

March 24, 2016

BY RESS & Courier

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
Toronto, Ontario
M4P 1E4

Dear Ms. Walli:

**Re: Union Gas Limited (“Union”)
Leamington Expansion Project
Board File # EB-2016-0013**

Further to the interrogatories received in the above noted matter, please find attached two copies of Union’s responses.

Sincerely,

[Original Signed By]

Shelley Bechard
Administrative Analyst, Regulatory Projects

Encl.

cc: Pascale Duguay, Manager Facilities Applications
Zora Crnojacki, Chair (OPCC)

UNION GAS LIMITED

Answers to Interrogatories from
Board Staff

1. Ref: Application and Evidence / p. 3

Preamble:

Union noted that it received expressions of interest for 129,097 m³/hour of capacity. The proposed Leamington Expansion Project can only provide 51,900 m³/hour of firm capacity. Union noted that it was unable to satisfy all of the requested capacity due to limited capacity on the pipeline system that feeds the proposed project. Union is in the process of reviewing additional projects to reinforce the pipeline system which supplies the proposed facilities.

Questions:

- a) Please discuss the additional upstream projects that Union is reviewing.
- b) Please provide timelines for when these potential projects could be constructed to provide additional capacity to meet the incremental demand.
- c) Please discuss whether it is Union's intent to construct another Leamington expansion in the future (after the upstream pipeline system has been reinforced).
- d) Please discuss whether there may be any efficiencies achieved by first reinforcing the upstream pipeline system and then sizing the Leamington Expansion Project to meet all current requests for additional capacity.
- e) Please discuss whether the Leamington Expansion Project may result in any additional capacity that Union can sell on an interruptible basis. Please discuss the proposed treatment of any such revenues.

Responses:

- a) Union Gas is reviewing an upstream expansion project in which Union proposes to remove approximately 41km of the existing NPS 16 Panhandle Pipeline and replace with a new NPS 36 Pipeline between Dawn and Dover Transmission Station.
- b) The timeline for the proposed upstream expansion project is to have a targeted in service date of November 1, 2017.

- c) Union Gas forecasts that within the next 10 years an additional Leamington expansion lateral may be required to serve the Leamington/Kingsville market. The actual location of the next lateral will depend on the location of future attachments. Union expects the lateral to be located in the municipality of Kingsville.
- d) There are no efficiencies achieved by reinforcing the upstream pipeline system prior to completing the 2016 Leamington Expansion Pipeline Project, as the existing pipeline between County Rd 14 and Leamington is constrained. The upstream project referred in response to as part of 1a) does not address the current system constraint, which is the ability to deliver gas specifically to the Leamington / Kingsville greenhouse market.
- e) The 2016 Leamington Expansion Pipeline Project creates 17,500 m³/h of additional interruptible capacity. The project will also allow currently contracted interruptible capacity to be re-sold as customers convert their service from interruptible to firm. Once contracts are signed from 2016 Leamington Expansion Pipeline Project expression of interest, any remaining interruptible capacity will be offered to the market to attach new customers. The potential for additional interruptible revenue was not included in the economic analysis.

2. Ref: Application and Evidence / pp. 3, 6-7, Schedule 2 / p.1, and Schedules 8-9

Preamble:

Union noted that it included an estimated cost of \$230/m³/hour in the expression of interest package. This charge is multiplied by the total capacity that the customer will require to determine the customer's total contribution.

Union noted that the \$230/m³/hour amount was calculated by dividing the original estimated cost of the proposed expansion project (\$11.8 million) by the firm capacity per hour (51,900 m³) provided by the project.

Union stated that the customer may elect to pay the total cost upfront (as an aid to construct) or sign a long-term contract or Letter of Agreement. If the customer elects to sign a long-term contract or a Letter of Agreement, the projected future revenue will reduce or eliminate the aid to construct payment. Union noted that the term of the contract or agreement is to be a minimum of one year and up to 10 years.

Union noted that the DCF analysis (which uses the revised total cost for the expansion project of \$14 million - \$12.3 million for the proposed facilities and \$1.7 million for individual distribution facilities to connect the customers) shows a PI of 1.11 and a NPV of \$1.5 million using a revenue horizon of 10 years.

Union noted that it used a conservative revenue term of 10 years given the economic life of the assets and the current and future demand for new gas service in the market.

Questions:

- a) Please explain why a revenue term of 10 years was used in the DCF analysis completed for this expansion project when a revenue term of 14 years was used for the Leamington Phase I Project (EB-2012-0431).
- b) Please explain how Union calculated the forecasted revenues used in the DCF analysis. Please provide the assumptions used in the revenue forecast (including the incremental volumes by rate class and the rates used in the analysis). Please also discuss whether Union included any revenues from interruptible services in the revenue forecast.
- c) Please explain why there is a requirement for an aid to construct payment when the DCF analysis shows a PI of 1.11 in the absence of capital contributions.

- d) Please explain the proposed accounting treatment for any aid to construct payments collected related to this project. Please contrast this proposed approach to the treatment applied to capital contributions required to make an expansion project financially feasible.
- e) Please provide generic copies, including the terms and conditions, for the proposed long-term contract and Letter of Agreement that Union will require customers to sign in order to avoid (or reduce) aid to construct payments.
- f) Please discuss any differences between the proposed long-term contract and the Letter of Agreement.
- g) Please discuss whether Minimum Annual Volume (MAV) requirements will be established by Union in each customer's contract. If so, please discuss how the MAV requirement will be set. If not, are customers granted the option to set their own MAV or are there no MAV requirements?
- h) Please explain why Union will require customers to sign a long-term contract (or a Letter of Agreement) in the absence of making an aid to construct payment.
- i) OEB staff would like to better understand how long-term contracting operates to eliminate (or reduce) the aid to construct payment.
 - i. Please confirm that if a customer does not sign a contract they will be required to pay their entire portion of the project cost in an aid to construct payment. Also, please indicate whether this would be paid as a lump sum payment or if Union plans to offer payment flexibility.
 - ii. Please explain the relationship between long-term contracting and the required aid to construct payment. Please provide a table that includes a number of examples (along with supporting calculations) that use a set of assumptions (e.g. rate class, contracted capacity, contracted volumes, load factor, etc.) to depict the aid to construct payment required if a customer does not sign a contract, or signs a 1-year, 5-year or 10-year contract. Please clearly indicate the assumptions made. Please also provide the total cost to the customer (including both the aid to construct payment and distribution charges) under these scenarios.
 - iii. Please explain the perceived benefits and disadvantages, from a customer's standpoint, of paying for the service by means of an aid to construct payment, or opting to sign a contract of 1-year, 5-years, or 10-years (with a reduced or eliminated aid to construct payment) with Union.
 - iv. If a customer opted for a 5-year contract with Union, what happens at the expiry of the contract?

- j) Please advise whether customers will be responsible to pay their own individual distribution facility costs as part of an aid to construct payment. If so, please advise whether this would be in addition to the \$230/m3/hour charge calculated for the project. If not, please explain how the individual distribution facility costs will be recovered.
- k) Please answer the questions that follow in the context of this scenario:

Union performs a DCF analysis for an expansion project similar to the Leamington Expansion Project. The results of the DCF analysis are exactly the same for this new expansion project (PI of 1.11 with no capital contribution included in the analysis). The new expansion project will serve a different subset of commercial/industrial customers (not the greenhouse market).

- i. Would Union require an aid to construct payment from these commercial/industrial customers that take firm capacity?
- ii. Would Union require these commercial/industrial customers that take firm capacity to sign long-term contracts or a Letter of Agreement?
- iii. If the answer is no to either of the above questions, please explain why the customers seeking capacity from this expansion project are required to make an aid to construct payment or sign a long-term contract (or Letter of Agreement).

Responses:

- a) Similar to phase 1, phase 2 has a 10 year revenue term for each attachment. Phase 1 had customer additions over a forecast period of 4 years. Customers who attached in year 1 had their revenue term expire at the end of year 10. Additions beginning in year 4 had a revenue term of 10 years (through the end of year 14). Overall the DCF term was 14 years with a 10 year revenue term for each customer.

In phase 2, the full capacity was allocated to customers who will be attaching in year 1 of the project thus requiring only 10 years for the revenue term.

- b) In accordance with EBO 188, the rates as per rate schedule EB 2015-0340 were used calculate the revenue for the economic analysis. For each customer the revenue was the expected incremental revenue, which is the revenue calculated using the difference between the revenue at expected new contract parameters (Contract Demand “CD” and MAV) minus the revenue at the existing contract parameters (CD and MAV).

New customers do not have current parameters so their revenue was determined using the expected contract parameters.

Volume by rate class is not relevant as the CD is the most important parameter in the typical firm contract. The change in CD is equivalent to the 51,900 M3/hour capacity of the proposed pipeline.

Union did not allocate interruptible service revenue for this analysis. Firm revenue was used to match the proposed firm new capacity built.

- c) The PI of 1.11 represents the aggregate 10 year forecast revenue for the project. Individual customers are assessed based on their individual parameters and costs.

An AID payment for a specific customer could occur depending on the customer choice. Union assumed a revenue term of 10 years for overall project economics resulting in a PI of 1.11 which indicated on average no AID requirement. When capital is allocated to individual customers, the customers will choose how to cover their specific capital cost. Individual customers with capital costs higher than the average used in the overall project DCF may need to pay an AID if a revenue term of 10 years (or the maximum term the customer is prepared to contract for) is insufficient to cover their costs. Similarly, some customers will need an initial contract term of less than 10 years to cover their share of the capital cost. For the purpose of modeling the project, Union assumes that the customer with an initial term of 10 years, remains consuming gas for the 10 year model assumption (although they will not have any contractual obligation to do so).

- d) Contributions in aid of construction are amounts collected from customers in advance to fund the shortfall in economics. These amounts are recorded as a reduction to plant and amortized over the life of the asset to which they relate.

When a customer agrees to a long-term contract with a commitment to future revenues that reduce or eliminate the amount of the aid to construct required the amounts received from the customer for the service under contract are recorded as revenue.

- e) Attached at Schedule 1 please find:

- Long Term Contracts for M4, M5, M7, T1 rate classes
- General Terms and Conditions
- Letter of Agreement for General Service Customers

- f) The Letter of Agreement is used for customers that are in the General Service customer group (rate M1/M2) to insure that the expected revenue that recovers the project costs are underpinned with an executed agreement between Union and the customer. Customers served under the General Service distribution rate (M1/M2) do not sign a contract for distribution service. This is the main difference between the proposed long-term contract and the Letter of Agreement.

- g) For each customer's contract in the project, based on a contract demand negotiated with the

customer, Union determines an initial MAV that would be needed to achieve a $PI = 1.0$. This insures that both the capital costs for the expansion and, if applicable, the distribution costs for the individual customer are recovered. The initial MAV is discussed with the customer. The customer can propose an alternate MAV, either higher or lower which would then result in a shorter or longer contract term. Upon mutual agreement, Union would adjust the MAV to shorten or lengthen the term of the MAV commitment based on the customer's direction.

- h) Union will require customers to sign a long-term contract (or Letter of Agreement) in the absence of making an aid payment prior to construction, to insure that the capital and customer specific distribution costs are recovered.
- i)
 - i. Confirmed. This aid payment could be paid as a lump sum or, Union would also be prepared to discuss payment flexibility should a customer request this.
 - ii. There is a relationship between long-term contracting and the required aid to construct payment. As the length of the term of the contract increases, the associated required annual financial obligated payment will decrease.

