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November 14, 2014

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Walli

Re: Greenfield South Power Corporation
Application for Certificate of Public Convenience and Necessity
Board File No. EB-2014-0299

We are counsel to Union Gas Limited ("Union") and hereby submit Union's evidence pursuant to Procedural Order No. 2 regarding the above noted application.

Yours truly,

[Original signed by]

Charles Keizer

cc (by email): Hubert Vogt, Greenfield South Power Corporation
Mike Richmond, McMillan Binch LLP
Miriam Heinz, Ontario Power Authority

EXECUTIVE SUMMARY

It is the position of Union Gas Limited ("Union") that the proposed acquisition of service from Vector Pipeline by Greenfield South Power Corporation ("Greenfield South") is, in accordance with past Ontario Energy Board ("Board") decisions, a bypass of Union's distribution system that would constitute special treatment of Greenfield South relative to other gas users in Union's franchised service areas, contrary to the public interest.

There is no cost basis either from a rate perspective or credit requirement perspective on which to differentiate service or to justify bypass of Union's distribution system. In fact, if Union were to construct facilities, the services provided by Union would be comparable and competitive to any service offered by Vector Pipeline.

There are no exceptional circumstances that exist to justify a favourable bypass decision by the Board and Greenfield South has not proven itself as a competent natural gas system operator. Union maintains that being the local distribution utility, Union's proposal is in the best interest of the ratepayers and is the preferred solution for delivering the required natural gas volumes and services to Greenfield South.

Union has estimated the potential annual margin loss to Union and its ratepayers with respect to its existing customers at $26 million should the Board endorse bypass and existing customers in the Sarnia area and Northern non-utility generators bypass Union.

For these reasons, Union respectfully requests that the Board not issue an Order granting a Certificate of Public Convenience and Necessity to Greenfield South.

BACKGROUND

In 2005, the Ontario Government announced that Greenfield South had been selected to develop and construct a 280 MW natural gas-fuelled electricity generation facility (known as the Green Electron Power Project ("GEPP")) in the City of Mississauga to provide electricity to the Ontario Power Authority ("OPA"). On July 10, 2012, it was announced that the Green Electron Power Project would be moved to the Township of St. Clair, south of Sarnia.

Union currently has a franchise agreement with the Township of St. Clair (EB-2010-0382) which grants to Union the right to construct and operate works for the distribution, transmission and storage of natural gas and the right to extend and add to the works within the Township of St. Clair. Union also holds a Certificate of Public Convenience and Necessity (EB-2010-0384) to construct works to supply gas in all of the Township of St. Clair which Union considers to be exclusive unless the Board specifically orders service to the contrary.

In response to a request from Greenfield South for natural gas distribution service, Union entered into negotiations to provide natural gas service to the proposed electricity generating facilities. Union has provided Greenfield South with offers of alternative services, but has not been able to reach an agreement with them.

On January 9, 2014, Greenfield South informed Union that they were going to pursue a bypass of Union's distribution system through a connection to Vector Pipeline (which is a high pressure natural gas pipeline that extends from Joliet, Illinois to Dawn). Greenfield South indicated that its reasons for choosing the bypass option were a perceived cheaper cost to use Vector and Union's requirement for a letter of credit.

On January 20, 2014, Vector Pipeline submitted a request to Union, under the provisions laid out in an Operating Agreement between Vector Pipeline and Union, to proceed with the engineering, construction and other development services required to install the proposed Greenfield South interconnection facilities. The requested completion time frame for the interconnection facilities was

July 2014 with the Generating Facilities scheduled to commence operations late in 2014. On February 4, 2014, Union responded to Vector Pipeline's request by informing them that there will need to be a Board process to determine the appropriate arrangements to connect the proposed electricity generating facilities.

On April 25, 2014, Union submitted an application (EB-2014-0147) for an Order under Section 91(1) of the *Ontario Energy Board Act* for leave to construct approximately 60 metres of NPS 8 (8 inch) natural gas pipeline and a customer station to provide natural gas service to Greenfield South. Union's Sarnia Industrial Line system would be used to meet Greenfield South's natural gas service requirements. Union plans to construct the Proposed Facilities in 2015.

On August 5, 2014, the Ontario Energy Board sent a letter to Union stating that the Board was of the view that it was necessary to consider "other matters" which may be relevant to Union's application before proceeding with hearing it. The Board stated that it will not proceed with additional steps related to Union's application until it has completed its review of these other matters.

On September 18, 2014, Greenfield South submitted an application (EB-2014-0299) for a Certificate of Public Convenience and Necessity, pursuant to section 8(1) of the *Municipal Franchises Act*, with amendments filed on September 25, 2014 and supplementary evidenced filed on November 5, 2014, for the construction of a proposed GEPP Natural Gas Utilization System to be used to transport natural gas to Greenfield South from the Vector pipeline.

While Union requested that the Board's review of its leave to construct application and Greenfield South's certificate application be combined since both request approvals to construct facilities to supply gas to the same natural gas-fired electricity generation plant, raising the issue of "bypass" of Union's system, the Board has decided that it will be more efficient to proceed with the Greenfield South certificate application at this time and continue to hold Union's leave to construct application in abeyance pending the outcome of this proceeding.

The purpose of this evidence is to establish that the Board should not approve Greenfield South's current certificate application.

This evidence is organized under the following headings:

I) Cost/economic factors related to serving Greenfield South's Green Electron Power Project by Greenfield South or Union on both Greenfield South and Union's other customers;

II) Competence of Greenfield South as builder and operator of the proposed gas supply project;

III) Impact on Union and Union's ratepayers of granting a Certificate to Greenfield South in Union's franchised service area; and

IV) Impact on Union's overall system efficiency of granting a Certificate to Greenfield South.

I) COST / ECONOMIC FACTORS

Greenfield South's GEPP facilities, which are now under construction, will be situated on formerly agricultural lands on the south side of Oil Springs Line west of Highway 40 in the Township of St. Clair, south of Sarnia. The GEPP facilities are expected to have a peak hourly natural gas requirement of approximately 2,320 GJ/hour[1] and a minimum delivery pressure of 450 psig[2] once the natural gas-fired combined cycle electricity generation equipment is installed and fully operational.

In November 2012, Union began discussions with Greenfield South regarding provision of natural gas distribution services to the proposed GEPP. Union currently provides distribution services to 17 gas-fuelled electricity generation plants, seven of which are in Union's franchised service area in Southern Ontario.

It is the position of Union that the proposed acquisition of service from Vector Pipeline by Greenfield South is, in accordance with past Board decisions, a bypass of Union's distribution system that would constitute special treatment of Greenfield South relative to other gas users in Union's franchised service areas, contrary to the public interest.

1 Greenfield South Application, page CPCN - 13
2 Greenfield South Application, page CPCN - 14

The overriding consideration in proposals such as this is the public interest as it arises in the context of energy policy and regulation, including rational development of gas distribution facilities and the fair and consistent treatment of all gas users. The Board's consideration of the public interest in this context has resulted in principles pertaining to postage stamp rates, class rate-making and the sharing of system costs by all end users in a local distribution company's franchised service area. These principles do not support physical bypass of a local natural gas distribution company, other than in exceptional circumstances.

A new natural gas customer in Ontario such as Greenfield South does not have a simple "choice" of either connecting to the local natural gas distribution company or to a natural gas transmission pipeline. Important issues pertaining to energy policy, precedent and the public interest are engaged and require the careful consideration of the Board.

