplier is not a single legal entity, insert the name of all Persons that individually and collectively comprise the Supplier.]

ONTARIO POWER AUTHORITY

By:

Name:

Title:

By:

Name:

Title:

I have authority to bind the corporation.

By:

Name:

Title:

I/We have authority to bind the corporation.



FEED-IN TARIFF CONTRACT (FIT CONTRACT)

SCHEDULE 1

GENERAL TERMS AND CONDITIONS

VERSION 1.5.1

RULE CHANGE (October 31, 2011)

**FIT REVIEW COMMENCED. AMENDMENTS WILL APPLY TO ALL
APPLICATIONS THAT HAVE NOT RECEIVED OFFER NOTICE.**

A review of the FIT Program, including the FIT Rules and Price Schedule is currently underway. Amendments resulting from such review will apply to all Applications in relation to which an Offer Notice has not been issued as of October 31, 2011.

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FIT CONTRACT

GENERAL TERMS AND CONDITIONS

ARTICLE 1

DEFINITIONS AND RULES OF INTERPRETATION

1.1 Definitions

In addition to the terms defined elsewhere in this Agreement, capitalized terms shall have the meanings given to them in the attached Appendix – Standard Definitions.

1.2 Headings and Table of Contents

The inclusion of headings and a table of contents in this Agreement are for convenience of reference only and shall not affect the construction or interpretation of this Agreement. Unless otherwise indicated, references to Articles, Sections and Exhibits are references to Articles, Sections and Exhibits in this Agreement.

1.3 Gender and Number

In this Agreement, unless the context otherwise requires, words importing the singular include the plural and vice versa and words importing gender include all genders.

1.4 Currency

Except where otherwise expressly provided, all amounts in this Agreement are stated, and shall be paid, in Dollars and Cents, and shall be rounded to the nearest Cent.

1.5 Time Periods

Unless otherwise specified, time periods within or following which any payment is to be made or act is to be done, shall be calculated by excluding the day on which the period commences and including the day on which the period ends and by extending the period to the next Business Day following if the last day of the period is not a Business Day.

1.6 Statutory References

A reference to a statute includes all regulations and rules made pursuant to the statute and, unless otherwise specified, the provisions of any statute, regulation or rule which amends, supplements or supersedes any such statute, regulation or rule.

1.7 IESO Market Rules

In the event of any conflict or inconsistency with the IESO Market Rules and the terms of this Agreement, the IESO Market Rules shall govern to the extent of such conflict or inconsistency. To the extent that there is a change in the IESO Market Rules that was not published by the IESO in its approved form 30 days prior to the Contract Date, which such change has the effect of materially affecting the Supplier's Economics, then:

- (a) either Party may, within 15 days following the date such amendment is published by the IESO in its approved form, notify the other Party that such change materially affects the

Supplier's Economics (a "Material IESO Market Rule Amendment"). For greater certainty, if a Party does not provide notice within 15 days following the date such amendment is published by the IESO in its approved form, then such Party shall not be entitled to any amendments to this Agreement as a result of such IESO Market Rule amendment;

- (b) the Supplier shall, within 60 days following the date of any notice sent pursuant to Section 1.7(a), provide to the OPA all such information as may be required or otherwise requested by the OPA to assess the impact of such Material IESO Market Rule Amendment on the Supplier's Economics;
- (c) the OPA shall, within 60 days following receipt of all information required to be provided by the Supplier and those Other Suppliers that are required to provide information pursuant to Section 1.7(b) of their respective FIT Contracts, but in any event no later than 120 days following receipt of all information required to be provided by the Supplier, either:
 - (i) advise the Supplier that the applicable IESO Market Rule amendment is not a Material IESO Market Rule Amendment; or
 - (ii) propose amendments to this Agreement and the respective agreements of any Other Suppliers that are so affected, on the basis that such amendments together with the change in the IESO Market Rules will substantially reflect the Supplier's Economics as contemplated hereunder and, at the OPA's discretion, that of such Other Suppliers, prior to the introduction of such change in the IESO Market Rules;
- (d) if by the date that is 60 days following the date that the OPA makes a determination or proposes amendments in accordance with Section 1.7(c), as applicable, the Parties do not agree to the amendments proposed pursuant to Section 1.7(c), or do not agree as to whether an IESO Market Rule amendment is a Material IESO Market Rule Amendment, as applicable, then the Parties and, at the OPA's discretion, such Other Suppliers who are so affected, that are required by the OPA to participate, shall engage in good faith negotiations to reach agreement;
- (e) if by the date that is 120 days following the date that the OPA makes a determination or proposes amendments in accordance with Section 1.7(c), as applicable, the Parties fail to reach agreement on the amendments described in Section 1.7(c) or do not agree as to whether an IESO Market Rule amendment is a Material IESO Market Rule Amendment, as applicable, the matter shall be determined by mandatory and binding arbitration, from which there shall be no appeal, with such arbitration(s) to be conducted in accordance with the procedures set out in Exhibit E. However, if the Supplier fails to participate in such arbitration, the Supplier acknowledges that it waives its right to participate in such arbitration, which shall nevertheless proceed, and the Supplier shall be bound by the award of the Arbitration Panel; and
- (f) this Section 1.7 shall not apply to the circumstances addressed in Section 2.10 or in respect of the establishment of any Future Contract Related Products.

1.8 Invalidity, Unenforceability or Inapplicability of Provisions

In the event that a court of competent jurisdiction determines that any provision of this Agreement is invalid, inapplicable or unenforceable, then either Party may propose, by notice to the other Party, a replacement provision, and the OPA and the Supplier and, at the OPA's discretion, those Other Suppliers that are required by the OPA to participate shall engage in good faith negotiations to replace such provision with a valid, enforceable and applicable provision, the economic effect of which substantially reflects that of the invalid, unenforceable or inapplicable provision which it replaces (the "**Replacement Provision(s)**"). If the Parties are unable to agree on the Replacement Provisions within 30 days after the commencement of negotiations under this Section 1.8 then the Replacement Provision(s) shall be determined by mandatory and binding arbitration from which there shall be no appeal, with such arbitration(s) to be conducted in accordance with the procedures set out in Exhibit E. However, if the Supplier fails to participate in such arbitration, the Supplier acknowledges that it waives its right to participate in such arbitration, which shall nevertheless proceed, and the Supplier shall be bound by the award of the Arbitration Panel and the subsequent amendments to this Agreement made by the OPA to implement such award of the Arbitration Panel. This Section 1.8 shall not apply to the circumstances addressed in Section 2.10.

1.9 Entire Agreement

- (a) This Agreement constitutes the entire agreement between the Parties pertaining to the subject matter of this Agreement. There are no warranties, conditions or representations (including any that may be implied by statute) and there are no agreements in connection with the subject matter of this Agreement, except as specifically set forth or referred to in this Agreement. No reliance is placed on any warranty, representation, opinion, advice or assertion of fact made by a Party to this Agreement, or its Representatives, to the other Party to this Agreement, or its Representatives, except to the extent that the same has been reduced to writing and included as a term of this Agreement.
- (b) Where this Agreement explicitly incorporates by reference any definitions set out in the FIT Rules, such reference shall be to the FIT Rules in effect on the Contract Date.

1.10 Waiver, Amendment

Except as expressly provided in this Agreement, no waiver of any provision of this Agreement shall be binding unless executed in writing by the Party to be bound thereby and no amendment of any provision of this Agreement shall be binding unless executed in writing by both Parties to this Agreement. No waiver of any provision of this Agreement shall constitute a waiver of any other provision nor shall any waiver of any provision of this Agreement constitute a continuing waiver or operate as a waiver of, or estoppel with respect to, any subsequent failure to comply, unless otherwise expressly provided.

1.11 Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable in the Province of Ontario.

1.12 Preparation of Agreement

Notwithstanding the fact that this Agreement was drafted by the OPA's legal and other professional advisors, the Parties acknowledge and agree that any doubt or ambiguity in the meaning, application or

enforceability of any term or provision of this Agreement shall not be construed or interpreted against the OPA or in favour of the Supplier when interpreting such term or provision, by virtue of such fact.

1.13 Exhibits

Each of the exhibits set out in item 22 on the FIT Contract Cover Page are referenced in and form part of this Agreement.

ARTICLE 2 DEVELOPMENT AND OPERATION OF THE FACILITY

2.1 Design and Construction of the Facility

- (a) The Supplier shall design and build the Contract Facility using Good Engineering and Operating Practices and meeting all relevant requirements of the IESO Market Rules, Distribution System Code, Transmission System Code, the Connection Agreement, in each case, as applicable, and all other Laws and Regulations. The Supplier shall ensure that the Facility is designed, engineered and constructed to operate in accordance with the requirements of this Agreement.
- (b) The Supplier shall at no time after the date of this Agreement modify, vary or amend in any material respect any of the features or specifications of the Contract Facility or the Facility as outlined in the Application or the FIT Contract Cover Page (including for greater certainty, the Site) or make any change as to the Facility's status as a Registered Facility (a "Contract Facility Amendment"), without first notifying the OPA in writing and obtaining the OPA's consent in writing, which consent shall not be unreasonably withheld. For the purpose of this Section 2.1(b), it shall not be unreasonable for the OPA to withhold its consent to any modification, variation or amendment which would, or would be likely to,
 - (i) materially adversely affect the ability of the Supplier to comply with its obligations under this Agreement;
 - (ii) increase the Gross Nameplate Capacity of the Facility or otherwise cause Electricity generated by another facility to affect the Facility's meter reading, until such time as the Supplier and the OPA agree, acting reasonably, on any changes to the metering configuration or Exhibit B that are necessary to ensure that payments under this Agreement reflect only Delivered Electricity from the Contract Facility prior to any such Contract Facility Amendment; or
 - (iii) increase the Gross Nameplate Capacity of the Facility such that a lower Contract Price would have applied to the Contract Facility if, at the time of the original Application, the Contract Facility had an increased Contract Capacity corresponding to such increased Gross Nameplate Capacity.
- (c) Notwithstanding Section 2.1(b), prior to the Supplier delivering its NTP Request pursuant to Section 2.4, the Supplier may, on a single occasion, elect to reduce the Contract Capacity to a lower amount by giving notice to the OPA, provided that such lower amount is no less than 75% of the original Contract Capacity. If the Supplier provides such notice, the Contract Capacity shall be reduced to the lower amount. The OPA shall have no obligation to consent to a request to alter the Contract Capacity other than as set

out in this Section 2.1(c). Any such reduction in Contract Capacity shall only affect the amount of Completion and Performance Security that is required to be provided to the OPA after the date of the request for such reduction.

- (d) *[Intentionally Deleted]*
- (e) Where the Supplier receives from a Transmitter or an LDC, written estimates of the Supplier's Network Upgrade Costs, Transmitter Connection Costs or LDC Connection Costs, as applicable, that are substantially more than the costs that would have been reasonably foreseeable by a prudent Supplier taking Commercially Reasonable Efforts to estimate such costs, or where the LDC has provided written notice denying the Connection Impact Assessment, the Supplier may, prior to delivering an NTP Request and within 20 Business Days of receiving any such written estimate, submit a written request to the OPA to terminate this Agreement, along with such evidence as the OPA may reasonably require.
- (f) If, on or prior to the Contract Date, the Supplier has provided an Aboriginal Participation Project Declaration confirming that the Aboriginal Participation Level in respect of the Project is greater than or equal to 50%, and the Supplier is subsequently denied financing for the Facility requested from Aboriginal Loan Guarantee Program after having taken Commercially Reasonable Efforts to secure such financing, and such denial is reasonably anticipated to have Material Adverse Effect, then the Supplier may, prior to delivering an NTP Request and within 60 days of receiving any such denial, submit a written request to the OPA to terminate this Agreement, along with such evidence as the OPA may reasonably require.
- (g) Where the OPA receives a request from a Supplier pursuant to Section 2.1(d), 2.1(e) and 2.1(f), the OPA shall, acting reasonably, within 20 Business Days of any such request, either:
 - (i) approve the request, in which case this Agreement shall be terminated without any costs or payments of any kind to either Party, and all Completion and Performance Security shall be returned or refunded (as applicable) to the Supplier within 20 Business Days following receipt by the OPA of a written request for the return or refund (as applicable) of such Completion and Performance Security; or
 - (ii) deny the request, in which case the Supplier may continue under this Agreement, terminate this Agreement in accordance with Section 2.4(a), or request a Senior Conference pursuant to the terms of Section 15.1.

2.2 Additional Development and Construction Covenants

- (a) The Supplier agrees that the Facility shall be located in the Province of Ontario. The Supplier agrees that the Facility shall have a Connection Point as set out in the Application and shall affect supply or demand on the IESO-Controlled Grid, a Distribution System or a Host Facility, as applicable.
- (b) The Supplier shall provide, at its expense, separate meter(s) and ancillary metering and monitoring equipment as more specifically set out in the applicable type of Exhibit B

identified as the metering and settlement exhibit in respect of the Contract Facility on the FIT Contract Cover Page.

- (c) Where the Facility is described by Section 4.2(a), the Supplier shall have a Metering Plan in the Prescribed Form approved by the OPA and shall deliver a copy to the OPA for its approval no later than 90 days prior to the Milestone Date for Commercial Operation. Where the Facility is not described by Section 4.2(a), the OPA may require the Supplier to provide a Metering Plan in a Prescribed Form by providing the Supplier with 60 days' prior notice of such request. In either case, the OPA shall review the Metering Plan submitted by the Supplier and either approve the Metering Plan or provide the Supplier with its comments within 30 days after receipt. The OPA shall, when considering whether to approve the Metering Plan, have regard to those Electricity matters in the Metering Plan that have received IESO or LDC approval, as applicable. If, within 15 days after the OPA has delivered its comments on the Metering Plan to the Supplier, the Parties are not able to agree on the final terms of the Metering Plan, the Parties shall submit the matter for determination by an Independent Engineer agreed upon by the Parties, acting reasonably, whose determination on the terms of the Metering Plan shall be final and binding on the Parties (and from whose determination there shall be no recourse to the dispute resolution provisions of this Agreement).
- (d) If required to provide a Metering Plan pursuant to Section 2.2(c), the Supplier will provide the OPA with a commissioning report for all revenue meter(s) referenced in the Metering Plan prior to any use of metered data for the purposes expressed in Section 2.6. The OPA retains the right to audit, at any time during the Term, on reasonable notice to the Supplier and during normal business hours, the metering equipment to confirm the accuracy of the Metering Plan, and the meter data of the Facility to confirm the accuracy of such data. The Supplier shall not make any material changes to the Metering Plan following approval by the OPA or determination by the Independent Engineer (as applicable) without the prior written approval of the OPA, acting reasonably.
- (e) The Supplier shall provide, at its expense, all power system components on the Supplier's side of the Connection Point, including all transformation, switching and auxiliary equipment, such as synchronizing and protection and control equipment, pursuant to Laws and Regulations and any requirements deemed necessary by the IESO, the Transmitter, the LDC or the Host Facility, as applicable, from time to time to protect the safety and security of the IESO-Controlled Grid, the Distribution System, each of their customers and the Host Facility, each as the case may be. The Supplier shall install protective equipment to protect its own personnel, property, and equipment from variations in frequency and voltage or from temporary delivery of other than three-phase power, whether caused by the Facility or otherwise.
- (f) Where the FIT Contract Cover Page identifies the Renewable Fuel of the Contract Facility as windpower or solar (PV), the Supplier shall develop and construct the Contract Facility such that the Domestic Content Level is equal to or greater than the Minimum Required Domestic Content Level.

2.3 Connection Assessments, Connection Costs and Network Upgrade Costs

- (a) The Supplier shall arrange, at its sole expense, for all Facility connection requirements in accordance with Laws and Regulations to permit the delivery of Delivered Electricity to the Connection Point.

- (b) All Connection Costs shall be for the account of the Supplier and, as applicable, the Transmitter and/or LDC with which the Supplier has arranged connection of the Facility pursuant to the Connection Agreement, the Distribution System Code and the Transmission System Code, as applicable. The Supplier acknowledges that the responsibility for any Network Upgrade Costs associated with the connection of the Facility shall be allocated as set forth in the Distribution System Code and Transmission System Code.
- (c) Where the Facility is not a Capacity Allocation Exempt Facility,
 - (i) the Supplier shall not apply for any Impact Assessments in respect of the Contract Facility until after the Impact Assessment Priority Start Time;
 - (ii) the OPA shall use its best efforts to not issue to any Other Supplier that is offered a FIT Contract after this Agreement was offered, an Impact Assessment Priority Start Time before the Impact Assessment Priority Stop Time under this Agreement; and
 - (iii) the Supplier acknowledges that if it applies for any required Impact Assessment after the Impact Assessment Priority Stop Time, Other Suppliers that were offered a FIT Contract after the Supplier may have already applied for an Impact Assessment, which may have cost and resource availability implications for the Supplier.

2.4 Notice to Proceed

- (a) Until the OPA issues Notice to Proceed to the Supplier, and the Supplier has provided to the OPA the Incremental NTP Security in accordance with Section 2.4(g), the OPA may terminate this Agreement in its sole and absolute discretion by notice to the Supplier and all Completion and Performance Security shall be returned or refunded (as applicable) to the Supplier within 20 Business Days following receipt of a written request for such return or refund (as applicable) from the Supplier. Until the OPA issues Notice to Proceed to the Supplier, the Supplier may terminate this Agreement in its sole and absolute discretion by notice to the OPA.
 - (i) If the OPA terminates this Agreement in accordance with Section 2.4(a), the Supplier shall, within 60 days of such termination, provide to the OPA a written statement documenting the Pre-Construction Development Costs incurred prior to the Termination Date. The OPA shall, within 60 days of receiving such statement from the Supplier, pay to the Supplier as the sole and exclusive remedy for terminating this Agreement in accordance with this Section 2.4(a), an amount equal to the Pre-Construction Development Costs set out in such statement, as confirmed by the OPA, acting reasonably, and in any case the amount shall not exceed the Pre-Construction Liability Limit. For greater certainty, the Supplier acknowledges that any costs it may incur in excess of the Pre-Construction Liability Limit prior to the issuance of Notice to Proceed and the subsequent receipt by the OPA of the Incremental NTP Security are the exclusive responsibility of the Supplier and shall not be included in any such payment.
 - (ii) If the Supplier terminates this Agreement in accordance with Section 2.4(a), then notwithstanding Section 9.5, as the OPA's sole and exclusive remedy for such

termination, the Supplier shall pay as liquidated damages and not as a penalty, a sum equivalent to the amount of all Completion and Performance Security required to be provided by the Supplier as of the date of such termination.

- (b) The OPA shall not issue Notice to Proceed in accordance with this Section 2.4 until the Supplier provides the OPA with an NTP Request in the Prescribed Form, and provided such NTP Request is complete in all respects. An NTP Request shall not be complete unless it includes all of the following (the “NTP Pre-requisites”):
 - (i) documentation of the completed Renewable Energy Approval, if applicable, and any other equivalent environmental and site plan approvals or permits necessary for the construction of the Contract Facility to commence;
 - (ii) a completed financing plan in the Prescribed Form, listing all sources of equity or debt financing for the development of the Contract Facility along with signed commitment letters from sources of financing representing collectively at least 50% of the expected development costs, stating their agreement in principle to provide the necessary financing, which commitment(s) may be conditional on the issuance of Notice to Proceed (the “Financing Plan”);
 - (iii) where (A) the FIT Contract Cover Page identifies the Renewable Fuel of the Contract Facility as solar (PV) or (B) the FIT Contract Cover Page identifies the Renewable Fuel of the Contract Facility as wind power and the Contract Capacity is greater than 10 kW, a plan in the Prescribed Form setting out how the Supplier intends to meet the Minimum Required Domestic Content Level (the “Domestic Content Plan”); and
 - (iv) documentation of the time and date of application for, and the completion of, all Impact Assessments required by the Distribution System Code or the Transmission System Code, as applicable.
- (c) The Supplier must provide the OPA with a completed NTP Request no later than six months prior to the Milestone Date for Commercial Operation. Notwithstanding the foregoing, where the Contract Facility is a Capacity Allocation Exempt Facility, the Supplier must provide the OPA with a completed NTP Request no later than the Milestone Date for Commercial Operation. For greater certainty, in the event that this Agreement is terminated in accordance with Section 9.2 as a result of the Supplier’s failure to comply with the obligation in this Section 2.4(c), the sole and exclusive remedy of the OPA in such circumstance shall be its entitlement to retain the Initial Security pursuant to Section 9.2(d)(i).
- (d) If the OPA determines, acting reasonably, that an NTP Request is incomplete, the OPA will notify the Supplier providing particulars in respect of the deficiencies in such documentation within 20 Business Days following the OPA’s receipt of the Supplier’s NTP Request.
- (e) If the Contract Facility is an Automatic NTP Facility as identified on the FIT Contract Cover Page, the OPA shall either terminate this Agreement in accordance with Section 2.4(a) or issue Notice to Proceed to the Supplier no later than 20 Business Days following the OPA’s receipt of the Supplier’s completed NTP Request.

- (f) If the Contract Facility is not an Automatic NTP Facility, the OPA shall be required to either issue Notice to Proceed, deliver an NTP Deferral Notice to the Supplier, or terminate this Agreement in accordance with Section 2.4(a), by the later of (A) the NTP Response Date and (B) 20 Business Days following the OPA's receipt of the Supplier's completed NTP Request.
 - (i) If the OPA provides the Supplier with an NTP Deferral Notice in accordance with this Section 2.4(f), the Pre-Construction Liability Limit shall increase by the NTP Daily Delay Amount for each day following the issuance of the NTP Deferral Notice until the OPA either issues Notice to Proceed or terminates this Agreement in accordance with Section 2.4(a).
 - (ii) The OPA shall be required to either issue Notice to Proceed or terminate this Agreement in accordance with Section 2.4(a) no later than 365 days following its delivery of an NTP Deferral Notice.
 - (iii) Where the OPA has issued an NTP Deferral Notice, the Milestone Date for Commercial Operation shall be extended on a day-for-day basis corresponding to the number of days following the issuance of the NTP Deferral Notice up to and including the day on which Notice to Proceed is issued (the "NTP Delay") or shall otherwise be extended by such longer reasonable period of time directly resulting from the NTP Delay.

Notwithstanding Section 10.1, the OPA's requirement to respond to a completed NTP Request pursuant to this Section 2.4(f) shall not be extended by an event of Force Majeure described in Section 10.3(f).

- (g) The Supplier shall deliver to the OPA the additional amount of Completion and Performance Security identified as the "Incremental NTP Security" in Exhibit A within 30 days of receiving Notice to Proceed.

2.5 Milestone Date for Commercial Operation

The Supplier acknowledges that time is of the essence to the OPA with respect to attaining Commercial Operation of the Contract Facility by the Milestone Date for Commercial Operation set out in Exhibit A. The Parties agree that Commercial Operation shall be achieved in a timely manner and by the Milestone Date for Commercial Operation. The Supplier acknowledges that even if the Contract Facility has not achieved Commercial Operation by the Milestone Date for Commercial Operation, the Term shall nevertheless expire on the day before the twentieth or fortieth anniversary (as applicable) of the Milestone Date for Commercial Operation, pursuant to Section 8.1.

2.6 Requirements for Commercial Operation

- (a) The Contract Facility will be deemed to have achieved "Commercial Operation" at the point in time when, as subsequently confirmed by the OPA in a written notice to the Supplier as described in Section 2.6(c):
 - (i) the OPA has issued Notice to Proceed to the Supplier pursuant to Section 2.4;

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- (ii) if the Supplier is required to submit a Metering Plan pursuant to Section 2.2(c), the OPA has received the Metering Plan in the Prescribed Form, and has approved it, acting reasonably;
 - (iii) the OPA has received a single line electrical drawing which identifies the as-built Connection Point, clearly showing area transmission and distribution facilities, including the transformer station(s) that is electrically closest to the Facility;
 - (iv) the OPA has received an IE Certificate in the form set out in Exhibit G directly from the Independent Engineer, stating that:
 - (A) the Contract Facility has been completed in all material respects, excepting punch list items that do not materially and adversely affect the ability of the Contract Facility to operate in accordance with this Agreement and the up to 10% allowance in Contract Capacity set out in Section 2.6(a)(iv)(C);
 - (B) the Connection Point of the Contract Facility is that set out on the FIT Contract Cover Page; and
 - (C) the Contract Facility has been constructed, connected, commissioned and synchronized to the IESO-Controlled Grid, a Distribution System or a Host Facility, as applicable, such that at least 90% of the Contract Capacity is available to Deliver Electricity in compliance with Good Engineering and Operating Practices and Laws and Regulations; and
 - (v) the OPA has received a certificate addressed to it from the Supplier in the form set out in Exhibit F with respect to the Commercial Operation of the Contract Facility, together with such documentation required to be provided under such form to the OPA.
- (b) The OPA or its Representative shall be entitled, at the OPA's option, to attend any performance and generation test(s) for purposes of Section 2.6(a)(iv)(C) and the Supplier shall provide to the OPA confirmation in writing of the timing of such test(s) at least 10 Business Days in advance.
 - (c) The OPA shall notify the Supplier in writing within 20 Business Days following receipt of all of the documentation required by Section 2.6(a) as to whether such documentation is acceptable to the OPA, acting reasonably. If the OPA determines that such documentation is not acceptable, the OPA shall provide to the Supplier reasonable particulars in respect of the deficiencies in such documentation.
 - (d) If the Contract Facility has achieved Commercial Operation under Section 2.6(a) where less than one hundred percent (100%) of the Contract Capacity is available to Deliver Electricity, the Supplier shall, on or before the date which is one year after the Commercial Operation Date provide the OPA with an IE Certificate stating that one hundred percent (100%) of the Contract Capacity is available to Deliver Electricity in compliance with Good Engineering and Operating Practices and Laws and Regulations, failing which the Contract Capacity shall be reduced to the highest amount of capacity, which for greater certainty shall not exceed the Contract Capacity, that has been demonstrated to be available as of such date.

2.7 Operation Covenants

- (a) The Supplier shall own or lease the Facility during the Term and shall operate and maintain the Facility during the Term using Good Engineering and Operating Practices, and meeting all applicable requirements of the IESO Market Rules, the Distribution System Code, the Transmission System Code, the Connection Agreement, each as may be applicable, and all other Laws and Regulations.
- (b) The Supplier shall connect the Facility exclusively to the Connection Point. For greater certainty, the Supplier shall deliver all Delivered Electricity through the Connection Point.
- (c) The Supplier covenants and agrees that the Facility shall not utilize any sources or fuels other than the Renewable Fuel(s) identified on the FIT Contract Cover Page.

2.8 Insurance Covenants

- (a) The Supplier shall put in effect and maintain, or cause its contractors, where appropriate, to maintain, from the commencement of the construction of the Contract Facility to the expiry of the Term, at its own cost and expense, all the necessary and appropriate insurance that a prudent Person in the business of developing and operating the Contract Facility would maintain including policies for "all-risk" property insurance covering not less than the full replacement value of the Contract Facility, equipment breakdown insurance, commercial general liability insurance and environmental impairment liability insurance. Any such policies must (i) for any property insurance, contain a waiver of subrogation in favour of the Indemnitees and (ii) for any liability insurance, include the Indemnitees as additional insureds with respect to liability arising in the course of performance of the obligations under, or otherwise in connection with, this Agreement, in which case the policy shall be non-contributing and primary with respect to coverage in favour of the Indemnitees.
- (b) Upon the request of the OPA, the Supplier will provide the OPA with a copy of each insurance policy, to be furnished within 10 Business Days of such request being made by the OPA.
- (c) If the Supplier is subject to the *Workplace Safety and Insurance Act, 1997* (Ontario), it shall submit a valid clearance certificate of Workplace Safety and Insurance Act coverage to the OPA prior to the commencement of construction of the Contract Facility. In addition, the Supplier shall, from time to time at the request of the OPA, provide additional Workplace Safety and Insurance Act clearance certificates. The Supplier shall pay when due, and shall ensure that each of its contractors and subcontractors pays when due, all amounts required to be paid by it and its contractors and subcontractors, from time to time from the commencement of construction of the Contract Facility, under the *Workplace Safety and Insurance Act, 1997* (Ontario), failing which the OPA has the right, in addition to and not in substitution for any other right it may have pursuant to this Agreement or otherwise at law or in equity, to pay to the Workplace Safety and Insurance Board any amount due pursuant to the *Workplace Safety and Insurance Act, 1997* (Ontario) and unpaid by the Supplier or its contractors and subcontractors and to deduct such amount from any amount due and owing from time to time to the Supplier pursuant to this Agreement together with all costs incurred by the OPA in connection therewith.

2.9 Compliance with Laws and Regulations and Registration with the IESO

- (a) The OPA and the Supplier shall each comply, in all material respects, with all Laws and Regulations required to perform or comply with their respective obligations under this Agreement.
- (b) The OPA and the Supplier shall each furnish, in a timely manner, information to Governmental Authorities and shall each obtain and maintain in good standing any licence, permit, certificate, registration, authorization, consent or approval of any Governmental Authority required to perform or comply with their respective obligations under this Agreement, including such licencing as is required by the OEB.
- (c) Unless required by Laws and Regulations, participation by the Supplier as a Market Participant and registration of the Facility with the IESO is optional. If the IESO requires or the Supplier chooses such participation and/or registration:
 - (i) the settlement of Market Settlement Charges shall take place directly between the "Metered Market Participant" and the IESO, and any costs incurred by the Supplier pursuant to the IESO Market Rules in respect of this Agreement shall be the sole responsibility of the Supplier; and
 - (ii) the Supplier shall meet all applicable Facility registration requirements as specified in the IESO Market Rules.

2.10 Environmental Attributes

- (a) The Supplier hereby transfers and assigns to, or to the extent transfer or assignment is not permitted, holds in trust for, the OPA who thereafter shall, subject to Section 2.10(d), retain, all rights, title, and interest in all Environmental Attributes associated with the Contract Facility during the Term of this Agreement. For greater certainty, where the Contract Facility is an Incremental Project and Environmental Attributes are created and allocated or credited with respect to the Facility, the requirements of this Section 2.10 shall apply only to that portion of such Environmental Attributes corresponding to the Incremental Project Ratio.
- (b) The Supplier shall from time to time, upon written direction of the OPA, take all such actions and do all such things necessary to effect the transfer and assignment to, or holding in trust for, the OPA, all rights, title, and interest in all Environmental Attributes as set out in Section 2.10(a).
- (c) The Supplier shall from time to time, upon written direction of the OPA, take all such actions and do all such things necessary to certify, obtain, qualify, and register with the relevant authorities or agencies Environmental Attributes that are created and allocated or credited with respect to the Contract Facility pursuant to Laws and Regulations from time to time (collectively, the "Regulatory Environmental Attributes") for the purposes of transferring such Regulatory Environmental Attributes to the OPA in accordance with Section 2.10(a). The Supplier shall be entitled to reimbursement of the cost of complying with a direction under this Section 2.10(c), provided that the OPA, acting reasonably, approved such cost in writing prior to the cost being incurred by the Supplier.

- (d) To the extent that Laws and Regulations requires the Contract Facility to utilize, consume or obtain Regulatory Environmental Attributes in connection with Delivering Electricity, then the OPA shall propose such amendments to this Agreement to the Supplier and, at the OPA's discretion, to all of the Other Suppliers who are required by the OPA to participate, based on the principle that the OPA will permit the Supplier to retain any Regulatory Environmental Attributes that may be created and allocated or credited with respect to the Contract Facility and that are required by such Laws and Regulations in order for the Contract Facility to Deliver Electricity. If the Parties are unable to agree on the OPA's proposal or that of the Supplier or any of those Other Suppliers, as the case may be, within 60 days after the delivery or communication of the OPA's proposal for such amendments, then such amendments shall be determined by mandatory and binding arbitration, from which there shall be no appeal, with such arbitration(s) to be conducted in accordance with the procedures set out in Exhibit E. However, if the Supplier fails to participate in such arbitration, the Supplier acknowledges that it waives its right to participate in such arbitration, which shall nevertheless proceed, and the Supplier shall be bound by the award of the Arbitration Panel and the subsequent amendments to this Agreement made by the OPA to implement such award of the Arbitration Panel.

2.11 Supplier's Reporting Requirements

- (a) Prior to the Contract Facility achieving Commercial Operation, the OPA may request up to four times per calendar year that, within 30 days of any such request, the Supplier provide the OPA with a status report (i) describing the efforts made by the Supplier to prepare the NTP Pre-requisites (as applicable) and to meet the Milestone Date for Commercial Operation, (ii) setting out the progress of the design and construction work and the status of permitting and approvals related to the Facility, and (iii) containing photographs showing the status of the Facility or the construction work. At the OPA's request, the Supplier shall provide an opportunity for the OPA to meet with personnel of the Supplier familiar with the information presented in such status report. The Supplier acknowledges that photographs of the Facility or the construction work may be posted or printed by the OPA on the Website or in publications.
- (b) At any time and from time to time the Supplier shall, within 30 days of receiving a written request from the OPA, provide to the OPA all resource data relating to the availability and relevant physical properties of the Renewable Fuel that is then in the possession of the Supplier or is otherwise available to the Supplier using Commercially Reasonable Efforts. In the case of a Facility using a Renewable Fuel other than wind, solar or waterpower, the Supplier must provide this information in the form of a written plan detailing the types, supplier(s) and thermal properties of the Renewable Fuel(s) that the Supplier intends to utilize and all steps that have been undertaken to procure such Renewable Fuel.
- (c) Where (A) the FIT Contract Cover Page identifies the Renewable Fuel of the Contract Facility as solar (PV) or (B) the FIT Contract Cover Page identifies the Renewable Fuel of the Contract Facility as wind power and the Contract Capacity is greater than 10 kW, the Supplier shall, within 60 days following the Commercial Operation Date, provide the OPA with a report detailing how the Contract Facility has achieved the Minimum Required Domestic Content Level and containing the evidence prescribed by Section 1.2 of Exhibit D (such report, the "Domestic Content Report"), together with a statutory declaration in the Prescribed Form declaring that the Domestic Content Report is complete and accurate in all material respects and that the Domestic Content Level of the

Contract Facility satisfies the requirements set out in Section 2.2(f). Within 60 days following receipt of a Domestic Content Report, the OPA shall either notify the Supplier that the Domestic Content Report is complete, or request additional information or documentation substantiating that one or more Designated Activities set out in the Domestic Content Report as having been performed, were in fact performed in relation to the Contract Facility.

- (i) Where the OPA has requested such additional information or documentation, the Supplier shall provide it to the OPA within 30 days of any such request, failing which, the applicable Domestic Content Level shall be recalculated excluding the applicable Designated Activity. Where the Supplier provides such additional information or documentation within 30 days and to the satisfaction of the OPA, acting reasonably, the OPA shall, within 30 days of receipt of such additional information or documentation, notify the Supplier that the Domestic Content Report is complete.
- (d) Notwithstanding Section 2.11(c), the OPA may, in accordance with Section 14.2, request any additional information or documentation relating to any Designated Activity set out in a Domestic Content Report as having been performed. Where the Supplier fails to provide such information or documentation to the satisfaction of the OPA, acting reasonably, the Domestic Content Level shall be recalculated excluding the applicable Designated Activity.

ARTICLE 3

ELECTRICITY, RELATED PRODUCTS DELIVERY AND PAYMENT OBLIGATIONS

3.1 Contract Payment and Settlement

The Contract Payments shall be made, and all details relating to the settlement of Contract Payments under this Agreement shall be handled in accordance with, the version of Exhibit B applicable to the Contract Facility as specified on the FIT Contract Cover Page.