Example of Aid to Construct Payments

Assumptions:

Customer has requested 550 m³/hour of new firm capacity as part of the project. The capital cost of the project is \$230/m³/hour and the estimated distribution facility cost is \$110,000.00. The total cost for 550 m³/hour of new firm capacity would be:

Project Cost:	$\$230.00 \times 550 =$	\$126,500.00
Distribution Facility Cost:		<u>\$110,000.00</u>
Total Cost:		\$236,500.00

Please see attached at Schedule 1 which provides spreadsheets with detailed information.

- iii. The benefits or disadvantages to the customer of paying an aid payment prior to construction are dependent on each customer's situation, and is their choice. The customer would need to evaluate their own situation to determine the best option for their business. Union's standard distribution contract term length for contract rate customers is 1 year, so contract customers are required to sign a contract with this term, regardless of aid payments for at least 1 year.

The benefits to the customer of a signing a longer term contract are:

- i) elimination of the aid payment that would have to be made in advance of construction, this could be a significant dollar amount for a customer to pay

- ii) the customer can make financial commitment over a period of time, payments are based on what the customer agrees to as a MAV
- iii) as long as the customer meets the MAV requirement, the customer would only pay for the distribution services used.
- iv) the long-term contract does not require the customer to pay any additional amounts (i.e. rate rider) above the current approved rates.

Disadvantages to a customer: they are bound to the contract for the term they agree to. Should the customer wish to change their business operations, they have to consider the terms of the long-term contract and its potential impacts.

Benefits of paying aid to construct: customer is able to sign to a 1 year contract; customer does not have a long term agreement which can be an encumbrance to future operations.

Disadvantage of paying aid to construct: Customer is required to pay full amount in advance in first year prior to construction when payment could have been spread over multiple years through a contractual commitment.

- iv. Prior to the end of the 5 year term the UG Account Manager and the customer would enter into discussions to establish a 1 year contract. Those discussions would include setting new volume commitment levels based on the customer's needs.
- j) Customer will be responsible to pay their own individual distribution facility costs. For a customer with distribution facility costs, this expense would be determined on an individual basis and would be in addition to the \$230/m3/hour costs for the project.
- k)
 - i. Depending on the customer specific DCF analysis, a commercial/industrial customer may be required to pay an aid prior to construction.
 - ii. Depending on the customer specific DCF analysis, a customer may have to sign a long-term contract of Letter of Agreement.
 - iii. Please see responses to k i. and ii. above.

3. Ref: Application and Evidence / p. 3

Preamble:

Letters of indemnity were signed in November and December 2015 to confirm the volumes that each customer has accepted. The letters of indemnity will form the basis of the contracts to be signed with the customers. Contracts are expected to be signed by February 29, 2016. If any customers do not sign a contract a third proration exercise will be completed.

Questions:

- a) Please confirm that the contracts have been signed as expected. If not, please provide details regarding the outcome of the third proration exercise and advise whether customers have signed contracts for their revised capacity assignments.
 - b) Please advise whether any customers opted to make an aid to construct payment.
 - c) Please provide a range for: (i) the duration of the contracts signed; and (ii) the contracted MAV (if applicable).
-

Responses:

- a) Not all contracts have been signed prior to the expected February 29, 2016 date.

As of March 23, 2016:

- 32 contracts/letters of agreements have been executed
- 11 contracts are waiting customer execution
- 12 customers are still negotiation contract parameters with Union Gas

In the Letter of Indemnity that was signed by customers, there is a provision to extend the letter based on mutual agreement between the customer and Union. Prior to February 29, 2016, Union did extend 21 letters based on discussion with those customers and the customer indicating that they still required the capacity that they had bid for. A third proration exercise has not been done.

- b) No customer has opted to make an aid to construct payment.

c) For the contracts that have been issued to customers:

Duration of Contracts Signed (years)	Range of MAV (annual m3)
3	1,112,432 – 2,350,656
4	912,788 – 3,434,560
5	1,413,776 – 10,000,000
6	974,740 – 8,500,000
7	4,062,488 – 4,404,924
8	2,500,000 – 6,850,000
9	5,400,000 – 10,200,000
10	3,903,201 – 7,530,134

4. Ref: MTCS Letter on the Environmental Report / p. 2

Preamble:

The Ministry of Tourism, Culture and Sport advised that the Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes as provided in the Environmental Report for this project does not encompass the full footprint of the project and requires re-submission.

Question:

- a) Please describe the steps that Union has taken, or will take, to address the MTCS's concerns.
-

Responses:

- a) In order to address MTCS's concerns Union has retained the services of Aecom Environmental to re-evaluate and resubmit a cultural heritage assessment to the MTCS.

5. Ref: Application and Evidence / p. 11

Preamble:

Union noted that it submitted a copy of the Environmental Report to the Ontario Pipeline Coordination Committee (OPCC), local municipalities, the Essex Region Conservation Authority, First Nations and Métis.

Union stated that a summary of the comments and Union's response to concerns from agencies and interested parties will be filed, when received, as Schedule 13.

Questions:

- a) Please file a summary of comments and concerns received to date and Union's responses and planned actions to mitigate and address each of the concerns.
- b) Please advise when Union anticipates that it will file a final summary of comments and responses.

Responses:

- a) Please see attached at Schedule 1 an updated Schedule 13 of Union's pre-filed evidence.
- b) Union does not anticipate receiving any additional comments and responses as part of the OPCC Review.

6. Ref: Application and Evidence / pp. 12-13, Schedule 17

Preamble:

Union stated that the proposed project will be constructed on private easement lands, road allowances and an abandoned railway corridor owned by the Municipality of Leamington.

Union stated that it will be required to obtain the necessary crossing permits or agreements with local municipalities, the conservation authority, and other utilities along the pipeline route.

Union included the form of easement in its application. Union noted that the form of easement will be provided to all new landowners where permanent easements are required.

Questions:

- a) Please advise whether Union has all the necessary permits and land rights for the location and construction of the pipeline at this time. If not, please provide the anticipated timeline for obtaining the necessary permits and land rights for location and construction of the pipeline.
- b) Please provide any details regarding ongoing negotiations for the required permits and land rights.
- c) Specifically, please discuss the status of the negotiation with the Municipality of Leamington for the use of the abandoned railway corridor.
- d) Please advise whether the form of easement is consistent with previous forms approved by the OEB? If not, please discuss the proposed changes.
- e) Please confirm that the form of the easement agreement provided in the evidence has been offered or will be offered to all of the private landowners from whom easements are required.
- f) What are the differences, if any, between a form of easement agreement offered to private landowners and a form offered to a municipality? If there are any differences, please provide, if available, the agreement that will be offered to the Municipality of Leamington.

Responses:

- a) Union has the necessary environment permits and land rights required from the respective landowners for the construction of the pipeline.

- b) Please refer to Union's response to Board Staff Interrogatory 6a.
- c) Union and the Municipality of Leamington have a signed easement agreement for 5 meter permanent easement within the abandoned rail corridor.
- d) The form of easement offered to the Municipality of Leamington was previously approved in the EB-2014-0261 proceeding.
- e) Confirmed.
- f) Union only required a permanent easement from the Municipality of Leamington, therefore, no private landowners were offered an easement agreement.

7. Ref: Application and Evidence / pp. 14-15

Preamble:

In its application, Union described the consultation process undertaken with the First Nation and Métis. Union noted that no issues had been brought forward regarding the project at the time that it filed its application. Union also noted that it is not expecting any issues to be brought forward by the First Nation and Métis due to the location and specifics of the project.

Question:

- a) Please confirm that no issues have been raised by the First Nation or Métis related to the proposed expansion project at this time.
-

Response:

- a) At this time there are no, or anticipated, issues with the First Nations and Métis. Union will continue to monitor and ensure communication is maintained with the First Nations and Métis Nation for the duration of this project.

8. Ref: Application and Evidence / p. 1

Preamble:

Union applied for an OEB order, under Section 90(1) of the OEB Act, for leave to construct the proposed Leamington Expansion Project.

Questions:

- a) Please advise whether Union has any concerns with the draft Conditions of Approval set out below. Please identify any specific concerns and provide an explanation for those concerns.

Leave to Construct Conditions of Approval

Application under Section 90 of the OEB Act

Union Gas Limited

EB-2016-0013

1. Union Gas Limited (Union) shall construct the facilities and restore the land in accordance with the OEB's Decision and Order in EB-2016-0013 and these Conditions of Approval.
2. (a) Authorization for leave to construct shall terminate 12 months after the decision is issued, unless construction has commenced prior to that date.

(b) Union shall give the OEB notice in writing:
 - i. of the commencement of construction, at least ten days prior to the date construction commences;
 - ii. of the planned in-service date, at least ten days prior to the date the facilities go into service;
 - iii. of the date on which construction was completed, no later than 10 days following the completion of construction; and
 - iv. of the in-service date, no later than 10 days after the facilities go into service.
3. Union shall implement all the recommendations of the Environmental Report filed in the proceeding, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee review.
4. Union shall advise the OEB of any proposed change to OEB-approved construction or restoration procedures. Except in an emergency, Union shall not make any such change without prior notice to and written approval of the OEB. In the event of an emergency, the OEB shall be informed immediately after the fact.
5. Union shall file, in the proceeding where the actual capital costs of the project are proposed to be included in rate base, a Post Construction Financial Report, which shall indicate the actual capital costs of the project and shall provide an explanation for any significant variances from the cost estimates filed in this proceeding.
6. Both during and after construction, Union shall monitor the impacts of construction, and shall file with the OEB one paper copy and one electronic (searchable PDF) version of each of the following reports:
 - a) a post construction report, within three months of the in-service date, which shall:

- i. provide a certification, by a senior executive of the company, of Union's adherence to Condition 1;
 - ii. describe any impacts and outstanding concerns identified during construction;
 - iii. describe the actions taken or planned to be taken to prevent or mitigate any identified impacts of construction;
 - iv. include a log of all complaints received by Union, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions; and
 - v. provide a certification, by a senior executive of the company, that the company has obtained all other approvals, permits, licences, and certificates required to construct, operate and maintain the proposed project.
- b) a final monitoring report, no later than fifteen months after the in-service date, or, where the deadline falls between December 1 and May 31, the following June 1, which shall:
- i. provide a certification, by a senior executive of the company, of Union's adherence to Condition 3;
 - ii. describe the condition of any rehabilitated land;
 - iii. describe the effectiveness of any actions taken to prevent or mitigate any identified impacts of construction;
 - iv. include the results of analyses and monitoring programs and any recommendations arising therefrom; and
 - v. include a log of all complaints received by Union, including the date/time the complaint was received, a description of the complaint, any actions taken to address the complaint, the rationale for taking such actions.

Responses:

Union can accept all of the above Proposed Conditions of Approval.

Contract ID	Page 1 of 57
Contract Name	

M4 Contract

This GAS DISTRIBUTION CONTRACT (“**Contract**”), made as of the _____ day of _____, 20__.