A Discounted Cash Flow (DCF) analysis for the interruptible service option requested by Greenfield South (see Schedule 1) indicates that Union's proposed facilities project has a Profitability Index (PI) of 1.068. Pursuant to the Report of the Board in EBO 188 dated January 30, 1998, an overall PI of 1.0 means that existing customers will not suffer a rate increase over the long term as a result of the proposed project. The Board stated in its EBO 188 report that it was of the view that an overall rolling portfolio PI of 1.0 or better is in the public interest.[3]

The following sections describe the distribution services created specifically to address the needs of gas-fuelled electricity generators in Ontario. The evidence is organized as follows:

1. RP-2005-0022 - Greenfield Energy Centre Leave to Construct
2. EB-2005-0551 - Natural Gas and Electricity Interface Review (NGEIR)
3. Rate Design Changes That Further Benefited Electricity Generators
4. Specific Services Offered to Greenfield South
5. Greenfield South Gas Services
6. Service by Union to Greenfield South from Vector Connection

3 EBO report, section 2.1.5, p.8

1. RP-2005-0022 - Greenfield Energy Centre Leave to Construct

In July 2005, Greenfield Energy Centre Limited Partnership ("GEC"), a limited partnership between subsidiaries of Calpine Corporation and Mitsui & Co., Ltd., each of which hold a 50% interest in the Greenfield Energy Centre, filed an application with the Board for leave to construct a natural gas pipeline to supply a 1,005 MW gas-fuelled electricity generating station in Courtright, south of Sarnia. GEC's leave to construct application represented a physical bypass of Union's distribution system.

In August 2005, Union filed a competing leave to construct application that, if approved, would have Union construct a natural gas pipeline to serve GEC. In addition to the traditional evidence found in a leave to construct application, Union filed evidence in support of its position that a physical bypass of Union's system was not in the public interest. The Board combined the competing applications into one proceeding (RP-2005-0022).

In its Decision and Order dated January 6, 2006, the Board approved both applications. The key findings of that decision are summarized below:

i. There was clearly a need for natural gas pipeline facilities to serve the proposed electricity generating station;
ii. There were no negative rate implications for Union or its customers if Union builds the pipeline to serve GEC;
iii. There were no outstanding environmental or landowner issues associated with either application;
iv. Both Union and GEC were competent builders and operators of natural gas pipeline facilities; and
v. Both applications were credible and in the public interest.

With respect to the public interest issues raised by GEC and the services then provided by Union, the Board made the following finding (p.36):

"We believe that it is possible for Union to develop a tariff solution for customers of the size and needs of GEC to permit the utility's offerings to be more ***robust against bypass****. It is within the*

control of Union and the Board to manage the longer term, more speculative impacts arising from this transitional decision, beginning with the pending Natural Gas Electricity Interface Review proceeding. It is not in the public interest in this case however to require GEC to await the resolution of an appropriate tariff in the NGEIR proceeding."

In response and subsequent to the Board's Decision and Order in RP-2005-0022, Union proposed and received **approval of rates and services specifically designed to meet the needs of electricity generators and to address the bypass of Union's distribution system**. These services are described in more detail below.

2. EB-2005-0551 - Natural Gas and Electricity Interface Review (NGEIR)

Based on the Board's comments and findings in the RP-2005-0022 Decision and Order, Union proposed rate design changes in the Natural Gas and Electricity Interface Review ("NGEIR") proceeding that would result in rates that better respond to bypass. Union interpreted the Board's expectation that Union develop rates that are "robust against bypass" to mean that it should investigate ways of making its rates lower for customers like GEC. Further, it was clear that the Board expected that such changes were possible in the context of postage stamp class rate making principles and that the appropriate forum for addressing these changes was the NGEIR proceeding. It was within this framework that Union proposed the following changes to the rate design for T1 firm transportation service:

i. Replace the current two block declining demand charge rate structure with a four step block demand rate structure; and
ii. Replace the two block declining commodity charge with a single commodity charge applicable to all firm T1 transportation customers.

If the Board accepted Union's proposal to redesign the firm transportation service, Union also proposed changing the rate design of Rate U7 to align the semi-unbundled and unbundled service offerings.

As part of the Settlement Agreement to the NGEIR proceeding dated June 13, 2006, the Parties agreed that Union would not implement the proposed changes to its T1 firm transportation service. Rather, Parties agreed to a new Billing Contract Demand ("BCD") service for large new and existing in-franchise customers contracting for service under the T1 rate schedule.

BCD is a firm service approved by the Board as a bypass competitive option for large new and existing in-franchise customers with incremental daily firm demand requirements in excess of 1,200,000 m^3/day who were directly connected to (i) the Dawn-Parkway transmission system in close proximity to Parkway or (ii) a third party pipeline. Under a BCD arrangement, customers contracting for service under the T1 rate schedule (prior to Union's 2013 T1 rate redesign described below) were able to set their Contract Demand at a level such that the annual revenues over the term of the contract recovered the invested capital, return on capital and operating and maintenance costs associated with the dedicated service. The firm transportation demand charge is applied to the BCD. For customers choosing the BCD option, the authorized transportation overrun rate applies to all volumes in excess of the BCD.

The BCD service directly responded to threats of bypass by recovering only the incremental facilities costs associated with the facilities through the contract demand and enables the customer choosing BCD to lower its costs relative to Rate T1 service without BCD. Union currently has one electricity generator taking service under BCD since 2009.

In addition to the Rate T1 BCD option described above, as part of the NGEIR Settlement Agreement parties also agreed that Union would develop four new ex-franchise services to meet the requirements of electricity generators located outside of Union's franchise area. The four new services were F24-T, F24-S, Upstream Pipeline Balancing Service ("UPBS") and Downstream Pipeline Balancing Service ("DPBS"). Each of the new ex-franchise services is described below.

The F24-T service is a firm all day transportation service with access to 13 nomination windows. The F24-T service is designed to address the needs of electricity generators for additional nomination

windows and access to their firm transportation capacity throughout the day. The F24-T service is a cost-based transportation service available to customers under the Rate M12 rate schedule.

The F24-S service is a firm all day storage service with access to the same 13 nomination windows that are available with F24-T service. Similar to F24-T, the F24-S storage service is designed to address the needs of electricity generators for additional nomination windows and access to their firm storage account throughout the day. The F24-S service is a non-utility service available at market prices under Union's Market Price Storage Schedule (MPSS).

The Upstream Pipeline Balancing Service ("UPBS") is an enhancement to an existing storage service that enables electricity generators to balance rateable (i.e., firm even daily) flows arriving at a receipt point, which includes purchased gas supplies, storage, withdrawals, or gas arriving from upstream pipelines, with non-rateable downstream consumption requirements. UPBS is specifically designed to provide electricity generators the flexibility to deliver gas at a receipt point based on daily requirements using the industry standard hourly flow rate of $1/24^{th}$, and to have Union re-deliver the same daily quantities to a delivery point, but only during the hours they expect to operate. UPBS is a non-utility service available at market prices under Union's MPSS.

The Downstream Pipeline Balancing Service ("DPBS") is a firm balancing service with access to 96 nomination windows. DPBS is designed to provide electricity generators with the flexibility necessary to be able to increase or decrease their consumption on a firm basis on very short notice. DPBS is effectively a firm park and loan service available at a downstream delivery point and allows generators to have an ongoing positive (i.e., park) or negative (i.e., loan) balance in a balancing account. DPBS is a non-utility service available at market prices under Union's MPSS.

Since the NGEIR Decision was issued, seven electricity generation facilities have been built and placed into service in Ontario without any bypass applications. This coincides with the change in the OPA's Clean Energy Supply contract that now prohibits the bypass of the distribution systems within the franchised service areas of Union and Enbridge Gas Distribution and prevents the electricity generator from constructing, owning or operating the gas pipeline that serves the generator. See

section 2.8 – Operation Covenant in attached Schedule 2 where the OPA specifically directs that project proponents cannot bypass the local gas distribution franchise for a proposed facility within that franchise area.

The NGEIR decision included power services and these services have allowed the generators to participate in the IESO market in compliance with their OPA power sale contract.

3. Rate Design Changes That Further Benefited Electricity Generators

Union's Rate T2 service was introduced and approved as part of its 2013 Cost of Service application (EB-2011-0210). In that application, Union split the Rate T1 rate class into two rate classes in order to improve rate class composition and ensure that both Rate T1 and Rate T2 would be comprised of more homogeneous customers in terms of firm contracted demands and firm annual consumption. Union estimates that its Rate T1/T2 redesign proposal resulted in savings to Rate T2 electricity generators of approximately $1.8 million per year (see Schedule 3).

The split of Rate T1 into two rate classes better aligned cost incurrence and cost recovery by recognizing the differences in distribution demand and distribution customer-related costs between small Rate T1 and large Rate T1 customers. The split also addressed the significant diversity in daily contracted demand and firm annual consumption that exists between small and large customers within the previous Rate T1 rate class.