3.2 EcoENERGY Payments

If the Supplier receives any payments under the ecoENERGY for Renewable Power Program attributable to the Contract Facility, the Supplier, within 30 days of receipt of such payment, shall pay to the OPA 50% of the amount of such payment, failing which, the OPA may set off any such payments due to the OPA against any amounts payable by the OPA to the Supplier.

3.3 Future Contract Related Products

- (a) All Related Products, other than Future Contract Related Products and any benefits associated therewith, shall belong to the Supplier.
- (b) The Supplier will provide the OPA with prior written notice of the development by the Supplier of any Future Contract Related Products from time to time.
- (c) The Supplier shall sell, supply or deliver all Future Contract Related Products as requested, directed or approved by the OPA, provided that the OPA shall not require the Supplier to sell, supply or deliver any Future Contract Related Product where the Approved Incremental Costs in relation to such Future Contract Related Product are

reasonably expected to exceed the total revenues received by the Supplier from the sale, supply or delivery of such Future Contract Related Product.

- (d) The Supplier covenants not to sell, supply or deliver any Future Contract Related Products unless such sale, supply or delivery has been requested, directed or approved by the OPA.
- (e) The Supplier will notify the OPA of any revenue received by the Supplier in connection with the sale, supply or delivery of any Future Contract Related Products.
- (f) The OPA may, in its sole and absolute discretion, deem any Ancillary Service or other Related Product that is a Future Contract Related Product not to be a Future Contract Related Product.

3.4 Supplier's Responsibility for Taxes

The Supplier is liable for and shall pay, or cause to be paid, or reimburse the OPA if the OPA has paid, all Taxes applicable to the Delivered Electricity and Future Contract Related Products sold hereunder which may be imposed up to the Connection Point and in respect of which a credit, rebate, or refund has not and may not be obtained by the OPA. In the event that the OPA is required to remit such Taxes and the OPA is not entitled to a credit, rebate, or refund in respect of such payment of Taxes, the amount thereof shall be deducted from any sums becoming due to the Supplier hereunder.

3.5 OPA's Responsibility for Taxes

The OPA is liable for and shall pay, or cause to be paid, or reimburse the Supplier if the Supplier has paid any Taxes applicable to the Delivered Electricity and Future Contract Related Products sold hereunder which may be imposed at and from the Connection Point, and Taxes applicable to or associated with the transfer or assignment of Environmental Attributes from the Supplier to the OPA. The Contract Price does not include any Sales Tax payable by the OPA in respect of the Electricity and Future Contract Related Products purchased hereunder. If any Sales Tax is payable in connection with the Delivered Electricity and Future Contract Related Products purchased hereunder, such Sales Tax shall be paid by the OPA. In the event that the Supplier is required to pay or remit such Taxes and no credit, rebate, or refund is available (or, in the event that the Supplier has assigned this Agreement, that no credit, rebate, or rebate would have been available to the Supplier had it not assigned this Agreement) in respect of such payment or remittance of Taxes, the amount thereof shall be deducted from any sums becoming due to the OPA hereunder.

3.6 Non-residency

- (a) If the Supplier is a non-resident of Canada, as that term is defined in the ITA, then payments under this Agreement by the OPA shall be reduced by the amount of any applicable withholding or other similar Taxes and the OPA shall remit such withholding or other similar Taxes to the applicable taxing authorities. The OPA shall, within 60 days after remitting such Taxes, notify the Supplier in writing, providing reasonable detail of such payment so that the Supplier may claim any applicable rebates, refunds or credits from the applicable taxing authorities. If, after the OPA has paid such amounts, the OPA receives a refund, rebate or credit on account of such Taxes, then the OPA shall promptly remit such refund, rebate or credit amount to the Supplier.

- (b) If the Supplier is or becomes a non-resident of Canada, as that term is defined in the ITA, the Supplier shall notify the OPA forthwith of such status and shall provide the OPA with all such information reasonably required by the OPA to comply with any withholding tax or other tax obligations to which the OPA is or may become subject as a result of thereof.

ARTICLE 4

STATEMENTS AND PAYMENTS

4.1 Meter and Other Data

The Supplier shall provide to the OPA access to the meter(s) in any Metering Plan to accommodate remote interrogation of the metered data on a daily basis. If the Supplier is not a Market Participant, the Supplier shall provide to the OPA access at all times to any data or information relating to the Facility (including information related to Outages), that would have been provided to the IESO if the Supplier were a Market Participant, forthwith upon request by the OPA. The Supplier shall notify the OPA of any material errors and omissions in any such data or information on a timely basis so as to permit the OPA, within a reasonable time, to advise the IESO, if applicable, to correct such errors and omissions pursuant to the IESO Market Rules. Upon a Party becoming aware of any errors or omissions in any data or information provided in accordance with this Section 4.1, such Party shall notify the other Party and, if applicable, the IESO in accordance with the IESO Market Rules, on a timely basis.

4.2 Settlement for IESO Market Participants

- (a) This Section 4.2 shall apply only to a Facility that:
 - (i) is directly connected to the IESO-Controlled Grid;
 - (ii) is a Behind-the-Meter Facility and has one or more Registered Facilities connected between it and the IESO-Controlled Grid; or
 - (iii) is otherwise a Registered Facility.
- (b) The OPA shall prepare and deliver a settlement statement (the "Statement") to the Supplier, within 20 Business Days after the end of each calendar month in the Term that is the subject of the Statement (the "Settlement Period"), setting out the basis for the Contract Payment with respect to the Settlement Period, as well as the basis for any other payments owing under this Agreement by either Party to the other Party in the Settlement Period. If the Term begins on a day other than the first day of the Settlement Period, the initial Contract Payment may be deferred and incorporated with that of the first full Settlement Period following the commencement of the Term. A Statement may be delivered by the OPA to the Supplier by facsimile, e-mail or other electronic means and shall include the reference number assigned to this Agreement by the OPA and a description of the components of the Contract Payment and other payments owing to the Supplier for the Settlement Period.
- (c) The Party owing the Contract Payment shall remit to the other Party full payment in respect of the Statement no later than the last Business Day of the month following the end of the Settlement Period to which the Statement relates, provided that where the Supplier owes the Contract Payment, the Supplier shall not be required to make such payment earlier than five Business Days following delivery of the Statement (the "Payment Date"). Any and all payments required to be made by either Party under any

provision of this Agreement shall be made by wire transfer to either the account designated by the Supplier in the Prescribed Form, or to the account designated by the OPA, as applicable. The account information and GST registration numbers of the Supplier and the OPA constitute Supplier's Confidential Information and OPA's Confidential Information, respectively, and are subject to the obligations as set out in Article 7. The Supplier shall provide its account information and GST number to the OPA in the Prescribed Form prior to achieving Commercial Operation. Either Party may change its account information from time to time by notice to the other in accordance with Section 14.6.

- (d) If the Supplier disputes a Statement or any portion thereof, the Party owing any amount set forth in the Statement shall, notwithstanding such dispute, pay the entire amount set forth in the Statement to the other Party. The Supplier shall provide notice to the OPA setting out the portions of the Statement that are in dispute with a brief explanation of the dispute. If it is subsequently determined or agreed that an adjustment to the Statement is appropriate, the OPA will promptly prepare a revised Statement. Any overpayment or underpayment of any amount due under a Statement shall bear interest at the Interest Rate, calculated daily, from and including the time of such overpayment or underpayment to the date of the refund or payment thereof. Payment pursuant to the revised Statement shall be made on the tenth Business Day following the date on which the revised Statement is delivered to the Supplier. If a Statement dispute has not been resolved between the Parties within five Business Days after receipt of notice of such dispute by the OPA, the dispute may be submitted by either Party to a Senior Conference pursuant to the terms of Section 15.1.

4.3 Settlement for Non-IESO Market Participants

- (a) This Section 4.3 shall apply only to a Facility that is not a Facility described in Section 4.2(a).
- (b) The Parties agree that all Contract Payments shall be settled in accordance with the Retail Settlement Code by the LDC to which the Facility or the Host Facility (as applicable) is connected.
- (c) The Contract Payments shall be settled periodically and on a schedule consistent with the monthly, bimonthly, quarterly or other periodic billing cycle of the applicable LDC (the "Settlement Period"), provided that if the Term begins on a day other than the first day of the Settlement Period, the initial Contract Payment may be deferred and incorporated with that of the first full Settlement Period following the commencement of the Term. All settlement documentation, requirements and details, including the date that any Contract Payment is due (the "Payment Date") and the statement of amounts owing (the "Statement") shall be governed by the applicable LDC. The Supplier shall provide its account information and GST number to the LDC responsible for settling Contract Payments, in the form and manner specified by such LDC, prior to achieving Commercial Operation.
- (d) Where a Facility is a Behind-the-Meter Facility, the Supplier must maintain a settlement account with the applicable LDC in accordance with the Retail Settlement Code. If the Supplier does not maintain a direct settlement account with the applicable LDC, the Supplier shall, and shall cause the applicable Host Facility, to provide a written consent to the LDC to permit settlement of this Agreement through the account of the Host

Facility, in which case such Supplier shall bear all risks associated with settlement of this Agreement through the account of the Host Facility, including the failure of the Host Facility to pay any amounts owing to the Supplier. In the event that this Agreement is being settled through the account of the Host Facility, where there are amounts owing by the Supplier under this Agreement, the Supplier shall remain ultimately liable for the payment of such amounts.

- (e) If the Supplier disputes a Statement or any portion thereof, the Party (or, in the case of the OPA, the applicable LDC) owing any amount set forth in the Statement shall, notwithstanding such dispute, pay the entire amount set forth in the Statement. Prior to engaging the OPA in a dispute, the Supplier shall make all reasonable efforts to resolve the dispute directly with the applicable LDC, failing which the Supplier shall provide notice to the OPA setting out the portions of the Statement that are in dispute with a brief explanation of the dispute and the steps taken towards resolving such dispute directly with the applicable LDC. If it is subsequently determined or agreed that an adjustment to the Statement is appropriate, the OPA will work the applicable LDC to prepare a revised Statement. Any overpayment or underpayment of any amount due under a Statement shall bear interest at the Interest Rate, calculated daily, from and including the time of such overpayment or underpayment to the date of the refund or payment thereof. Payment pursuant to the revised Statement shall be made on the next Payment Date following the date on which the revised Statement is delivered to the Supplier. If a Statement dispute has not been resolved between the Parties within five Business Days after receipt of notice of such dispute by the OPA, the dispute may be submitted by either Party to a Senior Conference pursuant to the terms of Section 15.1.

4.4 General Settlement Provisions

The OPA shall have the right to designate a settlement agent or implement such alternative settlement mechanisms other than as set out in Sections 4.2 and 4.3, as it may in its sole and absolute discretion determine, provided that such alternative arrangement does not have a Material Adverse Effect on the Supplier. The OPA shall provide 30 days' prior notice to the Supplier of any such designation or change.

4.5 Interest

The Party owing the Contract Payment shall pay interest on any late payment to the other Party, from the Payment Date to the date of payment, unless such late payment was through the fault of the other Party. The interest rate applicable to such late payment shall be the Interest Rate in effect on the date that the payment went into arrears, calculated daily, but shall not, under any circumstances, exceed the maximum interest rate permitted by Laws and Regulations.

4.6 Adjustment to Statement

- (a) Each Statement shall be subject to adjustment for errors in arithmetic, computation, or other errors, raised by a Party during the period of one year following the end of the calendar year in which such Statement was issued. If there are no complaints raised, or if any complaints raised in the time period have been resolved, such Statement shall be final and subject to no further adjustment after the expiration of such period.
- (b) Notwithstanding the foregoing, if the Supplier is a Market Participant, the determination by the IESO of any information shall be final and binding on the Parties in accordance with the IESO Market Rules, and without limiting the generality of the foregoing, if a

Statement contains an error in the data or information issued by the IESO which the IESO has corrected, then the one year limit set forth in Section 4.6(a) shall not apply to the correction of such error or the OPA's ability to readjust the Statement.

- (c) Subject to Sections 4.2(d) and 4.3(e), any adjustment to a Statement made pursuant to this Section 4.6 shall be made in the subsequent Statement.

4.7 Statements and Payment Records

The Parties shall keep all books and records necessary to support the information contained in and with respect to each Statement and Contract Payment made thereunder as well as all settlement statements and records of Contract Payments issued by applicable LDCs in accordance with Section 14.2.

ARTICLE 5 SECURITY REQUIREMENTS

5.1 Pre-COD Completion and Performance Security

- (a) The Parties acknowledge that the Supplier has, as of the date of this Agreement, provided to the OPA Completion and Performance Security in the amount of the Initial Security. The Supplier shall be required to maintain the Initial Security pursuant to this Section 5.1.
- (b) The Supplier shall be required to provide to and maintain with the OPA additional Completion and Performance Security in the amount of the Incremental NTP Security pursuant to Section 2.4(g).
- (c) After the Commercial Operation Date, the OPA shall return or refund (as applicable) the full amount of the Initial Security and the Incremental NTP Security within 20 Business Days following receipt of a written request from the Supplier, net of any amounts owing by the Supplier to the OPA.

5.2 Post-COD Completion and Performance Security

- (a) If at any time during the first 12 Contract Years the average of HOEP over a contiguous six month period is greater than seventy-five percent (75%) of the Contract Price and provided that the Contract Capacity is greater than or equal to 1,000 kW, the OPA may at any time, by providing notice to the Supplier, require the Supplier to provide to and maintain with the OPA Completion and Performance Security (such Completion and Performance Security, the "First Period Future Performance Security") within 30 days of such notice. The amount of First Period Future Performance Security shall be calculated as the sum of the Initial Security and the Incremental NTP Security, effective at the time of any such request.
- (b) If at any time after the end of the 12th Contract Year and prior to the start of the 17th Contract Year, the average of HOEP over a contiguous six month period is greater than seventy-five percent (75%) of the Contract Price and provided that the Contract Capacity is greater than or equal to 1,000 kW, the OPA may at any time, by providing notice to the Supplier, require the Supplier to provide to and maintain with the OPA Completion and Performance Security (such Completion and Performance Security, the "Second Period Future Performance Security") within 30 days of such notice. The amount of Second Period Future Performance Security shall be calculated as the sum of the Initial Security

and the Incremental NTP Security, effective at the time of any such request. For greater certainty, the Second Period Future Performance Security is in addition to the First Period Future Performance Security, if any.

- (c) After the end of the Term, the OPA shall return or refund (as applicable) any First Period Future Performance Security and any Second Period Future Performance Security that has been provided by the Supplier within 20 Business Days following receipt of a written request from the Supplier, net of any amounts owing by the Supplier to the OPA.

5.3 Composition of Completion and Performance Security

- (a) The obligation of the Supplier to post and maintain Completion and Performance Security as required by Sections 5.1 and 5.2 must be satisfied in accordance with this Section 5.3(a) by the Supplier providing such security in the form of a certified cheque, bank draft or an irrevocable and unconditional standby letter of credit in substantially the form referenced as Exhibit C issued by a financial institution listed in either Schedule I or II of the *Bank Act* (Canada), or such other financial institution having a minimum credit rating of (i) A- with S&P, (ii) A3 with Moody's, (iii) A low with DBRS, or (iv) A with Fitch IBCA. Notwithstanding the foregoing, where the amount of any component of the Completion and Performance Security exceeds \$200,000, the Supplier must provide the Completion and Performance Security in the form of a letter of credit as described in this Section 5.3(a). For greater certainty, at any time the OPA holds a letter of credit as Completion and Performance Security, the Supplier shall ensure that such letter of credit does not expire or terminate for any reason prior to a date that is 60 days from such time.
- (b) Where the Supplier has provided Completion and Performance Security to the OPA in the form of a certified cheque or bank draft, the Supplier acknowledges that such amounts shall be deemed to have been paid by the Supplier to the OPA and the OPA shall have the right to invest, use, commingle or otherwise dispose of any such amounts, free from any claim or right of any nature whatsoever of the Supplier, including any equity or right of redemption by Supplier, subject to Sections 5.1(c) and 5.2(c) above.

5.4 Adequacy of Security; Replacement Security

- (a) The Supplier shall ensure that, at all times, the aggregate value of all Completion and Performance Security provided to the OPA is at least equal to the then currently required amount of Completion and Performance Security and that the Completion and Performance Security is current, valid, enforceable and in an acceptable form, including:
 - (i) following realization by the OPA of any amount of Completion and Performance Security, increasing the amount of Completion and Performance Security, by an amount equal to that realized by the OPA;
 - (ii) forthwith providing replacement security for any letter of credit (A) where the provider thereof has given notice that it does not wish to extend the letter of credit for an additional term, (B) which expires, terminates or fails, or ceases to be in full force and effect for the purposes hereof, (C) which is disaffirmed, disclaimed, dishonoured, repudiated or rejected in whole or in part by the provider thereof, or (D) the validity of which is challenged by the provider thereof.

- (b) All costs associated with the requirement to provide and maintain Completion and Performance Security shall be borne by the Supplier.
- (c) If existing Completion and Performance Security in the form of a letter of credit is replaced with new Completion and Performance Security, the OPA shall return the existing Completion and Performance Security held by the OPA to the Supplier, within 15 Business Days of the OPA's receipt of such new Completion and Performance Security. If existing Completion and Performance Security in the form of a certified cheque or bank draft has been paid to the OPA and the Supplier provides new Completion and Performance Security to the OPA in the form of a letter of credit, the OPA shall pay to the Supplier within 15 Business Days the amount of Completion and Performance Security that had been previously paid to the OPA in the form of a certified cheque or bank draft. A Supplier may from time to time consolidate any separate amounts of Completion and Performance Security held by the OPA by providing to the OPA replacement Completion and Performance Security in the cumulative amount of Completion and Performance Security outstanding, in which case the OPA shall return or refund (as applicable) the existing Completion and Performance Security in accordance with this Section 5.4(c).
- (d) Notwithstanding any other provision of this Agreement, no delay, including a delay resulting from an event of Force Majeure shall extend the date by which any component of the Completion and Performance Security is required to be provided by the Supplier or returned or refunded (as applicable) by the OPA.

5.5 Interest on Completion and Performance Security

Any interest earned by the OPA on any Completion and Performance Security provided to the OPA shall be for the sole account of the OPA and the Supplier shall not have any right to such interest.

ARTICLE 6 REPRESENTATIONS

6.1 Representations of the Supplier

The Supplier represents to the OPA as follows, and acknowledges that the OPA is relying on such representations in entering into this Agreement:

- (a) The Supplier is registered or otherwise qualified to carry on business in the Province of Ontario, and has the requisite power to enter into this Agreement and to perform its obligations hereunder.
- (b) This Agreement has been duly authorized, executed, and delivered by the Supplier and is a valid and binding obligation of the Supplier enforceable in accordance with its terms, except as such enforcement may be limited by bankruptcy, insolvency and other laws affecting the rights of creditors' generally and except that equitable remedies may only be granted in the discretion of a court of competent jurisdiction.
- (c) The execution and delivery of this Agreement by the Supplier and the consummation of the transactions contemplated by this Agreement will not result in the breach or violation of any of the provisions of, or constitute a default under, or conflict with or cause the termination, cancellation or acceleration of any material obligation of the Supplier under:

- (i) any contract or obligation to which the Supplier is a party or by which it or its assets may be bound, except for such defaults or conflicts as to which requisite waivers or consents have been obtained;
- (ii) the articles, by-laws or other constating documents or resolutions of the directors or shareholders of the Supplier;
- (iii) any judgment, decree, order or award of any Governmental Authority or arbitrator;
- (iv) any licence, permit, approval, consent or authorization held by the Supplier; or
- (v) any Laws and Regulations,

that could have a Material Adverse Effect on the Supplier.

- (d) There are no bankruptcy, insolvency, reorganization, receivership, seizure, realization, arrangement or other similar proceedings pending against or being contemplated by the Supplier or, to the knowledge of the Supplier, threatened against the Supplier.
- (e) There are no actions, suits, proceedings, judgments, rulings or orders by or before any Governmental Authority or arbitrator, or, to the knowledge of the Supplier, threatened against the Supplier, that could have a Material Adverse Effect on the Supplier.
- (f) All statements, specifications, data, confirmations, and information that have been set out in the Application are complete and accurate in all material respects and are hereby restated and reaffirmed by the Supplier as representations made to the OPA hereunder and there is no material information omitted from the Application which makes the information in the Application misleading or inaccurate.
- (g) As of the Contract Date, there are no Renewable Generating Facilities that are the subject of an application or a contract pursuant to the FIT Program or the microFIT Program that are on the Property and utilize the same Renewable Fuel as the Facility, other than the Facility and any Renewable Generating Facilities for which the OPA has provided a written acknowledgment to the Supplier that it is aware of such other Renewable Generating Facilities.
- (h) The Supplier is in compliance with all Laws and Regulations, other than acts of non-compliance which, individually or in the aggregate, would not have a Material Adverse Effect on the Supplier.
- (i) Unless the Supplier has otherwise notified the OPA pursuant to Section 3.6(b), the Supplier is not a non-resident of Canada for the purposes of the ITA.

6.2 Representations of the OPA

The OPA represents to the Supplier as follows, and acknowledges that the Supplier is relying on such representations in entering into this Agreement:

- (a) The OPA is a corporation without share capital created under the laws of Ontario and has the requisite power to enter into this Agreement and to perform its obligations hereunder.

- (b) This Agreement has been duly authorized, executed and delivered by the OPA and is a valid and binding obligation of the OPA enforceable in accordance with its terms, except as enforcement may be limited by bankruptcy, insolvency and other laws affecting the rights of creditors' generally and except that equitable remedies may be granted solely in the discretion of a court of competent jurisdiction.
- (c) The execution and delivery of this Agreement by the OPA and the consummation of the transactions contemplated by this Agreement will not result in the breach or violation of any of the provisions of, or constitute a default under, or conflict with or cause the termination, cancellation or acceleration of any material obligation of the OPA under:
 - (i) any contract or obligation to which the OPA is a party or by which it or its assets may be bound, except for such defaults or conflicts as to which requisite waivers or consents have been obtained;
 - (ii) the by-laws or resolutions of the directors (or any committee thereof) or shareholders of the OPA;
 - (iii) any judgment, decree, order or award of any Governmental Authority or arbitrator;
 - (iv) any licence, permit, approval, consent or authorization held by the OPA; or
 - (v) any Laws and Regulations,that could have a Material Adverse Effect on the OPA.
- (d) There are no bankruptcy, insolvency, reorganization, receivership, seizure, realization, arrangement or other similar proceedings pending against, or being contemplated by the OPA or, to the knowledge of the OPA, threatened against the OPA.
- (e) There are no actions, suits, proceedings, judgments, rulings or orders by or before any Governmental Authority or arbitrator, or, to the knowledge of the OPA, threatened against the OPA, that could have a Material Adverse Effect on the OPA.
- (f) The OPA is in compliance with all Laws and Regulations, other than acts of non-compliance which, individually or in the aggregate, would not have a Material Adverse Effect on the OPA.

ARTICLE 7 CONFIDENTIALITY AND FIPPA

7.1 Confidential Information

From the date of this Agreement to and following the expiry of the Term, the Receiving Party shall keep confidential and secure and not disclose Confidential Information, except as follows:

- (a) The Receiving Party may disclose Confidential Information to its Representatives who need to know Confidential Information for the purpose of assisting the Receiving Party in complying with its obligations under this Agreement. On each copy made by the Receiving Party, the Receiving Party must reproduce all notices which appear on the

original. The Receiving Party shall inform its Representatives of the confidentiality of Confidential Information and shall be responsible for any breach of this Article 7 by any of its Representatives.

- (b) If the Receiving Party or any of its Representatives are requested or required (by oral question, interrogatories, requests for information or documents, court order, civil investigative demand or similar process) to disclose any Confidential Information in connection with litigation or any regulatory proceeding or investigation, or pursuant to any Law and Regulations, the Receiving Party shall promptly notify the Disclosing Party. Unless the Disclosing Party obtains a protective order, the Receiving Party and its Representatives may disclose such portion of the Confidential Information to the Party seeking disclosure as is required by Laws and Regulations in accordance with Section 7.2.
- (c) Where the Supplier is the Receiving Party, the Supplier may disclose Confidential Information to any Secured Lender or prospective lender or investor and its advisors, to the extent necessary, for securing financing for the Facility, provided that any such Secured Lender or prospective lender or investor has been informed of the Supplier's confidentiality obligations hereunder and such Secured Lender or prospective lender or investor has completed and executed a confidentiality undertaking (the "**Confidentiality Undertaking**") in the Prescribed Form covenanting in favour of the OPA to hold such Confidential Information confidential on terms substantially similar to this Article 7.
- (d) Notwithstanding the foregoing, the Supplier consents to the disclosure: (i) of the its name and contact particulars on the Website, (ii) of the Site, Contract Capacity, Renewable Fuel(s) and Connection Point on the Website, (iii) of its address for service and the name of its Company Representative to all Other Suppliers who have entered into a FIT Contract, for the purposes of Sections 1.7, 1.8, 2.10 and 12.2, (iv) on a confidential basis, of any information received by the OPA in respect of this Agreement for such internal purposes as the OPA may reasonably determine from time to time to the OPA's Representatives, and (v) of aggregated data relating to the FIT Program or the FIT Contracts.

7.2 Notice Preceding Compelled Disclosure

If the Receiving Party or any of its Representatives are requested or required to disclose any Confidential Information, the Receiving Party shall promptly notify the Disclosing Party of such request or requirement so that the Disclosing Party may seek an appropriate protective order or waive compliance with this Agreement. If, in the absence of a protective order or the receipt of a waiver hereunder, the Receiving Party or its Representatives are compelled to disclose the Confidential Information, the Receiving Party and its Representatives may disclose only such of the Confidential Information to the party compelling disclosure as is required by law only to such Person or Persons to which the Receiving Party is legally compelled to disclose, and in connection with such compelled disclosure, the Receiving Party and its Representatives shall provide notice to each such recipient (in co-operation with legal counsel for the Disclosing Party) that such Confidential Information is confidential and subject to non-disclosure on terms and conditions equal to those contained in this Agreement and, if possible, shall obtain each recipient's written agreement to receive and use such Confidential Information subject to those terms and conditions.

7.3 Return of Information

Upon written request by the Disclosing Party, Confidential Information provided by the Disclosing Party in printed paper format or electronic format will be returned to the Disclosing Party and Confidential Information transmitted by the Disclosing Party in electronic format will be deleted from the emails and directories of the Receiving Party's and its Representatives' computers; provided, however, any Confidential Information (i) found in drafts, notes, studies and other documents prepared by or for the Receiving Party or its Representatives or (ii) found in electronic format as part of the Receiving Party's off-site or on-site data storage/archival process system, will be held by the Receiving Party and kept subject to the terms of this Agreement or destroyed at the Receiving Party's option. Notwithstanding the foregoing, a Receiving Party shall be entitled to make, at its own expense, and retain one copy of, any Confidential Information materials it receives for the limited purpose of discharging any obligation it may have under Laws and Regulations and shall keep such retained copy subject to the terms of this Article 7.

7.4 Injunctive and Other Relief

The Receiving Party acknowledges that breach of any provisions of this Article may cause irreparable harm to the Disclosing Party or to any third party to whom the Disclosing Party owes a duty of confidence and that the injury to the Disclosing Party or to any third party may be difficult to calculate and inadequately compensable in damages. The Receiving Party agrees that the Disclosing Party is entitled to obtain injunctive relief (without proving any damage sustained by it or by any third party) or any other remedy against any actual or potential breach of the provisions of this Article 7.

7.5 FIPPA Records and Compliance

The Parties acknowledge and agree that the Ontario Power Authority is subject to FIPPA and that FIPPA applies to and governs all Confidential Information in the custody or control of the Ontario Power Authority ("FIPPA Records") and may, subject to FIPPA, require the disclosure of such FIPPA Records to third parties. The Supplier shall provide a copy of any FIPPA Records that it previously provided to the Ontario Power Authority if the Supplier continues to possess such FIPPA Records in a deliverable form at the time of the Ontario Power Authority's request. If the Supplier does possess such FIPPA Records in a deliverable form, it shall provide the same within a reasonable time after being directed to do so by the Ontario Power Authority. The provisions of this Section 7.5 shall survive any termination or expiry of this Agreement and shall prevail over any inconsistent provisions in this Agreement.

ARTICLE 8 TERM

8.1 Term

- (a) This Agreement shall become effective upon the Contract Date.
- (b) The "Term" means that period of time commencing at the beginning of the hour ending 01:00 hours (EST) of the date that is the Commercial Operation Date, and ending at the beginning of the hour ending 24:00 hours (EST) on the day before:
 - (i) in the case of Facilities utilizing Renewable Fuels other than waterpower, the 20th (twentieth) anniversary of the date that is the earlier of (A) the Milestone Date for Commercial Operation and (B) the Commercial Operation Date, or

- (ii) in the case of Facilities utilizing waterpower for their Renewable Fuel, the 40th (fortieth) anniversary of the date that is the earlier of (A) the Milestone Date for Commercial Operation and (B) the Commercial Operation Date,

subject to earlier termination in accordance with the provisions hereof. Subject to Sections 8.1(c) and (d), neither Party shall have any right to extend or renew the Term except as agreed in writing by the Parties.

- (c) Where the Commercial Operation Date occurs after the Milestone Date for Commercial Operation, the OPA shall have the right, by providing notice to the Supplier no later than 180 days prior to the expiration of the Term, to extend the Term such that the Term will expire at the beginning of the hour ending 24:00 hours (EST) on the day before (i) the 20th (twentieth) anniversary of the Commercial Operation Date in the case of Facilities utilizing Renewable Fuels other than waterpower, or (ii) the 40th (fortieth) anniversary of the Commercial Operation Date in the case of Facilities utilizing waterpower for their Renewable Fuel.
- (d) Where the Commercial Operation Date occurs after the Milestone Date for Commercial Operation, the Supplier shall have the option to, no later than 60 days after the Commercial Operation Date, provide notice to the OPA along with a payment in the amount of 0.15 Dollars per kW multiplied by the Contract Capacity and multiplied by the number of calendar days that the Commercial Operation Date followed the Milestone Date for Commercial Operation. Where the Supplier exercises such option, the Term shall be extended such that the Term will expire at the beginning of the hour ending 24:00 hours (EST) on the day before (i) the 20th (twentieth) anniversary of the Commercial Operation Date in the case of Facilities utilizing Renewable Fuels other than waterpower, or (ii) the 40th (fortieth) anniversary of the Commercial Operation Date in the case of Facilities utilizing waterpower for their Renewable Fuel.

ARTICLE 9

TERMINATION AND DEFAULT

9.1 Events of Default by the Supplier

Each of the following will constitute an Event of Default by the Supplier (each, a “Supplier Event of Default”):

- (a) The Supplier fails to make any payment when due or deliver, and/or maintain, the Completion and Performance Security as required under this Agreement, if such failure is not remedied within 10 Business Days after written notice of such failure from the OPA.
- (b) The Supplier fails to perform any material covenant or obligation set forth in this Agreement (except to the extent constituting a separate Supplier Event of Default) if such failure is not remedied within 15 Business Days after written notice of such failure from the OPA, provided that such cure period shall be extended by a further 15 Business Days if the Supplier is diligently remedying such failure and such failure is capable of being cured during such extended cure period.
- (c) The Supplier fails or ceases to hold a valid licence, permit, certificate, registration, authorization, consent or approval issued by a Governmental Authority where such failure or cessation results in, or could be reasonably expected to result in, a Material

Adverse Effect on the Supplier or the Facility and is not remedied within 30 Business Days after receipt by the Supplier of written notice of such failure or cessation from the OPA, provided that such cure period shall be extended by a further 30 Business Days if the Supplier is diligently remediating such failure or cessation and such failure or cessation is capable of being corrected during such extended cure period.

- (d) Any representation made by the Supplier in this Agreement is not true or correct in any material respect when made and is not made true or correct in all material respects within 30 Business Days after receipt by the Supplier of written notice of such fact from the OPA, provided that such cure period shall be extended by a further 30 Business Days if the Supplier, in the reasonable opinion of the OPA, is diligently correcting such breach and such breach is capable of being corrected during such extended cure period.
- (e) An effective resolution is passed or documents are filed in an office of public record in respect of, or a judgment or order is issued by a court of competent jurisdiction ordering, the dissolution, termination of existence, liquidation or winding up of the Supplier, unless such filed documents are immediately revoked or otherwise rendered inapplicable, or unless there has been a permitted and valid assignment of this Agreement by the Supplier under this Agreement to a Person which is not dissolving, terminating its existence, liquidating or winding up and such Person has assumed all of the Supplier's obligations under this Agreement.
- (f) The Supplier amalgamates with, or merges with or into, or transfers the Facility or all or substantially all of its assets to, another Person unless, at the time of such amalgamation, merger or transfer, there has been a permitted and valid assignment hereof by the Supplier under this Agreement to the resulting, surviving or transferee Person and such Person has assumed all of the Supplier's obligations under this Agreement.
- (g) A receiver, manager, receiver-manager, liquidator, monitor or trustee in bankruptcy of the Supplier or of any of the Supplier's property is appointed by a Governmental Authority or pursuant to the terms of a debenture or a similar instrument, and such receiver, manager, receiver-manager, liquidator, monitor or trustee in bankruptcy is not discharged or such appointment is not revoked or withdrawn within 30 days of the appointment. By decree, judgment or order of a Governmental Authority, the Supplier is adjudicated bankrupt or insolvent or any substantial part of the Supplier's property is sequestered, and such decree, judgment or order continues undischarged and unstayed for a period of 30 days after the entry thereof. A petition, proceeding or filing is made against the Supplier seeking to have the Supplier declared bankrupt or insolvent, or seeking adjustment or composition of any of its debts pursuant to the provisions of any Insolvency Legislation, and such petition, proceeding or filing is not dismissed or withdrawn within 30 days.
- (h) The Supplier makes an assignment for the benefit of its creditors generally under any Insolvency Legislation, or consents to the appointment of a receiver, manager, receiver-manager, monitor, trustee in bankruptcy or liquidator for all or part of its property or files a petition or proposal to declare bankruptcy or to reorganize pursuant to the provisions of any Insolvency Legislation.
- (i) The Supplier has made a Contract Facility Amendment that has not first been consented to by the OPA (other than in instances where such consent has been unreasonably withheld).

- (j) The Commercial Operation Date has not occurred on or before the date which is 18 months after the Milestone Date for Commercial Operation, or otherwise as may be set out in Exhibit A.
- (k) Where the Facility is not a Capacity Allocation Exempt Facility, and the Supplier applies for an Impact Assessment prior to the Impact Assessment Priority Start Time, and does not rescind any such Impact Assessment within 5 Business Days after receiving written notice from the OPA.
- (l) The Supplier undergoes a change in Control without first obtaining the written approval of the OPA if required pursuant to this Agreement.
- (m) The Supplier assigns this Agreement without first obtaining the consent of the OPA, if required pursuant to this Agreement.