BETWEEN:

UNION GAS LIMITED

hereinafter called "**Union**"

- and -

COMPANY NAME

hereinafter called "**Customer**"

WHEREAS, Union has built, or proposes to build, certain facilities (the “**Expansion Facilities**”) to serve _____ (the “**Plant**”);

AND WHEREAS, Customer has requested from Union and Union has agreed to provide Customer with Services as specified in Schedule 1 (the “**Services**”);

AND WHEREAS, if Customer has elected direct purchase services, Customer will be responsible for supplying Gas to Union under a separate Contract called the Southern Bundled T;

AND WHEREAS, Union will distribute Gas to Customer’s Point(s) of Consumption under this Contract identified in Schedule 1;

IN CONSIDERATION of the mutual covenants contained herein, and other good and valuable consideration, the receipt of and sufficiency of which is hereby acknowledged, the parties agree as follows:

1 INCORPORATIONS

The following are hereby incorporated in and form part of this Contract:

- a) Contract Parameters as contained in Schedule 1 as amended from time to time; and
- b) The latest posted version of Union’s General Terms and Conditions subject to Section 12.18 of Union’s General Terms and Conditions; and
- c) Rate Schedule M4 as amended from time to time and as approved by the Ontario Energy Board.

2 CONDITIONS PRECEDENT

The obligations of Union to provide Services hereunder are subject to the following conditions precedent that are for the sole benefit of Union and which may be waived or extended, in whole or in part, in the manner provided in this Contract:

- a) Union shall have obtained, in form and substance satisfactory to Union, and all conditions shall have been satisfied under all governmental, regulatory and other third party approvals, consents, orders and authorizations, that are required to:
 - i. provide the Services; and
 - ii. construct the Expansion Facilities; and
- b) Union shall have obtained all internal approvals that are necessary or appropriate to:
 - i. provide the Services; and
 - ii. construct the Expansion Facilities; and
- c) Union shall have completed and placed into Service the Expansion Facilities; and
- d) Union shall have received from Customer, the requisite financial assurances as may be more specifically outlined herein, reasonably necessary to ensure Customer's ability to honour the provisions of this Contract. Which financial assurances, if required, will be determined solely by Union; and
- e) Union shall have received a contribution in aid of construction to Union of \$_____ (the "**Aid Amount**") from Customer pursuant to Customer's obligations herein; and
- f) If Customer has elected direct purchase services, Customer and Union shall have executed and maintained in good standing a Southern Bundled T.

Union and Customer shall each use commercially reasonable efforts to satisfy and fulfill the conditions precedent specified in Sections (a), (c), (d), (e), and (f). Union shall notify Customer forthwith in writing of Union's satisfaction or waiver of each condition precedent. If Union concludes that it will not be able to satisfy a condition precedent, Union may, upon written Notice to Customer, terminate this Contract and upon giving such Notice, this Contract shall be of no further force and effect and each of the parties shall be released from all further obligations hereunder, subject to Customer's obligations pursuant to Section 11 herein.

3 CONTRACT TERM

This Contract shall be effective from the date hereof. However, the Services and Union's obligation to provide the Services under Section 4 shall commence on the later of (such later date being the "Day of First Delivery") (a) [Date] , and (b) the date that the last condition precedent as set out in Section 2 is satisfied or waived by Union. Subject to the provisions hereof, this Contract shall continue in full force and effect for a period of xx Contract Years (the "Initial Term") and continuing thereafter on a year to year basis unless written Notice to terminate is provided by one party to the other at least three (3) Months prior to the end of the then-current term.

"Contract Year" means a period of twelve (12) consecutive Months, beginning on _____ of any Contract Year and ending on the subsequent _____, except for the first contract year which shall begin on the Day of First Delivery and end on _____.

4 SERVICES PROVIDED

Union agrees to provide Services as specified in Schedule 1 and Customer agrees to pay for such Services pursuant to the terms and conditions as set out in this Contract and the referenced attachments and the rate(s) referenced in Schedule 1.

To be eligible for services under the M4 Rate Schedule, Customer must have an annual natural gas consumption of at least 350,400 m³ and Daily Contracted Demand between 2,400 m³ and 60,000 m³. If the Customer does not maintain this level of consumption during the current contract year or is not expected to maintain this level of consumption then, notwithstanding any other remedy available to Union under this Contract or any other term of this Contract, effective the following contract year, the Customer may no longer qualify for service under the M4 Rate Schedule and may be placed on an alternate service by Union. If the Customer's Daily Contracted Demand exceeds 60,000 m³ then the Customer no longer qualifies for services under the M4 Rate Schedule.

If Customer has elected direct purchase services, and if Union does not receive Gas from Customer under the Southern Bundled T, then Union's obligations to provide Services under this Contract may, at Union's option, be suspended by Union. This suspension will be effective as of the date specified in Union's Notice to Customer, notwithstanding the General Terms and Conditions.

5 MINIMUM ANNUAL VOLUME

5.01 FIRM MINIMUM ANNUAL VOLUME

In each Contract Year, the Customer shall consume or, in any event, pay for the Adjusted Firm Minimum Annual Volume ("AFMAV") as determined in the formula below. This AFMAV will not be less than the minimum quantity required to qualify for firm service in the M4 Rate Schedule.

The firm quantity not consumed in any Contract Year (the "Firm Deficiency Volume" or "FDV") shall be as determined in the formula below.

$$\text{AFMAV} = \text{FMAV} \times [(\text{U} - \text{D}_F) / \text{U}]$$

$$\text{FDV} = \text{AFMAV} - (\text{FV} - \text{F})$$

Where:

FMAV	=	Firm Minimum Annual Volume (as identified in Schedule 1)
U	=	number of days in the Contract Year
D_F	=	number of days of Force Majeure in the Contract Year
FV	=	total firm volume taken in the Contract Year
F	=	volumes delivered to the Points of Consumption during Force Majeure

The payment required for the FDV shall be calculated by multiplying FDV by the MAV Delivery charge specified in the Rate M4 Rate Schedule as of the last day of the Contract Year. This payment would only apply if the FDV was greater than zero.

5.02 INTERRUPTIBLE MINIMUM ANNUAL VOLUME

In each Contract Year, the Customer shall consume or, in any event, pay for the Adjusted Interruptible Minimum Annual Volume ("AIMAV") as determined in the formula below. This AIMAV will not be less than the minimum quantity required to qualify for interruptible service in the M4 Rate Schedule.

The interruptible quantity not consumed in any Contract Year (the "Interruptible Deficiency Volume") ("IDV") shall be determined in the formula below.

$$\text{AIMAV} = \text{IMAV} - (\text{CD}_1 \times \text{D}_1)$$

$$\text{IDV} = \text{AIMAV} - (\text{IV} - \text{I})$$

Where:

IMAV		Interruptible Minimum Annual Volume (as identified in Schedule 1)
CD₁	=	Interruptible Contract Demand
D₁	=	number of days of interruption in the Contract Year
IV	=	total interruptible volume taken in the Contract Year
I	=	volumes delivered to the Points of Consumption during an interruption

The payment required for the IDV shall be calculated by multiplying the IDV by the MAV Delivery charge specified in the Rate M4 Rate Schedule as of the last day of the Contract Year. This payment would only apply if the IDV was greater than zero.

6 NOTICES

Notices shall be delivered pursuant to the Notice provision of General Terms and Conditions and delivered to the addresses as referenced in Schedule 1.

7 EXPANSION FACILITIES

Union will use commercially reasonable efforts to construct the Expansion Facilities to serve the Plant. The target date for completion of these facilities is _____. Union will provide written Notice to Customer when such facilities are complete and placed into service. Union and Customer agree that Union shall not be obligated to construct any portion of the Expansion Facilities between December 15 of any year and March 31 of the subsequent calendar year.

8 AID AMOUNT PAYMENT SCHEDULE

Customer will be required to pay to Union the Aid Amount of \$_____ by (insert date).

Any applicable taxes will be applied to all amounts paid under this Section. Customer warrants and represents that no payment to be made by Customer under this Contract is subject to any withholding tax.

[If there are multiple years, then a payment table should be used:]

Year	Payment	Due Date

9 LATE PAYMENT CHARGES

Any amounts due and payable by Customer to Union arising under Sections 8 and 11 of this Contract shall, if not paid by the due date thereof, be subject to late payment charges equal to 1.5% per month (for a nominal rate of 18% per annum compounded monthly) on any unpaid balance including previous arrears.

10 CREDIT REQUIREMENTS DURING INITIAL TERM

In addition to the terms of Section 5.04 of the General Terms and Conditions, Union may, at any time during the Initial Term, request financial assurances to cover the potential financial exposure to Union to the end of the Initial Term. Such financial assurances shall be determined by Union in a commercially reasonable manner and may include, without limitation, expected return on capital invested. Failure to provide such financial assurances shall be treated in a manner provided for in Section 5.04 of the General Terms and Conditions.

11 TERMINATION PRIOR TO COMPLETION OF EXPANSION FACILITIES

Union shall have the right to terminate this Contract at any time prior to the Day of First Delivery, pursuant to Section 2, by giving written notice hereof, subject to the terms hereof.

If this Contract is terminated by Union as outlined above, then:

(a) Upon such termination, this Contract 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 this Contract prior to such termination and any liability that a party may have incurred prior to such termination, and the parties' obligations under this Section 11, shall not thereby be released;

(b) Customer shall reimburse Union for all Project Costs; and

(c) Customer shall reimburse Union for all cancellation costs, fees or other amounts paid under contracts entered into by Union to support the satisfaction of the conditions precedent set out in Section 2 ("**Cancellation Costs**").

Union may invoice amounts under this Section, from time to time, with the expectation that there will be an invoice rendered within thirty (30) days of termination, and subsequent

invoices as additional amounts payable hereunder are incurred from time to time. Upon receiving notice of termination, Union will use commercially reasonable efforts to cease incurring Project Costs and to mitigate Cancellation Costs upon such termination. In no event shall Union invoice Customer for any Cancellation Costs or Project Costs not previously invoiced by Union after twelve (12) months from the termination date. Without limiting the foregoing, Customer shall have the right to audit, at Customer's expense, the costs claimed for reimbursement by Union for a period of six (6) months after each invoice is issued.

"Project Costs" means any and all reasonable costs (including litigation costs, cancellation costs, carrying costs, and third party claims) expenses, losses, demands, damages, obligations, or other liabilities (whether of a capital or operating nature, and whether incurred or suffered before or after the date of this Contract) of Union, including amounts paid to affiliates in accordance with the Affiliate Relationship Code as established by the Ontario Energy Board, in connection with, or in respect of, development and construction of the Expansion Facilities (including without limitation the construction and placing into service of the Expansion Facilities, the obtaining of all governmental, regulatory, and other third party approvals, and the obtaining of rights of way) except for costs that have arisen from the gross negligence, fraud, or willful misconduct of Union.

12 CONTRACT SUCCESSION

This Contract replaces all previous Gas Distribution Contracts, subject to settlement of any surviving obligations.

IN WITNESS WHEREOF this Contract has been duly executed by the parties hereto as of the date first written above. If an Agent on behalf of Customer executes this Contract then, if requested by Union, Agent or Customer shall at any time provide a copy of such authorization to Union.

UNION GAS LIMITED

Authorized Signatory

Print Name

CUSTOMER

Authorized Signatory

Please Print Name

M5A Contract

This GAS DISTRIBUTION CONTRACT ("Contract"), made as of the _____ day of _____, 20__.