The Rate T2 service is a semi-unbundled service with contractual parameters which are tailored to a specific customer's needs. This allows the daily balancing of the customer's deliveries to Union with the consumption at its facility at the customer's chosen level of risk. The rate the customer ultimately pays is tied to the specific level of contracted service.

The Rate T2 service recognizes that the majority of Rate T2 customers are served off of transmission main as opposed to distribution main. As a result, the level of contribution by Rate T2 customers to the recovery of distribution demand costs is lower than other Union South distribution rate classes.

The Rate T2 service has the lowest distribution rate in Union South; making it bypass competitive. For the Rate T2 rate class, the average rate associated with the combined transportation and storage service is less than \$0.01 per m^3 (or approximately \$0.25 per GJ). By comparison, the average rate for T1 transportation and storage service is \$0.02 per m^3 (or \$0.50 per GJ).

Union offers the Rate T2 service to its largest contract rate customers, including the electricity generators in the Southern delivery area of Union's franchised service area. The Rate T2 service provides customers with the flexibility required to operate their plants economically. Approximately 22 large industrial customers contract for this service. These customers collectively consume approximately 150 Bcf of gas annually. This total includes all seven gas-fuelled electricity generation plants in Union's franchised service area in Southern Ontario which generate over 2,700 MW of electricity and consume approximately 36 Bcf of gas annually.

Rate T2 consists of a monthly customer charge, a two block monthly demand charge and a single block commodity charge. Rate T2 service is available to customers with a minimum firm daily contracted demand of 140,870 m^3.

Rate T2 also includes all the Board-approved storage space and storage injection/withdrawal rights per the previously approved Rate T1 service.

In addition to the cost effectiveness of the Rate T2 service described above, T2 provides many benefits that are highly valued by existing and potential T2 customers, particularly electricity generators. These benefits include:

i. The ability to tailor the service parameters to best suit the needs of the customer.
ii. There is no requirement to nominate consumption at the plant or injections and withdrawals into or out of storage. An end of day true-up results in either an automatic injection into storage or withdrawal from storage depending on whether too much or too little gas was delivered in comparison to plant consumption. This provides the maximum flexibility with no notice requirement.

iii. The ability to better control and predict costs by having the option to supply the customer's own compressor fuel and storage deliverability.

iv. Having a non-obligated Daily Contract Quantity (DCQ) gives these new electricity generators significant delivery flexibility. If the plant is not operating for any reason, there is no obligation to deliver gas to Union.

v. The Rate T2 service permits the customer to buy gas at Dawn. Dawn is a highly liquid trading point with many buyers and sellers, with prices that are both transparent and easily discoverable.

vi. Customers have access to both cost-based storage space and deliverability to meet their requirements.

vii. There is no requirement to match consumption and supply volumes on an hourly basis.

viii. An appropriate combination of storage space and deliverability allows the customer to better manage acquiring supply and helps avoid the intra-day gas markets and the price volatility that can arise.

ix. A Union firm Rate T2 customer avoids the impacts related to a non-bumping pipeline as consumption is not required to be nominated.

x. Customers receive high levels of security of supply and reliability by being connected to an integrated distribution system with a large number of pipeline interconnections.

The benefits of Rate T2 service described above provide customers with the flexibility to operate their facilities in an efficient manner. These service attributes, combined with a competitive rate, result in a Rate T2 offering that is highly valued by both existing (including seven electricity generators) and potential customers. The Rate T2 service meets the needs of electricity generators in a flexible and economic manner and is a robust service offering that effectively mitigates any perceived need for a customer to bypass the local distribution system.

4. Specific Services Offered to Greenfield South

Firm and Interruptible Rate T2 Service

When developing the service proposal for Greenfield South, Union initially considered options that would allow it to provide firm service. The two options Union considered were a connection to the

NPS 42 Vector Pipeline and a connection to the NPS 12 and NPS 20 pipelines of the Sarnia Industrial Line system. On review, a firm service connection to the Vector Pipeline was not a practical alternative because Vector is a sole source pipeline. In the event that gas is not flowing on Vector, it would not be possible to provide firm service to Greenfield South without adding firm capacity from Dawn to Dawn-Vector. The cost of adding this capacity would be significant.

Although, the BCD option is available in the Sarnia area to customers directly connected to a third party pipeline, Union did not pursue this option for Greenfield South because firm service is not currently available from Dawn to Dawn-Vector.

Union concluded that a connection to the Sarnia Industrial Line system was the best alternative for providing firm service to Greenfield South. This is the case because Greenfield South, through the Sarnia Industrial Line system, would be able to access reliable supply from multiple sources through the Dawn Hub at a cost comparable to that of a Vector connection.

Accordingly, in July 2013, Union made an initial firm service offer under Rate T2 to Greenfield South. The estimated annual cost of the firm service offering was approximately $2.2 million. The contract term was for 20 years. Greenfield South was advised that, since they are unrated, they would need to provide security for all exposure in the form of a letter of credit equal to the estimated capital cost of the supply facilities connected to the Sarnia Industrial Line system which would decline over the term of the contract.

This initial offer was rejected by Greenfield South as too expensive. Greenfield South indicated that its target pricing was less than 60% of Union's firm service costs.

To meet Greenfield South's target pricing, Union prepared a Rate T2 interruptible service offer at Greenfield South's request. Union explained the risk that an interruption could happen at any time which could result in Greenfield South without gas service under this offering. Greenfield South indicated a willingness to accept that risk for a lower price.

In August 2013, Union made an offer to Greenfield South of interruptible service over a 10 year term with pricing set to 60% of firm service. The interruptible service offer did not require enhancements at the Courtright Station and Sarnia Industrial Station so those costs would not be incurred for service from the Sarnia Industrial Line system. The estimated annual cost of the 10 year interruptible service offering was approximately $1.4 million. The interruptible pricing offered was at the low end of the interruptible pricing range and resulted in a distribution cost to GEPP that is competitive when compared to other generators.

Greenfield South then requested an interruptible service option with a 20 year term which Union presented at a September 2013 meeting. Based on Union's credit standards (see Schedule 4), Greenfield South was advised that it would need to provide a letter of credit as secured collateral equal to the estimated capital cost of the supply facilities connected to the Sarnia Industrial Line system ($6 million) which would decline over the term of the contract. The only alternative to a letter of credit would be some other form of secured collateral such as a cash deposit or an OPA guarantee.

5. Greenfield South Gas Services

In its evidence, Greenfield South indicates that they will contract with Vector Pipeline for gas services to the GEPP. Appendix 34 of Greenfield South's supplementary evidence submitted November 5, 2014 is a letter dated October 26, 2012 from Vector Pipeline to Eastern Power Limited in which Vector proposes services to meet the proposed GEPP load of 2,320 GJ/hour. The Vector services are Firm Transport – Hourly ("FT-H") and Operational Variance Service ("OVS"). Vector states in its proposal letter that for FT-H:

> *"There are two main requirements of this service. The first is that the receipt and delivery volumes need to be equal and synchronous each hour. <u>This demands Eastern contract with a third-party storage provider that has a service that will match up with FT-H</u> (both Union and Enbridge have such services). The second requirement is that nominations cannot be made for retroactive hours."*

For the OVS service, Vector states in its letter:

"Like FT-H, OVS requires a service from a storage provider that will match up to it".

Union submits that the services Greenfield South will need to acquire to match up with Vector's FT-H and OVS services would include transport service to Vector and storage to provide balancing services.

With respect to storage services, Greenfield South needs 2,320 GJ/hour or 46,400 GJ/day of firm supply deliverability to operate its plant. In order to ensure this level of service, a third-party storage service is also required in order to accommodate the change in hourly demand at the GEPP. Union expects that a standard market-based storage service of 1.2% deliverability to match the 46,000 GJ/day demand and corresponding 3.8 Bcf of storage space would be required. While the market-based cost of such a service is not known at this time, Union's current cost of providing this service is approximately $1.4 million annually. In Union's view, it is likely that market prices would be substantially higher.

This high-level cost estimate does not take into account the fact that Greenfield South may choose to contract for higher levels of market-based deliverability with lower levels of space, or to contract for load-shaping, intra-day or hourly balancing services such as UPBS, DPBS and F24-S. These options would increase the cost estimate.