9.2 Remedies of the OPA

- (a) If any Supplier Event of Default (other than a Supplier Event of Default relating to the Supplier referred to in Sections 9.1(e), 9.1(g) and 9.1(h)) occurs and is continuing, upon written notice to the Supplier, the OPA may terminate this Agreement.
- (b) If a Supplier Event of Default occurs and is continuing, the OPA may, in addition to the remedy set out in Section 9.2(a):
 - (i) set off any payments due to the Supplier against any amounts payable by the Supplier to the OPA including, at the OPA's option, the amount of any Completion and Performance Security provided to the OPA pursuant to Article 5; and
 - (ii) draw on all or part of the Completion and Performance Security, and if the remedy in Section 9.2(a) has not been exercised, require the Supplier to replace such drawn security with new security.
- (c) Notwithstanding Sections 9.2(a) and 9.2(b), upon the occurrence of a Supplier Event of Default relating to the Supplier referred to in Sections 9.1(e), 9.1(g) or 9.1(h), this Agreement shall automatically terminate without notice, act or formality, effective immediately before the occurrence of such Supplier Event of Default, in which case, for certainty, the Secured Lender shall have the rights available to it under Section 11.2(g).
- (d) If the OPA terminates this Agreement pursuant to Section 9.2(a) or the Agreement is terminated pursuant to Section 9.2(c),
 - (i) if the Termination Date precedes the Commercial Operation Date, the OPA may, in its sole and absolute discretion, require the Supplier to pay as liquidated damages and not as a penalty, a sum equivalent to the amount of all Completion and Performance Security required to be provided by the Supplier as of the Termination Date, and the OPA shall be entitled to pursue a Claim for damages with respect to the amount of any portion of the Completion and Performance Security that the Supplier failed to provide but was required to provide to the OPA as of the Termination Date pursuant to Section 5.1; and in such circumstances, notwithstanding Section 9.5, the OPA's remedies against the

Supplier in respect of the termination of the Agreement shall be limited to the amount of liquidated damages payable by the Supplier pursuant to this Section 9.2(d)(i); and

- (ii) if the Termination Date is on or after the Commercial Operation Date, the OPA shall be entitled to retain all Completion and Performance Security provided by the Supplier and exercise all such other remedies available to the OPA, including pursuing a Claim for damages, as contemplated under Section 9.5.
- (e) Termination shall not relieve the Supplier or the OPA of their respective responsibilities relating to the availability of the Facility and delivery of the Delivered Electricity and Environmental Attributes from the Facility that relate to the Delivered Electricity, and Future Contract Related Products from the Facility, or amounts payable under this Agreement, up to and including the Termination Date. The OPA shall be responsible only for the payment of amounts accruing under this Agreement up to and including the Termination Date. In addition to its other rights of set off available to it pursuant to this Agreement and at law, the OPA may hold back payment or set off its obligation to make such payment against any payments owed to it if the Supplier fails to comply with its obligations on termination.

9.3 Events of Default by the OPA

Each of the following will constitute an Event of Default by the OPA (each, an “OPA Event of Default”):

- (a) The OPA fails to make any payment under this Agreement when due, if such failure is not remedied within 10 Business Days after written notice of such failure from the Supplier.
- (b) The OPA fails to perform any material covenant or obligation set forth in this Agreement (except to the extent constituting a separate OPA Event of Default), if such failure is not remedied within 15 Business Days after written notice of such failure from the Supplier, provided that such cure period shall be extended by a further 15 Business Days if the OPA is diligently remedying such failure and such failure is capable of being cured during such extended cure period.
- (c) The OPA fails or ceases to hold a valid licence, permit, certificate, registration, authorization, consent or approval issued by a Governmental Authority where such failure or cessation results in, or could be reasonably expected to result in, a Material Adverse Effect on the OPA and is not remedied within 30 Business Days after receipt by the OPA of written notice of such failure or cessation from the Supplier, provided that such cure period shall be extended by a further 30 Business Days if the OPA is diligently remedying such failure or cessation and such failure or cessation is capable of being corrected during such extended cure period.
- (d) Any representation made by the OPA in this Agreement is not materially true or correct in any material respect when made and is not made materially true or correct within 30 Business Days after receipt by the OPA of written notice of such fact from the Supplier, provided that such cure period shall be extended by a further 30 Business Days if the OPA is diligently correcting such breach and such breach is capable of being corrected during such extended cure period.

- (e) An effective resolution is passed or documents are filed in an office of public record in respect of, or a judgment or order is issued by a court of competent jurisdiction ordering the dissolution, termination of existence, liquidation or winding up of the OPA unless such filed documents are immediately revoked or otherwise rendered inapplicable, or unless there has been a permitted and valid assignment of this Agreement by the OPA under this Agreement to a Person which is not dissolving, terminating its existence, liquidating or winding up and such Person has assumed all of the OPA's obligations under this Agreement.
- (f) A receiver, manager, receiver-manager, liquidator, monitor or trustee in bankruptcy of the OPA or of any of the OPA's property is appointed by a Governmental Authority or pursuant to the terms of a debenture or a similar instrument, and such receiver, manager, receiver-manager, liquidator, monitor or trustee in bankruptcy is not discharged or such appointment is not revoked or withdrawn within 30 days of the appointment. By decree, judgment or order of Governmental Authority, the OPA is adjudicated bankrupt or insolvent or any substantial part of the OPA's property is sequestered, and such decree, judgment or order continues undischarged and unstayed for a period of 30 days after the entry thereof. A petition, proceeding or filing is made against the OPA seeking to have it declared bankrupt or insolvent, or seeking adjustment or composition of any of its debts pursuant to the provisions of any Insolvency Legislation, and such petition, proceeding or filing is not dismissed or withdrawn within 30 days.
- (g) The OPA makes an assignment for the benefit of its creditors generally under any Insolvency Legislation, or consents to the appointment of a receiver, manager, receiver-manager, monitor, trustee in bankruptcy or liquidator, of it or of all or part of its property or files a petition or proposal to declare bankruptcy or to reorganize pursuant to the provision of any Insolvency Legislation.
- (h) The OPA assigns this Agreement (other than an assignment made pursuant to Section 15.5(g)) without first obtaining the consent of the Supplier, if such consent is required pursuant to this Agreement.

9.4 Termination by the Supplier

- (a) If any OPA Event of Default occurs and is continuing, then upon written notice to the OPA, the Supplier may (i) terminate this Agreement and (ii) set off any payments due to the OPA against any amounts payable by the OPA to the Supplier. Where the Supplier has so terminated this Agreement, the OPA shall return any Completion and Performance Security it holds within 20 Business Days following receipt of a written request from the Supplier.
- (b) Notwithstanding the foregoing, if applicable, the OPA shall be responsible for payment of amounts accruing under this Agreement only up to and including the Termination Date. The Supplier may hold back payment or set off against any payments owed by it if the OPA fails to comply with its obligations on termination.

9.5 Remedies for Termination Non-Exclusive

The termination of this Agreement by either Party and the payment of all amounts then due and owing to the other Party as expressly provided in this Agreement shall not limit, waive or extinguish in any way the recourse of either Party to any remedies available to it in relation to such termination at law, in equity or

otherwise, nor shall such termination affect any rights that the Indemnitees may have pursuant to any indemnity given under this Agreement.

ARTICLE 10 FORCE MAJEURE

10.1 Effect of Invoking Force Majeure

(a) If, by reason of Force Majeure:

- (i) the Supplier is unable to make available all or any part of the Contract Capacity or is unable to generate at the Facility, or is unable to deliver from the Facility to the Connection Point, all or any part of the Delivered Electricity or Future Contract Related Products;**
- (ii) all or any part of the Delivered Electricity cannot be received at or transmitted or distributed from the Connection Point; or**
- (iii) either Party is unable, wholly or partially, to perform or comply with its other obligations (other than payment obligations) hereunder, including the Supplier being unable to achieve Commercial Operation by the Milestone Date for Commercial Operation,**

then the Party so affected by Force Majeure shall be excused and relieved from performing or complying with such obligations (other than payment obligations) and shall not be liable for any liabilities, damages, losses, payments, costs, expenses (or Indemnifiable Losses, in the case of the Supplier affected by Force Majeure) to, or incurred by, the other Party in respect of or relating to such Force Majeure and such Party's failure to so perform or comply during the continuance and to the extent of the inability so caused from and after the invocation of Force Majeure.

- (b) A Party shall be deemed to have invoked Force Majeure with effect from the commencement of the event or circumstances constituting Force Majeure when that Party gives to the other Party prompt written notice in substantially the Prescribed Form, provided that such notice shall be given within 20 Business Days of the later of (i) the commencement of the event or circumstances constituting Force Majeure or (ii) the date that the Party invoking Force Majeure knew or ought to have known that the event or circumstances constituting Force Majeure could have a Material Adverse Effect on the development or operation of the Contract Facility. If the effect of the Force Majeure and full particulars of the cause thereof cannot be reasonably determined within such 20 Business Day period, the Party invoking Force Majeure shall be allowed a further 10 Business Days (or such longer period as the Parties may agree in writing) to provide such full particulars in substantially the Prescribed Form to the other Party.**
- (c) The Party invoking Force Majeure shall use Commercially Reasonable Efforts to remedy the situation and remove, so far as possible and with reasonable dispatch, the Force Majeure, but settlement of strikes, lockouts and other labour disturbances shall be wholly within the discretion of the Party involved.**

- (d) The Party invoking Force Majeure shall give prompt written notice of the termination of the event of Force Majeure, provided that such notice shall be given within 20 Business Days of the termination of the event or circumstances constituting Force Majeure.
- (e) Nothing in this Section 10.1 shall relieve a Party of its obligations to make payments of any amounts that were due and owing before the occurrence of the Force Majeure or that otherwise may become due and payable during any period of Force Majeure.
- (f) If an event of Force Majeure causes the Supplier to not achieve Commercial Operation by the Milestone Date for Commercial Operation, then the Milestone Date for Commercial Operation shall be extended for such reasonable period of delay directly resulting from such Force Majeure event. After the Commercial Operation Date, an event of Force Majeure shall not extend the Term.
- (g) If, by reason of one or more events of Force Majeure, the Commercial Operation Date is delayed by such event(s) of Force Majeure for an aggregate of more than 24 months after the original Milestone Date for Commercial Operation (prior to any extension pursuant to Section 10.1(f)), then notwithstanding anything in this Agreement to the contrary, either Party may terminate this Agreement upon notice to the other Party and without any costs or payments of any kind to either Party, and all Completion and Performance Security shall be returned or refunded (as applicable) to the Supplier forthwith.
- (h) If, by reason of Force Majeure, the Supplier is unable to perform or comply with its obligations (other than payment obligations) hereunder for more than an aggregate of 36 months in any 60 month period during the Term, then either Party may terminate this Agreement upon notice to the other Party without any costs or payments of any kind to either Party, except for any amounts that were due or payable by a Party hereunder up to the date of termination, and all security shall be returned or refunded (as applicable) forthwith.

10.2 Exclusions

A Party shall not be entitled to invoke Force Majeure under this Article 10, nor shall it be relieved of its obligations hereunder in any of the following circumstances:

- (a) if and to the extent the Party seeking to invoke Force Majeure has caused the applicable event of Force Majeure by its fault or negligence;
- (b) if and to the extent the Party is seeking to invoke Force Majeure because it is unable to procure or maintain any fuel supply to be utilized by the Facility;
- (c) if and to the extent the Party seeking to invoke Force Majeure has failed to use Commercially Reasonable Efforts to prevent or remedy the event of Force Majeure and remove, so far as possible and within a reasonable time period, the Force Majeure (except in the case of strikes, lockouts and other labour disturbances, the settlement of which shall be wholly within the discretion of the Party involved);
- (d) if and to the extent that the Supplier is seeking to invoke Force Majeure because it is able to sell any of the Delivered Electricity on more advantageous terms to a third party buyer;

- (e) if and to the extent that the Party seeking to invoke Force Majeure because of arrest or restraint by a Governmental Authority, such arrest or restraint was the result of a breach of or failure to comply with Laws and Regulations by such Party;
- (f) if the Force Majeure was caused by a lack of funds or other financial cause; or
- (g) if the Party invoking Force Majeure fails to comply with the notice provisions in Sections 10.1(b) or 10.1(d).

10.3 Definition of Force Majeure

For the purposes of this Agreement, the term “Force Majeure” means any act, event, cause or condition that prevents a Party from performing its obligations (other than payment obligations) hereunder, that is beyond the affected Party’s reasonable control, and shall include:

- (a) acts of God, including extreme wind, ice, lightning or other storms, earthquakes, tornadoes, hurricanes, cyclones, landslides, drought, floods and washouts;
- (b) fires or explosions;
- (c) local, regional or national states of emergency;
- (d) strikes and other labour disputes (other than legal strikes or labour disputes by employees of (i) such Party, or (ii) a third party contractor of such Party, unless, in either such case, such strikes or other labour disputes are the result or part of a general industry strike or labour dispute);
- (e) delays or disruptions in fuel supply resulting from a Force Majeure event (whether such event is in respect of a Party or a third party), and provided that it shall be considered an event of Force Majeure if delays or disruptions in fuel supply arise as a result of the Supplier being unable to secure transportation capacity for fuel supply to the Facility after having made Commercially Reasonable Efforts to do so, but it shall not be considered an event of Force Majeure if such transportation capacity was available and the Supplier failed to secure it or failed to maintain it after having secured it;
- (f) delays or disruptions (including those arising from events of Force Majeure referred to in this Section 10.3) in the construction of any Transmission System or Distribution System assets that are required for the Facility to Deliver Electricity;
- (g) civil disobedience or disturbances, war (whether declared or not), acts of sabotage, blockades, insurrections, terrorism, revolution, riots or epidemics;
- (h) an order, judgment, legislation, ruling or direction by Governmental Authorities restraining a Party, provided that the affected Party has not applied for or assisted in the application for and has used Commercially Reasonable Efforts to oppose said order, judgment, legislation, ruling or direction;
- (i) any inability to obtain, or to secure the renewal or amendment of, any permit, certificate, Impact Assessment, licence or approval of any Governmental Authority, Transmitter or LDC required to perform or comply with any obligation under this Agreement, unless the revocation or modification of any such necessary permit, certificate, Impact Assessment,

licence or approval was caused by the violation of the terms thereof or consented to by the Party invoking Force Majeure; and

- (j) any unanticipated maintenance or outage affecting the Facility which results directly from, or is scheduled or planned directly as a consequence of, an event of Force Majeure.

ARTICLE 11 LENDER'S RIGHTS

11.1 Lender Security

Notwithstanding Section 15.5, the Supplier, from time to time on or after the date of this Agreement shall have the right, at its cost, to enter into a Secured Lender's Security Agreement. For greater certainty, in the case of a deed of trust or similar instrument securing bonds or debentures where the trustee holds security on behalf of, or for the benefit of, other lenders, only the trustee shall be entitled to exercise the rights and remedies under the Secured Lender's Security Agreement as the Secured Lender on behalf of the lenders. A Secured Lender's Security Agreement shall be based upon and subject to the following conditions:

- (a) A Secured Lender's Security Agreement may be made for any amounts and upon any terms (including terms of the loans, interest rates, payment terms and prepayment privileges or restrictions) as desired by the Supplier, except as otherwise provided in this Agreement.
- (b) A Secured Lender's Security Agreement may not secure any indebtedness, liability or obligation of the Supplier that is not related to the Facility or cover any real or personal property of the Supplier not related to the Facility, except in relation to one or more renewable generating facilities in Ontario that are owned by the Supplier. For greater certainty, a Secured Lender's Security Agreement may cover shares or partnership interests in the capital of the Supplier.
- (c) The OPA shall have no liability whatsoever for payment of the principal sum secured by any Secured Lender's Security Agreement, or any interest accrued thereon or any other sum secured thereby or accruing thereunder; and the Secured Lender shall not be entitled to seek any damages against the OPA for any or all of the same.
- (d) No Secured Lender's Security Agreement shall be binding upon the OPA in the enforcement of the OPA's rights and remedies provided in this Agreement or by Laws and Regulations, unless and until a copy of the original thereof and the registration details, if applicable, together with written notice of the address of the Secured Lender to which notices may be sent have been delivered to the OPA by the Supplier or the Secured Lender; and in the event of an assignment of such Secured Lender's Security Agreement, such assignment shall not be binding upon the OPA unless and until a copy thereof and the registration details, if applicable, together with written notice of the address of the assignee thereof to which notices may be sent, have been delivered to the OPA by the Supplier or the Secured Lender.
- (e) If the Supplier is in default under or pursuant to the Secured Lender's Security Agreement and the Secured Lender intends to exercise any rights afforded to the Secured Lender under this Agreement, then the Secured Lender shall give written notice of such default to the OPA at least 10 Business Days prior to exercising any such rights.

- (f) Any Secured Lender's Security Agreement permitted hereunder may secure two or more separate debts, liabilities or obligations in favour of two or more separate Secured Lenders, provided that such Secured Lender's Security Agreement complies with the provisions of this Article 11.
- (g) Any number of permitted Secured Lender's Security Agreements may be outstanding at any one time, provided that each such Secured Lender's Security Agreement complies with the provisions of this Article 11.
- (h) All rights acquired by a Secured Lender under any Secured Lender's Security Agreement shall be subject to all of the provisions of this Agreement, including the restrictions on assignment contained herein. While any Secured Lender's Security Agreement is outstanding, the OPA and the Supplier shall not amend or supplement this Agreement or agree to a termination of this Agreement without the consent of the Secured Lender, which consent shall not be unreasonably withheld, conditioned or delayed. Prior to any such amendment, supplement or termination, the Supplier shall provide to the OPA such Secured Lender's consent in writing. A Secured Lender must respond within a reasonable period of time to any request to amend or supplement this Agreement.
- (i) Despite any enforcement of any Secured Lender's Security Agreement, the Supplier shall remain liable to the OPA for the payment of all sums owing to the OPA under this Agreement and for the performance of all of the Supplier's obligations under this Agreement.

11.2 Rights and Obligations of Secured Lenders

While any Secured Lender's Security Agreement remains outstanding, and if the OPA has received the notice referred to in Section 11.1(d) or the contents thereof are embodied in the agreement entered into by the OPA in accordance with Section 11.3, the following provisions shall apply:

- (a) No Supplier Event of Default (other than those referred to in Section 9.2(c)) shall be grounds for the termination by the OPA of this Agreement until:
 - (i) any notice required to be given under Section 9.1 and 9.2(a) has been given to the Supplier and to the Secured Lender; and
 - (ii) the cure period set out in Section 11.2(b) has expired without a cure having been completed and without the Secured Lender having taken the actions therein contemplated.
- (b) In the event the OPA has given any notice required to be given under Section 9.1, the Secured Lender shall, within the applicable cure period (including any extensions), if any, have the right (but not the obligation) to cure such default, and the OPA shall accept such performance by such Secured Lender as if the same had been performed by the Supplier.
- (c) Any payment to be made or action to be taken by a Secured Lender hereunder as a prerequisite to keeping this Agreement in effect shall be deemed properly to have been made or taken by the Secured Lender if such payment is made or action is taken by a nominee or agent of the Secured Lender or a receiver or receiver and manager appointed by or on the application of the Secured Lender.

- (d) A Secured Lender shall be entitled to the Supplier's rights and benefits contained in this Agreement and shall become liable for the Supplier's obligations solely as provided in this Section 11.2. A Secured Lender may, subject to the provisions of this Agreement, enforce any Secured Lender's Security Agreement and acquire the Supplier's Interest in any lawful way and, without limitation, a Secured Lender or its nominee or agent or a receiver or receiver and manager appointed by or on the application of the Secured Lender, may take possession of and manage the Facility and, upon foreclosure, or without foreclosure upon exercise of any contractual or statutory power of sale under such Secured Lender's Security Agreement, may sell or assign the Supplier's Interest with the consent of the OPA as required under Section 11.2(f).
- (e) Until a Secured Lender (i) forecloses or has otherwise taken ownership of the Supplier's Interest or (ii) has taken possession or control of the Supplier's Interest, whether directly or by an agent as a mortgagee in possession, or a receiver or receiver and manager has taken possession or control of the Supplier's Interest by reference to the Secured Lender's Security Agreement, the Secured Lender shall not be liable for any of the Supplier's obligations or be entitled to any of the Supplier's rights and benefits contained in this Agreement, except by way of security. If the Secured Lender itself or by a nominee or agent, or a receiver or a receiver and manager appointed by or on the application of the Secured Lender, is the owner or is in control or possession of the Supplier's Interest, then the entity that is the owner or is in control or possession of the Supplier's Interest shall be bound by all of the Supplier's obligations. Once the Secured Lender or such other Person goes out of possession or control of the Supplier's Interest or transfers the Supplier's Interest in accordance with this Agreement to another Person who is at Arm's Length with the Secured Lender, the Secured Lender shall cease to be liable for any of the Supplier's obligations and shall cease to be entitled to any of the Supplier's rights and benefits contained in this Agreement, except, if the Secured Lender's Security Agreement remains outstanding, by way of security.
- (f) Despite anything else contained in this Agreement, the Secured Lender agrees that it shall not transfer, sell or dispose of the Supplier's Interest or any other interest in the Contract Facility to any Person unless such transferee or purchaser takes the Supplier's Interest or other applicable interest subject to the Supplier's obligations pursuant to this Agreement. No transfer shall be effective unless the OPA:
 - (i) acting reasonably, if such transferee is at Arm's Length with the Secured Lender;
or
 - (ii) acting in its sole and subjective discretion, if such transferee is not at Arm's Length with the Secured Lender,has approved of the transferee or purchaser and the transferee or purchaser has entered into an agreement with the OPA in form and substance satisfactory to the OPA, acting reasonably, wherein the transferee or purchaser agrees to assume and to perform the obligations of the Supplier in respect of the Supplier's Interest or the other applicable interest, whether arising before or after the transfer, sale or disposition and including the posting of the Completion and Performance Security, if any, required under Article 5.
- (g) In the event of the termination of this Agreement prior to the end of the Term due to a Supplier Event of Default, the OPA shall, within 20 Business Days after the date of such termination, deliver to each Secured Lender that is at Arm's Length with the Supplier, a

statement of all sums then known to the OPA that would at that time be due under this Agreement but for the termination and a notice to each such Secured Lender stating that the OPA is willing to enter into a New Agreement (the "OPA Statement"). Subject to the provisions of this Article 11, each such Secured Lender or its transferee approved by the OPA pursuant to Section 11.2(f) shall thereupon have the option to obtain from the OPA a New Agreement in accordance with the following terms:

- (i) Upon receipt of the written request of the Secured Lender within 30 days after the date on which it received the OPA Statement, the OPA shall enter into a New Agreement.
- (ii) Such New Agreement shall be effective as of the Termination Date and shall be for the remainder of the Term at the time this Agreement was terminated and otherwise upon the terms contained in this Agreement. The OPA's obligation to enter into a New Agreement is conditional upon the Secured Lender (A) paying all sums that would, at the time of the execution and delivery thereof, be due under this Agreement but for such termination, (B) otherwise fully curing any defaults under this Agreement existing immediately prior to termination of this Agreement that are capable of being cured, and (C) paying all reasonable costs and expenses, including legal fees, so as to provide a full indemnity (and not only substantial indemnity), incurred by the OPA in connection with such default and termination, and the preparation, execution and delivery of such New Agreement and related agreements and documents, provided, however, that with respect to any default that could not be cured by such Secured Lender until it obtains possession, such Secured Lender shall have the applicable cure period commencing on the date that it obtains possession to cure such default.

When the Secured Lender has appointed an agent, a receiver or a receiver and manager or has obtained a court-appointed receiver or receiver and manager for the purpose of enforcing the Secured Lender's security, that Person may exercise any of the Secured Lender's rights under this Section 11.2(g).

- (h) Despite anything to the contrary contained in this Agreement, the provisions of this Article 11 shall enure only to the benefit of the holders of a Secured Lender's Security Agreement. If the holders of more than one such Secured Lender's Security Agreement who are at Arm's Length with the Supplier make written requests to the OPA in accordance with this Section 11.2 to obtain a New Agreement, the OPA shall accept the request of the holder whose Secured Lender's Security Agreement had priority immediately prior to the termination of this Agreement over the Secured Lender's Security Agreements of the other Secured Lenders making such requests and thereupon the written request of each other Secured Lender shall be deemed to be void. In the event of any dispute or disagreement as to the respective priorities of any such Secured Lender's Security Agreement, the OPA may rely upon the opinion as to such priorities of any law firm qualified to practise law in the Province of Ontario retained by the OPA in its unqualified subjective discretion or may apply to a court of competent jurisdiction for a declaration as to such priorities, which opinion or declaration shall be conclusively binding upon all parties concerned.

11.3 Co-operation

The OPA and the Supplier shall enter into an agreement with any Secured Lender substantially in the form of Exhibit H for the purpose of implementing the Secured Lender's Security Agreement protection provisions contained in this Agreement. The OPA, acting reasonably, shall consider any request jointly made by the Supplier and a Secured Lender or proposed Secured Lender to facilitate a provision of a Secured Lender's Security Agreement or proposed Secured Lender's Security Agreement that may require an amendment to this Agreement, provided that the rights of the OPA are not adversely affected thereby, the obligations of the Supplier to the OPA are not altered thereby and the consent of any other Secured Lender to such amendment has been obtained by the Supplier or the Secured Lender making the request for the amendment.

ARTICLE 12 DISCRIMINATORY ACTION

12.1 Discriminatory Action

- (a) A "Discriminatory Action" shall occur if:
 - (i) either (A) the Legislative Assembly of Ontario causes to come into force any statute that was introduced as a bill in the Legislative Assembly of Ontario or the Government of Ontario causes to come into force or makes any order-in-council or regulation first having legal effect on or after the date of the Contract Date; or (B) the Legislative Assembly of Ontario directly or indirectly amends this Agreement without the consent of the Supplier;
 - (ii) the effect of the action referred to in Section 12.1(a)(i) is either (A) borne principally by the Supplier; or (B) borne principally by the Supplier and one or more Other Suppliers who have a FIT Contract or another bilateral arrangement with the OPA similar in nature to this Agreement; and
 - (iii) such action increases the costs that the Supplier would reasonably be expected to incur under this Agreement in respect of Delivering Electricity, except where such action is in response to any act or omission on the part of the Supplier that is contrary to Laws and Regulations (other than an act or omission rendered illegal by virtue of such action) or such action is permitted under this Agreement.
- (b) Notwithstanding the foregoing, none of the following shall be a Discriminatory Action:
 - (i) Laws and Regulations of general application, including an increase of Taxes of general application, or any action of the Government of Ontario pursuant thereto;
 - (ii) any such statute that prior to five Business Days prior to the Contract Date:
 - (A) has been introduced as a bill in the Legislative Assembly of Ontario in a similar form as such statute takes when it has legal effect, provided that any amendments made to such bill in becoming such statute do not have a Material Adverse Effect on the Supplier; or
 - (B) has been made public in a discussion or consultation paper, press release or announcement issued by the Ontario Power Authority, the

Government of Ontario, and/or the Ministry of Energy and Infrastructure that appeared on the Website, the website of the Ontario Power Authority, the Government of Ontario and/or the Ministry of Energy and Infrastructure, provided that any amendments made to such public form, in becoming such statute, do not have a Material Adverse Effect on the Supplier;

- (iii) any of such regulations that prior to five Business Days prior to the Contract Date:
 - (A) have been published in the Ontario Gazette but by the terms of such regulations come into force on or after five Business Days prior to the Contract Date; or
 - (B) have been referred to in a press release issued by the Ontario Power Authority, the Government of Ontario and/or the Ministry of Energy and Infrastructure that appeared on the website of the Government of Ontario or the Ministry of Energy and Infrastructure, provided that any amendments made to such regulations in coming into force do not have a Material Adverse Effect on the Supplier; and
- (iv) any new orders-in-council or regulations, the authority for the promulgation of which was created by the *Green Energy and Green Economy Act, 2009*, or the first amendment to any existing regulation, where the authority for such amendment was created by the *Green Energy and Green Economy Act, 2009*.

12.2 Consequences of Discriminatory Action

To the extent that there is a Discriminatory Action, then:

- (a) the Supplier, upon becoming aware of the consequences of such Discriminatory Action, shall promptly notify the OPA;
- (b) the Parties and, at the OPA's discretion, those Other Suppliers that are required by the OPA to participate, shall engage in good faith negotiations to amend this Agreement and the respective agreements of those Other Suppliers on the basis that such amendments together with the Discriminatory Action will substantially reflect the Supplier's Economics and, at the OPA's discretion, those Other Suppliers, prior to the Discriminatory Action; and
- (c) if the Parties fail to reach agreement on the amendments described in Section 12.2(b), the matter shall be determined by mandatory and binding arbitration, from which there shall be no appeal, with such arbitration(s) to be conducted in accordance with the procedures set out in Exhibit E. However, if the Supplier fails to participate in such arbitration, the Supplier acknowledges that it waives its right to participate in such arbitration, which shall nevertheless proceed, and the Supplier shall be bound by the award of the Arbitration Panel and the subsequent amendments to this Agreement made by the OPA to implement such award of the Arbitration Panel.

12.3 Right of the OPA to Remedy a Discriminatory Action

If the OPA wishes to remedy or cause to be remedied the occurrence of a Discriminatory Action, the OPA must give notice to the Supplier within 30 days after the date of receipt of notice of the Discriminatory Action. If the OPA gives such notice, the OPA must remedy or cause to be remedied the Discriminatory Action within 180 days after the date of receipt of the notice of the Discriminatory Action. If the OPA remedies or causes to be remedied the Discriminatory Action in accordance with the preceding sentence, the Supplier shall have the right to obtain, without duplication, compensation for any detrimental effect the Discriminatory Action had on the Supplier's Economics, adjusted to apply only to the period during which the Discriminatory Action detrimentally affected the Supplier's Economics.

ARTICLE 13 LIABILITY AND INDEMNIFICATION

13.1 Exclusion of Consequential Damages

Notwithstanding anything contained herein to the contrary, neither Party will be liable under this Agreement or under any cause of action relating to the subject matter of this Agreement for any special, indirect, incidental, punitive, exemplary or consequential damages, including loss of profits (save and except as provided in Sections 1.7, 1.8, 2.10 and 12.2), loss of use of any property or claims of customers or contractors of the Parties for any such damages.

13.2 Liquidated Damages

The Supplier acknowledges and agrees that it would be extremely difficult and impracticable to determine precisely the amount of actual damages that would be suffered by the OPA and the Ontario ratepayer as result of a failure by the Supplier to meet its obligations under this Agreement. The Supplier further acknowledges and agrees that the liquidated damages set forth in this Agreement are a fair and reasonable approximation of the amount of actual damages that would be suffered by the OPA and the Ontario ratepayer as a result of a failure by the Supplier to meet its obligations under this Agreement, and does not constitute a penalty.

13.3 OPA Indemnification

The Supplier shall indemnify, defend and hold the OPA, the Government of Ontario, the members of the Government of Ontario's Executive Council and their respective Affiliates, and each of the foregoing Persons' respective directors, officers, employees, shareholders, advisors and agents (including contractors and their employees) (collectively, the "Indemnitees") harmless from and against any and all Claims, demands, suits, losses, damages, liabilities, penalties, obligations, payments, costs and expenses and accrued interest thereon (including the costs and expenses of, and accrued interest on, any and all actions, suits, proceedings for personal injury (including death) or property damage, assessments, judgments, settlements and compromises relating thereto and reasonable lawyers' fees and reasonable disbursements in connection therewith) (each, an "Indemnifiable Loss"), asserted against or suffered by the Indemnitees relating to, in connection with, resulting from, or arising out of (i) any occurrence or event relating to the Facility, except to the extent that any injury or damage is attributable to the negligence or wilful misconduct of the Indemnitees or the failure of the Indemnitees to comply with Laws and Regulations, (ii) any breach by the Supplier of any representations, warranties and covenants contained in this Agreement, except to the extent that any injury or damage is attributable to the negligence or wilful misconduct of the Indemnitees, and (iii) a discharge of any contaminant into the natural environment, at or related to, the Facility and any fines or orders of any kind that may be levied or made in connection therewith pursuant to Laws and Regulations, except to the degree that such discharge

shall have been due to the negligence or wilful misconduct of the Indemnitees. For greater certainty, in the event of contributory negligence or other fault of the Indemnitees, then such Indemnitees shall not be indemnified hereunder in the proportion that the Indemnitees' negligence or other fault contributed to any Indemnifiable Loss.

13.4 Defence of Claims

- (a) Promptly after receipt by the Indemnitees of any Claim or notice of the commencement of any action, administrative or legal proceeding or investigation as to which the indemnity provided for in Section 13.3 may apply, the OPA shall notify the Supplier in writing of such fact. The Supplier shall assume the defence thereof with counsel designated by the Supplier and satisfactory to the affected Indemnitees, acting reasonably; provided, however, that if the defendants in any such action include both the Indemnitees and the Supplier and the Indemnitees shall have reasonably concluded that there may be legal defences available to them which are different from or additional to, or inconsistent with, those available to the Supplier, the Indemnitees shall have the right to select separate counsel satisfactory to the Supplier acting reasonably (at no additional cost to the Indemnitees) to participate in the defence of such action on behalf of the Indemnitees. The Supplier shall promptly confirm that it is assuming the defence of the Indemnitees by providing written notice to the Indemnitees. Such notice shall be provided no later than five days prior to the deadline for responding to any Claim relating to any Indemnifiable Loss.
- (b) Should any of the Indemnitees be entitled to indemnification under Section 13.3 as a result of a Claim by a third party, and the Supplier fails to assume the defence of such Claim (which failure shall be assumed if the Supplier fails to provide the notice prescribed by Section 13.4(a)), the Indemnitees shall, at the expense of the Supplier, contest (or, with the prior written consent of the Supplier, settle) such Claim, provided that no such contest need be made and settlement or full payment of any such Claim may be made without consent of the Supplier (with the Supplier remaining obligated to indemnify the Indemnitees under Section 13.3), if, in the written opinion of an independent third party counsel chosen by the Company Representatives, such Claim is meritorious. If the Supplier is obligated to indemnify any Indemnitees under Section 13.3, the amount owing to the Indemnitees will be the amount of such Indemnitees' actual out-of-pocket loss net of any insurance proceeds received or other recovery.

13.5 Joint and Several Liability

Other than in the case of an Ontario limited partnership, if the Supplier is not a single legal entity, then all such entities that constitute the Supplier shall be jointly and severally liable to the OPA for all representations, warranties, obligations, covenants and liabilities of the Supplier hereunder.

ARTICLE 14 CONTRACT OPERATION AND ADMINISTRATION

14.1 Company Representative

The Supplier and the OPA shall, by notice in the Prescribed Form, each appoint, from time to time, a representative (a "Company Representative"), who shall be duly authorized to act on behalf of the Party that has made the appointment, and with whom the other Party may consult at all reasonable times, and

whose instructions, requests and decisions, provided the same are in writing signed by the respective Company Representative, shall be binding on the appointing Party as to all matters pertaining to this Agreement. The Company Representatives shall not have the power or authority to amend this Agreement.

14.2 Record Retention; Audit Rights

The Supplier and the OPA shall both keep complete and accurate records and all other data required by either of them for the purpose of proper administration of this Agreement. All such records shall be maintained as required by Laws and Regulations but for no less than seven years after the creation of the record or data. The Supplier and the OPA, on a confidential basis as provided for in Article 7 of this Agreement, shall provide reasonable access to the relevant and appropriate financial and operating records and data kept by such Party relating to this Agreement reasonably required for the other Party to comply with its obligations to Governmental Authorities or to verify or audit information provided in accordance with this Agreement. Moreover, the Supplier agrees and consents to the IESO, an LDC or any other relevant third party providing to the OPA all relevant meter and invoice data regarding the Facility required by the OPA in order to verify the amount of Delivered Electricity. A Party may use its own employees for purposes of any such review of records, provided that those employees are bound by the confidentiality requirements provided for in Article 7. Alternatively, and at the election of the auditing Party, access shall be through the use of a mutually agreed upon third party auditor. The Party seeking access to such records in this manner shall pay the fees and expenses associated with use of the third party auditor.

14.3 Reports to the OPA

If the Supplier is required to report Outages directly to the IESO or an LDC, the Supplier shall deliver to the OPA a copy of all reports, plans and notices that the Supplier is required to provide to the IESO or such LDC with respect to Outages, at the same time or within one Business Day after such reports, plans and notices are delivered by the Supplier to the IESO or the LDC, as applicable.