BETWEEN:

UNION GAS LIMITED

hereinafter called "Union"

- and -

COMPANY NAME

hereinafter called "Customer"

WHEREAS, Union has built, or proposes to build, certain facilities (the "**Expansion Facilities**") to serve _____ (the "**Plant**");

AND WHEREAS, Customer has requested Union and Union has agreed to provide Customer with Services as specified in Schedule 1 (the "**Services**");

AND WHEREAS, if Customer has elected direct purchase services, Customer will be responsible for supplying Gas to Union under a separate Contract called the Southern Bundled T;

AND WHEREAS, Union will deliver Gas to Customer's Point(s) of Consumption under this Contract identified in Schedule 1;

IN CONSIDERATION of the mutual covenants contained herein, and other good and valuable consideration, the receipt of and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. INCORPORATIONS

The following are hereby incorporated in and form part of this Contract:

- a) Contract Parameters as contained in Schedule 1 as amended from time to time; and
- b) The latest posted version of Union's General Terms and Conditions subject to Section 12.18 of Union's General Terms and Conditions; and
- c) Rate Schedule M5A as amended from time to time and as approved by the Ontario Energy Board.

2. CONDITIONS PRECEDENT

The obligations of Union to provide Services hereunder are subject to the following conditions precedent that are for the sole benefit of Union and which may be waived or extended in whole or in part in the manner provided in this Contract:

- a) Union shall have obtained, in form and substance satisfactory to Union, and all conditions shall have been satisfied under all governmental, regulatory and other third party approvals, consents, orders and authorizations, that are required to:
 - i. provide the Services; and
 - ii. construct the Expansion Facilities; and

- b) Union shall have obtained all internal approvals that are necessary or appropriate to:
 - i. provide the Services; and
 - ii. construct the Expansion Facilities; and
- c) Union shall have completed and placed into service the Expansion Facilities; and
- d) Union shall have received from Customer the requisite financial assurances as may be more specifically outlined herein, reasonably necessary to ensure Customer's ability to honour the provisions of this Contract which financial assurances, if required, will be determined solely by Union; and
- e) Union shall have received a contribution in aid of construction to Union, of \$_____ (the "**Aid Amount**") from Customer pursuant to Customer's obligations herein; and
- f) If Customer has elected direct purchase services, Customer and Union shall have executed and maintained in good standing a Southern Bundled T.

Union and Customer shall each use commercially reasonable efforts to satisfy and fulfill the conditions precedent specified in Sections (a), (c), (d), (e), and (f). Union shall notify Customer forthwith in writing of Union's satisfaction or waiver of each condition precedent. If Union concludes that it will not be able to satisfy a condition precedent, Union may, upon written notice to Customer, terminate this Contract and upon giving such Notice, this Contract shall be of no further force and effect and each of the parties shall be released from all further obligations hereunder, subject to Customer's obligations pursuant to Section 11 herein.

3. CONTRACT TERM

This Contract shall be effective from the date hereof. However, the Services and Union's obligation to provide the Services under Section 4 shall commence on the later of (such later date being the "Day of First Delivery") (a) [Date] , and (b) the date that the last condition precedent as set out in Section 2 is satisfied or waived by Union. Subject to the provisions hereof, this Contract shall continue in full force and effect for a period of xx Contract Years (the "Initial Term") and continuing thereafter on a year to year basis unless written Notice to terminate is provided by one party to the other at least three (3) Months prior to the end of the then-current term.

"Contract Year" means a period of 12 consecutive Months, beginning on _____ of any Contract Year and ending on the subsequent _____, except for the first contract year which shall begin on the Day of First Delivery and end on _____.

4. SERVICES PROVIDED

Union agrees to provide Services as specified in Schedule 1 and Customer agrees to pay for such Services pursuant to these Contract terms and conditions as set out in this Contract, the referenced attachments, and the rate(s) referenced in Schedule 1.

To be eligible for Services under the M5A Rate Schedule, Customer must have an annual natural gas consumption of at least three hundred fifty thousand (350,000) m³ and Daily Contracted Demand between two thousand four hundred (2,400) m³ and sixty thousand

(60,000) m³. If the Customer does not maintain this level of consumption during the current Contract Year or is not expected to maintain this level of consumption then, notwithstanding any other remedy available to Union under this Contract or any other term of this Contract, effective the following Contract Year, the Customer may no longer qualify for Service under the M5A Rate Schedule and may be placed on an alternate service by Union.

If Customer has elected direct purchase services, and if Union does not receive Gas from Customer under the Southern Bundled T, then Union's obligations to provide Services under this Contract may, at Union's option, be suspended or terminated by Union. This suspension or termination will be effective as of the date specified in Union's notice to Customer, notwithstanding the General Terms and Conditions.

5. MINIMUM ANNUAL VOLUME

5.01 FIRM MINIMUM ANNUAL VOLUME

In each Contract Year, the Customer shall consume or, in any event, pay for the Adjusted Firm Minimum Annual Volume ("AFMAV") as determined in the formula below. This AFMAV will not be less than the minimum quantity required to qualify for firm service in the Rate M4 Rate Schedule.

The firm quantity not consumed in any Contract Year (the "Firm Deficiency Volume" or "FDV") shall be as determined in the formula below.

$$\text{AFMAV} = \text{FMAV} \times [(U - D_F) / U]$$

$$\text{FDV} = \text{AFMAV} - (\text{FV} - \text{F})$$

Where:

FMAV	=	Firm Minimum Annual Volume (as identified in Schedule 1)
U	=	number of days in the Contract Year
D_F	=	number of days of Force Majeure in the Contract Year
FV	=	total firm volume taken in the Contract Year
F	=	volumes delivered to the Points of Consumption during Force Majeure

The payment required for the FDV shall be calculated by multiplying FDV by the MAV Delivery charge specified in the Rate M4 Rate Schedule as of the last day of the Contract Year. This payment would only apply if the FDV was greater than zero.

5.02 INTERRUPTIBLE MINIMUM ANNUAL VOLUME

In each Contract Year, the Customer shall consume or, in any event, pay for the Adjusted Interruptible Minimum Annual Volume ("AIMAV") as determined in the formula below. The AIMAV will not be less than the minimum quantity required to qualify for interruptible service under the Rate M5A Rate Schedule.

The interruptible quantity not consumed in any Contract Year (the "Interruptible Deficiency Volume") ("IDV") shall be determined in the formula below.

$$\text{AIMAV} = \text{IMAV} - (\text{CD}_I \times \text{D}_I)$$

$$\text{IDV} = \text{AIMAV} - (\text{IV} - \text{I})$$

Where:

- IMAV** = Interruptible Minimum Annual Volume (as identified in Schedule 1)
- CD_I** = Interruptible Contract Demand
- D_I** = number of days of interruption in the Contract Year
- IV** = total interruptible volume taken in the Contract Year
- I** = volumes delivered to the Points of Consumption during an interruption

The payment required for the “IDV” shall be calculated by multiplying the IDV by the MAV Delivery charge as specified in the Rate M5A Rate Schedule as of the last day of the Contract Year. This payment would only apply if the IDV was greater than zero.

6. NOTICES

Notices shall be delivered pursuant to the Notice provision of General Terms and Conditions and delivered to the addresses referenced in Schedule 1.

7. EXPANSION FACILITIES

Union will use commercially reasonable efforts to construct the Expansion Facilities to serve the Plant. The target date for completion of these facilities is _____. Union will provide written Notice to Customer when such facilities are complete and placed into service. Union and Customer agree that Union shall not be obligated to construct any portion of the Expansion Facilities between December 15 of any year and March 31 of the subsequent calendar year.

8. AID AMOUNT PAYMENT SCHEDULE

Customer will be required to pay to Union the Aid Amount of \$_____ by (insert date).

Any applicable taxes will be applied to all amounts paid under this Section. Customer warrants and represents that no payment to be made by Customer under this Contract is subject to any withholding tax.

[If there are multiple years, then a payment table should be used:]

Year	Payment	Due Date

9. LATE PAYMENT CHARGES

Any amounts due and payable by Customer to Union arising under Sections 8 and 11 of this Contract shall, if not paid by the due date thereof, be subject to late payment charges equal to

1.5% per month (for a nominal rate of 18% per annum compounded monthly) on any unpaid balance including previous arrears.

10. CREDIT REQUIREMENTS DURING INITIAL TERM

In addition to the terms of Section 5.04 of the General Terms and Conditions, Union may, at any time during the Initial Term, request financial assurances to cover the potential financial exposure to Union to the end of the Initial Term. Such financial assurances shall be determined by Union in a commercially reasonable manner and may include, without limitation, expected return on capital invested. Failure to provide such financial assurances shall be treated in a manner provided for in Section 5.04 of the General Terms and Conditions.

11. TERMINATION PRIOR TO COMPLETION OF EXPANSION FACILITIES

Union shall have the right to terminate this Contract at any time prior to the Day of First Delivery, pursuant to Section 2, by giving written notice hereof, subject to the terms hereof.

If this Contract is terminated by Union as outlined above, then:

(a) Upon such termination, this Contract 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 this Contract prior to such termination and any liability that a party may have incurred prior to such termination, and the parties' obligations under this Section 11, shall not thereby be released;

(b) Customer shall reimburse Union for all Project Costs; and

(c) Customer shall reimburse Union for all cancellation costs, fees or other amounts paid under contracts entered into by Union to support the satisfaction of the conditions precedent set out in Section 2 ("**Cancellation Costs**").

Union may invoice amounts under this Section from time to time, with the expectation that there will be an invoice rendered within 30 days of termination, and subsequent invoices as additional amounts payable hereunder are incurred from time to time. Upon receiving Notice of termination, Union will use commercially reasonable efforts to cease incurring Project Costs and to mitigate Cancellation Costs upon such termination. In no event shall Union invoice Customer for any Cancellation Costs or Project Costs not previously invoiced by Union after 12 months from the termination date. Without limiting the foregoing, Customer shall have the right to audit at Customer's expense the costs claimed for reimbursement by Union for a period of six (6) months after each invoice is issued.

"**Project Costs**" means any and all reasonable costs (including litigation costs, cancellation costs, carrying costs, and third party claims) expenses, losses, demands, damages, obligations, or other liabilities (whether of a capital or operating nature, and whether incurred or suffered before or after the date of this Contract) of Union including amounts paid to affiliates in accordance with the Affiliate Relationship Code as established by the Ontario Energy Board) in connection with or in respect of development and construction of the Expansion Facilities (including without limitation the construction and placing into service of the Expansion Facilities, the obtaining of all governmental, regulatory, and other third party approvals, and the obtaining of rights of way) except for costs that have arisen from the gross negligence, fraud, or willful misconduct of Union.

12. CONTRACT SUCCESSION

This Contract replaces all previous Gas Distribution Contracts, subject to settlement of any surviving obligations. Page 12 of 57

IN WITNESS WHEREOF this Contract has been duly executed by the parties hereto as of the date first written above. If an Agent on behalf of Customer executes this Contract then, if requested by Union, Agent or Customer shall at any time provide a copy of such authorization to Union.