The market rate for these storage and balancing services combined with the 2,320 GJ/hour level of service required by Greenfield South, increases the total annual cost to serve Greenfield South through its Vector Pipeline connection to above the cost of Union's interruptible service option.

The following table is an update to Table 4 contained at page 12 of Greenfield South's supplementary evidence prepared by John Todd of Elenchus Research Associates. The table provides a summary of the year 1 capital costs and contribution in aid of construction, the annual costs over the term of the contract including the estimated cost of the storage services referenced by Vector as required to

match up with its FT-H and OVS services, and the present value of these costs over the 20 year term of Greenfield South's OPA contract.

Summary of Comparative Greenfield South Gas Services

	Service	Year 1 Capital Cost and Contribution (2015)	Annual Costs (20 years)		Present Value (2015)
			Transportation	Storage	
A	Vector FT-H and OVS	$1,625,000	$696,110	$1,400,000	$24,067,893
B	Union Rate T2 Interruptible	-	$1,483,000	$342,336	$17,457,252
C	Union Rate T2 Firm	-	$2,602,000	$342,366	$29,701,926
D	Row B – Row A	($1,625,000)	($470,774)		($6,610,642)
E	Row C – Row A	($1,625,000)	$848,256		$5,634,033

These revised calculations show that Union's interruptible service option is more cost effective than Greenfield South's proposed service through Vector Pipeline. The Vector Pipeline option would be considered interruptible if Greenfield South contracted with Union for Dawn to Dawn-Vector transportation service in order to transport gas from its supply source at Dawn to the Vector Pipeline. The available Dawn to Dawn-Vector service is interruptible at this time.

In his evidence, Mr. Todd identifies assumed costs of service interruptions:

> *"Given that Union has stated that it would be necessary to reinforce its system in order to offer Greenfield firm service it is reasonable to expect that under Union's Rate T2 interruptible service Greenfield's gas supply will be interrupted periodically although it will be deemed to be running under its OPA contract. Greenfield has estimated that each day that its gas supply is interrupted is likely to result in a loss of net income in the order of $135,000. Hence, for example, if its gas supply were interrupted 4 days a year on average over the 20 year term of the OPA contract, it would experience an annual "cost", as compared to the Vector service, of $540,000."*[4]

4 Greenfield South Application, Evidence of John Todd, page 8

In Union's view, natural gas service interruptions in Enbridge's Central Delivery Area as set out in Greenfield South's Supplementary evidence at Appendix 31 is not a basis upon which to estimate interruptions of service on Union's Sarnia Industrial Line.

6. Service by Union to Greenfield South – Sarnia Industrial Line vs. Vector Connection

It is Union's view that firm or interruptible services provided through a connection to the Sarnia Industrial Line system will best meet the needs of Greenfield South. It is also Union's view that there is no material cost difference between Union providing service to Greenfield South through a connection to the Sarnia Industrial Line system versus a connection to Vector.

Union estimates the total capital cost of a connection to Vector to be between $5.2 million and $5.4 million. This estimated capital cost includes a customer station containing telemetry, boilers, odourant system, filters, meters, heat exchangers and regulators as well as 50 metres of NPS 8 to connect the NPS 42 Vector Pipeline to a customer station. This compares to a $6.0 million capital cost estimate for a similar connection to the Sarnia Industrial Line system.

Further, the location of the proposed electricity generating facilities is approximately the same distance from the Vector Pipeline as from Union's Sarnia Industrial Line system. According to Greenfield South's CPCN application, the total capital cost of the GEPP Natural Gas Utilization System from the Vector Tap to the related metering facilities near the power plant is estimated to be $500,000. Union's capital cost estimate to serve Greenfield South includes both the pipeline and station works and all gas handling work required to tap into existing pipelines as well as all design, construction, quality assurance and internal costs to meet all codes, regulations and company standards. Union has recent experience constructing related gas works in the Sarnia area that helps validate its cost estimates.

Costs identified in Greenfield South's application cannot be compared to Union's cost estimates without a detailed understanding of their scope of work, detailed design and schedule. However, given the nature of the facilities required to serve Greenfield South, it is unlikely there will be any

material difference in capital cost for required facilities whether constructed by Union or Greenfield South.

With respect to credit requirements, as indicated above, Union requires a letter of credit from Greenfield South equivalent to the capital cost of the project. This level of credit is required because Greenfield South is not rated. Union has reviewed the credit requirements of Vector and has concluded that a similar level of credit would be required of Greenfield South by Vector for comparable capital costs.

Accordingly, there is no cost basis either from a rate perspective or credit requirement perspective on which to differentiate service or to justify bypass of Union's distribution system. In fact, if Union were to construct facilities to connect to Vector and Greenfield South delivered gas to Union at that interconnection, the services provided by Union would be comparable and competitive to any service offered by Vector.

II) COMPETENCE OF GREENFIELD SOUTH AS BUILDER / OPERATOR

The Board has a responsibility to ensure applicants have the financial and operational ability to build and operate proposed facilities in a safe and reliable manner. In its application, Greenfield South indicates that it intends to draw on an affiliate's (Eastern Power) significant experience in the construction and operation of large-scale power generation facilities. However, Greenfield South has not submitted evidence on its capabilities to build and operate the natural gas service pipeline as well as procure and manage the supply of the gas to the generation plant.

To operate the GEPP, Greenfield South will require a natural gas system to deliver natural gas from the natural gas supply point to the generating plant. The proposed GEPP Natural Gas Utilization System includes a NPS 8 high pressure steel pipeline connected to the Vector pipeline. This pipeline will run underground for approximately 450 meters and connect to a metering and pressure reduction station. From that point, it will connect to and service the GEPP facilities through various works and facilities, including: (1) a high pressure branch to feed the gas turbine via a fuel conditioning skid; (2)

a medium pressure system to feed the duct burner in the heat recovery steam generator (HRSG); and (3) a low pressure system to feed miscellaneous plant equipment[5].

The supply of gas to the GEPP facility will be an ongoing concern of the generation plant operation and the safe and reliable operation and maintenance of the pipeline remains a public concern. Greenfield South indicates in its application that it will begin preparations for construction of the GEPP Natural Gas Utilization System in September 2014 prior to receiving any decision from the Board regarding the current application[6].

Greenfield South also indicates that through its affiliate and supported by qualified consultants and contractors, they have the necessary experience and financial ability to construct and safely operate the GEPP Natural Gas Utilization System and manage all of its gas delivery needs[7]. While Greenfield South has provided the qualifications of a chief operating engineer certified in gas turbine construction and operation, it is not clear what experience this person has operating a natural gas pipeline system. Also, no detail has been provided on how and through what contracts the gas delivery needs will be accomplished.

III) PUBLIC INTEREST AND IMPACT ON UNION'S RATEPAYERS

According to Greenfield South's evidence, the construction of the GEPP Natural Gas Utilization System will not duplicate or strand existing facilities and will have no negative effects on Union or its ratepayers[8].

As noted previously, Union offers the Rate T2 service to its largest contract rate customers, including the electricity generators in the Southern delivery area of Union's franchised service area. The Rate T2 service provides customers with the flexibility required to operate their plants economically. Approximately 22 large industrial customers contract for this service. These customers collectively consume approximately 150 Bcf of gas annually. This total includes all seven gas-fuelled electricity

5 Greenfield South Application, page CPCN - 8
6 Greenfield South Application, page CPCN - 2
7 Greenfield South Application, page CPCN – 24 and Supplementary Evidence
8 Greenfield South Application, pages CPCN – 9 and CPCN - 23

generation plants in Union's franchised service area in Southern Ontario which generate over 2,700 MW of electricity and consume approximately 36 Bcf of gas annually.

In its January 20, 2014 letter to Union, Vector Pipeline indicated that Greenfield South had requested an interconnection with Vector and Union was requested to proceed with the engineering, construction and other development services required to install these interconnection facilities. The scope of work requested of Union was to undertake the hot tap, side valve, insulating flange assembly, and all other necessary equipment for Greenfield South to connect a lateral pipeline to Vector. Vector indicated that the overall scope of work is very similar to what had been done at the Greenfield Energy Centre electricity generation station in Courtright which included a 2 km, 16-inch diameter high pressure steel pipeline to connect the Greenfield Energy Centre to the Vector pipeline and related facilities to supply natural gas to the generation station. Union submits that this makes it clear that Greenfield South intends to construct a lateral pipeline from its generation station to a connection point on the Vector system.