14.4 Inspection of Facility

- (a) The OPA and its Representatives shall, at all times upon two Business Days' prior notice, at any time after the Contract Date, have access to the Facility and every part thereof during regular business hours and the Supplier shall, and shall cause all personnel operating and managing the Facility, to furnish the OPA with all reasonable assistance in inspecting the Facility for the purpose of ascertaining compliance with this Agreement; provided that such access and assistance shall be carried out in accordance with and subject to the reasonable safety and security requirements of the Supplier and all personnel operating and managing the Facility, as applicable, and shall not interfere with the operation of the Facility.
- (b) The inspection of the Facility by or on behalf of the OPA shall not relieve the Supplier of any of its obligations to comply with the terms of this Agreement. No Supplier Event of Default will be waived or deemed to have been waived by any inspection by or on behalf of the OPA. In no event will any inspection by the OPA hereunder be a representation that there has been or will be compliance with this Agreement and Laws and Regulations.

14.5 Inspection Not Waiver

- (a) Failure by the OPA to inspect the Facility or any part thereof under Section 14.4, or to exercise its audit rights under Section 14.2, shall not constitute a waiver of any of the rights of the OPA hereunder. An inspection or audit not followed by a notice of a Supplier Event of Default shall not constitute or be deemed to constitute a waiver of any Supplier Event of Default, nor shall it constitute or be deemed to constitute an acknowledgement that there has been or will be compliance by the Supplier with this Agreement.
- (b) Failure by the Supplier to exercise its audit rights under Section 14.2 shall not constitute or be deemed to constitute a waiver of any of the rights of the Supplier hereunder. An audit not followed by a notice of a OPA Event of Default shall not constitute or be deemed to constitute a waiver of any OPA Event of Default, nor shall it constitute or be deemed to constitute an acknowledgement that there has been or will be compliance by the OPA with this Agreement.

14.6 Notices

- (a) All notices pertaining to this Agreement not explicitly permitted to be in a form other than writing shall be in writing and shall be addressed to the other Party as follows:

If to the Supplier, all contact details shall be as set out in the FIT Contract Cover Page.

If to the OPA: Ontario Power Authority
 120 Adelaide Street West
 Suite 1600
 Toronto, Ontario
 M5H 1T1

Attention: Manager, FIT Contracts
Facsimile: 416-967-1947
E-mail: FIT.Contract@powerauthority.on.ca

Either Party may, by written notice to the other, change its respective Company Representative or the address to which notices are to be sent.

- (b) Notice delivered or transmitted as provided above shall be deemed to have been given and received on the day it is received or transmitted, provided that it is received or transmitted on a Business Day prior to 5:00 p.m. local time in the place of receipt. Otherwise such notice shall be deemed to have been given and received on the next following Business Day.
- (c) Any notices of an Event of Default and termination of this Agreement shall only be given by hand or courier delivery.

ARTICLE 15 MISCELLANEOUS

15.1 Informal Dispute Resolution

If either Party considers that any dispute has arisen under or in connection with this Agreement that the Parties cannot resolve, then such Party may deliver a notice to the other Party describing the nature and the particulars of such dispute. Within 20 Business Days following delivery of such notice to the other Party, a senior executive of the Supplier shall meet with (i) a manager of the OPA, where the Facility is a Capacity Allocation Exempt Facility, (ii) a director of the OPA, where the Facility is not a Capacity Allocation Exempt Facility and the Contract Capacity is less than 10 MW, or (iii) a vice-president of the OPA, where the Facility has a Contract Capacity greater than or equal to 10 MW, either in person or by telephone (the "Senior Conference"), to attempt to resolve the dispute. Each Party shall be prepared to propose a solution to the dispute. If, following the Senior Conference, the dispute is not resolved, the dispute may be settled by arbitration pursuant to Section 15.2, if agreed to by both Parties.

15.2 Arbitration

Except as otherwise specifically provided for in this Agreement, any matter in issue between the Parties as to their rights under this Agreement may be decided by arbitration provided, however, that the Parties have first completed a Senior Conference pursuant to Section 15.1. Any dispute to be decided by arbitration will be decided by a single arbitrator appointed by the Parties or, if such Parties fail to appoint an arbitrator within 15 Business Days following the agreement to refer the dispute to arbitration, upon the application of either of the Parties, the arbitrator shall be appointed by a Judge of the Superior Court of Justice (Ontario) sitting in the Judicial District of Toronto Region. The arbitrator shall not have any current or past business or financial relationships with any Party (except prior arbitration). The arbitrator shall provide each of the Parties an opportunity to be heard and shall conduct the arbitration hearing in accordance with the provisions of the *Arbitration Act, 1991* (Ontario). Unless otherwise agreed by the Parties, the arbitrator shall render a decision within 90 days after the end of the arbitration hearing and shall notify the Parties in writing of such decision and the reasons therefor. The arbitrator shall be authorized only to interpret and apply the provisions of this Agreement and shall have no power to modify or change this Agreement in any manner. The decision of the arbitrator shall be conclusive, final and binding upon the Parties. The decision of the arbitrator may be appealed solely on the grounds that the conduct of the arbitrator, or the decision itself, violated the provisions of the *Arbitration Act, 1991* (Ontario) or solely on a question of law as provided for in the *Arbitration Act, 1991* (Ontario). The *Arbitration Act, 1991* (Ontario) shall govern the procedures to apply in the enforcement of any award made. If it is necessary to enforce such award, all costs of enforcement shall be payable and paid by the Party against whom such award is enforced. Unless otherwise provided in the arbitral award to the contrary, each Party shall bear (and be solely responsible for) its own costs incurred during the arbitration process, and each Party shall bear (and be solely responsible for) its equal share of the costs of the arbitrator. Each Party shall be otherwise responsible for its own costs incurred during the arbitration process.

15.3 Business Relationship

Each Party shall be solely liable for the payment of all wages, Taxes and other costs related to the employment by such Party of Persons who perform this Agreement, including all federal, provincial and local income, social insurance, health, payroll and employment taxes and statutorily-mandated workers' compensation coverage. None of the Persons employed by either Party shall be considered employees of the other Party for any purpose. Nothing in this Agreement shall create or be deemed to create a

relationship of partners, joint ventures, fiduciary, principal and agent or any other relationship between the Parties.

15.4 Binding Agreement

Except as otherwise set out in this Agreement, this Agreement shall not confer upon any other Person, except the Parties and their respective successors and permitted assigns, any rights, interests, obligations or remedies under this Agreement. This Agreement and all of the provisions of this Agreement shall be binding upon and shall enure to the benefit of the Parties and their respective successors and permitted assigns.

15.5 Assignment

- (a) Following the Commercial Operation Date, this Agreement along with all of the rights, interests and obligations under this Agreement (including for greater certainty those rights, interests and obligations relating to Environmental Attributes) may be assigned by either Party, with the prior written consent of the other Party, which consent shall not be unreasonably withheld, except as set out in Section 15.5(b) below and as provided in Article 11. Prior to the Commercial Operation Date, neither this Agreement nor any of the rights, interests or obligations under this Agreement may be assigned by the Supplier.
- (b) For the purposes of Section 15.5(a), it shall not be unreasonable for the OPA to withhold its consent if the proposed assignment would (i) cause a Supplier to breach the obligation to own the Facility as set out in Section 2.7(a), or (ii) have or is likely to have, as determined by the OPA acting reasonably, a Material Adverse Effect on the Supplier's ability to perform its obligations under this Agreement.
- (c) Notwithstanding Section 15.5(a), the Supplier may, subject to compliance with Laws and Regulations and provided that there is not a Supplier Event of Default that has not been remedied, assign this Agreement without the consent of the OPA to an Affiliate acquiring the Facility; provided, however, that no such assignment by the Supplier or any of its successors or permitted assigns hereunder shall be valid or effective unless and until such Affiliate agrees with the OPA in writing to assume all of the Supplier's obligations under this Agreement and be bound by the terms of this Agreement, and the arrangements and obligations of the Supplier set forth in Article 5 have been met in accordance with the terms of Article 5.
- (d) Notwithstanding Section 15.5(a), where the Facility is a Rooftop Facility, the Supplier may, prior to the Commercial Operation Date, assign this Agreement with the prior written consent of the OPA, which may not be unreasonably withheld, in circumstances where the building or structure to which the Facility is affixed is being sold, transferred or otherwise conveyed to the proposed assignee of this Agreement.
- (e) If the Supplier assigns this Agreement to a non-resident of Canada as that term is defined in the ITA, and the OPA incurs any additional Taxes, at any time thereafter, solely as the result of such assignment, then payments under this Agreement by the OPA shall be reduced by the amount of such additional Taxes and the OPA shall remit such additional Taxes to the applicable taxing authorities. The OPA shall within 60 days after remitting such Taxes, notify the assignee in writing, providing reasonable detail of such payment so that the assignee may claim any applicable rebates, refunds or credits from the applicable taxing authorities. If after the OPA has paid such amounts, the OPA receives a

refund, rebate or credit on account of such Taxes, then the OPA shall promptly remit such refund, rebate or credit amount to the assignee.

- (f) If a valid assignment of this Agreement is made by the Supplier in accordance with this Section 15.5, the OPA acknowledges and agrees that, upon such assignment and assumption and notice thereof by the assignor to the OPA, the assignor shall be relieved of all its duties, obligations and liabilities hereunder.
- (g) The OPA shall have the right to assign this Agreement from time to time and all benefits and obligations hereunder for the balance of the Term without the consent of the Supplier to an assignee which shall assume the obligations and liability of the OPA under this Agreement and be novated into this Agreement in the place and stead of the OPA (except for the OPA's obligation in Section 15.5(g)(iii) which will remain in force), provided that the assignee agrees in writing to assume and be bound by the terms and conditions of this Agreement and further agrees not to make any material amendments to or terminate this Agreement after such assignment without the prior written consent of the OPA, whereupon:
 - (i) the representation set forth in Section 6.2(a) shall apply to the assignee with all necessary amendments to reflect the form and the manner in which the assignee was established;
 - (ii) all of the representations set forth in Section 6.2 shall be deemed to be made by the assignee to the Supplier at the time of such assignment and assumption; and
 - (iii) the OPA shall be relieved of all obligations and liability arising pursuant to this Agreement; notwithstanding the foregoing, the OPA shall remain liable to the Supplier for remedying any payment defaults under Section 9.3(a) and shall remain liable for any obligations and liabilities of the assignee arising from any OPA Event of Default, provided that any notice required to be given under Sections 9.3 and 9.4(a) is given on the same day to the assignee and to the OPA. The time periods in Section 9.3 shall not begin to run until both the assignee and the OPA have been so notified.

15.6 Change of Control

- (a) Other than in accordance with Section 15.6(b), no change of Control of the Supplier shall be permitted prior to Commercial Operation, except with the prior written consent of the OPA, which consent may be withheld in the OPA's sole and absolute discretion. Following Commercial Operation, a change of Control of the Supplier shall be permitted, provided that the Supplier, within 10 Business Days following such change of Control having effect, provides the OPA with notice of such change of Control and such additional information as the OPA may reasonably require regarding the names of the Persons who Control or otherwise indirectly or directly have an ownership interest in the Supplier, following such change of Control.
- (b) Provided there is not a Supplier Event of Default that has not been remedied, a change of Control of the Supplier prior to Commercial Operation, under one or more of the following circumstances, is permitted without the consent of the OPA, namely:

- (i) the Person that is the direct subject of the transaction giving rise to the change of Control of the Supplier, is not a Special Purpose Entity,
- (ii) each Person Controlling the Supplier following such change of Control is an Affiliate of one or more of the Persons Controlling the Supplier prior to such change of Control, or
- (iii) the Economic Interest of the Person(s) that Control the Supplier as of the Contract Date is not less than 25% following such change of Control,

The Supplier shall, within 10 Business Days following such change of Control having effect, provide the OPA with notice of such change of Control and such additional information as the OPA may reasonably require regarding the names of the Persons who Control or otherwise indirectly or directly have an ownership interest in the Supplier, following such change of Control.

- (c) For the purposes of Sections 15.6(a) and (b), a change of Control shall include a change from no Person having Control of the Supplier to any Person having Control of the Supplier, as well as a change from any Person having Control of the Supplier to no Person having Control of the Supplier.
- (d) Without limiting the generality of Section 15.6(b)(i) and by way of example only, if entity A owns entity B, and A is sold to a third party, A is the direct subject of the transaction giving rise to the change of Control; therefore if B is the Supplier, then this change of Control may be permitted pursuant to Section 15.6(b)(i) so long as A is not a Special Purpose Entity.

15.7 Provisions for Aboriginal Participation Projects

- (a) Notwithstanding Section 1.2(e) of Exhibit A, the amount of the Initial Security shall be \$5.00 per kW of Contract Capacity if, prior to the Contract Date, the Supplier has provided an Aboriginal Participation Project Declaration confirming that the Aboriginal Participation Level in respect of the Project is greater than or equal to 50%.
- (b) Notwithstanding Section 1.2(f) of Exhibit A, the amount of the Incremental NTP Security shall be \$5.00 per kW of Contract Capacity if, prior to or commensurate with the NTP Request, the Supplier has provided an Aboriginal Participation Project Declaration confirming that the Aboriginal Participation Level in respect of the Contract Facility is greater than or equal to 50%.
- (c) The Economic Interest of any Person contributing towards the Community Participation Level shall be excluded from the calculation of the Aboriginal Participation Level. The Aboriginal Price Adder shall only apply to a Project (i) that is an Aboriginal Participation Project at the time the Supplier submits its NTP Request, and (ii) for which the Supplier submits an Aboriginal Participation Project Declaration confirming such, prior to or commensurate with its NTP Request.
- (d) Where a Project is not an Aboriginal Participation Project as of the date that the Supplier provides the OPA with its NTP Request, or where the Supplier fails to provide an Aboriginal Participation Project Declaration confirming such, the Aboriginal Price Adder

shall not apply to such Project at any time, regardless of any change in the Aboriginal Participation Level.

- (e) Where the Aboriginal Participation Level has increased since the last Aboriginal Participation Project Declaration, the Supplier may submit a revised Aboriginal Participation Project Declaration to the OPA, only at the following times:
 - (i) commensurate with its NTP Request;
 - (ii) together with the other documentation required to be provided to the OPA for the purpose of achieving Commercial Operation pursuant to Section 2.6; and
 - (iii) once per Contract Year;

following which, the Aboriginal Price Adder shall be recalculated based on the increased Aboriginal Participation Level, and such increased Aboriginal Price Adder shall be effective as of the date of submission of the revised Aboriginal Participation Project Declaration.

- (f) Where the Aboriginal Participation Level has decreased since the last Aboriginal Participation Project Declaration, the Supplier shall submit a revised Aboriginal Participation Project Declaration to the OPA within 20 Business Days of such decrease, following which, the Aboriginal Price Adder shall be recalculated based on the decreased Aboriginal Participation Level, and such decreased Aboriginal Price Adder shall be effective as of the date of the decrease in the Aboriginal Participation Level. Where a Project that was an Aboriginal Participation Project as of the date that the Supplier provided the OPA with its NTP Request and for which the Supplier submitted an Aboriginal Participation Declaration along with its NTP Request ceases to be an Aboriginal Participation Project, the Aboriginal Price Adder shall cease to apply to such Project until such time as the Project restores its status as an Aboriginal Participation Project and the Supplier provides the OPA with a revised Aboriginal Participation Project Declaration confirming this.
- (g) Where the Supplier has provided any Completion and Performance Security to the OPA that has not been returned or refunded (as applicable) to the Supplier, and the Supplier has obtained the benefit of reduced Completion and Performance Security pursuant to Sections 15.7(a) or (b), where the Aboriginal Participation Level decreases from greater than or equal to 50% to below 50%, then notwithstanding Sections 15.7(a) and (b), the Supplier shall, within 20 Business Days of any such decrease, provide and maintain additional Completion and Performance Security such that the total amount of Completion and Performance Security is in accordance with the amounts set out in Section 5.2 or Exhibit A, as applicable. For greater certainty, where the Aboriginal Participation Level increases from below 50% to greater than or equal to 50%, there shall be no reduction in the amount of Completion and Performance Security already provided to the OPA.
- (h) A Supplier in respect of an Aboriginal Participation Project shall, within 20 Business Days of a request by the OPA, provide written evidence documenting the Aboriginal Participation Level that is to the satisfaction of the OPA, acting reasonably. If the evidence provided by the Supplier does not demonstrate to the satisfaction of the OPA, acting reasonably, that the actual Aboriginal Participation Level is not at least equal to

the Aboriginal Participation Level being used to determine the Aboriginal Price Adder, then the Aboriginal Price Adder shall be recalculated in accordance with the documented Aboriginal Participation Level and applied retroactively to the latest date for which the Supplier can demonstrate that the Aboriginal Participation Level used to determine the Aboriginal Price Adder was accurate. Any overpayment that resulted from an inaccurate Aboriginal Participation Level shall be paid by the Supplier to the OPA forthwith, failing which the OPA may set off any such amounts from any future payments owing to the Supplier.

15.8 Provisions for Community Participation Projects

- (a) Notwithstanding Section 1.2(e) of Exhibit A, the amount of the Initial Security shall be \$5.00 per kW of Contract Capacity if, prior to the Contract Date, the Supplier has provided a Community Participation Project Declaration confirming that the Community Participation Level in respect of the Project is greater than or equal to 50%.
- (b) Notwithstanding Section 1.2(f) of Exhibit A, the amount of the Incremental NTP Security shall be \$5.00 per kW of Contract Capacity if, prior to or commensurate with the NTP Request, the Supplier has provided a Community Participation Project Declaration confirming that the Community Participation Level in respect of the Contract Facility is greater than or equal to 50%.
- (c) The Economic Interest of any Person contributing towards the Aboriginal Participation Level shall be excluded from the calculation of the Community Participation Level. The Community Price Adder shall only apply to a Project (i) that is a Community Participation Project at the time the Supplier submits its NTP Request, and (ii) for which the Supplier submits a Community Participation Project Declaration confirming such, prior to or commensurate with its NTP Request.
- (d) Where a Project is not a Community Participation Project as of the date that the Supplier provides the OPA with its NTP Request, or where the Supplier fails to provide a Community Participation Project Declaration confirming such, the Community Price Adder shall not apply to such Project at any time, regardless of any change in the Community Participation Level.
- (e) Where the Community Participation Level has increased since the last Community Participation Project Declaration, the Supplier may submit a revised Community Participation Project Declaration to the OPA, only at the following times:
 - (i) commensurate with its NTP Request;
 - (ii) together with the other documentation to be provided to the OPA for the purpose of achieving Commercial Operation pursuant to Section 2.6; and
 - (iii) once per Contract Year,

following which, the Community Price Adder shall be recalculated based on the increased Community Participation Level, and such increased Community Price Adder shall be effective as of the date of submission of the revised Community Participation Project Declaration.

- (f) Where the Community Participation Level has decreased since the last Community Participation Project Declaration, the Supplier shall submit a revised Community Participation Project Declaration to the OPA within 20 Business Days of such decrease, following which, the Community Price Adder shall be recalculated based on the decreased Community Participation Level, and such decreased Community Price Adder shall be effective as of the date of the decrease in the Community Participation Level. Where a Project that was a Community Participation Project as of the date that the Supplier provided the OPA with its NTP Request and for which the Supplier submitted a Community Participation Declaration along with its NTP Request ceases to be a Community Participation Project, the Community Price Adder shall cease to apply to such Project until such time as the Project restores its status as a Community Participation Project and the Supplier provides the OPA with a revised Community Participation Project Declaration confirming this.
- (g) Where the Supplier has provided any Completion and Performance Security to the OPA that has not been returned or refunded (as applicable) to the Supplier, and the Supplier has obtained the benefit of reduced Completion and Performance Security pursuant to Sections 15.7(a) or (b), where the Community Participation Level decreases from greater than or equal to 50% to below 50%, then notwithstanding Sections 15.7(a) and (b), the Supplier shall, within 20 Business Days of any such decrease, provide and maintain additional Completion and Performance Security such that the total amount of Completion and Performance Security is in accordance with the amounts set out in Section 5.2 or Exhibit A, as applicable. For greater certainty, where the Community Participation Level increases from below 50% to greater than or equal to 50%, there shall be no reduction in the amount of Completion and Performance Security already provided to the OPA.
- (h) A Supplier in respect of a Community Participation Project shall, within 20 Business Days of a request by the OPA, provide written evidence documenting the Community Participation Level that is to the satisfaction of the OPA, acting reasonably. If the evidence provided by the Supplier does not demonstrate to the satisfaction of the OPA, acting reasonably, that the actual Community Participation Level is not at least equal to the Community Participation Level being used to determine the Community Price Adder, then the Community Price Adder shall be recalculated in accordance with the documented Community Participation Level and applied retroactively to the latest date for which the Supplier can demonstrate that the Community Participation Level used to determine the Community Price Adder was accurate. Any overpayment that resulted from an inaccurate Community Participation Level shall be paid by the Supplier to the OPA forthwith, failing which the OPA may set off any such amounts from any future payments owing to the Supplier.

15.9 Combined Aboriginal Participation Projects and Community Participation Projects

- (a) Notwithstanding Section 1.2(e) of Exhibit A, where a Contract Facility is in respect of an Aboriginal Participation Project and a Community Participation Project, the amount of the Initial Security shall be \$5.00 per kW of Contract Capacity if, prior to the Contract Date, the Supplier has provided an Aboriginal Participation Project Declaration and a Community Participation Project Declaration, which together confirm that the total of the Aboriginal Participation Level and Community Participation Level in respect of the Project is greater than or equal to 50%.

- (b) Notwithstanding Section 1.2(f) of Exhibit A, where a Contract Facility is in respect of an Aboriginal Participation Project and a Community Participation Project, the amount of the Incremental NTP Security shall be \$5.00 per kW of Contract Capacity if, prior to or commensurate with the NTP Request, the Supplier has provided an Aboriginal Participation Project Declaration and a Community Participation Project Declaration, which together confirm that the total of the Aboriginal Participation Level and the Community Participation Level in respect of the Contract Facility is greater than or equal to 50%.
- (c) Where the Supplier has provided any Completion and Performance Security to the OPA that has not been returned or refunded (as applicable) to the Supplier, and the Supplier has obtained the benefit of reduced Completion and Performance Security pursuant to Sections 15.9(a) or (b), where the total of the Aboriginal Participation Level and the Community Participation Level decreases from greater than or equal to 50% to below 50%, then notwithstanding Sections 15.9(a) or (b), the Supplier shall, within 20 Business Days of any such decrease, provide and maintain additional Completion and Performance Security such that the total amount of Completion and Performance Security is in accordance with the amounts set out in Section 5.2 or Exhibit A, as applicable. For greater certainty, where the total of the Aboriginal Participation Level and the Community Participation Level increases from below 50% to greater than or equal to 50%, there shall be no reduction in the amount of Completion and Performance Security already provided to the OPA.

15.10 Survival

The provisions of Sections 2.4(a), 2.10, 3.4, 3.5, 3.6, Article 4, Article 7, Section 11.2(g), Article 13, Sections 14.2, 15.1, and 15.2 shall survive the expiration of the Term or earlier termination of this Agreement. The expiration of the Term or a termination of this Agreement shall not affect or prejudice any rights or obligations that have accrued or arisen under this Agreement prior to the time of expiration or termination and such rights and obligations shall survive the expiration of the Term or the termination of this Agreement for a period of time equal to the applicable statute of limitations.

15.11 Counterparts

This Agreement may be executed in two or more counterparts, and all such counterparts shall together constitute one and the same Agreement. It shall not be necessary in making proof of the contents of this Agreement to produce or account for more than one such counterpart. Any Party may deliver an executed copy of this Agreement by facsimile or electronic mail but such Party shall, within 10 Business Days of such delivery by facsimile or electronic mail, promptly deliver to the other Party an originally executed copy of this Agreement.

15.12 Additional Rights of Set-Off

- (a) In addition to its other rights of set-off under this Agreement or otherwise arising in law or equity, the OPA may set off any amounts owing by the Supplier to the OPA in connection with Sections 2.4, 3.1, 3.2, 3.4, 4.2(c), 4.3(c), 4.5, 9.2(d) and 15.5(c) against any monies owed by the OPA to the Supplier in connection with Sections 2.4, 2.10(c), 3.1, 3.5, 3.6(a), 4.2(c), 4.3(c), 4.5, 5.1(c), 5.2(c), 9.4(b), 12.3 and 15.5(c).
- (b) In addition to its other rights of set-off under this Agreement or otherwise arising in law or equity, the Supplier may set-off any amounts owing by the OPA to the Supplier in

connection with Sections 2.4, 2.10(c), 3.1, 3.5, 3.6(a), 4.2(c), 4.3(c), 4.5, 5.1(c), 5.2(c), 9.4(b), 12.3 and 15.5(c) against any monies owed by the Supplier to the OPA in connection with Sections 2.4, 3.1, 3.2, 3.4, 4.2(c), 4.3(c), 4.5, 9.2(d) and 15.5(c).

15.13 Rights and Remedies Not Limited to Contract

Unless expressly provided in this Agreement, the express rights and remedies of the OPA or the Supplier set out in this Agreement are in addition to and shall not limit any other rights and remedies available to the OPA or the Supplier, respectively, at law or in equity.

15.14 Further Assurances

Each of the Parties shall, from time to time on written request of the other Party, do all such further acts and execute and deliver or cause to be done, executed or delivered all such further acts, deeds, documents, assurances and things as may be required, acting reasonably, in order to fully perform and to more effectively implement and carry out the terms of this Agreement. The Parties agree to promptly execute and deliver any documentation required by any Governmental Authority in connection with any termination of this Agreement.

[END OF STANDARD TERMS AND CONDITIONS]

**EXHIBIT A – TECHNOLOGY-SPECIFIC PROVISIONS
TYPE 1: BIOGAS FACILITIES**

1.1 Application of Exhibit

This version of Exhibit A shall apply to a Biogas Facility.

1.2 Technology-Specific Values

- (a) The Milestone Date for Commercial Operation is the date that is three years following the Contract Date.
- (b) The NTP Response Date is the date that is 15 months following the Contract Date.
- (c) The NTP Daily Delay Amount is \$0.067 per kW of Contract Capacity.
- (d) The Pre-Construction Liability Limit is \$400,000.00 per Contract Facility plus \$2.00 per kW of Contract Capacity.
- (e) The amount of the Initial Security is \$20.00 per kW of Contract Capacity.
- (f) The amount of the Incremental NTP Security is \$10.00 per kW of Contract Capacity.

**EXHIBIT A – TECHNOLOGY-SPECIFIC PROVISIONS
TYPE 2: BIOGAS (ON-FARM) FACILITIES**

1.1 Application of Exhibit

This version of Exhibit A shall apply to an On-Farm Biogas Facility.

1.2 Technology-Specific Values

- (a) The Milestone Date for Commercial Operation is the date that is three years following the Contract Date.
- (b) The NTP Response Date is the date that is 15 months following the Contract Date.
- (c) The NTP Daily Delay Amount is \$0.067 per kW of Contract Capacity.
- (d) The Pre-Construction Liability Limit is \$400,000.00 per Contract Facility plus \$2.00 per kW of Contract Capacity.
- (e) The amount of the Initial Security is \$20.00 per kW of Contract Capacity.
- (f) The amount of the Incremental NTP Security is \$10.00 per kW of Contract Capacity.

1.3 Technology-Specific Provisions

Where the FIT Contract Cover Page identifies the Facility as an “On-Farm” Biogas Facility, the Supplier covenants and agrees that at any time following the Commercial Operation Date where the Facility is generating Hourly Delivered Electricity, it shall be an On-Farm Biogas Facility.

**EXHIBIT A – TECHNOLOGY-SPECIFIC PROVISIONS
TYPE 3: LANDFILL GAS FACILITIES**

1.1 Application of Exhibit

This version of Exhibit A shall apply to a landfill gas Facility.

1.2 Technology-Specific Values

- (a) The Milestone Date for Commercial Operation is the date that is three years following the Contract Date.
- (b) The NTP Response Date is the date that is 15 months following the Contract Date.
- (c) The NTP Daily Delay Amount is \$0.067 per kW of Contract Capacity.
- (d) The Pre-Construction Liability Limit is \$400,000.00 per Contract Facility plus \$2.00 per kW of Contract Capacity.
- (e) The amount of the Initial Security is \$20.00 per kW of Contract Capacity.
- (f) The amount of the Incremental NTP Security is \$10.00 per kW of Contract Capacity.

EXHIBIT A – TECHNOLOGY-SPECIFIC PROVISIONS
TYPE 4: RENEWABLE BIOMASS FACILITIES

1.1 Application of Exhibit

This version of Exhibit A shall apply to a Renewable Biomass Facility.

1.2 Technology-Specific Values

- (a) The Milestone Date for Commercial Operation is the date that is three years following the Contract Date.
- (b) The NTP Response Date is the date that is 15 months following the Contract Date.
- (c) The NTP Daily Delay Amount is \$0.067 per kW of Contract Capacity.
- (d) The Pre-Construction Liability Limit is \$400,000.00 per Contract Facility plus \$2.00 per kW of Contract Capacity.
- (e) The amount of the Initial Security is \$20.00 per kW of Contract Capacity.
- (f) The amount of the Incremental NTP Security is \$10.00 per kW of Contract Capacity.

**EXHIBIT A – TECHNOLOGY-SPECIFIC PROVISIONS
TYPE 5: SOLAR (PV) ROOFTOP FACILITIES**

1.1 Application of Exhibit

This version of Exhibit A shall apply to a solar (PV) Rooftop Facility.

1.2 Technology-Specific Values

- (a) The Milestone Date for Commercial Operation is the date that is three years following the Contract Date.
- (b) The NTP Response Date is the date that is 15 months following the Contract Date.
- (c) The NTP Daily Delay Amount is \$0.033 per kW of Contract Capacity.
- (d) The Pre-Construction Liability Limit is \$250,000.00 per Contract Facility plus \$10.00 per kW of Contract Capacity.
- (e) The amount of the Initial Security is \$50.00 per kW of Contract Capacity.
- (f) The amount of the Incremental NTP Security is \$25.00 per kW of Contract Capacity.

1.3 Technology-Specific Provisions

- (a) Notwithstanding Section 9.1(j), in the case of a Contract Facility that utilizes solar (PV) as its Renewable Fuel it shall be a Supplier Event of Default if the Commercial Operation Date has not occurred on or before the date which is six months after the Milestone Date for Commercial Operation.
- (b) Where the FIT Contract Cover Page identifies the Facility as a “Rooftop” Facility, the Supplier covenants and agrees that at any time following the Commercial Operation Date where the Facility is generating Hourly Delivered Electricity, it shall be a Rooftop Facility.

**EXHIBIT A – TECHNOLOGY-SPECIFIC PROVISIONS
TYPE 6: SOLAR (PV) GROUND MOUNT FACILITIES**

1.1 Application of Exhibit

This version of Exhibit A shall apply to a solar (PV) Facility.

1.2 Technology-Specific Values

- (a) The Milestone Date for Commercial Operation is the date that is three years following the Contract Date.
- (b) The NTP Response Date is the date that is 15 months following the Contract Date.
- (c) The NTP Daily Delay Amount is \$0.033 per kW of Contract Capacity.
- (d) The Pre-Construction Liability Limit is \$250,000.00 per Contract Facility plus \$10.00 per kW of Contract Capacity.
- (e) The amount of the Initial Security is \$50.00 per kW of Contract Capacity.
- (f) The amount of the Incremental NTP Security is \$25.00 per kW of Contract Capacity.

1.3 Technology-Specific Provisions

Notwithstanding Section 9.1(j), in the case of a Contract Facility that utilizes solar (PV) as its Renewable Fuel it shall be a Supplier Event of Default if the Commercial Operation Date has not occurred on or before the date which is six months after the Milestone Date for Commercial Operation.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO VECC INTERROGATORY #5

2.0: Cost Consequences

References: Exhibit B Tab 1 Page 11: Exhibit B, Tab 1, Appendix 3 Pages 5 and 13

Preamble: In the fall of 2010, the Utilities commissioned Ipsos Reid, an independent market research firm, to determine the attitudes of residential and commercial customers on issues related to RNG. The firm conducted an online survey of 1,052 residential natural gas customers (and a telephone survey of 500 commercial customers).

- a. Provide the demographic profile of the 1052 residential customers selected as the sample group for the Ipsos Reid survey and the # actual respondents in each demographic classification. Include data on # who are current system gas/sales service customers.
- b. Were all respondents *directly* responsible for the gas bill? If not indicate the number of respondents not responsible for the gas bill.
- c. For the System Gas/Sales Service Customers (question F2 Page 44 of Survey) breakout and summarize the responses on pricing for this segment.
- d. Summarize the responses on pricing for the Seniors Segment of the sample group and the system gas/sales service subset.
- e. Provide the response on pricing from the Low Income customers segment of the sample group and the system gas/sales service subset.
- f. Does EGD and Union agree that the customers are most affected by the premium for RNG are System Gas Customers and, as a subset the Seniors and Low income customers. Please discuss the responses/tolerance to RNG prices in the context of affordability for this subset of customers.
- g. Provide the Companies estimates of the # of Seniors and Low Income customers in their respective franchises. Include both those with bill responsibility as well, as a subset, those living in Social/ assisted housing where the bill may be paid by the housing provider.

Response:

- a. The demographic profile is summarized in Tables 1 and 2 below.

Table 1

	Total
Base: All respondents	1052
Male	529
	50.3%
Female	523
	49.7%

Table 2

	Total
Base: All respondents	1052
18-34	87
	8.3%
35-54	438
	41.6%
55+	527
	50.1%

88% of residential respondents indicated they were system gas customers and 12% indicated they were direct purchase customers.

- b. All respondents in the residential survey were either fully or jointly responsible for decisions about utility services.
- c. Support does not vary significantly between self-reported system gas/sales service customers.