UNION GAS LIMITED

Authorized Signatory

Please print name

CUSTOMER

Authorized Signatory

Please print name

M7 Contract

This GAS DISTRIBUTION CONTRACT ("Contract"), made as of the _____ day of _____, 20__.

BETWEEN:

UNION GAS LIMITED

hereinafter called "Union"

- and -

COMPANY NAME

hereinafter called "Customer"

WHEREAS, Union has built, or proposes to build, certain facilities (the "**Expansion Facilities**") to serve _____ (the "**Plant**");

AND WHEREAS, Customer has requested Union and Union has agreed to provide Customer with Services as specified in Schedule 1 (the "**Services**");

AND WHEREAS, if Customer has elected direct purchase services, Customer will be responsible for supplying Gas to Union under a separate Contract called the Southern Bundled T;

AND WHEREAS, Union will deliver Gas to Customer's Point(s) of Consumption under this Contract identified in Schedule 1;

IN CONSIDERATION of the mutual covenants contained herein, and other good and valuable consideration, the receipt of and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. INCORPORATIONS

The following are hereby incorporated in and form part of this Contract:

- a) Contract Parameters contained in Schedule 1 as amended from time to time; and
- b) The latest posted version of Union's General Terms and Conditions subject to Section 12.18 of Union's General Terms and Conditions; and
- c) Rate M7 Rate Schedule as amended from time to time and as approved by the Ontario Energy Board.

2. CONDITIONS PRECEDENT

The obligations of Union to provide Services hereunder are subject to the following conditions precedent that are for the sole benefit of Union and which may be waived or extended in whole or in part in the manner provided in this Contract:

- a) Union shall have obtained, in form and substance satisfactory to Union, and all conditions shall have been satisfied under all governmental, regulatory and other third party approvals, consents, orders and authorizations, that are required to:
 - i. provide the Services; and
 - ii. construct the Expansion Facilities; and
- b) Union shall have obtained all internal approvals that are necessary or appropriate to:

- i. provide the Services; and
 - ii. construct the Expansion Facilities; and
- c) Union shall have completed and placed into service the Expansion Facilities; and
- d) Union shall have received from Customer the requisite financial assurances as may be more specifically outlined herein, reasonably necessary to ensure Customer's ability to honour the provisions of this Contract. Which financial assurances, if required, will be determined solely by Union; and
- e) Union shall have received a contribution in aid of construction to Union of \$_____ (the "**Aid Amount**") from Customer pursuant to Customer's obligations herein; and
- f) If Customer has elected direct purchase services, Customer and Union shall have executed and maintained in good standing a Southern Bundled T.

Union and Customer shall each use commercially reasonable efforts to satisfy and fulfill the conditions precedent specified in Sections (a), (c), (d), (e), and (f). Union shall notify Customer forthwith in writing of Union's satisfaction or waiver of each condition precedent. If Union concludes that it will not be able to satisfy a condition precedent, Union may, upon written Notice to Customer, terminate this Contract and upon giving such Notice, this Contract shall be of no further force and effect and each of the parties shall be released from all further obligations hereunder, subject to Customer's obligations pursuant to Section 11 herein.

3. CONTRACT TERM

This Contract shall be effective from the date hereof. However, the Services and Union's obligation to provide the Services under Section 4 shall commence on the later of (such later date being the "Day of First Delivery") (a) [Date] , and (b) the date that the last condition precedent as set out in Section 2 is satisfied or waived by Union. Subject to the provisions hereof, this Contract shall continue in full force and effect for a period of xx Contract Years (the "Initial Term") and continuing thereafter on a year to year basis unless written Notice to terminate is provided by one party to the other at least three (3) Months prior to the end of the then-current term.

"Contract Year" means a period of twelve (12) consecutive Months, beginning on _____ of any Contract Year and ending on the subsequent _____, except for the first contract year which shall begin on the Day of First Delivery and end on _____.

4. SERVICES PROVIDED

Union agrees to provide Services as specified in Schedule 1 and Customer agrees to pay for such Services pursuant to these Contract terms and conditions as set out in this Contract, the referenced attachments, and the rate(s) referenced in Schedule 1.

To be eligible for services under the Rate M7 Rate Schedule, Customer must have a combined Firm, Interruptible and Seasonal Daily Contracted Demand greater than sixty thousand (60,000) m³. If the Customer does not maintain this level of consumption during the current Contract Year or is not expected to maintain this level of consumption then, notwithstanding any other remedy available to Union under this Contract or any other term of this Contract,

effective the following Contract Year, the Customer may no longer qualify for service under the Rate M7 Rate Schedule and may be placed on an alternate service by Union.

If a Customer has elected direct purchase services, and if Union does not receive Gas from Customer under the Southern Bundled T, then Union's obligations to provide Services under this Contract may, at Union's option, be suspended or terminated by Union. This suspension or termination will be effective as of the date specified in Union's Notice to Customer, notwithstanding the General Terms and Conditions.

5. MINIMUM ANNUAL VOLUME

5.01 FIRM MINIMUM ANNUAL VOLUME

In each Contract Year, the Customer shall consume or, in any event, pay for the Adjusted Firm Minimum Annual Volume ("AFMAV") as determined in the formula below.

The firm quantity not consumed in any Contract Year (the "Firm Deficiency Volume" or "FDV") shall be as determined in the formula below.

$$\text{AFMAV} = \text{FMAV} \times [(U - D_F) / U]$$

$$\text{FDV} = \text{AFMAV} - (\text{FV} - \text{F})$$

Where:

FMAV	=	Firm Minimum Annual Volume (as identified in Schedule 1)
U	=	number of days in the Contract Year
D_F	=	number of days of Force Majeure in the Contract Year
FV	=	total firm volume taken in the Contract Year
F	=	volumes delivered to the Points of Consumption during Force Majeure

The payment required for the FDV shall be calculated by multiplying FDV by the Monthly Firm Delivery Commodity Charge as of the last day of the Contract Year. This payment would only apply if the FDV was greater than zero.

5.02 INTERRUPTIBLE MINIMUM ANNUAL VOLUME

In each Contract Year, the Customer shall consume or, in any event, pay for the Adjusted Interruptible Minimum Annual Volume ("AIMAV") as determined in the formula below.

The interruptible quantity not consumed in any Contract Year (the "Interruptible Deficiency Volume") ("IDV") shall be determined in the formula below.

$$\text{AIMAV} = \text{IMAV} \times [(U - D_I) / U]$$

$$\text{IDV} = \text{AIMAV} - (\text{IV} - \text{I})$$

Where:

IMAV	=	Interruptible Minimum Annual Volume (as identified in Schedule 1)
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- U** = number of days in the Contract Year
D_I = number of days of interruption in the Contract Year
IV = total interruptible volume taken in the Contract Year
I = volume delivered to point of consumption during an interruption

The payment required for the IDV shall be calculated by multiplying IDV by the Monthly Interruptible Delivery Commodity Charge as of the last day of the Contract Year. This payment would only apply if the IDV was greater than zero.

6. **NOTICES**

Notices shall be delivered pursuant to the Notice provision of General Terms and Conditions and delivered to the addresses referenced in Schedule 1.

7. **EXPANSION FACILITIES**

Union will use commercially reasonable efforts to construct the Expansion Facilities to serve the Plant. The target date for completion of these facilities is _____. Union will provide written Notice to Customer when such facilities are complete and placed into service. Union and Customer agree that Union shall not be obligated to construct any portion of the Expansion Facilities between December 15 of any year and March 31 of the subsequent calendar year.

8. **AID AMOUNT PAYMENT SCHEDULE**

Customer will be required to pay to Union the Aid Amount of \$_____ by (insert date).

Any applicable taxes will be applied to all amounts paid under this Section. Customer warrants and represents that no payment to be made by Customer under this Contract is subject to any withholding tax.

[If there are multiple years, then a payment table should be used:]

Year	Payment	Due Date

9. **LATE PAYMENT CHARGES**

Any amounts due and payable by Customer to Union arising under Sections 8 and 11 of this Contract shall, if not paid by the due date thereof, be subject to late payment charges equal to 1.5% per month (for a nominal rate of 18% per annum compounded monthly) on any unpaid balance including previous arrears.

10. CREDIT REQUIREMENTS DURING INITIAL TERM

In addition to the terms of Section 5.04 of the General Terms and Conditions, Union may, at any time during the Initial Term, request financial assurances to cover the potential financial exposure to Union to the end of the Initial Term. Such financial assurances shall be determined by Union in a commercially reasonable manner and may include, without limitation, expected return on capital invested. Failure to provide such financial assurances shall be treated in a manner provided for in Section 5.04 of the General Terms and Conditions.

11. TERMINATION PRIOR TO COMPLETION OF EXPANSION FACILITIES

Union shall have the right to terminate this Contract at any time prior to the Day of First Delivery, pursuant to Section 2, by giving written notice hereof, subject to the terms hereof.

If this Contract is terminated by Union as outlined above, then:

(a) Upon such termination, this Contract 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 this Contract prior to such termination and any liability that a party may have incurred prior to such termination, and the parties' obligations under this Section 11, shall not thereby be released;

(b) Customer shall reimburse Union for all Project Costs; and

(c) Customer shall reimburse Union for all cancellation costs, fees or other amounts paid under contracts entered into by Union to support the satisfaction of the conditions precedent set out in Section 2 ("**Cancellation Costs**").

Union may invoice amounts under this Section from time to time, with the expectation that there will be an invoice rendered within thirty (30) days of termination, and subsequent invoices as additional amounts payable hereunder are incurred from time to time. Upon receiving notice of termination, Union will use commercially reasonable efforts to cease incurring Project Costs and to mitigate Cancellation Costs upon such termination. In no event shall Union invoice Customer for any Cancellation Costs or Project Costs not previously invoiced by Union after twelve (12) months from the termination date. Without limiting the foregoing, Customer shall have the right to audit at Customer's expense the costs claimed for reimbursement by Union for a period of six (6) months after each invoice is issued.

"**Project Costs**" means any and all reasonable costs (including litigation costs, cancellation costs, carrying costs, and third party claims) expenses, losses, demands, damages, obligations, or other liabilities (whether of a capital or operating nature, and whether incurred or suffered before or after the date of this Contract) of Union including amounts paid to affiliates in accordance with the Affiliate Relationship Code as established by the Ontario Energy Board) in connection with or in respect of development and construction of the Expansion Facilities (including without limitation the construction and placing into service of the Expansion Facilities, the obtaining of all governmental, regulatory, and other third party approvals, and the obtaining of rights of way) except for costs that have arisen from the gross negligence, fraud, or willful misconduct of Union.

12. CONTRACT SUCCESSION

This Contract replaces all previous Gas Distribution Contracts, subject to settlement of any surviving obligations.

IN WITNESS WHEREOF this Contract has been duly executed by the parties hereto as of the date first written above. If an Agent on behalf of Customer executes this Contract then, if requested by Union, Agent or Customer shall at any time provide a copy of such authorization to Union.