In its March 14, 2014 letter to the Board, Greenfield South questions Union's interpretation of the *Municipal Franchises Act*. Union submits that the Board addressed this issue of interpretation in its January 6, 2006 Decision and Order in the combined proceeding addressing the Greenfield Energy Centre facilities (RP-2005-0022 / EB-2005-0441 / EB-2005-0442 / EB-2005-0443 / EB-2005-0473) when it stated as follows (starting on page 38):

> *"First, it is clear from the MFA that the application of section 8 is not restricted to utilities or gas distributors. The need for pre-approval applies to all persons.*
>
> *Secondly, it appears that the purpose of section 8 of the MFA is to deal with construction of works to supply gas, not the supply of gas itself. The first part of section 8 of the MFA, before an amendment in 1998, read:*
>
> > *'8.(1) Despite any other provision in this Act or any other general or special Act, no person shall construct any works to supply,* ***or supply***

(a) natural gas in any municipality…'
(emphasis added)

The amendment reduced the scope of section 8 of the MFA such that it is the construction of works that is addressed by the section.

The Board finds that a purposive interpretation of the MFA suggests that all persons who wish to construct pipelines to supply natural gas need a Certificate, unless such persons are exempted by the words in the section that relate to supply before 1933. The Board is of the view that the section applies even where the recipient of the gas is identical with the constructor of the pipeline. We find that the word "supply" should be interpreted to include supplying oneself.

It is important that the Board retain oversight of the construction of hydrocarbon pipelines in Ontario for reasons including safety, regulatory policy and the avoidance of the unnecessary proliferation of gas works. As pointed out in the hearing, not every gas pipeline is subject to approval under the leave to construct provisions of the OEB Act. The need for a Certificate under the MFA provides the Board with the opportunity to assess the need for a gas pipeline and the competency of the proponent to construct the line safely." (emphasis added)

Union's view is that any distribution or transmission facility (whether it be to serve incremental or existing customers) located within Union's franchised operating area but not owned by Union constitutes bypass. This is consistent with regulatory precedent since bypass was first addressed in 1986 during E.B.R.O. 410-I / E.B.R.O. 411-I / E.B.R.O. 412-I.

E.B.R.O. 410-I / E.B.R.O. 411-I / E.B.R.O. 412-I was the first proceeding addressing the "factual and legal" issues concerning bypass. This proceeding was a generic proceeding on issues related to contract carriage and direct purchase arrangements. At paragraph 5.2 of the Board's December 12, 1986 Reasons for Decision, bypass was defined as:

"…the situation where an end-user in Ontario receives gas directly from either the transmission facilities of TCPL or an international pipeline company and thus does not use

the facilities of the LDC which currently is the franchised distributor. Bypass, as a term is used herein, involves the total avoidance of the LDC system for the transportation of gas."

Union notes that the Board does not differentiate between incremental or existing customers, but rather identifies bypass as customers avoiding the LDC system.

If Greenfield South intends to build a pipeline to totally avoid Union's system for the transportation of gas, then it is a bypass.

The Board provided examples of bypass at paragraph 5.3 of its Reasons for Decision in E.B.R.O. 410-I / E.B.R.O. 411-I / E.B.R.O. 412-I. They are:

"- direct connection of the end-user to TCPL's transmission line through pipeline facilities constructed or acquired by the end-user or an affiliate;
- extension by TCPL of its pipeline facilities directly to the end-user; and
- direct connection to an international transmission pipeline company thereby 'bypassing' the LDC and/or TCPL and NOVA."

Again the Board was careful not to restrict its decision to the direct connection by an existing customer only.

Finally at paragraph 5.4 of its Reasons for Decision in E.B.R.O. 410-I / E.B.R.O. 411-I / E.B.R.O. 412-I, the Board specifically addressed the issue of duplication of facilities stating:

"In most but not all instances of bypass, facilities are duplicated. The LDCs argue that they have a reasonable expectation of serving all incremental customers where gas is moved in their franchise area. In the case of an incremental customer there may or may not be duplication."

Union notes that there has been at least one proceeding where the demands were incremental. That proceeding was E.B.R.O. 477. It is discussed in more detail later in this evidence.

Duplication of Facilities

Union's integrated system has been designed to provide Union and its customers with flexible supply options. Union has interconnections to TCPL, Vector, St. Clair, Panhandle, and Bluewater which allow Union and its customers to access different supply sources as well as Michigan storage.

In making these connections, Union has assumed that it is reasonable to expect that it will serve all incremental loads in its franchised service areas. As a result, these connections have been made with a view to meeting the needs of customers like Greenfield South.

Based on the above, and acknowledging that there is no existing pipeline to the proposed Greenfield South facility, Union submits that there will be duplication of Union's facilities. Any pipeline built by Greenfield South will duplicate facilities Union has as part of its integrated system. Greenfield South's current proposal to connect to Vector will immediately result in duplication of Union's own interconnection with Vector.

Expectation to Provide Service

It is reasonable for a gas distributor to expect that it will serve all incremental loads within the areas for which it has a franchise agreement and Certificate of Public Convenience and Necessity. Union's expectation is consistent with the regulatory precedent established in prior Board decisions related to postage stamp rates and bypass. The facilities for the distribution of natural gas in Ontario have been developed by the Board on the basis that it is in the public interest to provide utilities under the Board's regulation with the exclusive right to deliver natural gas to end-users within defined franchised service areas, unless there are exceptional circumstances. The assurance that the LDC will have the relatively exclusive right to serve customers both large and small, whether close to or far away from transmission lines, allows the LDC to invest capital in its system and to expand it rationally, with confidence that loads will develop more or less in line with population growth and industrial development and will remain on the system into the foreseeable future.

Negative Effects on Union and its Ratepayers

In Union's view, Greenfield South's proposed bypass pipeline is an incremental load and there is a duplication of facilities and a negative effect on Union and its ratepayers. As is noted in the Board's E.B.R.O. 477 Decision with Reasons (paragraph 5.030), the Board found that:

> *"There have been submissions made that there is no cost shifting where the customer is incremental. The Board does not agree. In the Board's view, where the load is incremental there is notional cost shifting …."*

Notional cost shifting refers to the impact on existing ratepayers as a result of the bypasser not taking service at the posted rate or at a rate that is less than the class rate. In the case of Greenfield South, the physical bypass of Union's system will result in foregone benefits to all existing and future ratepayers. As a result, Union's customers, including existing electricity generators currently taking service under Rate T2, will pay a higher rate than they otherwise would. Union does not view this foregone benefit shift to be in the public interest or consistent with established principles of rate design.

In addition to notional cost shifting, Union is concerned that, if the Board endorses bypass in the Province of Ontario, the potential exists for a number of existing customers to seek similar relief to that sought by Greenfield South. That is, customers located in close proximity to natural gas transmission facilities will take advantage of their location while other customers that have not had the good fortune to locate next to transmission facilities will continue to take service from the LDC at higher cost.

Union has estimated the potential annual margin loss to Union and its ratepayers with respect to its existing customers at $26 million (based on forecast 2014 volumes and revenues) should the Board endorse bypass and customers in the Sarnia area and Northern non-utility generators bypass Union. The actual impact on Union and its ratepayers will depend on the extent to which existing customers seek physical bypass. This analysis does not take account of the foregone revenue from new customers who are granted physical bypass rights. The majority of the lost margin would be recovered from general service customers (residential, commercial and small industrial).

No Cross-Subsidy of Union Ratepayers by Greenfield South

The Board has previously clearly stated (E.B.R.O. 477, Decision with Reasons, paragraph 5.0.36) that payment above incremental costs is a contribution to the integrity of the gas distribution system and that this contribution is the price of preserving an integrated structure that is reflective of the broad public interest.