See below:

Q10. If your utility purchased biogas and the result was that your gas utility bill increased by 4% —which is about \$3.00 more per * QF2. Which company do you purchase your natural gas supply from? Crosstabulation

			QF2. Which company do you purchase your natural gas supply from?		
			Your natural gas distributor e.g. Enbridge or Union Gas	A marketer or broker that provides a separate charge on your	
			Total		
Q10. If your utility purchased biogas and the result was that your gas utility bill increased by 4% — which is about \$3.00 more per	Strongly oppose	Count	148	17	165
		% within QF2. Which company do you purchase your natural gas supply from?	15.9%	13.9%	15.7%
	Somewhat oppose	Count	189	22	211
		% within QF2. Which company do you purchase your natural gas supply from?	20.3%	18.0%	20.1%
	Somewhat support	Count	383	49	432
		% within QF2. Which company do you purchase your natural gas supply from?	41.2%	40.2%	41.1%
	Strongly support	Count	144	28	172
		% within QF2. Which company do you purchase your natural gas supply from?	15.5%	23.0%	16.3%
	Don't Know	Count	66	6	72
		% within QF2. Which company do you purchase your natural gas supply from?	7.1%	4.9%	6.8%
Total	Count	930	122	1,052	
	% within QF2. Which company do you purchase your natural gas supply from?	100.0%	100.0%	100.0%	

Q11. If your utility purchased biogas and the result was that your gas utility bill increased by 2% —which is about \$1.50 more per * QF2. Which company do you purchase your natural gas supply from? Crosstabulation

			QF2. Which company do you purchase your natural gas supply from?		
			Your natural gas distributor e.g. Enbridge or Union Gas	A marketer or broker that provides a separate charge on your	
			Total		
Q11. If your utility purchased biogas and the result was that your gas utility bill increased by 2% — which is about \$1.50 more per	Strongly oppose	Count	111	13	124
		% within QF2. Which company do you purchase your natural gas supply from?	11.9%	10.7%	11.8%
	Somewhat oppose	Count	157	21	178
		% within QF2. Which company do you purchase your natural gas supply from?	16.9%	17.2%	16.9%
	Somewhat support	Count	319	34	353
		% within QF2. Which company do you purchase your natural gas supply from?	34.3%	27.9%	33.6%
	Strongly support	Count	302	50	352
		% within QF2. Which company do you purchase your natural gas supply from?	32.5%	41.0%	33.5%
	Don't Know	Count	41	4	45
		% within QF2. Which company do you purchase your natural gas supply from?	4.4%	3.3%	4.3%
Total	Count	930	122	1,052	
	% within QF2. Which company do you purchase your natural gas supply from?	100.0%	100.0%	100.0%	

Q12. If your utility purchased biogas and the result was that your gas utility bill increased by 1% —which is about \$0.80 more per * QF2. Which company do you purchase your natural gas supply from? Crosstabulation

			QF2. Which company do you purchase your natural gas supply from?		
			Your natural gas distributor e.g. Enbridge or Union Gas	A marketer or broker that provides a separate charge on your	
			Total		
Q12. If your utility purchased biogas and the result was that your gas utility bill increased by 1% — which is about \$0.80 more per	Strongly oppose	Count	96	11	107
		% within QF2. Which company do you purchase your natural gas supply from?	10.3%	9.0%	10.2%
	Somewhat oppose	Count	110	15	125
		% within QF2. Which company do you purchase your natural gas supply from?	11.8%	12.3%	11.9%
	Somewhat support	Count	259	24	283
		% within QF2. Which company do you purchase your natural gas supply from?	27.8%	19.7%	26.9%
	Strongly support	Count	425	67	492
		% within QF2. Which company do you purchase your natural gas supply from?	45.7%	54.9%	46.8%
	Don't Know	Count	40	5	45
		% within QF2. Which company do you purchase your natural gas supply from?	4.3%	4.1%	4.3%
Total	Count	930	122	1,052	
	% within QF2. Which company do you purchase your natural gas supply from?	100.0%	100.0%	100.0%	

Q13. If your utility purchased biogas and the result was that your gas utility bill increased by ½% —which is about \$0.40 more per * QF2. Which company do you purchase your natural gas supply from? Crosstabulation

			QF2. Which company do you purchase your natural gas supply from?		Total
			Your natural gas distributor e.g. Enbridge or Union Gas	A marketer or broker that provides a separate charge on your	
Q13. If your utility purchased biogas and the result was that your gas utility bill increased by ½% — which is about \$0.40 more per	Strongly oppose	Count	94	12	106
		% within QF2. Which company do you purchase your natural gas supply from?	10.1%	9.8%	10.1%
	Somewhat oppose	Count	88	12	100
		% within QF2. Which company do you purchase your natural gas supply from?	9.5%	9.8%	9.5%
	Somewhat support	Count	221	18	239
		% within QF2. Which company do you purchase your natural gas supply from?	23.8%	14.8%	22.7%
	Strongly support	Count	486	76	562
		% within QF2. Which company do you purchase your natural gas supply from?	52.3%	62.3%	53.4%
	Don't Know	Count	41	4	45
		% within QF2. Which company do you purchase your natural gas supply from?	4.4%	3.3%	4.3%
Total		Count	930	122	1,052
		% within QF2. Which company do you purchase your natural gas supply from?	100.0%	100.0%	100.0%

- d. Senior (defined at 65+) respondents are no less supportive of premium than others. See below. See above for self-reported system gas/sales service subset.

Q10. If your utility purchased biogas and the result was that your gas utility bill increased by 4% —which is about \$3.00 more per * age2 Crosstabulation

			AGE		Total
			Under 65	65 or older	
Q10. If your utility purchased biogas and the result was that your gas utility bill increased by 4% —which is about \$3.00 more per	Strongly oppose	Count	123	42	165
		% within age2	16.2%	14.4%	15.7%
	Somewhat oppose	Count	152	59	211
		% within age2	20.0%	20.3%	20.1%
	Somewhat support	Count	305	127	432
		% within age2	40.1%	43.6%	41.1%
	Strongly support	Count	127	45	172
		% within age2	16.7%	15.5%	16.3%
	Don't Know	Count	54	18	72
		% within age2	7.1%	6.2%	6.8%
Total	Count	761	291	1052	
	% within age2	100.0%	100.0%	100.0%	

Q11. If your utility purchased biogas and the result was that your gas utility bill increased by 2% —which is about \$1.50 more per * age2 Crosstabulation

			AGE		Total
			Under 65	65 or older	
Q11. If your utility purchased biogas and the result was that your gas utility bill increased by 2% —which is about \$1.50 more per	Strongly oppose	Count	93	31	124
		% within age2	12.2%	10.7%	11.8%
	Somewhat oppose	Count	132	46	178
		% within age2	17.3%	15.8%	16.9%
	Somewhat support	Count	248	105	353
		% within age2	32.6%	36.1%	33.6%
	Strongly support	Count	252	100	352
		% within age2	33.1%	34.4%	33.5%
	Don't Know	Count	36	9	45
		% within age2	4.7%	3.1%	4.3%
Total	Count	761	291	1052	
	% within age2	100.0%	100.0%	100.0%	

Q12. If your utility purchased biogas and the result was that your gas utility bill increased by 1% —which is about \$0.80 more per * age2 Crosstabulation

			AGE		Total
			Under 65	65 or older	
Q12. If your utility purchased biogas and the result was that your gas utility bill increased by 1% —which is about \$0.80 more per	Strongly oppose	Count	81	26	107
		% within age2	10.6%	8.9%	10.2%
	Somewhat oppose	Count	97	28	125
		% within age2	12.7%	9.6%	11.9%
	Somewhat support	Count	199	84	283
		% within age2	26.1%	28.9%	26.9%
	Strongly support	Count	348	144	492
		% within age2	45.7%	49.5%	46.8%
	Don't Know	Count	36	9	45
		% within age2	4.7%	3.1%	4.3%
Total	Count	761	291	1052	
	% within age2	100.0%	100.0%	100.0%	

Q13. If your utility purchased biogas and the result was that your gas utility bill increased by ½% —which is about \$0.40 more per * age2 Crosstabulation

			AGE		Total
			Under 65	65 or older	
Q13. If your utility purchased biogas and the result was that your gas utility bill increased by ½% —which is about \$0.40 more per	Strongly oppose	Count	79	27	106
		% within age2	10.4%	9.3%	10.1%
	Somewhat oppose	Count	80	20	100
		% within age2	10.5%	6.9%	9.5%
	Somewhat support	Count	169	70	239
		% within age2	22.2%	24.1%	22.7%
	Strongly support	Count	398	164	562
		% within age2	52.3%	56.4%	53.4%
	Don't Know	Count	35	10	45
		% within age2	4.6%	3.4%	4.3%
Total	Count	761	291	1052	
	% within age2	100.0%	100.0%	100.0%	

- e. Low income (under \$20K household income or under \$40K household income) respondents are no less supportive of premium than others. See below. See above for self-reported system gas/sales service subset.

Q10. If your utility purchased biogas and the result was that your gas utility bill increased by 4% —which is about \$3.00 more per month

	Household Income				
	Total	<40 S	40 to <60 T	60 to <100 U	100+ V
Base: All respondents	1052	167	193	393	299
Strongly support	172	30	26	65	51
	16.3%	18.0%	13.5%	16.5%	17.1%
Somewhat support	432	67	70	164	131
	41.1%	40.1%	36.3%	41.7%	43.8%
Somewhat oppose	211	31	46	85	49
	20.1%	18.6%	23.8%	21.6%	16.4%
			V		
Strongly oppose	165	27	38	52	48
	15.7%	16.2%	19.7%	13.2%	16.1%
			U		
Don't Know	72	12	13	27	20
	6.8%	7.2%	6.7%	6.9%	6.7%

Q11. If your utility purchased biogas and the result was that your gas utility bill increased by 2% —which is about \$1.50 more per month

	Total	<40 S	40 to <60 T	60 to <100 U	100+ V
Base: All respondents	1052	167	193	393	299
Strongly support	352	59	51	132	110
	33.5%	35.3%	26.4%	33.6%	36.8%
					T
Somewhat support	353	59	68	134	92
	33.6%	35.3%	35.2%	34.1%	30.8%
Somewhat oppose	178	23	44	66	45
	16.9%	13.8%	22.8%	16.8%	15.1%
			SV		
Strongly oppose	124	20	27	40	37
	11.8%	12.0%	14.0%	10.2%	12.4%
Don't Know	45	6	3	21	15
	4.3%	3.6%	1.6%	5.3%	5.0%
				T	T

Q12. If your utility purchased biogas and the result was that your gas utility bill increased by 1% —which is about \$0.80 more per month

	Total	<40 S	40 to <60 T	60 to <100 U	100+ V
Base: All respondents	1052	167	193	393	299
Strongly support	492	80	77	186	149
	46.8%	47.9%	39.9%	47.3%	49.8%
					T
Somewhat support	283	54	57	106	66
	26.9%	32.3%	29.5%	27.0%	22.1%
		V			
Somewhat oppose	125	11	32	43	39
	11.9%	6.6%	16.6%	10.9%	13.0%
			S		S
Strongly oppose	107	18	21	38	30
	10.2%	10.8%	10.9%	9.7%	10.0%
Don't Know	45	4	6	20	15
	4.3%	2.4%	3.1%	5.1%	5.0%

Q13. If your utility purchased biogas and the result was that your gas utility bill increased by .5% —which is about \$0.40 more per month

	Total	<40 S	40 to <60 T	60 to <100 U	100+ V
Base: All respondents	1052	167	193	393	299
Strongly support	562	97	91	210	164
	53.4%	58.1%	47.2%	53.4%	54.8%
		T			
Somewhat support	239	40	47	93	59
	22.7%	24.0%	24.4%	23.7%	19.7%
Somewhat oppose	100	9	29	33	29
	9.5%	5.4%	15.0%	8.4%	9.7%
			SU		
Strongly oppose	106	17	21	36	32

	10.1%	10.2%	10.9%	9.2%	10.7%
Don't Know	45	4	5	21	15
	4.3%	2.4%	2.6%	5.3%	5.0%

HOUSEHOLD INCOME (BEFORE TAX) <\$20,000

Q10. If your utility purchased biogas and the result was that your gas utility bill increased by 4%
—which is about \$3.00 more per

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly oppose	4	12.5	12.5	12.5
Somewhat oppose	5	15.6	15.6	28.1
Somewhat support	15	46.9	46.9	75.0
Strongly support	6	18.8	18.8	93.8
Don't Know	2	6.3	6.3	100.0
Total	32	100.0	100.0	

Q11. If your utility purchased biogas and the result was that your gas utility bill increased by 2%
—which is about \$1.50 more per

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly oppose	2	6.3	6.3	6.3
Somewhat oppose	4	12.5	12.5	18.8
Somewhat support	8	25.0	25.0	43.8
Strongly support	15	46.9	46.9	90.6
Don't Know	3	9.4	9.4	100.0
Total	32	100.0	100.0	

Q12. If your utility purchased biogas and the result was that your gas utility bill increased by 1% —which is about \$0.80 more per

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly oppose	2	6.3	6.3	6.3
	Somewhat oppose	2	6.3	6.3	12.5
	Somewhat support	6	18.8	18.8	31.3
	Strongly support	20	62.5	62.5	93.8
	Don't Know	2	6.3	6.3	100.0
	Total	32	100.0	100.0	

Q13. If your utility purchased biogas and the result was that your gas utility bill increased by ½% —which is about \$0.40 more per

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly oppose	2	6.3	6.3	6.3
	Somewhat oppose	2	6.3	6.3	12.5
	Somewhat support	5	15.6	15.6	28.1
	Strongly support	21	65.6	65.6	93.8
	Don't Know	2	6.3	6.3	100.0
	Total	32	100.0	100.0	

f. Low income (under \$20K household income or under \$40K household income) and senior (defined at 65+) respondents are no less supportive of premium than others.

g.

Union Gas¹

Seniors

age 65+ 30%

Household Income

< \$20K 3%

<\$40K 17%

¹2010 Base: Residential Respondent who usually pays monthly utility bills

Enbridge Gas Distribution Inc.

Seniors

age 65+	26%
---------	-----

Household Income

< \$20K	5%
---------	----

<\$40K	17%
--------	-----

Union and EGD do not have any information on the income or age of Social/assisted housing occupants.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO VECC INTERROGATORY #8

2.0: Cost Consequences

Reference: Exhibit B Tab 1Page 16

Preamble: FortisBC (Terasen Gas) has moved forward in buying RNG for its renewable, carbon neutral benefits and its prospective price stability. FortisBC has taken steps to roll out a Biomethane Service Offering as a result of a December 2010 Decision by the BC Utilities Commission. In the first phase, customers *will have the option of designating 10% of the natural gas they use as RNG*. [emphasis added] Fortis BC will then inject the equivalent amount of renewable gas into its system. Currently, Fortis BC has two sources of biomethane (expected to deliver an annual amount in the range of 60,000 – 70,000 GJs of biomethane into Fortis BC's distribution system by the end of 2011).

- a. Confirm this is a voluntary election by Fortis' customers.
- b. Provide a copy of the BCUC Decision.
- c. Provide an update of the FortisBC status as of 2011- number of customers by class electing RNG Contracted volumes and actual amounts actually injected for 2011 and projected for 2012.

Response:

- a. Confirmed
- b. See Attachment 1.
- c. Please see the response to FRPO Interrogatory #7 (Exhibit I-8-7).



IN THE MATTER OF

TERASEN GAS INC.

BIOMETHANE APPLICATION

DECISION

December 14, 2010

BEFORE:

**D.A. Cote, Panel Chair/Commissioner
A.A. Rhodes, Commissioner
L.A. O'Hara, Commissioner**

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COMMISSION ORDER G-194-10

APPENDICES

APPENDIX A	Orders Sought
APPENDIX B	The Regulatory Process
APPENDIX C	List of Exhibits
APPENDIX D	List of Acronyms
Appendix E	Sections of <i>Utilities Commission Act</i>

1.0 EXECUTIVE SUMMARY

On June 8, 2010 Terasen Gas Inc. filed an Application for approval of what it describes as an end-to-end business model encompassing the purchase of biogas and/or Biomethane for sale to its customers. The Application was filed against the backdrop of the continued evolution of British Columbia's energy policy. The most recent addition, *The Clean Energy Act*, received Royal Assent on June 3, 2010 and, in the view of the Applicant, has given renewed and heightened importance to its role in the development of renewable resources, the reduction of GHG emissions, the reduction of waste through the use of biogas and biomass as well as its role in promoting energy efficiency. Further, Terasen has noted that federal, provincial, regional and municipal governments have all become increasingly focused on climate change and the impact of pollution and have adopted policies to favor renewable energy forms as key to solving environmental challenges.

Terasen Gas is developing a number of initiatives which it believes are aligned with BC Government Policy and the *Clean Energy Act*. These are outlined in its 2010 Long Term Resource Plan that is currently before the British Columbia Utilities Commission. The Biomethane Service Offering Application is the first of these initiatives that has come before the Commission. This Application is made up of three components:

- The Biomethane Supply Model which addresses the acquisition of a reliable supply of biogas.
- The Biomethane product offering which consists primarily of a rate offering allowing for the notional sale of Biomethane to Terasen customers on a voluntary basis.
- The cost allocation and recovery model addressing the recovery of costs for the product offering from the various customer groups.

This Biomethane Service Offering which includes all elements of the biomass model has been referred to as the Biomethane Program or Program within this Decision. Terasen's Application seeks approval of a number of Orders encompassing rates, cost recovery, supply and post implementation review which are related to the Program. Key among these are the following:

approval of two projects, the Catalyst Project in Abbotsford, BC and the Columbia Shuswap Regional District Project in Salmon Arm, BC; the allocation of costs between all non by-pass customers and voluntary Biomethane gas purchasing customers and a set of criteria allowing for the filing of future supply contracts.

In its review of the Application, the Commission Panel raised and examined a number of issues in reaching the determinations made in this Decision. The first group of these includes the following: the alignment with British Columbia's energy objectives and Provincial Government policy, the adequacy of supply for these and future Projects and the level of customer demand for this type of program. On the basis of this examination, the Panel is satisfied the Program is in alignment with both British Columbia's energy objectives and Provincial Government policy and there is sufficient demand and supply to justify moving forward. Accordingly, the Panel has determined the two Projects are in the public interest and has approved both of them as well as the related capital costs. However, the Panel in reaching this determination has noted that it would be prudent for TGI to thoroughly test the proposed model in the marketplace before reaching a conclusion as to its full market potential.

The second group of issues is related to how the Biomethane Program will work and includes the following:

- Terasen's proposed role in the biogas upgrading process;
- The criteria for future projects;
- The risk of stranded assets and other project risks;
- Principles for cost allocation and recovery; and
- Post implementation review and reporting.

With respect to Terasen's proposed role in the upgrading process, the Panel has made no finding on the acceptability of this and directs that the upgrading business be sufficiently distinct so as to be severable if the Commission were to determine that this function should be conducted through a separate entity in the future. Concerning the criteria for future projects to be approved on a

streamlined basis, the Panel has added criteria limiting the total production of Biomethane for all projects to 250,000 GJ per year during the test period and set a maximum commodity price at \$15.28 per GJ. In addition, the Panel has approved the cost allocation methodology as proposed by Terasen as reasonable and in the public interest. Finally, the Commission Panel directed the post implementation review and reporting period be reduced from the requested five years to two years.

In this Decision, the Commission Panel has allowed Terasen Gas to move forward with a Biomethane Program on a test basis for a two year period. In introducing limitations on scope and a term for the test, the Panel believes that Terasen will learn valuable lessons which can be applied to the development of a model which will sustain the Program over the long term. It believes that taking this approach is prudent and in the best interests of TGI ratepayers.

2.0 INTRODUCTION

This Application is submitted by Terasen Gas Inc. (Terasen, Terasen Gas, TGI or the Company) for approval to introduce an end-to-end business model for the acquisition of a Biomethane gas supply and the sale of this renewable energy to its customers.

2.1 Application

TGI and its affiliated companies sell and deliver natural gas to residential, commercial and industrial customers throughout British Columbia (BC). They provide service to 940,000 customers and which represents over 95 percent of gas users in the Province. Their operations are subject to regulation by the British Columbia Utilities Commission (Commission, BCUC).

By Application dated June 8, 2010 Terasen applied for approval of a Biomethane Service Offering and Supporting Business Model, for approval of a Salmon Arm Biomethane Project and for one in the Abbotsford area (the Application). Terasen Gas proposes to develop an initial supply of Biomethane from two projects:

- a farm in Abbotsford, BC where a project partner will collect agricultural waste and use anaerobic digestion and upgrading technology to develop Biomethane which will be delivered to Terasen for injection into the distribution system (the Catalyst Project); and
- a landfill project in Salmon Arm, BC where raw biogas will be produced in a landfill by a project partner and then upgraded to pipeline quality Biomethane by Terasen (the CSRD Project, or the Salmon Arm Project).

Biogas is a gas substantially composed of methane that is produced by the breakdown of organic matter (biomass) in the absence of oxygen. Biomethane is renewable energy and refers to biogas that has been upgraded to primarily methane by the removal of other constituents, so that it is safely interchangeable with natural gas in the distribution and transmission system. (Exhibit B-1, p. 7)

The end-to-end business model for a Biomethane program proposed by Terasen in the Application has three parts encompassing models for the acquisition of a supply of biogas, the sale of Biomethane to its customers and the allocation and recovery of costs.

Terasen states that market research suggests there is a strong desire on the part of customers to purchase renewable clean energy. It further states that the data presented in the Application supports the position that demand for the product will exceed the capability of the initial projects to supply it. This has resulted in Terasen proposing a phased approach which it states is both flexible and scalable allowing supply and demand to be balanced. (Exhibit B-1, pp. 1-3) Worthy of note is a letter from the Assistant Deputy Minister of Energy, Mines and Petroleum Resources, expressing the government's support for the Biomethane Service Offering. In it he states that:

“[t]he objectives of this proposal align with the policy actions of the BC Energy Plan, the BC Bioenergy Strategy and the British Columbia energy objectives of the *Clean Energy Act* (the Act), particularly the objectives in section 2(g) “to reduce greenhouse gas emissions” and section 2(j) “to reduce waste by encouraging the use of waste heat, biogas and biomass.” (Exhibit E-1)

2.2 Orders Sought

TGI seeks Commission approval of a number of orders pursuant to the *Utilities Commission Act* R.S.B.C. 1996 c. 473 (the Act, UCA). Listed in their entirety in Appendix A to this Decision, they include the approval of rate related orders, cost recovery related orders for both voluntary participant customers and all non-bypass customers, supply project related orders and post implementation review orders.

2.3 Regulatory Process

The Regulatory Process is described in detail in Appendix B. Nine organizations registered as Interveners for the Application. They are as follows:

- Catalyst Power Inc.
- BC ARD Corporation
- BC Bioenergy Network
- British Columbia Power and Hydro Authority (BC Hydro)
- British Columbia Old Age Pensioners' Organization *et al* (BCOAPO)
- Elemental Energy Inc.
- Commercial Energy Consumers Association of British Columbia (CEC)
- BC Sustainable Energy Association (BCSEA)
- BP Canada Energy Company

Among these the BCOAPO, CEC, BC Hydro and BCSEA actively participated in some or all of the Processes.

2.4 Context and Key Issues

TGI is seeking approval for the introduction of an end-to-end business model encompassing the acquisition of a supply of Biomethane and the sale of this renewable energy to its customers. As a starting point, Terasen has proposed that the supply of Biomethane be developed from two initial projects which were broadly described earlier in Section 2.1. These projects represent two different approaches to securing raw biogas and then upgrading it to allow it to be injected into the natural gas pipeline system. The first of these projects, the Catalyst Project, represents the traditional supply side management process for Terasen where the product has been purchased in its final form. The second, the CSRD Project, represents a significant departure from this as Terasen

moves up the supply chain to provide the biogas upgrading service role. The Catalyst Project and the CSRD Project will be collectively referred to as “the Projects”, in this Decision. The Biomethane Service Offering including all elements of the business model will be referred to as the Biomethane Program or Program.

A significant part of the Application is centered upon an examination and justification of the Projects and the resale of Biomethane from them. However, the Application goes much further in that it proposes a model which the Company will use as a basis for development of a broader Biomethane product offering in the future. Included in the model are the following:

- A set of future project selection criteria which, when satisfied, will allow for a streamlined regulatory process.
- A departure from the traditional supply side management processes utilized by Terasen.
- A set of principles governing the allocation of costs and their recovery from ratepayers.

It is further proposed that this model be reviewed through a post implementation report and workshop, which is contemplated to occur five years following the launch of the initial project.

Given the potential size and scope of the initiative being proposed by Terasen, the Commission Panel needs to consider issues far beyond those needed to reach a determination on the Projects. In reaching its Decision, the Panel also needs to consider the impact of the alternative positions it may take on the issues arising and assess the suitability of the model and whether changes are necessary to protect the public interest in the period which lies ahead. In what follows, the Panel will provide an outline of the Program before examining each of the key issues it believes to be important in reaching a determination as to whether the Application is to be accepted and whether changes to the proposed model are required. Accordingly, following a description of the key elements of the Program, the Panel will initially examine the following issues:

- How the Program aligns with British Columbia energy objectives and Policy;

- The adequacy of supply of biogas;
- The level of customer demand for the Projects and others like them.

The Panel will then examine some of the broader issues related to the model including:

- Terasen's proposed role in the biogas upgrading process;
- The criteria for future projects;
- The risk of stranded assets and other project risks;
- Principles for cost allocation and recovery; and
- Post implementation review and reporting.

3.0 PROJECT DESCRIPTION

3.1 Overview

The *Clean Energy Act*, S.B.C. 2010 c. 22 (*CEA*) received Royal Assent on June 3, 2010. In Terasen's view it has given a renewed and heightened importance to its role in developing renewable resources, reducing GHG emissions, reducing waste by using biogas and biomass as well as promoting energy efficiency. The Commission Panel considers the following British Columbia energy objectives included in section 2 of the *CEA* are germane to the Application:

- (d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources;
- (g) to reduce BC greenhouse gas emissions
 - (i) by 2010 and for each subsequent calendar year to at least 6 percent less than the level of those emissions in 2007....;
- (h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia;
- (j) to reduce waste by encouraging the use of waste heat, biogas and biomass.

In addition, federal, provincial, regional, and municipal governments are increasingly focused on climate change and pollution, adopting policies in favour of renewable forms of energy as a key part of the solution to environmental challenges. The Provincial Government has also explicitly stated its support for biogas project development in the 2008 Bioenergy Strategy document. (Exhibit B-1, Appendix B-7, p. 8) Moreover, Terasen notes that many of the logical partners in the development of Biomethane projects are municipalities or regional districts because landfills and sewage treatment facilities owned and/or operated by them are often excellent sources of raw biogas. Terasen Gas submits the capture of biogas, and its upgrading to pipeline quality Biomethane, can help local governments generate revenue and meet the municipal GHG emission targets by way of the beneficial use of waste methane rather than flaring it. (Exhibit B-1, p. 27)

The end-to-end business model proposed by the Company is made up of the three components listed below and described subsequently in more detail:

- *The Biomethane supply model* - which addresses the logistics of acquiring a reliable supply of biogas, safely and reliably upgrading it to Biomethane and injecting it into TGI's distribution system;
- *The model for offering Biomethane product to customers* - which consists primarily of the formulation of a rate offering to allow the notional sale of Biomethane to those Terasen customers who are willing to pay a premium price for this product; and
- *The cost allocation and recovery model* - which addresses the related cost recovery of this product offering from various customer groups. (Exhibit B-1, p. 2)

3.1.1 Supply of Biomethane

Terasen states that its partners will be responsible for the collection of raw material and the facilities required for production of biogas. However, for the process to upgrade biogas into Biomethane TGI has introduced two models. In the first model, Terasen will negotiate a contractual relationship to purchase upgraded Biomethane from project partners, providing these independent operators can meet Terasen's financial and technical standards. In the second, Terasen's preferred model, it will own and operate the upgrading facilities "to ensure reliability, safety and the continuous flow of product from the Biomethane supply project to the customer." In all cases, Terasen proposes to retain control of the interconnection facilities to control the injection of Biomethane into the distribution system. (Exhibit B-1, p. 2)

3.1.2 Sale of Biomethane to Customers

Based on its market research, Terasen believes its customers have a "significant interest in purchasing Biomethane from Terasen Gas as an environmentally superior option to conventional natural gas."

Terasen proposes to take a phased approach to launch this program in recognition of the limited availability of Biomethane at this time. The first phase of the Biomethane product offering (the Offering) will involve making a blended Biomethane product available to residential customers starting with a blend of 10 percent Biomethane and 90 percent conventional natural gas. Phase two will involve launching the same 10 percent blend for small and large commercial customers on January 1, 2012. Terasen also plans to sell Biomethane to on-system transport customers and off-system wholesale customers. Eventually, Terasen's goal is to expand its offerings as the Program matures and new supply sources are developed. (Exhibit B-1, p. 3)

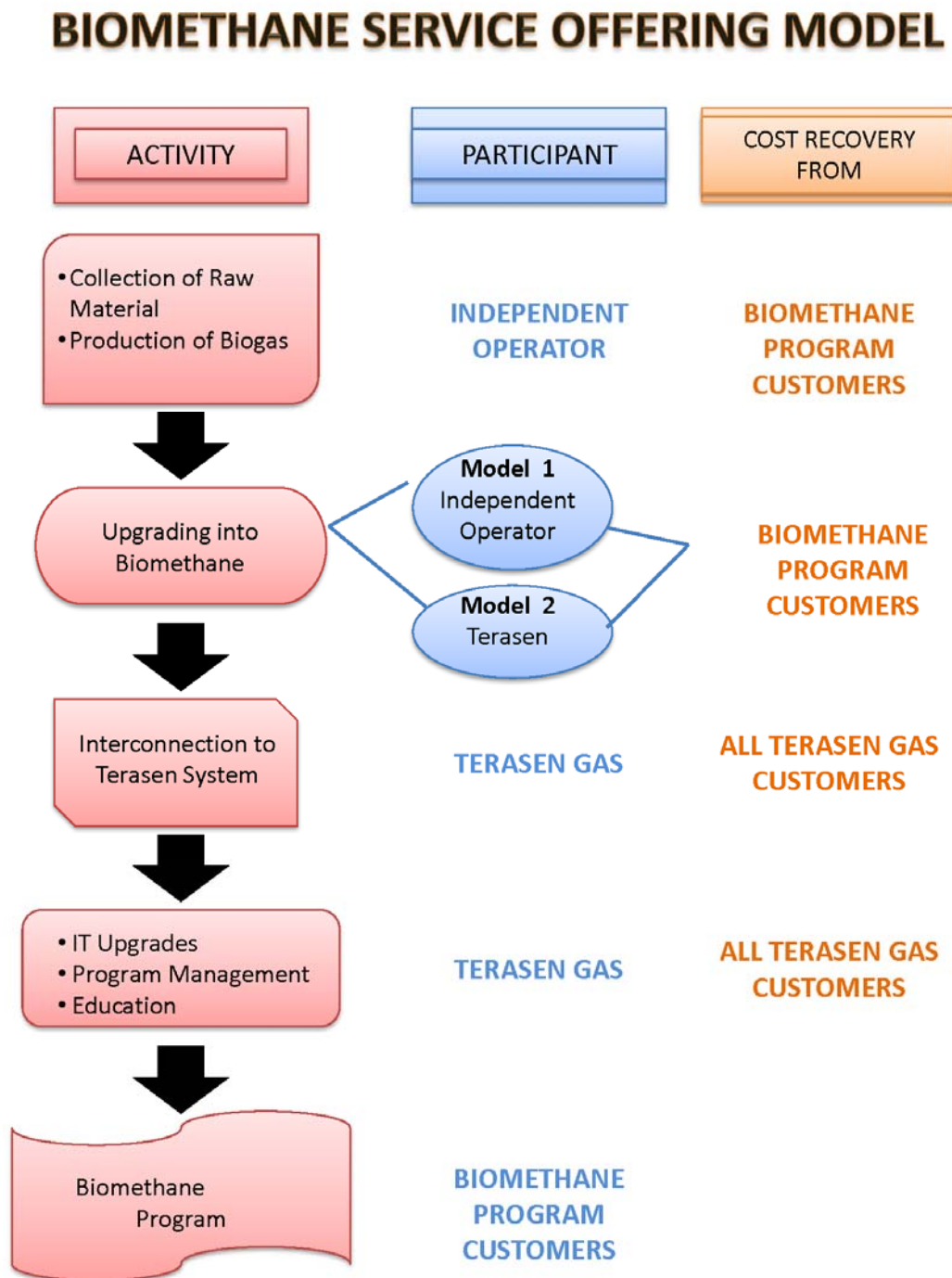
3.1.3 Cost Allocation and Recovery

Terasen Gas states that the Offering will be a premium product and accordingly customers choosing to participate will have to pay a higher price to reflect the actual higher cost of the Biomethane. Terasen proposes the following cost allocation and pricing principles for its new end-to-end business model:

- *Customers should bear the cost of the energy they choose to consume.* Therefore, Terasen intends to aggregate the biogas acquisition and upgrading costs and proposes to recover them as a commodity cost for Biomethane from those customers who opt for the Program. In those cases where Terasen buys the upgraded Biomethane from an independent operator that cost would be included as a commodity cost.
- *Costs associated with making the Biomethane service offering available to all customers should be borne by all non-bypass customers.* Terasen envisages these costs to include quality monitoring, IT upgrades, program management and customer education with some marketing involved.

(Exhibit B-1, p. 3)

The Biomethane Service Offering Model is depicted for the reader's benefit in the diagram below.¹



¹ Diagram was created from information in Exhibit B-1

3.1.4 Notional Delivery

Terasen Gas proposes what it describes as a “notional delivery” of Biomethane. The Company explains that “notional delivery” is a concept used in the trading of commodities, where delivery is notional rather than real. Terasen is of the view that the interchangeability of Biomethane with conventional natural gas allows for this concept to be used in the Application, as the end user will not be able to differentiate between the products. Terasen draws the analogy between the residential Customer Choice Program where gas marketers are responsible for delivery of natural gas to the system, but their particular customers may not actually receive those molecules of natural gas, as individual molecules are not tracked. (Exhibit B-1, p. 15)

The Commission Panel has some concern about the applicability of notional delivery to the Offering. The Application is premised on the fact that Biomethane is a different product than natural gas with different carbon properties. Terasen is asking customers to agree to pay a premium for a different and arguably superior product which the customer may or may not receive. It is important that Terasen be able to communicate this distinction as part of its marketing program so there is no misunderstanding on the part of the consumer.

3.2 Outline of Projects

TGI has included two supply projects in the Application for the Commission’s consideration. They represent concrete examples of the two supply models described earlier. The Projects are described in more detail below.

3.2.1 Catalyst Project

The first project brought forward by Terasen is an agricultural waste to Biomethane project located in Abbotsford, BC. The project partner is Catalyst Power Incorporated (Catalyst). In this project, which represents the first supply model, Terasen is purchasing upgraded Biomethane with a relatively small capital investment required only in distribution main and interconnection facilities.

Highlights of this Project and key provisions of the supply agreement are summarized as follows:

Highlights of the Project:

- Catalyst investment in the digestion, gas collection and upgrade technology: \$ 5 Million; and
- Terasen investment as shown below:

Table 3-1: Capital Cost Summary

Item	2010 Estimate
Interconnection (valves, meter, regulator)	\$ 77,300
Quality Monitoring	282,500
Main and Main Connection Costs	227,900
Total	\$ 587,700

Source: Exhibit B-1, p. 100

The injected Biomethane is forecast to displace the quantity of natural gas required to serve more than 875 households annually, based on Lower Mainland typical household demand of 95 GJ per year, and thus reduce GHG emissions by at least 4,000 tonnes annually based on the minimum projected supply. Assuming a 10 percent blend, this converts to 8,750 customers. The range of expected annual GHG emissions associated with the Catalyst Agreement is shown below.

Table 3-2: Annual CO₂e reduction

	Minimum Contract Amount	Maximum Contract Amount
Gigajoules ("GJ") of Natural Gas displaced	84,000	180,000
Tonnes of CO ₂ e per gigajoule	0.050	0.050
Tonnes of CO ₂ e reduced	4,200	9,000

Source: Exhibit B-1, p. 101

Key provisions of the Catalyst supply agreement:

- Quantity: Minimum annual delivery of 84,000 GJ;
- Term: 10 years;
- Price: As negotiated with Catalyst, falls within the range of expectations;
- Quality: Terasen Gas quality specifications; and
- Other: The non-performance definition and excuse from non-performance for maintenance in the agreement strike a balance between committing both Catalyst and Terasen to deliver and accept pipeline quality Biomethane and allow both companies sufficient flexibility to solve minor operational issues which may arise.

A number of measures have been incorporated into both the agreement and the facilities themselves to mitigate a range of potential risks. These risks are further addressed in Sections 4.7 and 4.9.