UNION GAS LIMITED

Authorized Signatory

Please print name

CUSTOMER

Authorized Signatory

Please print name

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Contract Name	

T1 CONTRACT

This GAS STORAGE AND DISTRIBUTION CONTRACT ("Contract"), made as of the ____ day of _____, 201_

BETWEEN:

UNION GAS LIMITED

hereinafter called "Union"

- and -

COMPANY NAME

hereinafter called "Customer"

WHEREAS, Union has built, or proposes to build, certain facilities (the "**Expansion Facilities**") to serve _____ (the "**Plant**");

AND WHEREAS, Customer has requested Union and Union has agreed to provide Customer Services;

AND WHEREAS, Union will deliver Customer owned Gas to Customer's Point(s) of Consumption or Storage under this Contract pursuant to the T1 Rate Schedule;

IN CONSIDERATION of the mutual covenants contained herein, the parties agree as follows:

1 INCORPORATIONS

The following are hereby incorporated in and form part of this Contract:

- a) Contract Parameters contained in Schedule 1 – DCQ, Storage and Distribution Services Parameters, and Schedule 1a – Supplemental Services Parameters as amended from time to time; and
- b) The latest posted version of the T1 Contract Terms and Conditions contained in Schedule 2 subject to Section 12.18 of Union's General Terms and Conditions; and
- c) The latest posted version of Union's General Terms and Conditions subject to Section 12.18 of Union's General Terms and Conditions; and
- d) The applicable T1Rate Schedule as amended from time to time and as approved by the Ontario Energy Board.

For the purposes of this Contract, "Point(s) of Receipt" shall mean those points identified in Schedule 1 where Union may receive Gas from Customer.

2 CONDITIONS PRECEDENT

The obligations of Union to provide Services hereunder are subject to the following conditions precedent that are for the sole benefit of Union and which may be waived or extended in whole or in part in the manner provided in this Contract:

- a) Union shall have obtained, in form and substance satisfactory to Union, and all conditions shall have been satisfied under all governmental, regulatory and other third party approvals, consents, orders and authorizations, that are required to:
 - i. provide the Services; and
 - ii. construct the Expansion Facilities; and
- b) Union shall have obtained all internal approvals that are necessary or appropriate to:
 - i. provide the Services; and
 - ii. construct the Expansion Facilities; and
- c) Union shall have completed and placed into Service the Expansion Facilities; and
- d) Union shall have received from Customer the requisite financial assurances as may be more specifically outlined herein, reasonably necessary to ensure Customer's ability to honour the provisions of this Contract Which financial assurances, if required, will be determined solely by Union; and
- e) Union shall have received a contribution in aid of construction to Union, of \$_____ (the "**Aid Amount**") from Customer pursuant to Customer's obligations herein; and

Union and Customer shall each use commercially reasonable efforts to satisfy and fulfill the conditions precedent specified in Sections (a), (c), (d), (e), and (f). Union shall notify Customer forthwith in writing of Union's satisfaction or waiver of each condition precedent. If Union concludes that it will not be able to satisfy a condition precedent, Union may, upon written Notice to Customer, terminate this Contract and upon giving such Notice, this Contract shall be of no further force and effect and each of the parties shall be released from all further obligations hereunder, subject to Customer's obligations pursuant to Section 10 herein.

3 CONTRACT TERM

This Contract shall be effective from the date hereof. However, the Services and Union's obligation to provide the Services under Section 4 shall commence on the later of (such later date being the "Day of First Delivery") (a) [Date] , and (b) the date that the last condition precedent as set out in Section 2 is satisfied or waived by Union. Subject to the provisions hereof, this Contract shall continue in full force and effect for a period of xx Contract Years (the "Initial Term") and continuing thereafter on a year to year basis unless written Notice to terminate is provided by one party to the other at least three (3) Months prior to the end of the then-current term.

“Contract Year” means a period of twelve (12) consecutive Months, beginning on _____ of any Contract Year and ending on the subsequent _____, except for the first contract year which shall begin on the Day of First Delivery and end on _____.

4 SERVICES PROVIDED

Union agrees to provide Storage Services and Distribution Services as specified in Schedule 1 and Schedule 1a.

To be eligible for services under the T1 Rate Schedule, Customer must have an aggregated forecasted annual natural gas consumption of at least 2,500,000 m³ and an aggregated Firm Daily Contract Demand up to 140,870 m³ for all Point(s) of Consumption. If the Customer does not maintain this level of consumption during the current contract year or is not expected to maintain this level of consumption then, notwithstanding any other remedy available to Union under this Contract or any other term of this Contract, effective the following contract year, the Customer may no longer qualify for service under the T1 Rate Schedule and may be placed on an alternate service by Union. If the Customer’s Firm Daily Contract Demand meets or exceeds 140,870 m³ then the Customer no longer qualifies for services under the T1 Rate Schedule.

5 RATES FOR SERVICE

Customer agrees to pay for Services herein pursuant to the terms and conditions of the following:

- a) The R1 Rate Schedule and the T1 Rate Schedule as they may be amended from time to time by the Ontario Energy Board; and
- b) This Contract and the incorporations hereto.

6 NOTICES

Notices shall be delivered pursuant to the Notice provision of General Terms and Conditions and delivered to the addresses as referenced in Schedule 1.

7 EXPANSION FACILITIES

Union will use commercially reasonable efforts to construct the Expansion Facilities to serve the Plant. The target date for completion of these facilities is _____. Union will provide written Notice to Customer when such facilities are complete and placed into service. Union and Customer agree that Union shall not be obligated to construct any portion of the Expansion Facilities between December 15 of any year and March 31 of the subsequent calendar year.

8 AID AMOUNT PAYMENT SCHEDULE

Customer will be required to pay to Union the Aid Amount of \$_____ by (insert date).

Any applicable taxes will be applied to all amounts paid under this Section. Customer warrants and represents that no payment to be made by Customer under this Contract is subject to any withholding tax.

9 LATE PAYMENT CHARGES

Any amounts due and payable by Customer to Union arising under Sections 8 and 11 of this Contract shall, if not paid by the due date thereof, be subject to late payment charges equal to 1.5% per month (for a nominal rate of 18% per annum compounded monthly) on any unpaid balance including previous arrears.

10 CREDIT REQUIREMENTS DURING INITIAL TERM

In addition to the terms of Section 5.04 of the General Terms and Conditions, Union may, at any time during the Initial Term, request financial assurances to cover the potential financial exposure to Union to the end of the Initial Term. Such financial assurances shall be determined by Union in a commercially reasonable manner and may include, without limitation, expected return on capital invested. Failure to provide such financial assurances shall be treated in a manner provided for in Section 5.04 of the General Terms and Conditions.

11 TERMINATION PRIOR TO COMPLETION OF EXPANSION FACILITIES

Union shall have the right to terminate this Contract at any time prior to the Day of First Delivery, pursuant to Section 2, by giving written notice hereof, subject to the terms hereof.

If this Contract is terminated by Union as outlined above, then:

(a) Upon such termination, this Contract 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 this Contract prior to such termination and any liability that a party may have incurred prior to such termination, and the parties' obligations under this Section 11, shall not thereby be released;

(b) Customer shall reimburse Union for all Project Costs; and

(c) Customer shall reimburse Union for all cancellation costs, fees or other amounts paid under contracts entered into by Union to support the satisfaction of the conditions precedent set out in Section 2 ("**Cancellation Costs**").

Union may invoice amounts under this Section, from time to time, with the expectation that there will be an invoice rendered within thirty (30) days of termination, and subsequent invoices as additional amounts payable hereunder are incurred from time to time. Upon receiving notice of termination, Union will use commercially reasonable efforts to cease incurring Project Costs and to mitigate Cancellation Costs upon such termination. In no event shall Union invoice Customer for any Cancellation Costs or Project Costs not previously invoiced by Union after twelve (12) months from the termination date. Without limiting the foregoing, Customer shall have the right to audit, at Customer's expense, the costs claimed for reimbursement by Union for a period of six (6) months after each invoice is issued.

“**Project Costs**” means any and all reasonable costs (including litigation costs, cancellation costs, carrying costs, and third party claims) expenses, losses, demands, damages, obligations, or other liabilities (whether of a capital or operating nature, and whether incurred or suffered before or after the date of this Contract) of Union, including amounts paid to affiliates in accordance with the Affiliate Relationship Code as established by the Ontario Energy Board, in connection with, or in respect of, development and construction of the Expansion Facilities (including without limitation the construction and placing into service of the Expansion Facilities, the obtaining of all governmental, regulatory, and other third party approvals, and the obtaining of rights of way) except for costs that have arisen from the gross negligence, fraud, or willful misconduct of Union.

11 AGENCY

If an agent on behalf of the Customer executes this Contract then, if requested by Union, the agent shall at any time provide a copy of such authorization to Union.

Notwithstanding the provisions of Section 2(a) the agent shall be responsible for providing security arrangements acceptable to Union in accordance with the General Terms and Conditions.

The agent and Customer acknowledge and agree that they are unconditionally and irrevocably jointly and severally liable for all Customer obligations under the Contract.

12 CONTRACT SUCCESSION

This Contract replaces all previous Gas Storage and Distribution Contracts, subject to settlement of any Surviving Obligations.

The undersigned execute this Contract as of the above date. If an Agent on behalf of Customer executes this Contract then, if requested by Union, Agent or Customer shall at any time provide a copy of such authorization to Union.

UNION GAS LIMITED

Authorized Signatory

Please Print Name

CUSTOMER

I have the Authority to bind the Corporation, or Adhere C/S, if applicable

Please Print Name

SCHEDULE “2”
Terms and Conditions
T1 or T2 Contracts

1 UPSTREAM TRANSPORTATION COSTS

Where Union is receiving Gas from Customer at a Point of Receipt upstream of Union’s system, Customer shall be responsible to Union for all direct and indirect upstream transportation costs including fuel from the Point of Receipt to Union’s system, whether Gas is received by Union or not for any reason including Force Majeure. Where actual quantities and costs are not available by the date when Union performs its billing, Union's reasonable estimate will be used and the appropriate reconciliation will be done in the following month.

2 DELIVERY, RECEIPT, DISTRIBUTION, STORAGE & BALANCING OBLIGATIONS

2.01 Delivery

Customer accepts the obligations to deliver the Obligated DCQ parameters in Schedule 1 to Union on a Firm basis. On days when an Authorization Notice is given, the DCQ parameters are as amended in the Authorization Notice. For all Gas to be received by Union at the Upstream Point of Receipt, Customer shall, in addition to the DCQ, supply on each day sufficient Compressor Fuel as determined by the Transporter.

2.02 Receipt

Union agrees to receive a quantity of Gas at the Points of Receipt identified in Schedule 1, on the terms as contained in Schedule 1, provided Union is not obligated to accept quantities of Gas that exceed any of the following:

- a) the sum of the Obligated DCQ as authorized for that Day;
- b) the amount properly nominated by Customer to Union for receipt by Union;
- c) an amount that would result in Customer exceeding the Firm Storage Space;
- d) an amount that would result in Customer exceeding the Firm Injection Right.

2.03 Distribution to Point(s) of Consumption

Union agrees to distribute a quantity of Gas to each Point of Consumption, not to exceed the sum of Firm Contract Demand and Interruptible Contract Demand, or the Firm Contract Demand only when an interruption is in effect, subject to the Maximum Hourly Volume parameters.

On any Day, any Gas in excess of 103% of the Contract Demand shall be overrun. Unless Union specifically provides written authorization to exceed contract parameters, any excess shall be unauthorized overrun and, in addition to any other remedies Union may pursue, Customer shall incur charges as referenced in the Rate Schedule.