Greenfield South has indicated that the Generating Facilities would be uneconomic if it was served using the T2 rate schedule. Union notes that in its E.B.R.O. 471 (Canadian Forest Products) Decision with Reasons dated August 27, 1991 at paragraph 4.0.6, the Board stated that one of the serious and complicated questions for the Board, which simultaneously imposes a substantial burden of proof on an applicant is: "Is the applicant under some economic threat, or is it simply able to bypass economically?"

In proposing to physically bypass Union's system, Greenfield South is requesting special treatment that is akin to them receiving a subsidy from other ratepayers. If Union provides service to the electricity generation station, Union will be serving an economic load that will produce net benefits over the life of the project for all of Union's customers, including all existing and future electric generators. If the bypass proposed by Greenfield South is approved, other ratepayers will be precluded from receiving these benefits and Greenfield South will be the sole beneficiary.

Union has reviewed Greenfield South's proposed bypass in the context of the principles that have been enunciated by the Board in prior cases pertaining to bypass. Union has concluded that it would not be in the public interest for the Board to approve the physical bypass proposed by Greenfield South. In Union's view, Greenfield South's proposal to physically bypass Union's facilities is entirely driven by its desire to minimize its costs to increase profit and not by an economic threat.

Union views the notional cost shift associated with the foregone margin that will result if the Board approves the physical bypass of Union's system as inappropriate. All of Union's existing and future customers will pay more than they otherwise would have if bypass is approved.

Further, any decision that results in an increase in physical bypass will need to be factored into Union's rate-making framework. Specifically, gas distributors will need a means to recover margin losses associated with customers selecting physical bypass.

IV) IMPACT ON UNION'S OVERALL SYSTEM EFFICIENCY

Since Greenfield South would be an interruptible customer if they connected to Union, there would not be any impacts of the overall efficiency of Union's Sarnia Industrial Line system.

Impacts to Union's system by Greenfield South receiving service directly from Vector Pipeline could occur at Dawn if Union was required to provide a firm Dawn to Dawn-Vector service. There is currently no capacity available for this service and Union would have to build new facilities.

Given that Greenfield South's interruptible demand would drive little to no system modification / reinforcement should they connect to the Sarnia Industrial Line, Union and its ratepayers would lose the opportunity to have a better utilization of an existing asset.

CONCLUSION

In conclusion, Union Gas believes that there is no cost basis either from a rate perspective or credit requirement perspective on which to differentiate service or to justify bypass of Union's distribution system by Greenfield South. Union maintains that being the local distribution utility, Union's proposal is in the best interest of the ratepayers and is the preferred solution for delivering the required natural gas volumes and services to Greenfield South.

Union respectfully requests that the Board not issue an Order granting a Certificate of Public Convenience and Necessity to Greenfield South.

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EB-2014-0299

Schedules

Greenfield South Generating Station - Discounted Cash Flow Analysis

Project Year ($000)	1	2	3	4	5	6	7	8	9	10
Cash Inflow										
Revenue	1,071	1,071	1,071	1,071	1,071	1,071	1,071	1,071	1,071	1,071
Expenses:										
O & M Expense	(5)	(5)	(5)	(5)	(5)	(6)	(6)	(6)	(6)	(6)
Municipal Tax	(60)	(61)	(62)	(63)	(65)	(66)	(67)	(68)	(70)	(71)
Income Tax	(199)	(177)	(182)	(186)	(191)	(195)	(199)	(202)	(206)	(209)
Net Cash Inflow	807	829	822	816	811	805	800	795	790	785
Cash Outflow										
Incremental Capital:										
Total Capital Costs	5,959									
Contribution in Aid of Construction	-	-	-	-	-	-	-	-	-	-
Net Incremental Capital										
Change in Working Capital	-	-	-	-	-	-	-	-	-	-
Cash Outflow	5,959	-	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	787	1,557	2,283	2,969	3,617	4,229	4,808	5,355	5,873	6,363
Cash Outflow	5,959	5,959	5,959	5,959	5,959	5,959	5,959	5,959	5,959	5,959
NPV By Year	(5,172)	(4,403)	(3,677)	(2,991)	(2,343)	(1,730)	(1,151)	(604)	(86)	403
Project NPV	403									
Profitability Index										
By Year PI	0.132	0.261	0.383	0.498	0.607	0.710	0.807	0.899	0.986	1.068
Project PI	1.068									

CLEAN ENERGY SUPPLY (CES) CONTRACT

Between

[redacted]

– and –

ONTARIO POWER AUTHORITY

[redacted]

Execution Copy

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CLEAN ENERGY SUPPLY (CES) CONTRACT

This Clean Energy Supply (CES) Contract is dated as of the 14th day of December, 2012, between TransCanada Energy Ltd., a corporation existing under the laws of Canada (the "**Supplier**") and the Ontario Power Authority (the "**Buyer**"). The Supplier and the Buyer are each referred to herein as a "**Party**" and collectively as the "**Parties**".

WHEREAS on October 9, 2009 the Parties executed the Southwest GTA Clean Energy Supply (CES) Contract (the "**Original Contract**") for a combined cycle, gas-fired power generation facility to be built and operated by the Supplier in Oakville, Ontario (the "**OGS Facility**");

AND WHEREAS by letter dated October 7, 2010 the Buyer advised the Supplier that it would not proceed with the Original Contract, directed the Supplier to cease all further work and activities in connection with the OGS Facility and acknowledged that the Supplier was entitled to its reasonable damages, including the anticipated financial value of the Original Contract;

AND WHEREAS on December 13, 2012, the Minister of Energy issued a directive to the Buyer (the "**Ministerial Directive**") to enter into this Agreement as a replacement for the Original Contract;

AND WHEREAS the Supplier and the Buyer wish to execute this Agreement in order to formalize the long-term contractual arrangements for the Supplier to develop and operate the Facility and to supply Electricity and Related Products from the Facility, directly or indirectly, to the IESO-Administered Markets during the Term on the terms and conditions set out herein;

NOW THEREFORE, in consideration of the mutual agreements set forth herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound, the Parties agree as follows:

ARTICLE 1
DEFINITIONS

1.1 Definitions

In addition to the terms defined elsewhere herein, the following capitalized terms shall have the meanings stated below when used in this Agreement:

"**Actual Operation**" means that the Facility generated and delivered Electricity to the Delivery Point after start-up, synchronization to the IESO-Controlled Grid, and technically required hold points, with such operation being between the minimum load and the maximum continuous output rating of the Facility with supplementary firing.

"**Additional Term**" has the meaning ascribed to it in Exhibit C.

acceptable to the Buyer, acting reasonably. If the Buyer determines that the IE Certificate, Supplier's Certificate, or such documentation provided by the Supplier under the Supplier's Certificate are not acceptable to the Buyer, the Buyer shall at the time of such notification provide to the Supplier reasonable particulars in respect of the deficiencies in the IE Certificate, Supplier's Certificate, or such documentation.

2.7 Buyer Information During Design and Construction

Prior to COD, the Supplier shall provide the Buyer with progress reports as follows:

(a) By the fifteenth (15th) day of each calendar quarter following the date of this Agreement and continuing until COD, the Supplier shall provide the Buyer with quarterly progress reports substantially in the form of Exhibit O, describing the status of efforts made by the Supplier to meet each Milestone Date and the progress of the design and construction work and the status of permitting and approvals relating to the Facility. Such quarterly progress reports shall report on the progress of all applicable Reportable Events. At the Buyer's request, the Supplier shall provide an opportunity for the Buyer to meet with appropriate personnel of the Supplier to discuss and assess the contents of any such Quarterly Progress Report. The Supplier acknowledges that the Quarterly Progress Reports and photographs of the Facility may be posted or printed by the Buyer on its website or in publications.

(b) In addition to the quarterly progress reports it is required to provide pursuant to Section 2.7(a), the Supplier shall also provide the Buyer with notice of any material incident, event or concern which may occur or arise during the course of the development, construction or commissioning of the Facility, promptly and, in any event, within ten (10) Business Days following the later of: (i) the Supplier becoming aware of any such incident, event or concern occurring or arising; and (ii) the Supplier becoming aware of the materiality of same, with such timing in each case based upon the Supplier having acted in accordance with Good Engineering and Operating Practices.