Terasen states that Catalyst has conducted significant public consultation in its efforts to get the necessary agriculture and land use approvals in place to allow the construction and operation of an anaerobic digester and biogas upgrading system on the site. (Exhibit B-1, pp. 94-105)

3.2.2 CSRD Project

This biogas project will be located at the regional landfill within the city limits of Salmon Arm, BC. The project partner is the Columbia Shuswap Regional District. Terasen states that in this case it will be purchasing raw biogas and investing in upgrading equipment along with the distribution main and interconnection facilities, which include gas quality monitoring, pressure regulation and odorizing. Highlights of the proposed project and key provisions of the supply agreement are summarized as follows:

Highlights of the Project:

- CSRD investment in the landfill gas capture, collection and flare system: \$ 4.8 Million
- Terasen Gas investment in upgrading and interconnection facilities as shown below.

Table 3-3: Capital Cost Summary

Item	2010 Estimate
Interconnection (valves, meter, regulator)	\$ 395,500
Quality Monitoring	242,000
Main Connection Costs	45,100
Upgrading Plant (Installed)	1,621,800
Total	\$ 2,304,400

Source: Exhibit B-1, p. 89

It should also be noted that in this Project funding from the provincial government's Innovative Clean Energy (ICE) fund and the BC Bioenergy Network (BCBN) of some \$500,000 will reduce the Terasen capital expenditure to \$ 1.8 Million.

The injected Biomethane will displace the quantity of natural gas required to serve more than 300 households annually, based on North Okanagan typical annual household demand of 100 GJ, and thus reduce GHGs by approximately 1,500 tonnes per annum as shown in the Table below.

Table 3-4: Annual CO₂e reduction

	Expected Contract Amount	Maximum Contract Amount
Gigajoules ("GJ") of Natural Gas displaced	30,000	45,000
Tonnes of CO ₂ e per gigajoule	0.050	0.050
Tonnes of CO ₂ e reduced	1,500	2,250

Source: Exhibit B-1, p. 91

Key provisions of the supply agreement:

- Quantity: 30,000 GJ per annum;
- Term: 15 years, with a yearly automatic renewal after the first 15 years;
- Price: As negotiated with CSRD, falls within the range proposed as an economic test for future projects;
- Quality: a raw gas quality specification; and
- Other: CSRD is required to make commercially reasonable efforts to maintain equipment and supply the best quality gas possible.

Again, a number of measures have been incorporated into both the agreement and the facilities to mitigate a potential supply risk, operational risks and risk of stranded assets. These are addressed in further detail in Sections 4.7 and 4.9.

Finally, Terasen states the CSRD has indicated that there are no outstanding claims or concerns in the planned project area. (Exhibit B-1, pp. 83-94)

3.3 Criteria for Future Projects

One of the numerous approvals Terasen is seeking is an order that future supply contracts for the purchase of biogas or Biomethane which meet the criteria described in the Application meet the filing requirements in sections 71(1)(a) and 71(1)(b) of the *UCA*. It states that an early adoption of this framework will facilitate growth of the supply industry “by establishing clear and achievable parameters for our potential supply partners.” This Section addresses the criteria which have been proposed.

3.3.1 Guiding Principles for Development of Biomethane Supply

TGI intends to apply the following guiding principles to the development of future Biomethane supply:

- a) **Project Economics:** A cost of service (COS) model will be used to evaluate the attractiveness of projects, with the estimated capital and operating costs borne by Terasen and the estimated production costs of Biomethane as key inputs. Each project will be evaluated against a COS threshold that will represent the maximum cost of Biomethane delivered to the Terasen system.
- b) **Gas-Processing Technology:** Terasen will use proven technology to ensure reliability and safety with technology being evaluated on the basis of cost, output gas purity and gas recovery.
- c) **Working with biogas Project Proponents:** Terasen will work with project proponents to mitigate project risks.
- d) **Cost Recovery:** Terasen will capture all capital and operating costs associated with the supply projects, including regulated return on capital investments in an aggregated Biomethane cost of gas calculation that will be recovered from customers participating in the Biomethane Program.
- e) **Gas Quality:** Biomethane that is injected into the system must meet minimum Terasen gas quality specifications.
- f) **Injection Location:** Terasen will evaluate all projects on a case-by-case basis to ensure that the injection location has sufficient local demand to utilize Biomethane.
- g) **Contract Length:** Long term contracts, preferably ten years or more to allow for a stable supply and a reasonable capital depreciation period.
- h) **Project Design for Mobility:** Terasen will engineer facilities in order to minimize the risk of stranded assets.
- i) **Investment Arrangement:** Terasen's preferred model is to invest in upgrading equipment to retain maximum control of gas quality and safety. It will invest in sufficient equipment to ensure that quality and safety specifications are met and that there is a means of stopping Biomethane supply on short notice. In all cases, Terasen will reserve the right to refuse gas if customer safety or asset integrity is at stake.

(Exhibit B-1, pp. 74-76)

3.3.2 Maximum Biomethane Cost

Terasen proposes to apply a maximum cost as a screen for the supply of Biomethane. This will ensure it has adequate flexibility in developing new sources of supply while protecting Biomethane

customers from undue rate increases. Further, Terasen notes BC Hydro's entrance into the biogas market by way of the Call for Community Biomass Energy projects. TGI states that "a given maximum rate for Biomethane helps create a better understanding for potential biogas producers of the relative economic benefits of using their biogas for upgrading to Biomethane vs. combustion to create electricity to sell to BC Hydro." (Exhibit B-1, p. 76)

TGI approach to determining the maximum Biomethane cost is addressed below.

3.3.2.1 BC Hydro's RIB Tier 2 Rate

Terasen Gas states that because there are no available external benchmarks specific to Biomethane the price of new British Columbia based electricity supply, a competing clean energy source, provides an appropriate initial reference point or proxy for Biomethane pricing until the market is better developed. By Order G-124-08 the Commission directed BC Hydro to establish the Residential Inclining Block (RIB) Tier 2 rate at BC Hydro's cost of new supply at the plant gate, grossed up for losses. Terasen states that because this rate is linked to the cost of new clean electricity supply, it is an appropriate price cap for Biomethane after adjusting for thermal efficiency and allowances for its distribution costs. Accordingly, Terasen proposes that, until such time as an alternative market-based mechanism becomes known, it will seek to develop Biomethane projects at a maximum unit cost based on the following calculation:

Table 3-5: Proposed maximum Unit Cost

BC Hydro Tier 2 Rate: ⁸⁴		8.78 ¢/kWh		
Conversion to Gigajoules	*	277.778	=	\$24.389/GJ
90% Efficiency Adjustment	*	0.90	=	\$21.950/GJ
Terasen Gas Rate Schedule 1 (LML) Basic Charge	-	\$1.800/GJ	=	\$20.150/GJ
Terasen Gas Rate Schedule 1 (LML) Delivery Charge	-	\$3.145/GJ	=	\$17.005/GJ
Terasen Gas Rate Schedule 1 (LML) Midstream Charge	-	\$1.725/GJ	=	\$15.280/GJ

Source: Exhibit B-1, p. 77

Should this formula be accepted, Terasen plans to use a maximum unit cost of \$15.280 per GJ as “the default financial litmus test for the time being.” In Terasen’s rate structure this price would be comparable to the commodity price for conventional natural gas. Finally, Terasen proposes to adjust the maximum forecast rate to reflect the unit cost changes in the various components included in the calculation. (Exhibit B-1, pp. 76-77)

3.3.2.2 Alternatives Considered for Economic Test

In developing its proposed economic test, TGI considered and rejected five alternative methodologies as follows:

- **BC Hydro Clean Energy Rate:**
 - \$0.13 per kWh (Clean Energy call) which, using the above conversion formula, translates into a comparative price for Biomethane of \$25.83 per GJ. Terasen notes that while Biomethane costs will be streamed directly to Terasen customers, the higher clean electricity costs will be mixed into a large pool of lower-cost electricity to BC Hydro customers to form the RIB Tier 2 rate. As a result, the Clean Energy Rate would be too expensive and not comparable to the blended electricity rates actually charged to customers. Accordingly, Terasen states that “it must protect its competitive standing” and that due to its transparency, the RIB Tier 2 rate is the superior solution.
 - \$150 per MWh (Bioenergy Phase 2 Call RFP) which, using the same multiplier of 277.778 kWh per GJ is equivalent to BC Hydro offering \$41.667 per GJ of electricity made from raw biogas. Applying again the above conversion formula results in a competitive alternative proxy of \$30.83 per GJ of Biomethane delivered to a Terasen customer. For the same reasons stated above, Terasen rejected this alternative. However, Terasen states it “may need to review this rationale as the market for Biomethane develops so as to remain competitive in sourcing biogas and Biomethane in British Columbia.”
- **South East False Creek District Energy System (SEFCDES):** This option was not pursued because it might be less relevant as the SEFCDES only serves a small, high-end showcase development neighbourhood in Vancouver. Further, Terasen states that the rate structure is not truly comparable to those of large scale utilities because District Energy System rates could include more services and product offerings than the typical price for services provided by electricity or natural gas utilities.

- **Dockside Green Energy (DGE):** Terasen states that the DGE rate structure, serving one high-end neighbourhood in Victoria, encompasses a mix of a fixed amount for floor space and a variable amount for energy which is first charged to strata corporations, which then allocate the costs to individual strata unit owners. This in turn makes a direct translation between energy consumption and cost more complex. Accordingly, Terasen also rejected this option.
- **Gas Commodity Rate Cap** (a multiple of the existing natural gas commodity rate to set a fixed percentage premium): Terasen also eliminated this methodology because there is no apparent relationship between factors driving natural gas market prices and the cost of producing Biomethane. Further, Terasen notes as GHG neutral Biomethane is a fundamentally different product than conventional natural gas, therefore “imposing a pricing relationship between the two would be difficult to justify.”
- **No Cap:** Terasen states that because the Biomethane service offering is fully optional for customers who may leave it at any time, setting no price cap “would be consistent with market-based economic principles of determining the price and therefore the availability of a product as being whatever the market may bear.” Ultimately, however, Terasen decided that, given the lack of customer experience with this type of offering, and given that this is only the first phase of a multi-phase product roll-out, there should be a price ceiling for the product to build up both the level of customer comfort and education until the market is more mature.

(Exhibit B-1, pp. 76-80)

3.3.3 Regulatory Review of New Supply Projects and Contracts

For future biogas or Biomethane supply contracts TGI proposes a streamlined process in which it will only file the supply contract for acceptance under section 71 of the *UCA*, with no additional information. Terasen would choose not to apply for approval of expenditures pursuant to section 44.2 of the *UCA*. Terasen proposes the following criteria for this streamlined process:

1. The projected supply meets the proposed economic test with the maximum price for delivered Biomethane re-calculated from time to time based on updates to the BC Hydro RIB Tier 2 rate;
2. The supply contract is at least ten years in length;
3. Terasen has, by agreement, retained final control over the injection location;
4. Terasen is satisfied that the upgrade technology is sufficiently proven;

5. Terasen has, by agreement, reserved the right to refuse gas if customer safety or asset integrity is at stake; and
6. The partner is a municipality, regional district or other public authority, or is a private party with a track record in dealings with Terasen or that posts security to reduce the risk of stranding.

(Exhibit B-1, p. 80)

3.3.4 Post Implementation Review

Terasen states that in requesting approval for streamlining the development of future Supply and Tariff Offerings, it acknowledges a requirement for a thorough review of the Biomethane Program's success in the future. Terasen proposes that the review be conducted through a Post Implementation report and workshop, both occurring five years after the launch date of the residential Biomethane Program.

Terasen further states that this timeline should allow it adequate time to validate its research into residential and commercial markets, and to develop additional supply projects to help this industry to mature. In the meantime, Terasen proposes to report on the developments of this new program through its revenue requirement applications related to the end-to-end business model and report the Biomethane gas cost as a part of the quarterly gas cost reporting established with the Commission. (Exhibit B-1, p. 81)

3.4 Pricing Methodology

Terasen notes that the Biomethane gas which is sold to customers is expected to be more expensive than conventional natural gas for the foreseeable future. As outlined in Section 3.1.3 of this Decision, Terasen has, based upon a set of principles, developed a methodology for allocating certain costs to all TGI customers and others specifically to Biomethane Program customers who have voluntarily signed up for the offering.

For all non-bypass customers Terasen is proposing setting up non-rate base deferral accounts to capture costs incurred which are applicable to this group for the period prior to January 1, 2012 (encompassing the remainder of the 2010-2011 revenue requirements period). Following this it proposes to recover the costs from the non-bypass customer group through their amortization over the ensuing three year period. Based on projections, the impact on non-bypass customers from 2012 to 2019 varies from \$0.004 to \$0.006 per GJ with a levelized rate impact of \$0.004 per GJ. Terasen calculates the incremental revenue requirements over this period to be \$4,084,100 resulting in an annual incremental cost of 38 cents for a customer using 95 GJ per year. (Exhibit B-1, pp. 107-111)

TGI states that the Biomethane costs will be recovered from the voluntary group of Biomethane Program customers through a Biomethane Energy Recovery Charge (BERC). To capture any variance between forecasted BERC and actual costs, TGI seeks Commission approval for a further deferral account. The Company has calculated the initial BERC to be \$9.904 GJ and has requested this amount be effective October 1, 2010. This will apply to 10 percent of the total gas used (the Biomethane portion) and will be adjusted annually based on deferral account balances. Customers choosing this option will do so under Rate Schedule 1B which has been applied for in this Application. (Exhibit B-1, pp. 112 -118)

4.0 KEY ISSUES AND DETERMINATIONS

4.1 Introduction

Having laid out the key attributes and a framework for the Program in Section 3.0, we will now examine the issues related to the Application. We will begin by examining the key elements of the Application in terms of its alignment with British Columbia's energy objectives and Provincial Government policy and continue with a discussion of the adequacy of supply and related demand issues. This will demonstrate that in the Panel's view there is justification for proceeding, at a minimum, with the Projects. Additionally, our examination will provide a basis upon which to discuss issues related to how to most effectively roll out the Program and protect the public interest. These include the criteria for future projects, the risk of stranded assets, principles for cost recovery, other project risks and post implementation review and reporting.

4.2 Alignment with British Columbia's Energy Objectives and Provincial Government Policy

The Panel finds that the Application is consistent with government policy as outlined in the *CEA* and elsewhere.

As noted earlier, section 2 of the *CEA*, sets out British Columbia's energy objectives. Relevant objectives include:

- (d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources;
- (g) to reduce BC greenhouse gas emissions;
 - (i) by 2012 and for each subsequent calendar year to at least 6 percent less than the level of those emissions in 2007;
- (h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia;

(j) to reduce waste by encouraging the use of waste heat, biogas and biomass.

“Greenhouse gas” is a defined term which means: “any or all of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and any other substance prescribed by regulation.” (*Greenhouse Gas Reduction Targets Act* S.B.C. 2007, c. 42 s. 1)

However, Terasen’s evidence is that Biomethane is greenhouse gas neutral with zero carbon intensity, making it, in a pure form, greener than the electricity which is consumed in the province. (Exhibit B-10, BCUC IR 2.4.1)

The *Carbon Tax Act*, S.B.C. 2008, c. 40 (CTA) is also relevant. Schedule 1 to the CTA contains a Table which sets out the rate of tax applicable to various types of fuel, including natural gas. However, by section 1 of the CTA, neither methanol produced from biomass nor methane produced by waste in a landfill is considered to be a “fuel” for the purposes of the Table and is therefore arguably not subject to a carbon tax.

TGI states that it has received confirmation from the British Columbia Ministry of Finance that Biomethane itself is exempt from the carbon tax but that there is some uncertainty surrounding the tax treatment of Biomethane blended with natural gas. Terasen is seeking to obtain clarity from the Ministry on this issue. (Exhibit B-12, BCSEA IR 2.21.1)

The publication of the British Columbia government entitled “BC Bioenergy Strategy – Growing our Natural Energy Advantage” provides insight into the process, government policy and the resultant carbon footprint. Essentially, as noted above, bioenergy is energy which is derived from organic biomass; biomass being waste material which is often produced from normal daily activities and includes renewable sources such as manure, municipal waste, sewage and wood debris. When this biomass is converted to energy, it is considered to be a clean source of energy. This is because gas which would simply be released into the atmosphere naturally is used to produce energy, in place of non-renewable sources, thus reducing the greenhouse gases which would otherwise be released into the atmosphere.

The publication states: “[b]ioenergy is absolutely critical to achieving B.C.’s climate goals and economic objectives” and the government indicated that its bioenergy strategy would create new economic opportunities and “establish British Columbia as the hub of a global supply network of bioenergy resources, technologies and services.”

The Application includes letters of support, including a letter dated April 5, 2010 from the BC Sustainable Energy Association which states: “[a]ppropriately carried out and regulated, the use of renewable biogas would cause net reductions in greenhouse gas emissions in BC relative to business as usual.” As noted previously, the Ministry of Energy, Mines and Petroleum Resources also supports the Biomethane Program as being in alignment with Provincial policy actions and objectives.

Section 44.2 (5) of the *UCA*, requires the Commission to consider a number of matters prior to accepting an expenditure schedule filed by a public utility under section 44.2. Relevant to this application are: the applicable of British Columbia’s energy objectives, Terasen’s most recent long term resource plan filed under section 44.1, if any, and the interests of persons in British Columbia who receive or may receive service from the public utility.

Applicable British Columbia Energy Objectives

The applicable objectives were set out in detail in Sections 3.1 and 4.2 above.

The Commission Panel is of the view that the process of converting biomass to biogas to usable Biomethane uses innovative technology, as evidenced by the government’s commitment to its bioenergy strategy. Biomethane is also considered to be clean and is a renewable resource. Further, the use of Biomethane in place of natural gas will reduce greenhouse gas emissions, as explained above, and the Biomethane Program entails the use of biomass and biogas.

The Commission Panel also considers the carbon tax to be another clear expression of government policy aimed at reducing carbon and the fact that Biomethane is not considered subject to the tax (albeit in a pure form) provides additional support for the Program.

The Commission Panel therefore finds that the Application is consistent with British Columbia's energy objectives and Provincial Government energy policy.

TGI's Most Recent Long Term Resource Plan

Terasen filed a long term resource plan under section 44.1 on June 27, 2008. The long term resource plan included five year capital plans and statements of facilities expansion, although no specific approval was requested. The only issues of any contention were carved off and made the subject of a separate proceeding, being Terasen's Energy Efficiency and Conservation Application. The long term resource plan was accepted in its modified form by Commission Order G-194-08 dated December 15, 2008.

The Commission Panel sees nothing in Terasen's long term resource plan which is inconsistent with the Biomethane Program.

The Interests of Persons in British Columbia who
Receive or May Receive Service from Terasen Gas

The Commission Panel considers that allowing customers to opt to select the more expensive Biomethane product is in the interests of Terasen's customers at this time, as it will provide maximum customer choice. In the future, it may be unnecessary to allow for this choice, as the carbon tax increases and prices of natural gas and Biomethane adjust in accordance with market forces. A portion of the expenditure will be recovered from all non-bypass customers and, considering the relatively small cost of making the Program available, the Commission believes that it is in the interest of Terasen customers whether or not they choose to participate.

4.3 Biogas Supply

To evaluate the merits of the Application, the Commission must determine if there is enough evidence in this proceeding to forecast that the potential Biomethane supply in TGI's service area can support the planned offering. Within the Application, Terasen performs an evaluation and concludes that the potential Biomethane supply is sufficient. (Exhibit B-1, p. 66)

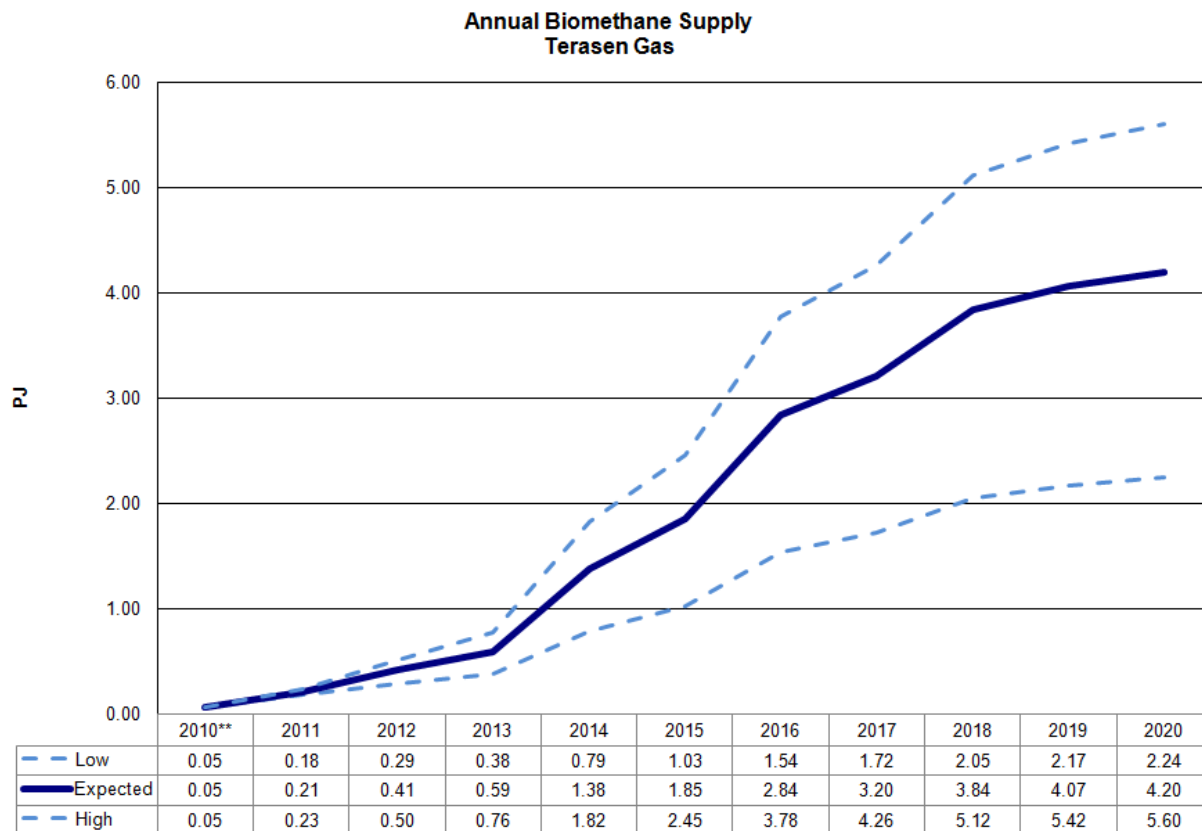
In order to estimate the future potential of Biomethane, TGI undertook a four step process that included: i) quantifying the total amount of bioenergy in BC; ii) identifying and excluding bioenergy resources not suitable for Biomethane; iii) estimating the range of supply, and iv) developing a short term supply estimate. This process involved collecting data from sources who have studied BC's bioenergy, making reasonable estimates of future events, and engaging potential partners who have an interest in Biomethane production. (Exhibit B-1, pp. 62-65)

Supported by this preliminary estimation, TGI believes there is sufficient raw biogas to produce enough Biomethane to support its planned offering and estimates Biomethane supply in 10 years could be in the range of 2.24 to 5.6 Petajoules (PJ).² Terasen also noted that there is strong interest from various potential partners to work with it to develop Biomethane projects within its service territory. (Exhibit B-1, p. 66, as amended by Exhibit B-1-1)

However, Terasen notes that the sources of the energy and estimated supply of Biomethane are not well established. It is Terasen Gas' position that the first four years of the estimate are more accurate than the long-term forecast, but both long-term and short-term estimates are subject to some uncertainty. (Exhibit B-1, p. 65)

A graphic demonstration of Terasen's estimated availability of Biomethane until 2020 has been included below:

² One Petajoule is 10⁶ Gigajoules and Terasen's total forecast energy consumption for 2011 was 161.8 PJ in the 2010-2011 Revenue Requirements Application made to the Commission on June 15, 2009.

Figure 4-1: Terasen Gas Forecast for Annual Biomethane Supply (PJ)

Source: Exhibit B-1, p. 65 as amended by Exhibit B-1-1

TGI's projection of Biomethane supply indicates that initial supplies will be much lower than the potential supplies reached in 2020. It forecasts Biomethane supplies in 2010 to be 0.05 PJ and to be in the range of 0.18-0.23 PJ in 2011. (Exhibit B-1, p. 65 as amended by Exhibit B-1-1) Given that Biomethane supplies are not yet well established (Exhibit B-1, p. 65), the Company has proposed risk-management techniques to address potential Biomethane supply shortfalls. Terasen suggests that these techniques, which include limiting program enrollment and reserving the right to purchase carbon offset credits or remove customers from the program provide the Company with an additional safety net if needed. (Terasen Final Submission, p. 44)

No Intervener raised concerns regarding matters of Terasen's Biomethane supply.

Commission Determination

The Commission Panel believes that Terasen has reasonably identified potential sources of biogas in its service area and evaluated the likelihood of Biomethane production. However, this is a new type of venture and there is little independent evidence to corroborate these estimates. The Commission Panel is satisfied that Terasen understands this difficulty and related impacts, and has made reasonable attempts to formulate an estimate given these constraints. **The Commission Panel accepts TGI's estimate of its potential Biomethane supply and finds this supply to be sufficient to justify moving forward with the Biomethane Program but the Panel also acknowledges the limited data available to support this estimate.**

As noted, the Commission Panel accepts that there is a risk that the Biomethane supply estimates may be inaccurate. The Commission Panel further notes that TGI has attempted to mitigate this risk by proposing policies that allow it to purchase carbon offset credits or limit service in certain circumstances. **The Commission Panel finds that TGI has proposed reasonable techniques to address the risk of Biomethane shortfalls if short-term supply estimates are overstated. Further, the Commission Panel approves TGI's proposal to purchase carbon offsets and to recover costs through the Biomethane Variance Account in the event of under-supply of Biomethane, at a per gigajoule unit price not to exceed the difference between the Biomethane Energy Recovery Charge and the Commodity Cost Recovery Charge in effect at that time.**

4.4 Product Demand

A fundamental consideration is determining whether there is sufficient demand from the BC consumer to justify the implementation of a comprehensive Biomethane gas offering program within the province. Terasen, as a means of providing background in its Application, provides an overview of the types of green business models or programs deployed in North America and their participation rates. (Exhibit B-1, pp. 28-29) In addition, Terasen commissioned TNS Canadian Facts (TNS) to conduct primary research as a means of evaluating and validating potential BC residential and commercial markets for a biogas program as well as the market drivers and factors affecting

different price points. (Exhibit B-1, p. 35)

In its review of voluntary renewable energy market programs in North America, Terasen notes that there are three primary types of programs:

- Contribution programs – those designed to allow customers to contribute to a utility managed fund for renewable energy project development.
- Energy-based programs – those allowing customers for a premium to purchase a certain amount of energy from sources which are renewable.
- Carbon offset programs – those which provide the customer the option of offsetting their GHG emissions through the purchase of carbon offsets.

Of these, Terasen notes that energy-based programs had the highest level of success. Further, the Company reports that according to National Renewable Energy Laboratory (NREL) the top ten green programs in the US in 2008 had participation rates ranging from 5 percent to 21 percent and all ten were some type of energy-based scheme. Overall, the participation rate for all programs reported on had a mean of 2.2 percent and a median of 1.2 percent, numbers which have increased steadily over the previous six years. (Exhibit B-1, pp. 28-30) Terasen reports that if the average were relied upon, the uptake in this jurisdiction would result in over 16,000 signups for the Biomethane Program. This exceeds anticipated production at the two current supply projects in the Application. (Exhibit B-1, p. 46)

Terasen commissioned a survey of residential and commercial customers. Key findings of the survey as reported are as follows:

1. Both residential and commercial customers strongly support Terasen's investment in and the offering of biogas programs (67 percent support investing in biogas projects and 65 percent support offering programs).
2. Both customer markets also show preference for an energy-based program. When presented with a choice between biogas and carbon offsets, customers favoured the former by a three to one margin. Further, 56 percent of residential and 47 percent of commercial customers indicated they would sign up for a biogas program as opposed to 24 percent of

residential and 35 percent of commercial who would do so with a carbon offset based program.

3. When given a choice as to whether customers would prefer a program that was paid for by customers who signed up for a biogas offering and paid a premium as opposed to all customers bearing the cost 47 percent of residential and 60 percent of commercial customers preferred a universal price increase (to all customers) while 26 percent supported a premium price increase. However, a large number (27 percent) did not state a preference or did not know how to answer the question. When questioned further about the level of increased costs customers would be willing to pay if all customers had to pay (amounts between 0.5 and 3 percent were explored), there was a strong support for a modest percentage increase in cost (between 0.5 and 1 percent). This support lessened as the cost premium approached 3 percent.
4. With respect to price premiums and blends with a voluntary program, there was a strong preference for a 10 percent price premium on the commodity and for a 10 percent blend of biogas and corresponding GHG reductions (46 percent for both residential and commercial). The preference dropped significantly for higher prices and blends of biogas and GHG reductions.
5. Assuming the program was offered on a voluntary basis, 16 percent of residential and 10 percent of commercial customers indicated a disposition to enroll. These numbers drop as the price level is raised. Terasen reports that this equates to an estimated 120,000 residential customers and 9,200 commercial customers.

On the basis of this research Terasen has concluded that a renewable energy program where customers enroll to have a portion of their natural gas come from biogas will be most effective. Terasen further concludes that the number of customers who would support a universal cost increase if it were moderate, is supportive of its proposed hybrid model where some costs associated with the Program are borne by all customers. Finally, it has concluded that the research supports rolling out the Program first to residential customers due to their higher participation potential and their preference for an initial offering of a 10 percent cost increase for a 10 percent blend to maximize household involvement. (Exhibit B-1, pp. 35-47)

In response to BCOAPO IR 1.4.3, Terasen indicated that it undertook to reflect some of the characteristics of the top ten green programs in its proposal. Included among these are the following: the choice of a renewable energy program, the consideration of marketing strategies such as those identified in Chartwell's "Helping Customers Live a Sustainable Lifestyle 2007"

(Exhibit B-1, Appendix C-2), and the use of a lower price option in the introductory phase of the program.

None of the Interveners expressed concern with respect to Terasen's estimate of customer demand and how this was integrated into Program development. However, the BCOAPO did express some concern with respect to the use of the mean rather than the median as related to the level of "take up" rates in the secondary research. In spite of these concerns, it stated it did not "believe that TGI's estimated total demands for green offerings are a cause for concern in this proceeding." (BCOAPO Final Submission, p. 3, emphasis in original)

Commission Determination

The body of research presented by Terasen demonstrates that there is a willingness among customers to actively support what has been described as "green pricing" programs. The information provided by NREL indicates that there is significant variance among the US jurisdictions reviewed with respect to the level of participation. Ignoring for a moment the results and attributes of the ten most successful programs, the fact that the mean participation rate for all programs was 2.2 percent, which would result in an uptake rate of 16,000 households in BC, provides some comfort notwithstanding the concerns raised by BCOAPO that the median of 1.2 percent was a more appropriate measure. By contrast, the TNS survey indicates there may be a potential participation rate as high as 120,000 households if customer actual participation rates match customer intentions measures.

The Commission Panel notes that the TNS survey undertaken by Terasen was with BC residents only and is more representative and better reflects the customer views and intentions as well as the unique market conditions within the province of British Columbia. Accordingly, we put more weight on this survey in spite of the fact that it measures intentions rather than actual results as was the case with the NREL Report. However, in doing so the Panel acknowledges there is a potential for a relatively high participation rate (perhaps as many as 120,000 households) but is not persuaded that the case for this has been adequately made. In our view, the most appropriate way

to determine the actual market potential as differentiated from customer intentions is to test it within the BC market.

Terasen, in the view of the Panel has chosen a model which has been designed to reflect much of what has been learned from successful programs in other jurisdictions as well as from the primary research conducted within BC. Firstly, the choice of an energy-based program is very much in keeping with the success stories from other jurisdictions. Moreover, it is an appropriate response to what was learned through research in the BC market where both residential and commercial customers indicated a strong preference for this type of model. We also consider the choice of a 10 percent premium for a 10 percent blend of biogas to be a good choice given the fact that the TNS survey indicates a strong preference for these percentage levels.

The Commission Panel finds that the research presented by Terasen supports the position that there is likely to be sufficient demand to justify moving forward with a Biomethane Program.

4.5 Commission Determination on the Projects

As noted in the above, the Commission Panel is satisfied there is sufficient demand for and supply of Biomethane to move forward with the Projects. Further, the Panel is satisfied the Program is in alignment with British Columbia's energy objectives and government policy. **Accordingly, we approve the Purchase Agreements with the CSRD and Catalyst, and expenditures related to the facilities for both of these Projects.**

However, the Panel remains concerned that the model proposed by Terasen Gas has yet to be tested in the British Columbia marketplace. In our view it would be prudent for TGI to gain knowledge and experience by a thorough testing of the Program before any firm determination can be made as to the full market potential. The two Projects will provide a reference case which will serve as a basis for future projects. **Therefore, we have determined the scope of the Biomethane Program should be limited until such time as actual results can be analyzed and more definitive conclusions drawn.** This will be discussed further in Section 4.6, Criteria for Future Projects.

4.6 Terasen's Role in Biogas Upgrading Process

TGI takes the position that its ownership and operation of the upgrading facilities will promote the efficient development of Biomethane supply projects and ensure that the Biomethane, which is to be injected into the distribution system, will arrive “safely and economically” with dependable flow. (Exhibit B-1, p. 6) As discussed earlier, the upgrading process purifies raw biogas to remove contaminants, producing Biomethane, which is directly substitutable for natural gas.

As discussed previously, Terasen Gas proposes two business supply models. In one, CSRD, Terasen will purchase raw biogas from a supplier and upgrade that gas to Biomethane. This model will therefore entail Terasen's investment in the facilities required to upgrade the biogas to Biomethane. This is above and beyond its investment in the facilities necessary to measure the flow of gas, connect to the TGI distribution system and test the gas to ensure its compatibility with natural gas, which is a requirement under both business models.

Terasen notes that its proposed investment in the upgrading facilities is minor in comparison with the significant capital investment involved in the development and collection of raw biogas, a field which it does not intend to enter, as this is currently outside its area of expertise. Nonetheless, its capital investment is acknowledged to be “material.” (Exhibit B-1, pp. 6, 76)

Terasen states that the upgrading of biogas to Biomethane “is purely a gas processing and gas management step” falling within its core expertise and that TGI “is best positioned in most cases to ensure that the biogas is upgraded in a manner that will best ensure a consistent and reliable supply of Biomethane....” (Exhibit B-1, p. 71)

TGI describes the advantages of its ownership of the upgrading facilities as follows:

- Terasen is able to best ensure the safe, reliable and economic delivery of Biomethane to the distribution system;
- Terasen's retention of control over the upgrading process allows it to optimize operations and balance final gas quality with total volume of Biomethane; and

- Terasen's point of control being further upstream of the measuring and monitoring point gives Terasen greater control of gas quality and customer and equipment safety.