The parties agree that any reference to Transportation Service in the Rate Schedule shall include the Distribution Parameters as set out in this Schedule 1.

On any Day during the Contract Year, Gas usage shall be deemed as follows:

First gas used	Firm Gas up to the Firm Contract Demand then in effect.
Next gas used	Interruptible Gas (if applicable) up to the Interruptible Contract Demand then in effect.
Next gas used	Overrun for quantities in excess of the parameters as specified in this Section.

2.04 Storage Space

Storage space available at cost will be re-determined for each Contract Year at contract renewal. Customer shall have the option of electing the storage space allocation method which best serves their needs. The allocation methods available are:

Aggregate Excess Methodology:

Space = total winter (November 1 to March 31) consumption – [total annual consumption x 151 winter days/365 days]

Under this method, the two (2) most recent twelve (12) month periods of historical consumption and twelve (12) months of forecast consumption are used to calculate three storage space values using the above noted formula; weighted 25%, 25% and 50%, respectively. Union will work with Customer to determine a reasonable forecast of consumption. If Customer does not provide a forecast of consumption for the forecast period then the most recent twelve (12) months of historical consumption will be used as the forecast.

If sufficient historical consumption does not exist or if Customer is forecasting a significant change in operations, the agreed upon forecast may get more weight in the calculation.

Fifteen (15) times Obligated DCQ Methodology:

Under this method, storage space available at cost will be calculated as fifteen (15) times the Obligated DCQ calculated for the Contract Year. Obligated DCQ will be calculated as $1/365^{\text{th}}$ of the forecast consumption for the Contract Year.

Under either methodology, the calculations will be performed and the greater entitlement will be incorporated into the Contract at each contract renewal date.

Customer may contract for less storage space than the amounts determined above.

2.05 Storage Injection/Withdrawal

Union agrees to inject a quantity of Gas to storage, provided Union is not obligated to inject a quantity of Gas if a customer exceeds their storage space.

Union agrees to withdraw a quantity of Gas from storage, provided Union is not obligated to withdraw a quantity of Gas that exceeds the quantity of gas remaining in the Customer's Firm Storage Space.

On any Day injection/withdrawal activity shall be deemed as follows:

First gas injected or withdrawn	Up to 103% of the injection/withdrawal as specified in Schedule 1, Section 4.
Next gas injected or withdrawn	Market Priced injection/withdrawal as specified in Schedule 1a – Supplemental Services Parameters
Next gas injected or withdrawn	Overrun injection/withdrawal for all other quantities.

Injection/withdrawal overrun will be authorized or unauthorized as indicated on Union's website and Unionline.

The maximum entitlement for storage injection/withdrawal available to Customer at cost is the greater of:

- Obligated DCQ; or
- Firm Contracted Demand less Obligated DCQ

Customer may contract up to the maximum injection/withdrawal entitlement using a combination of Firm injections and withdrawals, interruptible withdrawals or incremental firm injections as specified in Section (C) Storage Service on the applicable Rate Schedule.

Under either methodology, the calculations will be performed and the greater entitlement will be incorporated into the Contract at each contract renewal date.

Customer may contract for less storage injection/withdrawal than the amounts determined above.

2.06 Type of Distribution Service

The type of Distribution Service herein shall be a combination of Firm and Interruptible Service for each Point of Consumption as identified in Schedule 1.

The Interruptible Contract Demand at a Point of Consumption is subject to interruption by Union and, in addition to Force Majeure, is limited to the Maximum Number of Days of Interruption during each Contract Year as identified in Schedule 1. Union shall provide Customer notice of interruption not less than the Notice Period for Interruption for each Point of Consumption, as identified in Schedule 1.

2.07 Transactional Balancing Services

Transactional Balancing Services are defined as those services used by customers to assist in balancing their storage accounts. The following services can be requested through the nomination process, all other services would require an authorization.

Services available and associated locations include:

- a) Diversions – Obligated Points of Receipt
- b) Suspensions - Obligated Ontario Points of Receipt

- c) Incremental Supply – Ontario Points of Receipt
- d) Ex-franchise transfers to a third party - Dawn
- e) In-franchise transfers - Dawn

Further definition of each Transactional Balancing Service and the associated fees are posted on Union's web site.

These services are nominated by Customer, pursuant to the nomination process in Section 1 of the General Terms and Conditions.

These services may be subject to scheduling reductions or interruptions. Union shall advise the party who nominated on behalf of Customer only of such scheduling reduction or interruption.

Each Transactional Balancing Service is nominated separately and is independent of any other Transactional Balancing Service. Notwithstanding the scheduling of any Transactional Balancing Services, Customer bears the risk that the Transactional Balancing Service may result in overrun. Scheduling a particular Transactional Balancing Service does not constitute the authorization of any overrun of any Contract parameter.

3 MINIMUM ANNUAL VOLUME

3.01 Firm Minimum Annual Volume

In each Contract Year, the Customer shall consume or, in any event, pay for the Firm Minimum Annual Volume ("FMAV") in the formula below. The payment required for the firm quantity not consumed in any Contract Year (the "Firm Deficiency Volume" or "FDV") shall be calculated by multiplying FDV by the Firm Transportation Commodity charge as of the last day of the Contract Year, if applicable. This payment would only apply if the FDV was greater than zero.

Where:

$$FDV = [FMAV \times [(U - D_F) / U]] - [FV - (F + O)]$$

And:

FMAV	=	Firm Minimum Annual Volume (as identified in Schedule 1)
U	=	number of days in the Contract Year
D_F	=	number of days of Force Majeure in the Contract Year where service is curtailed below the Firm Contract Demand, then in effect
FV	=	total firm volume taken in the Contract Year
F	=	volumes delivered to the Points of Consumption during Force Majeure
O	=	total Authorized and/or Unauthorized Overrun Gas taken in the Contract Year

3.02 Interruptible Minimum Annual Volume

In each Contract Year, the Customer shall consume or, in any event, pay for the Interruptible Minimum Annual Volume ("IMAV") in the formula below. The payment required for the

interruptible quantity not consumed in any Contract Year (the "Interruptible Deficiency Volume" or "IDV") shall be calculated by multiplying the IDV by the Interruptible Transportation Commodity charge as of the last day of the Contract Year. This payment would only apply if the IDV was greater than zero.

Where:

$$\text{IDV} = [\text{IMAV} \times [(U - D_I) / U]] - [\text{IV} - (\text{F} + \text{O})]$$

And:

IMAV	=	Interruptible Minimum Annual Volume (as identified in Schedule 1)
U	=	number of days in the Contract Year
D_I	=	number of days of Force Majeure or interruption in the Contract Year where service is curtailed below the Firm Contract Demand, then in effect
IV	=	total interruptible volume taken in the Contract Year
F	=	volumes delivered to the Points of Consumption during Force Majeure or periods of interruption or curtailment
O	=	total Authorized and/or Unauthorized Overrun Gas taken in the Contract Year

3.03 Qualifying Annual Volume

The sum of the FMAV (net of the FDV) and the IMAV (net of the IDV) shall not be less than the qualifying annual volume defined in the Rate Schedule, where applicable.

4 CUSTOMER SUPPLIED DISTRIBUTION AND STORAGE COMPRESSOR FUEL

Customer shall have the option of supplying Compressor Fuel to Union for movement of Customer's Gas on Union's system for both Distribution and Storage services. Customer's right to supply Compressor Fuel herein shall only be effective where Schedule 1 and/or Schedule 1a states Customer has accepted this option.

4.01 Distribution Compressor Fuel Quantity

If Customer has elected to supply its own distribution compressor fuel, Union shall, on a daily basis, deduct the distribution fuel quantity from the Gas received from Customer. The distribution fuel quantity shall be equal to the quantity of Gas for which a distribution commodity charge applies multiplied by the distribution fuel ratio specified in the Rate Schedule.

4.02 Storage Compressor Fuel Quantity

If Customer has elected to supply its own storage compressor fuel, Union shall reduce Customer's storage inventory by a quantity equal to the "Storage Fuel Quantity". The "Storage Fuel Quantity" shall be the sum of the injection and withdrawal quantities for which a commodity charge applies, multiplied by the storage fuel ratio specified in the Rate Schedule.

5 ENERGY CONVERSION

Balancing of Gas receipts by Union with Gas distributed to Customer is calculated in energy. The distribution to Customer is converted from volume to energy at the Customer site-specific heat measurement value.

Site-specific heat measuring equipment will be supplied, installed and maintained by Union Gas at each Point of Consumption, or as determined necessary by Union Gas, at the Customer's expense. The resulting heat value adjustment quantity shall be applied to the Customer's storage account.

6 STORAGE SERVICES

6.01 Storage Injection and Withdrawal

Subject to Section 2, if on any Day the quantity of Gas Union receives from Customer exceeds the quantity distributed to Customer, the amount of such excess shall be deemed to have been injected into Customer's storage account.

Subject to Section 2, if on any Day the quantity of Gas Union distributed to Customer exceeds the quantity received from Customer, the amount of such excess shall be deemed to have been withdrawn from Customer's storage account.

6.02 Deliverability Inventory Provided By Customer

If Customer has agreed to supply their own deliverability inventory, Customer's right to withdraw Gas under the Firm Withdrawal Right shall be adjusted between January 1 and April 30. During this period, if Customer's inventory level in storage at the start of each Day is less than 20% of Storage Space entitlement then Customer's Firm Withdrawal Right will be adjusted in accordance with the following formula:

If: $I \geq CDI$,
Then: $AFW = FW$
However if: $I < CDI$
Then: $AFW = FW \times (I / CDI)$

Where:

AFW	=	Adjusted Firm Withdrawal
FW	=	Firm Withdrawal Right (Schedule 1, Storage parameters plus Schedule 1a, Supplemental Deliverability)
I	=	Actual Inventory at the beginning of each Day
CDI	=	Customer Deliverability Inventory (Lesser of: $0.2 \times SP$ or $FW/0.075$) where: SP = Firm cost-based Storage Space

6.03 Disposition of Gas at Contract Termination

If this Contract terminates or expires and Customer does not have a contract for Storage Service with Union then, except as authorized by Union, any Gas balance remaining in Customer's Storage Space shall incur a charge equivalent to the Unauthorized Storage Space Overrun rate in the

applicable Rate Schedule. Customer shall incur such charge monthly until the Gas balance remaining has been reduced to zero.

7 CUSTOMER'S FAILURE TO DELIVER GAS

7.01 Customer's Failure to Deliver Obligated DCQ to Union

If on any Day, for any reason, including an instance of Force Majeure, Customer fails to deliver the Obligated DCQ to Union then such event shall constitute a Failure to Deliver as defined in the General Terms and Conditions. The Failure to Deliver rate in the R1 Rate Schedule shall apply to the quantity Customer fails to deliver. The upstream transportation costs (if any) (Section 1) shall also apply and be payable by Customer.

For Gas that should have been received, Union may make reasonable attempts, but is not obligated to acquire an alternate supply of Gas ("Alternate Supply Gas"). Union's costs and expenses associated with acquiring Alternate Supply Gas will be payable by Customer. For greater certainty, payment of the Failure to Deliver charge is independent of and shall not in any way influence the calculation of Union's costs and expenses associated with acquiring the said Alternate Supply Gas.