(c) At the Buyer's request, the Supplier shall provide an opportunity for the Buyer to participate as an observer in the Supplier's regular project meetings with its EPC Contractor or Other Contractor(s), if any. A copy of the minutes of the project meeting shall be provided to the Buyer if the Buyer participates as an observer at any such meeting.

2.8 Operation Covenants

(a) The Supplier agrees to own the Facility during the Term and to 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

Transmission System Code, the Connection Agreement and all other Laws and Regulations. For certainty, the Parties acknowledge that the Buyer is not purchasing from the Supplier, nor is the Supplier selling to the Buyer, any Electricity or Related Products.

(b) The Supplier agrees to assume all risk, liability and obligation and to indemnify, defend and hold harmless the Indemnitees in respect of all actions, causes of action, suits, proceedings, claims, demands, losses, damages, penalties, fines, costs, obligations and liabilities arising out of 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 the *Environmental Protection Act* (Ontario), the *Ontario Water Resources Act (Ontario)*, the *Dangerous Goods Transportation Act* (Ontario) or other similar legislation, whether federal or provincial and all as amended from time to time, except to the degree that such discharge shall have been due to the negligence or wilful misconduct of the Indemnitees.

(c) The Supplier agrees to use Commercially Reasonable Efforts to maintain or enter into any fuel supply contracts that are necessary for the proper operation of the Facility during the Term. In addition, any Gas distribution services forming part of the Reimbursable GD&M Services must be obtained from either Enbridge Gas Distribution Inc. or Union Gas Limited, and the Supplier must not construct, own, or operate the gas pipeline that serves the Facility. Without limiting the generality of the foregoing, a Supplier who is also a load facility under the IESO Market Rules shall be solely responsible for all charges (net of any applicable credits) in relation to Electricity consumed by it in order to operate the Facility in accordance with this Agreement.

(d) The Supplier shall design and construct the Facility so that:

(i) if the Facility is configured in an "n x 1" combined-cycle configuration (i.e. where more than one gas turbine generator supplies a single steam turbine generator), then under conditions where the steam turbine generator is not able to deliver any Electricity due to the failure of the steam turbine generator itself ("STG Failure"), one or more gas turbine generators are able to supply 45% or more of the Contract Capacity to the Connection Point within 30 minutes of the STG Failure;

(ii) if the Facility is configured in an "n x m" combined-cycle configuration (i.e. where "n" is the number of gas turbine generators and "m" is more than one steam turbine generators), then under conditions where one or more steam turbine generators and/or one or more of the gas turbine generators is not able to deliver any Electricity to the Connection Point due to the failure of the steam turbine generator itself and/or the gas turbine generator itself (in either or both cases, "Generator Set Failure").

one or more of the remaining gas turbine generators and/or steam generators are able to supply 45% or more of the Contract Capacity to the Connection Point within 30 minutes of the Generator Set Failure; and

(iii) irrespective of the configuration of the Facility in Sections 2.8(d)(i) and (ii) above, if one of the connection circuits between any gas turbine generator or steam turbine generator and the Connection Point is unable to deliver Electricity ("Connection Circuit Failure"), then sufficient switching exists so that 45% or more of the Contract Capacity can be delivered to the Connection Point on the remaining connection circuit(s) within 30 minutes of the Connection Circuit Failure.

(e) The OPA may provide written notice to the Supplier within 120 days of this Agreement that the provisions of Section 2.8(d)(iii) should not apply to the Facility. The Parties shall, upon a request from the Buyer, enter into good faith negotiations to negotiate the necessary amendments to Exhibit J, in a form acceptable to both Parties, should the OPA provide such notice, to hold the Supplier harmless from any Imputed Net Revenue that would have been calculated during any Imputed Production Interval, or part thereof, in which a Connection Circuit Failure occurs and the Facility does not have sufficient switching so that 45% or more of the Contract Capacity can be delivered to the Connection Point on the remaining connection circuit(s) within 30 minutes of the Connection Circuit Failure. If such notice is provided and the Parties reach agreement on such necessary amendments to Exhibit J within 120 days after the date of this Agreement, the provisions of Section 2.8(d)(iii) shall not apply to this Facility and any work that would have been required solely to meet the requirements of Section 2.8(d)(iii) shall not be included in the Supplier Connection Work or the Supplier Connection Costs unless otherwise required by the Transmitter or the IESO. If the Parties are unable to reach agreement on such necessary amendments to Exhibit J within such 120 day period, then the provisions of Section 2.8(d)(iii) shall continue to apply thereafter.

(f) In addition to meeting all requirements set out in the *Environmental Protection Act* (Ontario) and regulations thereunder (including Ontario Regulation 419/05 Air Pollution – Local Air Quality), as well as the MOE Guideline A-5, and any other regulatory requirements to which the Facility is subject, the proposed Facility must meet the specific limitations regarding air emissions set out in Exhibit A. The emissions of NOx and CO, as measured using the Emissions Measurement Methodology, shall not exceed the respective Emissions Limits, including at the time of attaining Commercial Operation with reference to Section 2.6(a)(i)(E) and during any Capacity Check Test pursuant to Section 15.6(g). The Supplier shall forthwith provide written evidence of such compliance from time to time upon request by the Buyer. The Supplier shall forthwith provide to the Buyer written notice, and a full copy, of any Provincial Officer's Order issued by the Ministry of the Environment or any information commencing a proceeding

under Part III of the *Provincial Offences Act* (Ontario) relating to emissions of NOx or CO from the Facility that exceed or are alleged to exceed the respective Emissions Limits, and shall provide forthwith from time to time copies of all further documents and correspondence relating to such Order or proceeding.

2.9 Metering and Dispatch Capabilities

(a) The Supplier covenants and agrees to provide, at its expense, separate meters and ancillary metering and monitoring equipment for the Facility as required by the IESO Market Rules. The Supplier agrees to allow the Buyer to have viewing access rights only to the revenue-quality interval meter data of the Facility to calculate the output of Electricity from the Facility net of any Station Service Loads and inclusive for any loss adjustment factors by establishing an Associated Relationship between the Buyer and the Delivery Point of the Facility within the MVPortlet application tool (or the equivalent thereof), at no cost to the Buyer.

(b) The Buyer 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 Facility to confirm the accuracy of such data. The Supplier shall have the Metering Plan approved by the Buyer and shall deliver a copy to the Buyer for its approval no later than sixty (60) days prior to the Milestone Date for the first Commercial Operation test pursuant to Section 2.6. The Buyer agrees to review the Metering Plan submitted by the Supplier and to either approve the plan or provide the Supplier with its comments within fifteen (15) Business Days after receipt. The Supplier will provide the Buyer with a commissioning report for all revenue meters referenced in the Metering Plan prior to any use of metered data for the purposes expressed in Section 15.6.

(c) The Supplier shall maintain (or be responsible for arranging on its behalf) a system satisfactory to the Buyer commencing the day prior to the Term Commencement Date and continuing every day throughout the Term, to receive Directed Dispatch Orders from either the Buyer or the Dispatcher, as the case may be, prior to the applicable daily deadlines set out in Exhibit G.