(Exhibit B-1, p. 71)

Terasen summarizes its position: "Terasen Gas must own and operate equipment to upgrade raw biogas to Biomethane in order to ensure safe and reliable operation of Biomethane supply projects." However, Terasen Gas does concede that when appropriate project partners can be found, there will be an opportunity for the development of "an independent Biomethane upgrading industry in British Columbia." (Exhibit B-1, p. 72)

Terasen advises that in the natural gas industry, raw gas producers may own and operate the upgrading facilities, or the raw gas may be upgraded in third party facilities. (Exhibit B-1, p. 73)

Terasen also notes that at the time it filed its Application there were "no operating biogas upgrading plants in the province and therefore no experienced operators." (Exhibit B-3, BCUC IR 1.2.2)

Terasen Gas suggests that, as its ownership of the upgrading equipment as utility assets best ensures the reliability of supply, this should be the preferred ownership model, absent other commercial reasons favouring third party ownership. Terasen submits that this supports a flexible approach to the issue. (Terasen Final Submission, p. 29) Terasen further suggests that "commercial realities" will favour TGI's ownership and operation of the upgrading facilities as its involvement as an experienced, reputable and reliable partner will assist developers in obtaining financing. It also suggests that less financing will be needed in total if it owns the upgrading equipment instead of the developer. It further states that "[d]evelopers have indicated that a partner with experience in gas processing and gas technology is attractive." (Exhibit B-2, BCUC IR 1.2.2; Terasen Final Submission, p. 31)

Terasen also submits that, to the extent that its involvement in the upgrading operation might discourage other market participants, such a line of enquiry is misplaced and that "[p]rotecting potential third party suppliers (if and when they exist) from competition...to encourage new market

participants cannot be the end objective of public utility regulation as defined by the [Utilities Commission] Act.” It submits that the Commission only has jurisdiction over the competitive landscape for ownership of upgrading facilities to the extent that such ownership is ultimately related to the quality, reliability and cost-effectiveness of Biomethane service.” Terasen adds that “logic would suggest that the longer-term effect of insulating third parties that might be interested in owning upgrading facilities from competition with an efficient producer like TGI will be inefficiencies that result in higher overall costs of supply to customers.” (Terasen Final Submission, p. 31)

Terasen’s evidence is that the only constraint it is placing on potential third party involvement in the upgrading process is that they are “able to demonstrate they are capable of providing a reliable and safe source of Biomethane.” (Exhibit B-3, BCUC IR 1.26.1)

To the BCOAPO, “the nub of the issue is whether to permit the regulated monopoly distribution utility to venture into a commodity supply venture, and how to reconcile this intrusion into the unregulated, competitive supply market with the need to develop more environmentally benign ways of sourcing household energy.” The BCOAPO offers only “strings-attached” support for the Application, stressing that in its view, “biogas marketing and project costs are, for the most part, best undertaken by non-utility entities” and that this “should not be taken as a template or precedent for the utility to venture further into the gas commodity refining and supply line of business.” (BCOAPO Final Submission, p. 3)

Terasen maintains the view that its venture into the upgrading industry should be done through Terasen Gas itself in its current structure as opposed to through a non-regulated business or through a separate, regulated entity. It’s position is that all upgrading activities are subject to regulation by the Commission, given the definition of “public utility” in the *UCA*, and its application to a “person...who owns or operates...equipment or facilities...for... the production...of natural gas...or any other agent [i.e. Biomethane] for the production of ... heat ... to or for the public or a corporation for compensation...” Terasen states that the definition of public utility covers both the upgrading of biogas to Biomethane and the notional sale of the Biomethane to customers and that

any entity that sells upgraded Biomethane either to the public or to Terasen will be subject to the Commission's regulatory oversight.

However, Terasen suggests that regulation of this business need not be active, but "passive" as the pricing issue can be addressed in the review of the purchase agreements. (Exhibit B-3, BCUC IR 1.1.1)

Terasen states that the "BCOAPO has not articulated how or why TGI's supply model will impair fair competition, prevent a competitive marketplace, or negatively impact ratepayers" and suggests that its evidence in respect of its (or a reliable partner's) need to own and operate biogas upgrading equipment was not challenged. It further suggests that the BCOAPO did not address its other areas of evidence relating to the development of a competitive marketplace. (Terasen Reply, p. 4)

Commission Determination

Assuming, without necessarily deciding that upgrading processes are subject to regulation by the Commission, the Commission Panel remains concerned about Terasen's entry into a new area of business. The Commission Panel is not convinced that Terasen must be involved in the upgrading process to ensure the quality of product, reliability of delivery, and safety of the operation. The Commission Panel is of the view that Terasen's testing and control of the product in its interconnection facilities, prior to its inclusion in the distribution system, which will happen under either proposed business model, will provide that measure of protection. However, the Commission Panel is prepared to allow the CSRD Project to proceed considering grants have been obtained to reduce the cost (and risk) of the project.

The Commission Panel makes no finding on the acceptability of Terasen's involvement in performing the upgrading at this time, particularly as there may be an industry developing which might result in a competitive business environment for future upgrading projects. As this is a new business for Terasen, the Commission Panel rejects Terasen's submission that it is or will

necessarily be an “efficient producer” and that its involvement in the upgrading process necessarily promotes “cost effectiveness”. In addition, the Commission Panel notes that the upgrading of biogas does not have the significant upfront capital investment and potential economies of scale typical of a natural monopoly. Upgrading of biogas may therefore evolve to an industry made up of a number of separate, small upgrading businesses. The use of a separate entity, owned by Terasen, will maintain the advantages Terasen’s cites in terms of its reputation, experience and expertise.

Accordingly, the Commission Panel directs that Terasen’s costs of the upgrading project be segregated so they may be compared with costs of other potential upgrading operations by other industry participants in the future. The Commission Panel further directs that the upgrading business be kept sufficiently distinct so as to be severable, should the Commission determine that this business ought to be conducted through a separate entity in the future.

4.7 Criteria for Future Projects

As outlined in Section 3.3 of this Decision, TGI has proposed that the process for regulatory review of future new supply projects and contracts be streamlined. Within the Application it has sought an order to allow future supply contracts that meet the criteria described within Section 8.4 of the Application to also meet the filing requirements in sections 71(1) (a) and 71(1) (b) of the *UCA*. (Exhibit B-1, p. 133) Accordingly, the Company proposes to file supply contracts only under section 70 [sic] without additional supporting information. (Exhibit B-1, p. 80)

In its Final Submission, Terasen states that the Commission can accept an energy supply contract under section 71 or it can require additional evidence in support of the public interest. Terasen argues that many of the public interest considerations will be the same, while acknowledging there will be differences which will exist among future supply contracts with respect to terms of the agreements including price. Accordingly, TGI submits that the potential for redundancy in the Commission’s review of what are relatively small supply projects makes it desirable for an efficient public interest review process and the criteria (outlined in Section 3.3 of this Decision) provide an appropriate reference point. (Terasen Final Submission, p. 34)

Both the CEC and BCSEA generally support the proposal put forward by Terasen with respect to establishing criteria for acceptance under section 71. BCSEA notes that it provides a balance between efficiency and regulatory oversight. (BCSEA Final Submission, p. 7) The CEC submits that because of the small size of the projects being considered, it would be inappropriate to burden this new initiative with undue regulatory process. However, the CEC submits that the Commission should consider two additional criteria; continued prospects for customers buying the service and continued backup plans for mitigation of risk for the magnitude of supply under contract. (CEC Final Submission, p. 3) BCOAPO provided no specific submissions with respect to the criteria issue.

Terasen states that concerns underlying the CEC's recommendation for the additional criteria have been adequately addressed in the proposal. (Terasen Reply, p. 2)

The Commission Panel acknowledges the need to promote regulatory efficiency where appropriate and in the public interest. However, in doing so, it underlines the importance of establishing criteria that are sufficiently precise and comprehensive to ensure the public interest continues to be met in the future. The Panel believes there are a number of issues arising from the criteria which have been proposed by Terasen. Firstly, there is concern as to whether the RIB Tier 2 rate proposed by Terasen as a price ceiling is appropriate. Secondly, the Panel has concerns with respect to scope of the criteria being proposed and believes that consideration of further criteria should be undertaken in reaching a determination on this.

As outlined previously in Section 3.3.2.1 of this Decision, TGI states that the justification to use RIB Tier 2 pricing as a proxy for Biomethane pricing is based upon two factors:

- the lack of external benchmarks specific to Biomethane; and
- the fact that RIB Tier 2 pricing (currently \$15.28) reflects the price of new British Columbia based electrical supply which is viewed as a competing clean energy source.

On this issue the CEC, while stating it is comfortable with the proposed \$15 ceiling, submits the RIB Tier 2 rate may not be the most appropriate way to regulate Biomethane as BC Hydro's rates may vary for numerous unrelated reasons. (CEC Final Submission, p. 3) BCSEA submits that it agrees with TGI's reliance on the RIB Tier 2 rate as a benchmark for establishing an appropriate cost at least until an alternative market-based mechanism is found. (BCSEA Final Submission, p. 5)

No other Intervener took a position on the price ceiling.

Terasen Gas points out in its Reply that there are currently no external pricing benchmarks for Biomethane and the RIB Tier 2 rate is only an initial reference point and it will propose a price ceiling change in the event it becomes necessary in the future. (Terasen Reply, p. 2)

With respect to the scope of criteria, the Panel notes again that this is a completely new business undertaking for Terasen. While the research conducted indicates there is good potential, this has yet to be proven in the BC marketplace and, in spite of expectations, it could result in failure. The potential impact of this is raised by BCOAPO in its Final Submission where it notes its main concern relates to the impact of the cost of stranded assets on non-participants if the commercial venture is unsuccessful. BCOAPO acknowledges that the small cost, the review process and the ability to remove and resell the installation if required, serve to mitigate its concern. (BCOAPO Final Submission, p. 3)

Commission Determination

The Commission Panel accepts that there is a need for streamlining of the approval process as it is likely that many of the projects which will be proposed in the future will be small in size and subjecting them to rigorous scrutiny in each case would not be in the public interest. **Accordingly, we have determined that future energy supply contracts for the purchase of biogas or Biomethane that meet the criteria listed in Section 3.3.3 of these Reasons with the following additional criteria will meet the filing requirements in sections 71(1)(a) and 71(1)(b) of the Act:**

- **The total production of Biomethane for all projects undertaken under what has been approved in this Decision does not exceed an annual purchase in each year of 250,000 GJ.**
- **The maximum price for delivered Biomethane on the system is set at \$15.28 per GJ.**

The Panel is encouraged by the initiative Terasen Gas has taken with this Biomethane Program and, subject to certain conditions raised within this Decision, is supportive of moving forward with additional projects in the future. However, the Biomethane Program is a new initiative and has not been tested in the marketplace. If the Panel were to approve future projects with no limitations as proposed by Terasen in the Application, it could be placing the ratepayer at risk for what in total could be a substantial amount. We do not believe this would be in the public interest. However, we are not convinced that the risk is so great that all future initiatives should be held back pending full testing of the model as suggested by the comments of BCOAPO. Therefore, we have provided in our determination that TGI can purchase a total of 250,000 GJ annually which will allow some latitude for TGI to proceed with some additional projects before returning to the Commission with the results from what has been undertaken and recommendations for the future. Nevertheless, the Panel would like to be clear that in spite of this, we view these initial programs as a test phase only. The results from these projects will very much determine whether the Program will continue and whether the model as proposed is suitable. We acknowledge the recommendations of the CEC with respect to additional criteria but given the limitations we have set, it is premature to add these criteria at this time. Further, even with these criteria as Terasen has acknowledged, the Commission retains the right to depart from them and require further process. (Exhibit B-3, BCUC 1.24.3)

The Commission Panel notes the comments of CEC with respect to tying the pricing ceiling for future projects to the RIB Tier 2 rate as proposed by Terasen and has similar concerns with respect to the potential for future price changes. However, the Panel is satisfied that setting the rate ceiling at \$15.28 per GJ which corresponds to the current RIB Tier 2 rate is reasonable as it provides Terasen with sufficient discretion to operate with some flexibility with the initial projects.

4.8 Risk of Stranded Assets

A stranded asset is an asset that is worth less on the market than it is on a balance sheet due to the fact that it has become obsolete in advance of complete depreciation. Stranded costs related to stranded assets are inevitable in any industry where the regulatory environment changes dramatically, and partial or full compensation for stranded costs is usually considered fair play for monopoly services suddenly thrust into a competitive market place. Today, the debate continues regarding the extent to which the regulatory compact entitles utilities to recover the cost of stranded assets in future rates. Depending on circumstances, utilities have been allowed to recover the entire investment or a partial investment from their regular customers over a certain amortization period. There may even be situations where no recovery would be permitted. This larger question cannot be answered in this proceeding but, nevertheless, the following should be considered in this context of uncertainty regarding the ultimate responsibility over stranded assets.

This Section addresses the risk of the Projects in the event those ventures are not commercially successful. Related to the risk of failure to supply is the potential for permanent termination of the contract by project partners that would leave Terasen's installed facilities idle. This is a particular concern in the case of the CSRD Project where Terasen Gas is investing in the upgrading facilities.

TGI submits that the risk of stranded assets is modest to start with and that Terasen has taken appropriate steps to mitigate that risk contractually:

- The overall investment required by Terasen is low, being \$1.8 Million for CSRD and \$0.6 Million for Catalyst;
- There is little risk of stranding associated with lack of customer demand, as the Biomethane generated by the two projects would be consumed based on the conservative measure of industry average demand;
- The 15-year and 10-year terms for the CSRD and Catalyst Projects respectively provide longer term supply of biogas and a reasonable period over which to recover equipment costs;

- Under the contracts, Terasen has the right to enter the site and physically recover its facilities after a specified period of non-performance. The majority of facilities used for the project could be recovered and used for other projects. In addition, the CSRD contract provides Terasen with a termination payment in excess of the estimated value of the stranded assets and moving costs whereas the Catalyst contract provides Terasen with appropriate security against stranding; and
- Advancements in upgrading technology will have little impact on the success of the CSRD project, as the current equipment recovers as much as 95 percent of the methane in raw biogas. As a result, any technological improvements over time will result in only minor efficiency improvements and would therefore not make the current technology obsolete.

(Terasen Final Submission, pp. 24-25, 28)

BCOAPO submits that its main concern (apart from whether this is appropriate utility activity at all) is “the risk of stranded costs being visited upon non-participants if the venture is not successful commercially.” However, BCOAPO acknowledges that in this case the relatively small cost, the post-implementation review, and the configuration of the installation to facilitate removal and resale, all mitigate that concern. Finally, BCOAPO submits that Biomethane is a technology which should have an opportunity to incubate under the aegis of the utility, so long as financial risks to non-participants are contained, and that the proposed projects may be a useful and necessary “kickstart” for future green initiatives by other parties. (BCOAPO Final Submission, pp. 2-3)

The CEC submits that the investments proposed by Terasen are modest, the risks relative to those investments are well identified and Terasen has plans for substantial risk mitigation should they be realized. Accordingly, the CEC agrees with Terasen’s summary of its evidence. (CEC Final Submission, p. 2)

Commission Determination

The Commission Panel finds that the total capital investment required by TGI for the Projects is relatively low; especially after allowing for the funding received from the Innovative Clean Energy fund and from the BC Bioenergy Network. The Commission Panel also notes the supporting

Intervener submissions on this matter and finds that Terasen has taken reasonable steps to mitigate the ultimate risk of stranded assets in terms of the specific structure of contracts it has negotiated. Finally, the Commission Panel finds that there is little risk of stranding due to lack of customer demand as the estimates used for projections are on the conservative side.

With regard to future projects, the Commission Panel finds that the Guiding Principles for Development of Biomethane Supply, the proposed contract language as well as the price ceiling, a predetermined production quantity limit and the shorter time period to be allowed for the test period will serve to mitigate concern over the risk of stranded assets. This should be true even in the cases of future projects that will not receive special funding.

4.9 Principles for Cost Recovery

As illustrated in the Biomethane Service Offering Model diagram in Section 3.0, Terasen proposes that customers opting for the Biomethane Offering should pay the full costs of the Biomethane gas supply while all Terasen Gas customers will share the costs related to the interconnection and monitoring equipment as well as the cost of IT upgrades, program management and customer education. This Section outlines the proposal in more detail to address the question: Should any costs be shared by all Terasen customers at all?

4.9.1 Rate Setting

Terasen seeks approval for its proposed rate, tariff provisions, cost allocation methodology, and accounting treatment pursuant to sections 44.2, and 59 to 61 of the UCA. These are listed in Appendix E.

4.9.2 General Cost Recovery Principles

TGI proposes that customers opting into the Offering and committing to purchase Biomethane should pay the full costs to supply pipeline quality Biomethane gas. Where Terasen will acquire raw biogas for upgrading, the acquisition costs of the raw biogas, and the costs of owning and operating the upgrading equipment will be fully recovered via the Biomethane rate. Similarly, for those projects where Terasen will acquire pipeline-ready Biomethane, these costs will be fully recovered via the Biomethane rate. Terasen states that incremental Customer Works LP (CWLP) charges related to processing customer enrolments in the Biomethane Program and ongoing O&M such as customer drops, moves and changes will be fully recovered from only the Biomethane Program customers via the Biomethane rate. (Exhibit B-1, p. 17)

However, Terasen Gas states that some costs are being incurred in order to give all customers the choice of participating in the Biomethane Program, and that all customers obtain environmental benefits from Terasen offering Biomethane as an option. Terasen further states that costs incurred to provide this choice and deliver environmental benefits should be allocated to all customers of the utility because this is consistent with the implementation of other programs, such as the Customer Choice Program. (Exhibit B-1, pp. 107-108)

All operating and maintenance and capital costs included in the determination of the rate impacts, including the allocation of costs between all customers and those choosing to participate in the Biomethane Program, are shown in the following two tables.

Table 4-1
Terasen Gas Inc. – Biogas O&M Details

Line	Particulars	(\$ thousands)		
		2010	2011	2012 ¹
1	<u>O&M Costs - All Customers</u>			
2	Labour Costs - One FTE	25.0	100.0	100.0
3				
4	Computer Costs - Additional Reporting	-	-	10.0
5				
6	Customer Education	160.0	240.0	300.0
7	Internal Reporting Changes	0.8	2.4	-
8	Inbound Calls			6.4
9	Fees & Administrations Costs	160.8	242.4	306.4
10				
11	Inbound Calls	7.2	28.7	-
12	Rate Changes	-	4.0	-
13	Application Support	165.6	-	-
14	Contractor Costs	172.8	32.7	-
15				
16	Total O&M Costs - All Customers	358.6	375.1	416.4
17				
18	<u>O&M Costs - Catalyst Project (3 months in 2010)</u>			
19	Electrical Power	1.0	2.0	2.0
20	Equipment Maintenance	1.0	2.0	2.0
21	Other	14.5	29.0	29.6
22	Total Catalyst Materials & Supplies	16.5	33.0	33.7
23				
24	<u>O&M Costs - Salmon Arm Project (6 months in 2010)</u>			
25	Electrical Power	11.5	46.0	46.9
26	Equipment Maintenance	1.3	5.0	5.1
27	Other	1.3	5.0	5.1
28	Total Salmon Arm Materials & Supplies	14.0	56.0	57.1
29				
30	Total Materials & Supplies	30.5	89.0	90.8
31				
32	<u>O&M Costs - Biogas Customers (Customer related)</u>	14.6	82.4	56.9
33				
34	Total O&M Costs - Biogas Customers	45.1	171.4	147.7
35				

¹ Years subsequent to 2012 are adjusted by inflation

Source: Exhibit B-1, Appendix J-1, p. 1

Table 4-2
Terasen Gas Inc. – Biogas Capital Details

Line	Particulars	(\$ thousands)		
		<u>Catalyst</u>	<u>Salmon Arm</u>	<u>Total</u>
1	<u>Capital Costs - All Customers</u>			
2	Meters	77.3	395.5	472.8
3	Distribution Measurement & Regulating	282.5	242.0	524.5
4	Distribution Main Extension	227.9	45.1	273.0
5		587.7	682.6	1,270.3
6				
7	<u>Capital Costs - Biogas Customers</u>			
8	Upgrader	-	1,621.8	1,621.8
9				
10	Total Capital Costs	587.7	2,304.4	2,892.1
11				
12	CIAC (ICE and BCBN funding)	-	(515.6)	(515.6)
13				
14	Capital Costs net of CIAC	587.7	1,788.8	2,376.5
15				
16	Note: All spending occurs in 2010 except \$96.1 thousand of the upgrader spent in 2011			

Source: Exhibit B-1, Appendix J-1, p. 2

4.9.3 Determination of Costs Related to System Changes

TGI commissioned an IT consulting firm to assess the required business system changes and estimate the costs required to implement the new Offering, including customer enrolment, program management, nominations, customer billing and rate setting. Terasen states that the system impact analysis has taken into consideration the existing initiative to replace the current customer billing system and move customer care services in-house. Terasen believes it has developed a cost-effective and workable solution along with supporting processes and systems to implement a Biomethane Program in British Columbia. (Exhibit B-1, p. 109)

4.9.4 Costs to be Allocated to all Customers

Costs that will be allocated to all Terasen Gas distribution customers will include:

- Cost of service related to gas analyzing equipment, meters, transmission or distribution pipeline extensions constructed to receive the injection of Biomethane;

- Capital costs for application development and configuration of the current customer billing system and modifications to supporting processes to support accepting on-line enrolment requests, configure the new Biomethane tariff and provide additional reporting;
- On-going operating costs related to additional customer inquiry calls, quarterly updates to the tariff rate, customer education costs, including costs associated with marketing the Program, and a new full time position of biogas Program Manager.

Terasen proposes the creation of a non-rate base deferral account to capture costs applicable to all customers incurred prior to January 1, 2012. It further proposes to recover these costs from all non-bypass customers by amortizing them through delivery rates commencing January 1, 2012 over a three year period. The forecast levelized rate impact for these customers is \$0.004 per GJ. By way of example, Terasen states that for a residential customer using 95 GJ per year, the annual incremental cost is 38 cents. (Exhibit B-1, pp. 110-111)

4.9.5 Costs to be Allocated to Biomethane Program Customers

Costs to be allocated to Biomethane Program customers include the cost of purchasing Biomethane and raw biogas, including upgrading costs, as well as the ongoing administrative O&M costs directly related to Biomethane customers such as customer enrollment, removal of customers from the program and billing adjustments.

Terasen proposes to recover these costs through a Biomethane Energy Recovery Charge. As this rate will be based on forecast costs, Terasen seeks Commission approval of a deferral account, the Biomethane Variance Account (BVA), to capture the difference between actual costs and revenues collected through the BERC rate. Terasen has calculated the BERC rate as \$ 9.904/GJ and seeks approval of the Biomethane Energy Recovery Charge at this amount effective October 1, 2010. (Exhibit B-1, p. 117)

By electing to participate in the first phase of the Biomethane Program offering, residential customers will pay a gas commodity price based on a 10 percent Biomethane and 90 percent natural gas blend. Terasen submits its proposal results in a minimal rate impact for all non-bypass customers, and a Premium Service rate that reflects the premium cost of Biomethane. It also points out that there is a longer-term customer interest in ensuring that its product offerings meet the expectations of customers and potential customers and also submits “[a]ll customers benefit from initiatives to retain and add throughput to the Terasen system because added throughput spreads system costs over a larger base, thus resulting (all else equal) in lower delivery rates.” Finally, Terasen submits that that the proposed rates are just and reasonable, given the benefits to all customers associated with the premium offering, and the principled basis Terasen has proposed for cost allocation. (Terasen Final Submission, pp. 19, 51)

4.9.6 Intervener Submissions

BCOAPO strongly supports “thoughtful and economical efforts to increase the use of renewable resources and reduce GHG emissions in the province” and believes that such efforts are in the public interest. However, BCOAPO submits that the costs of achieving that goal must be distributed appropriately and through correct mechanisms. While BCOAPO has some concerns, it supports the Application noting the small annual costs to non-participants. (BCOAPO Final Submission, pp. 2-3)

BCSEA supports the concept that customers in the Biomethane Program should pay for the cost of Biomethane and all customers should pay for the cost of making the Biomethane Program available. BCSEA agrees with Terasen that the principle is analogous to the Commission-approved treatment of the Customer Choice Program. (BCSEA Final Submission, p. 6)

The CEC supports Terasen’s efforts to address the long term management of risk by way of this initiative to ensure retention and addition of customers to the system in order to spread distribution costs over a larger base. The CEC submits that Terasen’s rates should be set on the basis of cost causality for utility service rates and believes that the Shareholder should not be

inherently responsible for the cost of any of the proposed Biomethane Service. The CEC further submits that Terasen has correctly defined cost allocation methodologies appropriate for utility service and has proposed to apply them correctly. Finally, the CEC notes that the allocation of marketing, advertising, promotion and education back to all customers appears to be standard practice and that there is no quality evidence on the record to support alternative cost-allocation methodologies. The CEC submits that the Commission should give weight to the fact that the magnitude of the expenditures for this new service does not warrant revision of the cost allocation methodology at this time. “The broad interest of customers in GHG reduction and the potential for renewable options makes the cost allocation to all customers appropriate.” (CEC Final Submission, pp. 4-5)

Commission Determination

The Commission Panel is cognizant of the new post *CEA* environment which is challenging TGI to innovate and adapt its utility service model. In this regard, the Commission Panel agrees with Terasen and the CEC that it is in the long term interest of all Terasen utility customers that new initiatives contribute to retention and the addition of throughput in the system, which will result in system costs being spread over a larger base. The Commission Panel also notes the dual role of the Commission in balancing the interests of ratepayers and the utility.

It is in this context that the Commission Panel approves the cost allocation methodology proposed by Terasen Gas for the test period as just and reasonable. It is important to consider this finding as a test period approval only, as another determination will be required at the point of the review for Phase 1. The Commission Panel also notes the “strings-attached” support given by BCOAPO. Because in this Application the small levelized annual cost to non-participants, (estimated at 38 cents to an average customer) is not material, it is relatively easy to approve the methodology. Small programs like this give Terasen an opportunity to develop the markets and test customer demand under the auspices of the utility regulatory model. However, as the Biomethane business grows and matures the issue of “who pays” becomes more significant. In the long term, once the markets have evolved, a time may come to take a fresh look at the role of the

utility vis-a-vis competitive markets as discussed in Section 6.0.

The Commission is concerned that distribution (or transmission) pipeline extensions to connect the projects are included in the costs allocated to all customers. These costs can vary widely from project to project, and arguably are more akin to upgrading costs. However, considering the relatively modest amount of those connection costs for the two projects at hand and the test period nature of this approval, the Commission will only require that this cost be identified and monitored.

The Commission Panel notes that TGI has budgeted \$160,000, \$240,000 and \$300,000 for customer education in 2010, 2011 and 2012 respectively, but has not sought approval of these. The Commission accepts that these expenditures will be recorded in the appropriate deferral account. However, the Panel notes that recovery in future rates of these amounts will be subject to future review by Commission.

Specific approvals for the Biomethane Energy Recovery Charge, the Biomethane Variance Account and other components of the approvals sought will be addressed in Section 5.0.

4.10 Other Project Risks

This Section addresses project risks other than risk of stranded assets for the CSRD and Catalyst Projects and summarizes Terasen's mitigation measures.

4.10.1 Risk to Gas Supply Portfolio

TGI states that quantity of biogas and Biomethane from the Projects will not impact its overall gas supply portfolio. At these early stages with low levels of supply, entering the two agreements will not cause Terasen to alter its other portfolio or planning practices or contracts. Terasen further states that because of this, the amounts of new supply promised will not leave the Company vulnerable to either additional market purchases or access to alternative sources of conventional

gas to replace biogas or Biomethane that is not delivered. However, Terasen also states that as additional biogas and Biomethane purchase agreements come on line it will reassess the impact on its overall portfolio. Finally, Terasen points out that the Catalyst agreement includes the full costs of replacement gas in the non-performance remedies within the agreement. (Exhibit B-1, pp. 92, 101, 102)

4.10.2 Risk of Failure to Supply Biomethane

In the case of the CSRD Project, Terasen notes that the composition of buried waste in the Salmon Arm landfill is not fully predictable and therefore neither is the gas production from the landfill. As a result, there is the potential for an interruption in either supply of raw gas or Biomethane. It states that it has mitigated these risks in two ways:

- From the gas system perspective, planning will be done assuming that biogas is not available;
- From a financial perspective, the compensation for sale of gas is based on sellable (purified) gas. The CSRD will not receive any payments unless Terasen can successfully upgrade the biogas and inject it into the distribution system. Further, there is also a minimum supply requirement that if not met will trigger a contractual default.

(Exhibit B-1, p. 92)

In the case of the Catalyst Project, Terasen explains that failure of Catalyst to provide gas to the Company could result from events such as loss of waste stream supplies (anaerobic digester feedstock), failure to meet gas specifications, breach of contract or poor financial health resulting in interruption to operation. Terasen states that it has addressed these risks through a non-performance clause in the agreement. (Exhibit B-1, p. 102)

4.10.3 Operational and System Risk

Terasen Gas takes the position that “in the unlikely event that a failure of the biogas upgrading equipment occurs”, contaminants harmful to the pipeline or disruptive to customer service could occur. In order to mitigate this risk, Terasen will ensure the upgrading system be designed to self-monitor for abnormal conditions and, as owner of the upgrading equipment, will always have the final control of the gas quality. Should Biomethane not meet these specified quality, Terasen will immediately stop delivery to customers and evaluate the problem with the CSRD. (Exhibit B-12, p. 93)

To mitigate the same concerns in the case of Biomethane delivery from Catalyst, the agreement requires that Biomethane must meet Terasen Gas specifications and includes the right of Terasen to interrupt delivery from the project if the gas does not meet these quality specifications. The Catalyst facilities will also be linked with TGI’s gas control system to allow real time monitoring of the quality sampling equipment. Terasen further states that the pressurized flows of conventional natural gas will automatically backfill and replace the lost flow of Biomethane during any such stoppage. (Exhibit B-1, p. 102)

4.10.4 Facilities Cost Risk

Terasen states there is some risk that costs for the facilities could be higher than expected, but notes it has followed best practices for cost projections and used conservative estimates for interconnection and monitoring equipment to mitigate this risk. Terasen further states that for the upgrading plant it has negotiated a fixed price contract with the supplier. Finally, Terasen notes that in the CSRD cost-of-service analysis it has included a 10 percent contingency allowance on capital costs. (Exhibit B-1, p. 93)

In the case of the Catalyst Project, Terasen has followed the above practices for the interconnection and monitoring equipment to mitigate risk. In addition, it has included a 20 percent contingency allowance on capital costs. (Exhibit B-1, p. 103)

Commission Determination

The Commission Panel finds that Terasen Gas has taken prudent steps to mitigate risks inherent in innovative new projects such as the CSRD biogas and Catalyst Biomethane Projects. However, the Commission Panel notes that after the test period there will be a requirement for a more comprehensive review of who owns the upgrading facilities as discussed in Section 4.5. This review should also provide an opportunity for a further risk assessment.

4.11 Post Implementation Review and Reporting

In its Application, Terasen acknowledges that following implementation a thorough review of the Biomethane Program will be necessary. The Company proposes that the review be carried out five years following the Program launch and be made up of two components; a post-implementation report and a workshop. The report and workshop will address the following elements:

- How many and what types of supply projects have been developed;
- Customer segmentation;
- Enrollment and attrition Rates; and
- Review of the costs incurred and their recovery.

Terasen notes that the five year time span will be sufficient to allow the industry to mature through the development of additional projects and to validate the research which has been conducted into the residential and commercial markets. In the ensuing period, Terasen proposes to report on the development of the Program through its revenue requirement applications as well as report on the costs of Biomethane gas as part of the regular quarterly gas cost reporting which has been established with the Commission. (Exhibit B-1, p. 81)

BC Hydro had no comments in its submissions with respect to the post-implementation review and reporting process. Likewise, the BCOAPO had no comments concerning the timing and review of the Program. However, based on the BCOAPO's stated position that the Projects should be made a

“one off” and not be taken as a template for further ventures into the gas commodity refining and the supply line of business, it can be inferred that it is BCOAPO’s view the timeline for review of the Projects could be shortened. (BCOAPO Final Submission, p. 3) BCSEA stated in its submission that it was in support of what Terasen has proposed. (BCSEA Final Submission, p. 7) The CEC recommends that the Commission request annual reporting encompassing on-going investment expenditures, operating costs and updated projections for customers, as well as volumes and costs in addition to what has been proposed. (CEC Final Submission, p. 5)

In Reply to the CEC submission, Terasen states that if the Commission wishes it to address the additional information in annual reports it will do so. However, it notes that what has been proposed is redundant as it will be addressed more appropriately in TGI’s future resource plans and/or revenue requirements applications. Terasen concludes by pointing out that the costs for what it describes as redundant reporting will be borne by customers. (Terasen Reply, p. 3)

Commission Determination

As outlined in Section 4.6, the Panel has placed limits on total Biomethane production for all projects undertaken in this program. Our purpose is to allow Terasen the flexibility to expand the program from the two Projects. However, we also want to ensure there is the opportunity for stakeholders to better understand and review the success or failure of this Program and whether the proposed Biomethane Offering Model is appropriate before it is allowed to grow to the point where it would be difficult to reverse without a significant financial impact. In keeping with this view, the Panel finds the five year time period proposed by Terasen for a full review of the program to be unnecessarily lengthy. We believe that reducing this time period to a period of two years will allow TGI sufficient time to launch some additional projects and undertake the analysis necessary to provide an adequate basis for review. **Accordingly, the Commission Panel, to safeguard the public interest, has determined that Terasen will be granted a period of two years from the date of the Order issued concurrently with this Decision for review and preparation of further applications in support of expansion of this Program.**

The Panel, acknowledging the CEC recommendations, expects Terasen's analysis and report to be comprehensive. Our requirements include but are not limited to examination of the following information:

- Full financial review of all projects (individual and aggregate numbers) which have been undertaken;
- Validation of the market research;
- Enrollment and attrition rates;
- Costs and assessment of customer marketing/education programs;
- Customer segmentation and targeting;
- Assessment of Pricing Methodology and Principles for Cost Recovery;
- Future Projects that are under consideration
- Forecasts of Biomethane supply as well as customer demand and anticipated update for the next ten year period.

5.0 OTHER APPROVALS REQUESTED

5.1 Biomethane Variance Account

The Commission Panel approves the creation of a rate base deferral account, called the Biomethane Variance Account, as proposed by Terasen. This account will capture costs to procure and process consumable Biomethane gas as well as revenues collected through Biomethane energy recovery components of rates. The Commission Panel finds the BVA to be a reasonable mechanism to accumulate any differences in Biomethane service costs and revenues. Further, the Panel accepts Terasen's quarterly reporting process and Biomethane Energy Recovery Charge rate setting mechanism as proposed in the Application as this methodology is consistent with the Company's existing gas reporting and rate setting methodologies.

Commencing January 1, 2012, the treatment of all costs related to and resulting from ongoing Biomethane operations will be reviewed by the Commission as a component of Terasen's Revenue Requirements Application (RRA). **Within TGI's RRA for 2012 and onwards, Terasen is directed to include a separate section providing actual and forecasted Biomethane operating, maintenance and capital costs and an analysis of these costs.** This disclosure is to include, amongst other things, a breakdown of costs incurred by category of past and projected years and an explanation of the financial results experienced and expected in the test period. Details of all accumulations within the BVA should also be provided.

The Commission Panel further approves Terasen's request for two new non-rate base deferral accounts (New Deferral Accounts) to capture the following costs, as described by the Application, incurred prior to January 1, 2012:

- i) Costs of service associated with the capital additions to the delivery system; and
 - ii) Operating and maintenance costs applicable to all customers (attracting AFUDC).
- (Exhibit B-1, pp. 110-111)

As costs associated with the New Deferral Accounts will be incurred in the remaining portion of the revenue requirement period, the Panel accepts the proposed deferral treatment until January 1, 2012.

In the Application, the Company seeks to recover costs accumulated in the New Deferral Accounts from all non-bypass customers over a three year period by amortizing them through delivery rates commencing January 1, 2012. (Exhibit B-1, p. 111) **The Commission Panel approves this request as an acceptable recovery period given the nature and forecasted extent of these costs.**

As part of its 2012 Revenue Requirements Application, TGI is directed to report the total values accumulated in the New Deferral Accounts from inception as well as a breakdown of the costs accumulated in the accounts by nature and dollar amount. Further, the Company is directed to present within its annual regulatory report to the Commission, the total value of each of these deferral accounts, net of any amortization. This is to be done each year until the remaining balance is \$nil.

Terasen also seeks to set the Biomethane Energy Recovery Charge at \$9.904/GJ and seeks approval that the Biomethane Energy Recovery Charge is set at this amount effective October 1, 2010. (Exhibit B-1, p. 117) Because the rate of \$9.904/GJ is well below the maximum rate of \$15.28 previously established in Section 4.6, **the Panel accepts the Biomethane Energy Recovery Charge at \$9.904 for all Rate Schedules effective October 1, 2010 to recover forecasted costs.**

5.2 Rate Schedules

TGI seeks approval of rate schedules of both Phase 1 and 2 of the proposed Offering. TGI proposes that the Commission approve Rate Schedules 1B and 11B and amendments to Rate Schedule 30 effective October 1, 2010 (Phase 1), and also approve Rate Schedules 2B and 3B for commercial customers effective January 1, 2012 (Phase 2). TGI notes that Rates Schedules 1B, 11B and the amendments to Rate Schedule 30 reflect the rate methodology described in this Application. Rate Schedules 2B and 3B reflect methodology which TGI indicates is consistent with Phase 1 as well as

offering higher blends of Biomethane which TGI believes may appeal to commercial customers. TGI also requests an amendment to its General Terms and Conditions to include reference to the Biomethane Offering. (Exhibit B-1, pp. 52-53 as amended by Exhibits B-1-1 and B-3)

TGI believes it is important to approve both Phase 1 and 2 Rate Schedules at this time for two reasons. The first reason is to avoid the additional regulatory cost to review Phase 2 as a separate proceeding in the future, especially given the body of evidence submitted in this proceeding, and secondly to avoid future delays on timely expansion. (Terasen Final Submission, p. 40)

TGI indicates its intent to file with the Commission additional tariff schedules when the opportunity to expand the program exists. Also, TGI notes that the Biomethane rollout to other regions and rate classes will be driven by customer uptake rates in Phase 1 combined with supply availability. TGI proposes that as such, customer offerings and rate schedules could be modified from time to time. (Exhibit B-1, p. 53)

CEC submits that the proposed phase in of the TGI Biomethane service is reasonable and sensible and agrees that setting rates now is appropriate and may avoid unnecessary regulatory proceedings. (CEC Final Submission, p. 4)

BCSEA accepts TGI's explanation for offering the Biomethane Program to residential customers initially and later expanding the program to make it available to commercial customers and possibly offer Biomethane blends higher than the 10 percent proposed in Phase 1. Also, BCSEA accepts TGI's rationale for seeking approval for the Phase 2 rate schedules at this time. (BCSEA Final Submission, p. 6)

BCOAPO and BC Hydro express no position on tariff matters.

Commission Determination

The Commission Panel approves TGI's Biomethane new Rate Schedules 1B, 11B, 2B and 3B and the proposed amendments to existing Rate Schedule 30 as well as requested changes to TGI's General Terms and Conditions. The Commission Panel finds that sufficient evidence has been presented in this proceeding for it to determine that the proposed Rate Schedules are just and reasonable based on the proposed allocation methodology. It therefore approves them for Phase 1 and 2 of the Biomethane Program. However, if the new Rate Schedules 2B and 3B, when filed, deviate from the methodology described in the Application, the Commission may determine further regulatory process is necessary for those Rate Schedules. **In addition, the Panel directs TGI to provide to the Commission any future proposed Biomethane Rate Schedules or amendments to schedules at least 60 days in advance of their proposed effective date.** If the Commission identifies Biomethane program matters for those Rate Schedules that deviate from the methodology described in the Application, the Commission may determine that further regulatory process is necessary before approving any proposed rate offerings or changes related to TGI's Biomethane Program.

6.0 OTHER COMMISSION PANEL CONSIDERATIONS

This Application for approval of a Biomethane Program and Supporting Business Model is just one of a number of projects Terasen is contemplating as means of dealing with the new environment which has resulted from passage of recent legislation including the *Clean Energy Act*. A number of other new initiatives have been outlined as being under consideration within the Company's 2010 Long Term Resource Plan which was filed with the Commission in July of this year. Collectively, these represent a significant departure from the role Terasen has traditionally played as a public utility. As the Company moves forward with what is a new business model, the issue becomes how to best reconcile those instances where it has moved to a different position on the supply side or is undertaking activities which are more characteristic of a non monopolistic company dealing within a competitive market. In undertaking these new initiatives questions arise as to whether they should be allowed within a regulatory framework and where this leaves the ratepayer with respect to who bears the risk.

This Hearing has dealt with a number of questions related to Terasen's departure from the status quo. Included among these are the following:

- The provision of biogas upgrading services representing a move up the supply chain.
- Principles governing the allocation of costs to ratepayers.
- The risk of stranded assets and resultant question of who pays.

In order to facilitate the process and avoid unnecessary impediments, the Commission Panel chose to deal with this application with the understanding that it represents a test program which will provide valuable information and answers to the question as to how best to handle this model on a go forward basis. Accordingly, the Panel provided direction with respect to Terasen's proposal to own the upgrading facilities in some instances, share costs for the Program among various ratepayer groups and place overall risk for the Program on the broad ratepayer group. However, the Commission Panel would like to be clear that these decisions were made to facilitate the test program only. Following the filing of the Post Implementation report, the Commission may decide

to fully review the model and make other determinations based on the information or lack thereof in that report.

As to the larger questions involving the impact of Terasen's proposed new business model, the Commission Panel does not consider it appropriate to answer these questions within the context of this Hearing. However, we do believe that the changes being contemplated and the issues which arise from them are significantly important to warrant a formal process to deal with them at a future date.

7.0 SUMMARY OF DIRECTIVES

This Summary is provided for the convenience of readers. In the event of any difference between the Directives in this Summary and those in the body of the Decision, the wording in the Decision shall prevail.

	Directive	Page
1.	The Commission Panel therefore finds that the Application is consistent with British Columbia's energy objectives and Provincial Government energy policy.	27
2.	The Commission Panel accepts TGI's estimate of its potential Biomethane supply and finds this supply to be sufficient to justify moving forward with the Biomethane Program but the Panel also acknowledges the limited data available to support this estimate.	30
3.	The Commission Panel finds that TGI has proposed reasonable techniques to address the risk of Biomethane shortfalls if short-term supply estimates are overstated. Further, the Commission Panel approves TGI's proposal to purchase carbon offsets and to recover costs through the Biomethane Variance Account in the event of under-supply of Biomethane, at a per gigajoule unit price not to exceed the difference between the Biomethane Energy Recovery Charge and the Commodity Cost Recovery Charge in effect at that time.	30
4.	The Commission Panel finds that the research presented by Terasen supports the position that there is likely to be sufficient demand to justify moving forward with a Biomethane Program.	34
5.	Accordingly, we approve the Purchase Agreements with the CSRD and Catalyst, and expenditures related to the facilities for both of these Projects.	34
6.	Therefore, we have determined the scope of the Biomethane Program should be limited until such time as actual results can be analyzed and more definitive conclusions drawn.	34

7.	Accordingly, the Commission Panel directs that Terasen's costs of the upgrading project be segregated so they may be compared with costs of other potential upgrading operations by other industry participants in the future. The Commission Panel further directs that the upgrading business be kept sufficiently distinct so as to be severable, should the Commission determine that this business ought to be conducted through a separate entity in the future.	39
8.	Accordingly, we have determined that future energy supply contracts for the purchase of biogas or Biomethane that meet the criteria listed in Section 3.3.3 of these Reasons with the following additional criteria will meet the filing requirements in sections 71(1)(a) and 71(1)(b) of the Act: • The total production of Biomethane for all projects undertaken under what has been approved in this Decision does not exceed an annual purchase in each year of 250,000 GJ. • The maximum price for delivered Biomethane on the system is set at \$15.28 per GJ.	41
9.	It is in this context that the Commission Panel approves the cost allocation methodology proposed by Terasen Gas for the test period as just and reasonable.	51
10.	Accordingly, the Commission Panel, to safeguard the public interest, has determined that Terasen will be granted a period of two years from the date of the Order issued concurrently with this Decision for review and preparation of further applications in support of expansion of this Program.	56
11.	Within TGI's RRA for 2012 and onwards, Terasen is directed to include a separate section providing actual and forecasted Biomethane operating, maintenance and capital costs and an analysis of these costs.	58
12.	The Commission Panel approves this request as an acceptable recovery period given the nature and forecasted extent of these costs.	59
13.	As part of its 2012 Revenue Requirements Application, TGI is directed to report the total values accumulated in the New Deferral Accounts from inception as well as a breakdown of the costs accumulated in the accounts by nature and dollar amount. Further, the Company is directed to present within its annual regulatory report to the Commission, the total value of each of these deferral accounts, net of any amortization. This is to be done each year until the remaining balance is \$nil.	59

14.	The Panel accepts the Biomethane Energy Recovery Charge at \$9.904 for all Rate Schedules effective October 1, 2010 to recover forecasted costs.	59
15.	The Commission Panel approves TGI's Biomethane new Rate Schedules 1B, 11B, 2B and 3B and the proposed amendments to existing Rate Schedule 30 as well as requested changes to TGI's General Terms and Conditions.	61
16.	In addition, the Panel directs TGI to provide to the Commission any future proposed Biomethane Rate Schedules or amendments to schedules at least 60 days in advance of their proposed effective date.	61

DATED at the City of Vancouver, in the Province of British Columbia, this 14th day of December 2010.

Original signed by:

DENNIS A. COTE
PANEL CHAIR

Original signed by:

ALISON A. RHODES
COMMISSIONER

Original signed by:

LIISA A. O'HARA
COMMISSIONER

**BRITISH COLUMBIA
UTILITIES COMMISSION**

**ORDER
NUMBER G-194-10**

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**IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473**

and

**Application by Terasen Gas Inc.
for Approval of a Biomethane Service Offering and Supporting Business Model
and
for the Approval of the Salmon Arm Biomethane Project and
for the Approval the Catalyst Biomethane Project**

BEFORE: D.A. Cote, Panel Chair/Commissioner
A.A. Rhodes, Commissioner
L.A. O'Hara, Commissioner

December 14, 2010

O R D E R

WHEREAS:

- A. On June 8, 2010, Terasen Gas Inc. (Terasen Gas) filed an application (the Application) for approval of rate schedules, related deferral accounts, a cost recovery mechanism and a Biomethane Energy Recovery Charge to support a Biomethane Service Offering;
- B. The Application also sought approval of an expenditure schedule in respect of two Biomethane supply projects: the Salmon Arm Biomethane Project and the Catalyst Biomethane Project, and sought acceptance of the associated energy supply contracts;
- C. On June 23, 2010, the Commission issued Order G-109-10 establishing a Written Public Hearing Process and a Regulatory Timetable;
- D. The Commission has reviewed the Application, the evidence, and the submissions, and for the reasons set out in the Decision issued concurrently with this Order, concludes that the Application should be approved subject to certain additional terms and directives included in this Order and the Decision;

**BRITISH COLUMBIA
UTILITIES COMMISSION**

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NOW THEREFORE pursuant to the provisions of the *Utilities Commission Act* (the Act), the Commission orders as follows:

1. The Commission approves Rates Schedules 1B, 2B, 3B, 11B, the amended Rate Schedule 30, and the amendments to Terasen Gas' General Terms and Conditions described in Section 6 of the Application.
2. The Commission will accept, subject to timely filing, the new Rate Schedules 1B, 11B, the amended Rate Schedule 30, and the amendments to Terasen Gas' General Terms and Conditions, in accordance with this Order and the Decision.
3. The Commission will accept for filing, on or after January 1, 2012, the new Rate Schedules 2B and 3B in accordance with this Order and the Decision.
4. The cost allocations, deferral accounts, and accounting treatment for the costs associated with the Biomethane Program requested by Terasen Gas and described in Section 10 of the Application are approved as described in the accompanying Decision.
5. Terasen Gas may purchase carbon offsets and recover the costs through the Biomethane Variance Account in the event of under-supply of Biomethane, at a per gigajoule unit price not exceeding the difference between the Biomethane Energy Recovery Charge and the Commodity Cost Recovery Charge in effect at that time.
6. The Biomethane Energy Recovery Charge is set at \$9.904/GJ effective October 1, 2010.
7. Pursuant to section 71 of the Act, the following energy supply contracts are accepted as filed:
 - the Purchase of Biogas Agreement with the Columbia Shuswap Regional District; and
 - the Purchase of Biogas Agreement with Catalyst Power Incorporated.
8. Pursuant to subsection 44.2(3) of the Act, the following expenditures are in the public interest and are accepted:
 - the expenditures relating to the facilities required for the Salmon Arm Project; and
 - the expenditures relating to the facilities required for the Catalyst Project.
9. Future Biomethane Program supply contracts for the purchase of biogas or Biomethane filed with the Commission that meet the criteria described in Section 8 of the Application (p. 80), with the following changes and additions, meet the filing requirements described in sections 71(1)(a) and 71(1)(b) of the Act :
 - i. The total production of Biomethane from all projects undertaken under what has been approved in this Decision does not exceed an annual purchase of 250,000GJ;

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UTILITIES COMMISSION**

**ORDER
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ii. The Maximum price for delivered Biomethane on the system is set at \$15.28.

10. Terasen Gas is directed to:

- Maintain separate records of project costs related to Biomethane upgrading facilities to allow for cost comparisons to other upgrading operations;
- Keep the Biomethane upgrading process sufficiently distinct so as to be severable should the Commission determine that this business ought to be conducted through a separate entity in the future;
- Include in its next Revenue Requirements Application, in accordance with this Order and the Decision, details of costs for all deferral accounts created by this Order;
- Provide to the Commission any future proposed Biomethane rate schedules, or amendments to schedules, at least 60 days in advance of their proposed effective date;
- File a Post-Implementation Report that provides the information described in Section 8.4.4 of the Application within 2 years of the date of this Order;
- Hold a post-implementation Workshop for the interveners in this proceeding and any interested stakeholders at which it will address the contents of the Post-Implementation Report; and
- Comply with all other directives in the Decision.

DATED at the City of Vancouver, in the Province of British Columbia, this 14th day of December, 2010.

BY ORDER

Original signed by:

D.A. Cote
Panel Chair/Commissioner

APPROVALS SOUGHT***Rate Related Orders***

1. An order pursuant to sections 59-61 of the Act approving:
 - (a) the new Rate Schedules 1B, 11B, and the amendments to Rate Schedule 30;
 - (b) the new Rate Schedules 2B and 3B effective upon filing of the rate schedules with the Commission, but in any event not before January 1, 2012;
 - (c) the proposed amendments to Terasen Gas' General Terms and Conditions, specifically, the addition of new definitions relating to the Biomethane Service, and the introduction of a Section 28 – Biomethane Service.

Cost Recovery Related Orders (All Customers)

2. An order pursuant to sections 59-61 of the Act approving:
 - (a) the allocation of costs to all customers and the accounting treatment of those costs as described in Section 10 of the Application.
 - (b) a non-rate base deferral account attracting AFUDC to capture the O&M costs applicable to all customers incurred prior to January 1, 2012, and to recover these costs from all non-bypass customers by amortizing them through delivery rates commencing January 1, 2012 over a three year period.
 - (c) a non-rate base deferral account to capture the cost of service associated with the capital additions to the delivery system incurred prior to January 1, 2012, and to recover these costs from all non-bypass customers by amortizing them through delivery rates commencing January 1, 2012 over a three year period.

Cost Recovery Related Orders

3. An order pursuant to sections 59-61 of the Act approving:
 - (a) the allocation of costs to Biomethane Program customers and the accounting treatment of those costs as described in Section 10.6 of the Application.

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- (b) the cost recovery methodology applicable to Biogas processing related assets.
- (c) a rate base deferral account to capture the costs incurred by Terasen Gas to procure and process consumable Biomethane gas and the revenues collected through the Biomethane energy recovery component of rates, and thereby accumulate any differences (the "Biomethane Variance Account").
- (d) the Biomethane Variance Account balance quarterly reporting process and the Biomethane Energy Recovery Charge rate setting mechanism on a basis consistent with the Company's existing gas cost reporting and rate setting mechanisms, as described in Section 10.7 of the Application.
- (e) Terasen Gas purchasing carbon offsets and recovering the costs through the Biomethane Variance Account in the event of under-supply of Biomethane, at a per gigajoule unit price not to exceed the difference between the Biomethane Energy Recovery Charge and the Commodity Cost Recovery Charge in effect at that time.
- (f) the Biomethane Energy Recovery Charge at \$9.904/GJ effective October 1, 2010.

Supply Project Related Orders

- 4. An order pursuant to section 71 of the Act accepting as filed:
 - (a) the Purchase of Biogas Agreement with the CSRD; and
 - (b) the Purchase of Biogas Agreement with Catalyst Power Incorporated.
- 5. An order pursuant to section 44.2 of the Act that the following capital expenditures are accepted by the Commission and are in the public interest:
 - (a) The expenditures relating to the facilities required for the Salmon Arm Project described at Table 9-1 of the Application; and
 - (b) The expenditures relating to the facilities required for the Catalyst Project described at Table 9-4 of the Application.
- 6. An order that future supply contracts for the purchase of Biogas or Biomethane filed with the Commission that meet the criteria described in Section 8.4, meet the filing requirements in sections 71(1)(a) and 71(1)(b) of the Act.

Post-Implementation Review Orders

7. A direction that Terasen Gas, within 5 years of the date of this order:
 - (a) file a Post-implementation Report that provides the information described in Section 8.4.4 of the Application; and
 - (b) hold a Post-implementation Workshop, to be attended by Terasen Gas, and any interested stakeholders and interveners, at which Terasen Gas will address the contents of the Post-implementation Report.

THE REGULATORY PROCESS

By Order G-109-10 dated June 24, 2010, the Commission established a written hearing process and the following Timetable.

ACTION	DATE (2010)
Workshop	Thursday, June 24
Intervener Registration Deadline	Monday, July 5
Commission Information Request No. 1	Friday, July 16
Intervener Information Requests No. 1	Friday, July 23
Terasen Responses to Information Requests No. 1	Friday, August 6
Commission Information Request No. 2	Friday, August 20
Intervener Information Requests No. 2	Monday, August 23
Terasen Response to Information Requests No. 2	Friday, September 3
Terasen Written Final Submission	Friday, September 10
Intervener Written Final Submissions	Monday, September 20
Terasen Written Reply Submission	Tuesday, September 28
Oral Argument (if Required)	Friday, October 8

The Commission received Final Submissions from:

- Terasen on September 10, 2010
- CEC on September 20, 2010
- BC Hydro on September 20, 2010
- BCSEA on September 20, 2010
- BCOAPO on September 21, 2010

Terasen submitted its Reply Submission responding to final submissions of CEC, BC Hydro, BCSEA and BCOAPO on September 27, 2010.

IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

Terasen Gas Inc.
Application for Approval of a Biomethane Service Offering,
Supporting Business Model, for the Approval of the Salmon Arm Biomethane Project
and for the Approval the Catalyst Biomethane Project

EXHIBIT LIST

Exhibit No.	Description
<i>COMMISSION DOCUMENTS</i>	
A-1	Letter dated June 10, 2010 – Commission comments on the Application and Notice of Workshop
A-2	Letter dated June 24, 2010 – Regulatory Timetable
A-3	Letter dated June 25, 2010 – Appointment of Commission Panel
A-4	Letter dated July 5, 2010 – Release of Confidential Application Documents to BC Bioenergy Network
A-5	Letter dated July 16, 2010 – Commission Information Request No. 1
A-6	Letter dated August 20, 2010 – Commission Information Request No. 2
A-7	Letter dated October 4, 2010 – Cancellation of Oral Argument scheduled for Friday, October 8, 2010

APPLICANT DOCUMENTS TGI

B-1	TERASEN GAS INC. (TGI) Letter Dated June 8, 2010 - Application for Approval of a Biomethane Service Offering and Supporting Business Model, for the Approval of the Salmon Arm Biomethane Project and for the Approval the Catalyst Biomethane Project
B-1-1	Letter dated June 23, 2010 – Filing errata to the application

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Exhibit No.	Description
B-1-2	Confidential Letter dated June 8, 2010 – TGI CONFIDENTIAL Appendices I J-3 to the Application
B-1-3	Confidential Letter dated September 1, 2010 - TGI CONFIDENTIAL Contract Amendment to Confidential Appendix I-2
B-2	Letter dated June 25, 2010 - Workshop Presentation Materials
B-2-1	Letter dated July 8, 2010 – Response to Workshop Undertaking
B-3	Letter dated August 6, 2010 - TGI Response to BCUC IR No. 1
B-3-1	CONFIDENTIAL Letter dated August 6, 2010 - TGI CONFIDENTIAL Response to BCUC IR No. 1
B-4	Letter dated August 6, 2010 - TGI Response to BCOAPO IR No. 1
B-4-1	CONFIDENTIAL Letter dated August 6, 2010 - TGI CONFIDENTIAL Response to BCOAPO IR No. 1
B-5	Letter dated August 6, 2010 - TGI Response to BCSEA IR No. 1
B-5-1	CONFIDENTIAL Letter dated August 6, 2010 - TGI CONFIDENTIAL Response to BCSEA IR No. 1
B-6	Letter dated August 6, 2010 - TGI Response to CEC IR No. 1
B-7	Letter dated August 17, 2010 - TGI Response to BCSEA IR No1.20.2
B-8	Letter dated August 17, 2010 - TGI Response to CEC IR No1.10.1-2
B-9	Letter dated August 17, 2010 - TGI Response to BCUC IR No. 1 Attachment 43.1.6 Redacted
B-10	Letter dated September 2, 2010 – TGI Response to BCUC IR No. 2
B-11	Letter dated September 2, 2010 – TGI Response to BCOAPO IR No. 2
B-12	Letter dated September 2, 2010 – TGI Response to BCSEA IR No. 2
B-13	Letter dated September 2, 2010 – TGI Response to CEC IR No. 2

Exhibit No.	Description
<i>INTERVENER DOCUMENTS</i>	
C1-1	CATALYST POWER INC. (CP) Online registration dated June 16, 2010 – Requesting Intervener status by Christopher Bush
C2-1	BC AGRICULTURE COUNCIL (BCAC) Online registration dated June 16, 2010 – Requesting Intervener status by Mathew Dickson
C3-1	BC BIOENERGY NETWORK (BCBN) Online registration dated June 23, 2010 – Requesting Intervener status by Sandy Ferguson
C3-2	Letter dated June 23, 2010 – BCBN Filing Undertaking of Confidentiality by Sandra Ferguson
C3-3	Letter dated June 23, 2010 – BCBN Filing Undertaking of Confidentiality by Michael Weedon
C3-4	Online registration dated June 24, 2010 – BCBN addition of Michael Weedon
C4-1	BRITISH COLUMBIA HYDRO AND POWER AUTHORITY (BC HYDRO) - Online registration dated June 23, 2010 – Requesting Intervener status by Tatiana Noskova
C5-1	BRITISH COLUMBIA OLD AGE PENSIONERS' ORGANIZATION (BCOAPO) VIA EMAIL Letter Dated June 23, 2010 - Request for Intervener Status by Jim Quail and James Wightman
C5-2	Letter Dated July 23, 2010 - BCOAPO Information Request No. 1
C5-3	Letter Dated August 23, 2010 - BCOAPO Information Request No. 2
C6-1	ELEMENTAL ENERGY INC. (EEI) - Online registration dated June 25, 2010 – Requesting Intervener status by Richard Hopp
C7-1	COMMERCIAL ENERGY CONSUMERS ASSOCIATION (CEC) -Letter dated June 29, 2010 – Requesting Intervener Status
C7-2	Letter Dated July 23, 2010 - CEC Information Request No. 1
C7-3	Letter Dated August 23, 2010 - CEC Information Request No. 2
C8-1	BC SUSTAINABLE ENERGY ASSOCIATION (BCSEA) -Letter dated July 5, 2010 – Requesting Intervener Status
C8-2	Letter dated July 7, 2010 – Advising that W.J. Andrews to serve as their counsel
C8-3	Letter Dated July 21, 2010 - BCSEA Information Request No. 1

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Exhibit No.	Description
C8-4	Letter Dated August 23, 2010 - BCSEA Information Request No. 2
C9-1	BP CANADA ENERGY COMPANY (BPE) Online registration dated July 6, 2010 – Requesting Intervener status by Cheryl Worthy

INTERESTED PARTY DOCUMENTS

D-1	UNION GAS LIMITED (UGL) Online registration dated June 16, 2010 - Request for Interested Party Status by Patrick McMahon
D-2	FLOTECH SERVICES NA, LTD (FLOTECH) Online registration dated June 17, 2010 - Request for Interested Party Status by Sean Mezei
D-3	ENBRIDGE GAS DISTRIBUTION INC. Online registration dated June 17, 2010 - Request for Interested Party Status by Lesley Austin
D-4	LIFE SCIENCES BC (LSBC) Online registration dated June 24, 2010 - Request for Interested Party Status by Bob Ingratta
D-5	MANITOBA HYDRO (MH) Online registration dated June 29, 2010 - Request for Interested Party Status by Ashley Jansen

LETTERS OF COMMENT

E-1	MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES – Letter dated August 3, 2010 supporting TGI's Application
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LIST OF ACRONYMS

BCBN	BC Bioenergy Network
BCOAPO	BC Old Age Pensioners' Organization, BC Coalition of People with Disabilities, Council of Senior Citizens' Organizations of BC, federated anti-poverty groups of BC, and Tenant Resource and Advisory Centre
BCSEA	BC Sustainable Energy Association
BERC	Biomethane Energy Recovery Charge
BVA	Biomethane Variance Account
BC	British Columbia
BC Hydro	British Columbia Hydro and Power Authority
Commission, BCUC	British Columbia Utilities Commission
CEA	Clean Energy Act
CEC	Commercial Energy Consumers Association of British Columbia
Catalyst	Catalyst Power Incorporated
CSRD	Columbia Shuswap Regional District
COS	cost of service
CWLP	Customer Works LP
DGE	Dockside Green Energy
GHG	Greenhouse Gas
GJ	gigajoule
ICE	Innovative Clean Energy
IT	Information and Technology
NREL	National Renewable Energy Laboratory
O & M	Operating and Maintenance

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PJ	petajoule
RIB	Residential Inclining Block
RRA	Revenue Requirements Application
SEFCDES	South East False Creek District Energy System
Terasen, TGI or the Company	Terasen Gas Inc.
the <i>Act</i> or <i>UCA</i>	Utilities Commission Act

SECTIONS OF UTILITIES COMMISSION ACT

Section 44.2 states:

Expenditure schedule

44.2 (1) A public utility may file with the commission an expenditure schedule containing one or more of the following:

- (a) a statement of the expenditures on demand-side measures the public utility has made or anticipates making during the period addressed by the schedule;
- (b) a statement of capital expenditures the public utility has made or anticipates making during the period addressed by the schedule;
- (c) a statement of expenditures the public utility has made or anticipates making during the period addressed by the schedule to acquire energy from other persons.

(2) The commission may not consent under section 61 (2) to an amendment to or a rescission of a schedule filed under section 61 (1) to the extent that the amendment or the rescission is for the purpose of recovering expenditures referred to in subsection (1) (a) of this section, unless

- (a) the expenditure is the subject of a schedule filed and accepted under this section, or
- (b) the amendment or rescission is for the purpose of setting an interim rate.

(3) After reviewing an expenditure schedule submitted under subsection (1), the commission, subject to subsections (5), (5.1) and (6), must

- (a) accept the schedule, if the commission considers that making the expenditures referred to in the schedule would be in the public interest, or
- (b) reject the schedule.

(4) The commission may accept or reject, under subsection (3), a part of a schedule.

(5) In considering whether to accept an expenditure schedule filed by a public utility other than the authority, the commission must consider

- (a) the applicable of British Columbia's energy objectives,

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- (b) the most recent long-term resource plan filed by the public utility under section 44.1, if any,
 - (c) the extent to which the plan is consistent with the applicable requirements under sections 6 and 19 of the *Clean Energy Act*,
 - (d) if the schedule includes expenditures on demand-side measures, whether the demand-side measures are cost-effective within the meaning prescribed by regulation, if any, and
 - (e) the interests of persons in British Columbia who receive or may receive service from the public utility.
- (5.1) In considering whether to accept an expenditure schedule filed by the authority, the commission, in addition to considering the interests of persons in British Columbia who receive or may receive service from the authority, must consider and be guided by
- (a) British Columbia's energy objectives,
 - (b) an applicable integrated resource plan approved under section 4 of the *Clean Energy Act*,
 - (c) the extent to which the schedule is consistent with the requirements under section 19 of the *Clean Energy Act*, and
 - (d) if the schedule includes expenditures on demand-side measures, the extent to which the demand-side measures are cost-effective within the meaning prescribed by regulation, if any.
- (6) If the commission considers that an expenditure in an expenditure schedule was determined to be in the public interest in the course of determining that a long-term resource plan was in the public interest under section 44.1 (6),
- (a) subsection (5) of this section does not apply with respect to that expenditure, and
 - (b) the commission must accept under subsection (3) the expenditure in the expenditure schedule.

Section 59 states:

Discrimination in rates

59 (1) A public utility must not make, demand or receive

(a) an unjust, unreasonable, unduly discriminatory or unduly preferential rate for a service provided by it in British Columbia, or

(b) a rate that otherwise contravenes this Act, the regulations, orders of the commission or any other law.

(2) A public utility must not

(a) as to rate or service, subject any person or locality, or a particular description of traffic, to an undue prejudice or disadvantage, or

(b) extend to any person a form of agreement, a rule or a facility or privilege, unless the agreement, rule, facility or privilege is regularly and uniformly extended to all persons under substantially similar circumstances and conditions for service of the same description.

(3) The commission may, by regulation, declare the circumstances and conditions that are substantially similar for the purpose of subsection (2) (b).

(4) It is a question of fact, of which the commission is the sole judge,

(a) whether a rate is unjust or unreasonable,

(b) whether, in any case, there is undue discrimination, preference, prejudice or disadvantage in respect of a rate or service, or

(c) whether a service is offered or provided under substantially similar circumstances and conditions.

(5) In this section, a rate is "unjust" or "unreasonable" if the rate is

(a) more than a fair and reasonable charge for service of the nature and quality provided by the utility,

(b) insufficient to yield a fair and reasonable compensation for the service provided by the utility, or a fair and reasonable return on the appraised value of its property, or

(c) unjust and unreasonable for any other reason.

Section 60 states:

Setting of rates

60 (1) In setting a rate under this Act

(a) the commission must consider all matters that it considers proper and relevant affecting the rate,

(b) the commission must have due regard to the setting of a rate that

(i) is not unjust or unreasonable within the meaning of section 59,

(ii) provides to the public utility for which the rate is set a fair and reasonable return on any expenditure made by it to reduce energy demands, and

(iii) encourages public utilities to increase efficiency, reduce costs and enhance performance,

(b.1) the commission may use any mechanism, formula or other method of setting the rate that it considers advisable, and may order that the rate derived from such a mechanism, formula or other method is to remain in effect for a specified period, and

(c) if the public utility provides more than one class of service, the commission must

(i) segregate the various kinds of service into distinct classes of service,

(ii) in setting a rate to be charged for the particular service provided, consider each distinct class of service as a self contained unit, and

(iii) set a rate for each unit that it considers to be just and reasonable for that unit, without regard to the rates fixed for any other unit.

(2) In setting a rate under this Act, the commission may take into account a distinct or special area served by a public utility with a view to ensuring, so far as the commission considers it advisable, that the rate applicable in each area is adequate to yield a fair and reasonable return on the appraised value of the plant or system of the public utility used, or prudently and reasonably acquired, for the purpose of providing the service in that special area.

(3) If the commission takes a special area into account under subsection (2), it must have regard to the special considerations applicable to an area that is sparsely settled or has other distinctive characteristics.

(4) For this section, the commission must exclude from the appraised value of the property of the public utility any franchise, licence, permit or concession obtained or held by the utility from a municipal or other public authority beyond the money, if any, paid to the municipality or public authority as consideration for that franchise, licence, permit or concession, together with necessary and reasonable expenses in procuring the franchise, licence, permit or concession.

Section 61 states:

Rate schedules to be filed with commission

61 (1) A public utility must file with the commission, under rules the commission specifies and within the time and in the form required by the commission, schedules showing all rates established by it and collected, charged or enforced or to be collected or enforced.

(2) A schedule filed under subsection (1) must not be rescinded or amended without the commission's consent.

(3) The rates in schedules as filed and as amended in accordance with this Act and the regulations are the only lawful, enforceable and collectable rates of the public utility filing them, and no other rate may be collected, charged or enforced.

(4) A public utility may file with the commission a new schedule of rates that the utility considers to be made necessary by a rise in the price, over which the utility has no effective control, required to be paid by the public utility for its gas supplies, other energy supplied to it, or expenses and taxes, and the new schedule may be put into effect by the public utility on receiving the approval of the commission.

(5) Within 60 days after the date it approves a new schedule under subsection (4), the commission may,

(a) on complaint of a person whose interests are affected, or

(b) on its own motion,

direct an inquiry into the new schedule of rates having regard to the fixing of a rate that is not unjust or unreasonable.

(6) After an inquiry under subsection (5), the commission may

(a) rescind or vary the increase and order a refund or customer credit by the utility of all or part of the money received by way of increase, or

(b) confirm the increase or part of it.

ENBRIDGE GAS DISTRIBUTION INC.
UNION GAS LIMITED
RESPONSE TO VECC INTERROGATORY #11

3.0: Impacts on the Distribution System

Reference: Exhibit B Tab 1Page 25

- a. Please provide:
 - i. Draft working copies of the capacity reservation forms.
 - ii. The standard form contract.
- b. Indicate how prices provided to RNG suppliers will be adjusted in future e.g. inflation, WACOG indexed or other index.

Response:

- a)
 - i) The Utilities have not yet drafted a capacity reservation form.
 - ii) See the attached copies of Union and EGD's "Gas Purchase Agreement, RNG", for the response to APAO Interrogatory #2 (Exhibit I-2-2), Attachments 3 and 1 respectively.
- b) Prices provided to RNG suppliers shall change by a factor equal to 30% of the annual change in the "Ontario Consumer Price Index, All Items Not Seasonally Adjusted", for the previous calendar year as published monthly in "The Consumer Price Index" as published by Statistics Canada (Catalogue No. 62-001-X).

ENBRIDGE GAS DISTRIBUTION INC.
RESPONSE TO VECC INTERROGATORY #15

Questions to EGD on Section C EB-2011-0242

References: Exhibit C Tab 1 Schedule 3 Page 2 para 9.

- a. Provide a detailed status report on the Dufferin SSO RNG project.
- b. Explain why this and other pilot projects should not be undertaken as an initial phase before launching the RNG Program on a more widespread basis.

Response:

- a. The City of Toronto's Dufferin SSO RNG pilot project is currently on hold pending the outcome of this RNG application. The project was suspended in the spring of 2011 because of the inability of the City of Toronto to achieve a suitable economic return on the RNG pilot project. EGD is unaware of any further information on this project at this time.
- b. Please refer to the evidence at Exhibit C, Tab 1, Schedule 3, paragraph 10.

"As news of this potential pilot spread, other parties indicated interest in RNG and we concluded that EGD's involvement in a single pilot project would not enable a market for RNG. Instead, a better approach would be a RNG purchase program that would provide the foundation for a wider array of producers with potential projects – municipalities, farmers, food processing facilities and landfill owners – to participate in the market."