2.10 Insurance Covenants

(a) The Supplier hereby agrees to put in effect and maintain, or cause its contractors, where appropriate, to maintain, from the commencement of the construction of the 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 Facility would maintain including the policies set out in this Section 2.10. All insurance policies to be effected and maintained as required hereunder shall:

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EB-2014-0147
Schedule 3

Estimated Rate T1 Firm Transportation
Bill Impacts of 2013 Proposed Redesign

Particulars ($)	Proposed Rate Class	Current Approved Firm Transportation Bill (1) (a)	2013 Proposed Firm Transportation Bill with Redesign (1) (b)	Annual Bill Impact (c) = (b-a)	% Change (2) (d) = (c/a)
Customer 1	Rate T1	21,544	23,986	2,442	11.3
Customer 2	Rate T1	42,848	58,662	15,814	36.9
Customer 3	Rate T1	86,361	114,892	28,531	33.0
Customer 4	Rate T1	94,362	125,382	31,021	32.9
Customer 5	Rate T1	90,389	124,545	34,156	37.8
Customer 6	Rate T1	89,619	124,245	34,627	38.6
Customer 7	Rate T1	93,975	127,359	33,384	35.5
Customer 8	Rate T1	94,708	131,900	37,192	39.3
Customer 9	Rate T1	101,427	140,409	38,981	38.4
Customer 10	Rate T1	112,669	148,957	36,288	32.2
Customer 11	Rate T1	108,539	147,973	39,434	36.3
Customer 12	Rate T1	121,229	155,790	34,561	28.5
Customer 13	Rate T1	128,922	166,458	37,536	29.1
Customer 14	Rate T1	159,639	199,770	40,131	25.1
Customer 15	Rate T1	136,169	175,034	38,865	28.5
Customer 16	Rate T1	135,386	175,641	40,255	29.7
Customer 17	Rate T1	144,358	182,058	37,701	26.1
Customer 18	Rate T1	146,602	186,769	40,167	27.4
Customer 19	Rate T1	148,354	188,410	40,056	27.0
Customer 20	Rate T1	155,364	193,057	37,693	24.3
Customer 21	Rate T1	160,855	199,990	39,135	24.3
Customer 22	Rate T1	154,782	198,586	43,804	28.3
Customer 23	Rate T1	161,311	202,086	40,775	25.3
Customer 24	Rate T1	154,536	202,327	47,791	30.9
Customer 25	Rate T1	173,537	216,437	42,900	24.7
Customer 26	Rate T1	197,783	249,149	51,366	26.0
Customer 27	Rate T1	194,137	247,729	53,592	27.6
Customer 28	Rate T1	191,458	238,760	47,302	24.7
Customer 29	Rate T1	193,218	241,364	48,145	24.9
Customer 30	Rate T1	188,705	240,758	52,053	27.6
Customer 31	Rate T1	214,011	259,049	45,038	21.0
Customer 32	Rate T1	243,463	286,113	42,651	17.5
Customer 33	Rate T1	248,168	289,610	41,442	16.7
Customer 34	Rate T1	254,468	293,981	39,513	15.5
Customer 35	Rate T1	251,359	293,013	41,654	16.6
Customer 36	Rate T1	332,148	400,055	67,908	20.4
Customer 37	Rate T1	371,724	441,887	70,163	18.9
Customer 38	Rate T1	354,402	440,310	85,909	24.2
Customer 39	Rate T1	407,264	473,683	66,418	16.3
Customer 40	Rate T2	422,269	475,738	53,469	12.7
Customer 41	Rate T2	532,573	729,420	196,847	37.0
Customer 42	Rate T2	501,369	512,914	11,545	2.3
Customer 43	Rate T2	516,698	526,565	9,867	1.9
Customer 44	Rate T2	564,066	560,266	(3,800)	(0.7)
Customer 45	Rate T2	662,646	696,598	33,951	5.1
Customer 46	Rate T2	820,330	762,447	(57,883)	(7.1)
Customer 47	Rate T2	1,192,074	1,168,246	(23,828)	(2.0)
Customer 48	Rate T2	1,073,332	1,006,110	(67,222)	(6.3)
Customer 49	Rate T2	1,312,872	1,309,569	(3,303)	(0.3)
Customer 50	Rate T2	1,394,087	1,194,373	(199,714)	(14.3)
Customer 51	Rate T2	2,154,750	2,053,372	(101,378)	(4.7)
Customer 52	Rate T2	1,897,176	1,654,410	(242,766)	(12.8)
Customer 53	Rate T2	2,129,710	1,806,544	(323,166)	(15.2)
Customer 54	Rate T2	2,366,153	1,919,752	(446,401)	(18.9)
Customer 55	Rate T2	2,225,734	1,962,540	(263,194)	(11.8)
Customer 56	Rate T2	2,483,231	2,143,945	(339,287)	(13.7)
Customer 57	Rate T2	3,938,286	3,344,998	(593,288)	(15.1)
Customer 58	Rate T2	4,981,287	4,283,886	(697,401)	(14.0)
Customer 59	Rate T2	4,637,274	4,032,344	(604,930)	(13.0)
			Total Power Generator Savings:	(1,782,099)	

Notes:
(1) Table was originally filed in response to interrogatory J.H-1-14-2 in EB-2011-0210.
(2) Calculation of bill includes monthly customer charge, firm transportation demand and firm transportation commodity portions only.
(3) Customers shaded in this chart represent electricity generators.

Union Gas Credit Requirements

Introduction

Union Gas incurs credit exposure when entering into any transaction where:

- goods or services are provided to a Shipper where payment is expected at a future date;
- a contract is entered into which may or will require the Shipper to deliver cash, goods, services or other consideration at a future date.

Dependent upon the creditworthiness of the Shipper, financial assurances may be a condition of obtaining and or continuing service with Union Gas.

1.0 Determination of Creditworthiness

Prior to commencement of contracting services, the creditworthiness of the Shipper will be evaluated by Union Gas. The determination is made using information provided by the Shipper and any information that may be publicly available. Section 1.5 outlines various credit and business information that Union Gas may use in assessing the creditworthiness of the Shipper.

Shippers that do not meet the credit requirements as a result of Union Gas' review will be required to provide financial assurances. Section 1.1 outlines the acceptable forms of financial assurances.

1.1 Acceptable Forms of Assurance

If a Shipper is required to provide financial assurances, the assurances must be in a form acceptable to Union Gas. Union Gas may accept one or more of the following forms of financial assurances.

a) Irrevocable Letter of Credit

Union Gas will provide Shippers with an approved standard Letter of Credit (LOC) template for received instruments. If a Shipper requests changes to the standard template, Union Gas must approve prior to final execution.

Letters of Credit will be accepted from financial institutions that maintain long term, senior unsecured debt ratings of at least "A-" by S&P, "A3" by Moody's, or "A-" by Fitch.

For Letters of Credit provided in support of specific payment obligations, the expiration date should extend at least 30 days past the last payment date expected from the Shipper, unless the parties have agreed to other terms in the agreement.

It is important to note that Union Gas will make the final decision with regard to whether or not a draw should be initiated under a Letter of Credit.

b) Cash Security Deposit

Cash security deposits will be held for the term of the obligation. At the same time the cash deposit is made the Shipper will be required to sign a Cash Deposit Agreement.

c) Parent or Affiliate Guarantee

If the Shipper has a creditworthy parent or affiliate, the Shipper may be able to provide a guarantee. A company serving as guarantor must undergo the same credit evaluation as if it were the principal, contracting Shipper.

As with the irrevocable Letter of Credit, Union Gas will provide an approved Standard Guarantee Template. If a Shipper requests changes to the standard template, Union Gas must approve prior to final execution.

Union Gas is unable to accept guarantees from guarantors lacking either direct or indirect legal ownership interest in the Shipper.

1.2 Amount of Financial Assurances

Shippers that do no meet our credit requirements (including assignees) are required to provide financial assurances in an amount equal to the maximum exposure of all contracts inclusive. Maximum exposure shall not exceed the maximum allowable under the contract(s).

For facility additions or expansion, the Shipper will be required to provide acceptable financial assurances in an amount and term as determined in an agreement between Shipper and Union Gas.

1.3 Ongoing Review of Financial Assurance Requirements

Union Gas reviews the creditworthiness of Shippers annually, although it is within Union Gas' discretion to undertake a credit review at any time. The review may result in an increase or reduction in the financial assurances required.

1.4 Term of Financial Assurances

Financial assurances shall remain in place throughout the term of the contract(s), unless Shipper and Union Gas agree otherwise. The Shipper is required to notify Union Gas in the event of any changes to the financial assurances throughout the term.

1.5 Information

1. Latest Year End Financial Statements with Comparative year-end results. These should include:
    - Statement of Net Income
    - Statement of Cash Flows

Balance Sheet
- Statement of Shareholder's Equity
- Complete Notes to Financial Statements

2. Acceptable types of financial statements:
   - Audited (Other types of financial statements may be considered subject to further discussion.)
3. Credit ratings from Moody's, S&P and any other reliable ratings service
4. Dunn & Bradstreet report
5. Bank References
6. Legal Corporate Structure
7. Parent company and guarantor information if applicable
8. Links to main sites or sources of credit review information
9. Payment history with Union Gas
10. Such information that may be mutually agreed to by both Union Gas and Shipper

1.6 Additional Information

Please contact your Account Manager for additional information.