Union's obligation to deliver Gas to the Point(s) of Consumption shall be reduced to a quantity of Gas (the "Reduced Distribution Obligation") in aggregate not to exceed the sum of:

- a) The confirmed Nomination quantity of Gas to be delivered to Union;
- b) Alternate Supply Gas if acquired by Union;
- c) Customer's Firm Withdrawal Right subject to Section 6.02.

In addition to any rights of interruption in the Contract, if the Customer consumes Gas in excess of the Reduced Distribution Obligation, Union may immediately suspend deliveries of Gas to the Point(s) of Consumption. In addition, Union may direct Customer to immediately curtail or cease consumption of Gas at the Point(s) of Consumption.

Customer shall immediately comply with such direction. Such suspension or curtailment shall not constitute an interruption under the Contract.

Union shall not be liable for any damages, losses, costs or expenses incurred by Customer as a consequence of Union exercising its rights under this Section.

7.02 Notice of Failure

Each Party shall advise the other by the most expeditious means available as soon as it becomes aware that such failure has occurred or is likely to occur. Such notice may be oral, provided it is followed by written notice.

7.03 Customer Failure to Deliver Compressor Fuel

For Gas to be delivered by Customer to Union at an Upstream Point of Receipt, if Customer fails to deliver sufficient Compressor Fuel then in addition to any other remedy Union shall deem the first Gas delivered to be Compressor Fuel and Section 7.01 will apply.

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GENERAL TERMS AND CONDITIONS

1 NOMINATION REQUIREMENTS FOR IN-FRANCHISE CONTRACTED SERVICES

Customers with contracted Services requiring Nominations to Union must submit Nominations to Union in accordance with Union's nomination provisions. All Nominations shall be submitted by electronic means via Unionline. Union, in its sole discretion, may amend or modify the nominating procedures or Unionline at any time.

Nominations shall be submitted so as to be received by Union in accordance with timelines established by Union, which reflect the North American Energy Standards Board (NAESB) standard nomination cycles, applicable interconnecting transporters' nomination cycles, and Services approved by the Ontario Energy Board. Union will accept Nominations, subject to Section 1.04. Nominations made after the applicable deadline shall not be accepted except at the sole discretion of Union. The nomination cycle timelines are posted on Union's website and the nomination deadlines are provided in Unionline.

1.01 Nomination Deadline for Services requiring Union to Nominate on Other Pipelines

The Nomination deadline for any contracted services (e.g. exchanges) requiring Union to nominate on upstream pipelines is two (2) hours prior to the close of the nomination window for the Timely Nomination Cycle. These services are only offered on the Timely Nomination Cycle. If nominated after this deadline but before the close of the Timely Nomination Cycle deadline Union will attempt to accommodate on a reasonable efforts basis. Union does not accept changes to the nominated quantities for these services after the close of the Timely Nomination Cycle deadline.

1.02 Nomination Quantities (Units)

All Services are required to be nominated in whole Gigajoules (GJ's)

1.03 Compressor Fuel

For Services requiring Customer to provide Compressor Fuel in kind, the nominated fuel requirements will be calculated by rounding to the nearest whole GJ.

1.04 Union's Acceptance of Nominations

Union will accept Nominations for contracted Services on each of the nomination cycles. The Nomination will be rejected if the activity on the Nomination does not properly balance or if the nominated quantities violate Customer's contractual entitlements.

1.05 Confirmation Process

The confirmation process validates nominated quantities to flow between interconnecting pipelines to ensure Customers have nominated identical quantities to both pipeline operators. In the case where there is a discrepancy between the nominated quantities and the discrepancy

cannot be resolved with Customer, then the lower quantity will be the confirmed scheduled quantity.

1.06 Scheduling Process

During the scheduling process, Union compares all of the Nominations to the physical capacity available for the Gas Day in question.

If there is insufficient capacity available to meet all of the nominated quantities, Union will complete scheduling reductions of nominated Interruptible Services.

If Union is unable to completely schedule an Interruptible Service, Customer will be advised of its scheduled quantities no later than the close of the scheduling deadline for the applicable Nomination cycle. Once notified, Customer is, within 30 minutes, required to submit a revised Nomination to meet the scheduled quantity for the Interruptible Service. In order to be accepted, this Nomination must be properly balanced and the nominated quantities must not violate Customer's contractual entitlements. If a revised Nomination is not submitted, Union will, using the contracted Services Customer has available, re-balance the Nomination to match the scheduled quantities.

Scheduling of Firm Services must be nominated on the Timely Nomination Cycle. Nominations for increasing quantities for Firm Services after the Timely Nomination Cycle will be treated as Interruptible Services and will only be scheduled if there is sufficient capacity available.

1.07 Subsequent Nominations

All scheduled Nominations for Services will remain in effect until a new Nomination is provided by Customer.

The Unbundled Service requires a valid daily Nomination.

1.08 Parkway Call

This Section 1.08 is only applicable to Services taken under Rate U2. Union shall advise Customer of the Parkway Call requirement on or before the scheduling deadline for the Timely Nomination Cycle on the Day immediately preceding the Gas Day for which the Parkway Call is required.

After being notified by Union, but no later than the next Unionline deadline for the Gas Day for which the Parkway Call is required, Customer shall provide a revised Nomination to Union, which shall include the entire Parkway Call. If a revised Nomination acceptable to Union is not provided by that deadline or does not include the entire Parkway Call, a Failure to Deliver will be deemed to have occurred, and the Failure to Deliver section in Schedule 2 of this Contract shall apply.

2 FORCE MAJEURE

In the event that either Customer or Union is rendered unable, in whole or in part, by Force Majeure, to perform or comply with any obligation or condition of this Contract then, subject to the provision of this Section 2, the obligations (other than the obligations to make payment of money then due) of both parties so far as they are directly related to and affected by such Force Majeure, shall be suspended during the continuance of the Force Majeure.

The party claiming Force Majeure shall give Notice, with full particulars of such Force Majeure, to the other party as soon as possible after the occurrence of Force Majeure.

The party claiming Force Majeure shall also give Notice to the other party as soon as possible after the Force Majeure is remedied in whole or part.

Force Majeure means:

- a) Acts of God, landslides, lightning, earthquakes, fires, storms, floods, washouts, explosions, breakage or accident to its machinery or equipment or lines of pipe;
- b) freezing or failure of wells or lines of pipe; curtailment of firm transportation and/or firm storage by Transporters;
- c) strikes, lockouts or other industrial disturbances, riots, sabotage, insurrections, civil disturbance, acts of terrorism, wars, arrests or restraint of governments and people;
- d) any laws, orders, rules, regulations, acts of any government body or authority, civil or military;
- e) any act or omission by parties not controlled by the party claiming Force Majeure; and
- f) any other similar causes not within the control of the party claiming Force Majeure.

The party claiming Force Majeure shall make reasonable efforts to avoid, or correct the Force Majeure and to remedy the Force Majeure once it has occurred in order to resume performance.

2.01 Force Majeure Not Available

A party claiming Force Majeure shall not be entitled to the benefit of the provisions of Force Majeure if any one or more of the following circumstances prevail:

- a) the Force Majeure was caused by the negligence of the party claiming Force Majeure;
- b) the party claiming Force Majeure failed to make all reasonable efforts (not including litigation, if such remedy would require litigation) to remedy the Force Majeure;
- c) the Force Majeure was caused by lack of funds;

- d) the party claiming Force Majeure did not give Notice required, as soon as reasonably possible after the Force Majeure occurred.

2.02 Force Majeure Declared by Union

During a Force Majeure declared by Union, Customer will be responsible for commodity charges and will only be relieved of the demand charges applicable to that part of the Services not available to Customer as a result of the Force Majeure. Union will not be responsible for any Transporter charges.

2.03 Force Majeure Declared by Customer

During a Force Majeure declared by Customer, all demand charges and all commodity charges otherwise payable under this Contract will continue to be payable. Where this Contract includes an Obligation to Deliver Gas, such Obligation to Deliver Gas shall not be relieved under Force Majeure. Union will not be responsible for any Transporter charges.

2.04 Applicability to Contractual Annual Quantity Requirements

a) The number of Days of Force Majeure will proportionately reduce any minimum annual quantity upon which any minimum bills are determined, subject to the following:

- If the Force Majeure was declared by Union, such reduced minimum annual quantity will not be limited to the minimum quantity required to qualify for the applicable Rate Schedule.
- If the Force Majeure was declared by Customer, such reduced minimum annual quantity will be limited to the minimum quantity required to qualify for the applicable Rate Schedule.

b) Services taken during the period of Force Majeure will be deemed not to have been taken for purposes of determining the applicable minimum annual quantity.

3 SUSPENSION and TERMINATION

3.01 Suspension of Service and Termination of Contract

In the event of a breach, misrepresentation, non-observance or non-performance by any party to this Contract of any covenant, provision, representation, condition, continuing condition, restriction or stipulation contained in this Contract (including, without limiting the generality of the foregoing, any failure to pay, or any failure to provide financial assurances when required pursuant to the terms of this Contract, or any Failure to Deliver), the party not in default may give written Notice to the defaulting party requiring it to remedy such default.

If the defaulting party fails to fully remedy the default within a period of ten (10) Business Days from receipt of such Notice, (or, in the event of a Failure to Deliver, if the defaulting party has failed to immediately remedy the Failure to Deliver) then, if the Customer is the defaulting party, Union may suspend Services under this Contract. Such suspension shall not relieve Customer from paying any charges payable under this Contract.

If the defaulting party fails to fully remedy such default within a period of ten (10) Business Days from receipt of such Notice, then this Contract may be terminated by Notice from the party not in default.

If either party makes an assignment in bankruptcy, is a party against whom a receiving order is made, or for whom a receiver or monitor has been appointed under a security agreement or by a court or any similar action under any law, the other party may terminate this Contract immediately, except where not permitted by such law.

The rights set forth in this Section 3.01 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.

3.02 Effect of Termination

Notwithstanding the termination of this Contract, each party shall continue to be liable to pay on the terms herein specified any amount accrued and payable up to the time of termination. Termination will be without waiver of any other remedy to which the party not in default may be entitled including breaches of contract, for past and future damages, and losses.

4 NOTICE

All Notices provided for or permitted hereunder (each, a “Notice”) shall be in writing and shall be sufficiently given and received if personally delivered or sent by registered mail, charges prepaid, or by Unionline, email, fax or other means of recorded electronic communication to the applicable address, provided that no Notice shall be sent by mail pending any threatened, or during any actual, postal strike or other disruption of postal service.

Customer contact information, as provided to Union, shall be found on the secured portion of Union’s website (the secured portion of Union’s website is known as Unionline). Union’s contact information shall be displayed on the unsecured portion of Union’s website.

Any Notice personally delivered shall be deemed to have been received on the date of such delivery. Any communication sent by Unionline, email, fax or other means of electronic communication shall be deemed to have been received on the Business Day on which it is sent. Any communication sent by mail shall be deemed to have been validly and effectively received on the third Business Day following the day on which it is postmarked.

Notwithstanding the above, with the exception of Notice of Interruption, Force Majeure, or Service Curtailment as per Section 12.14 hereof, any Notice received after 5:00 p.m. or on a weekend or a statutory holiday is deemed to be received on the next Business Day.

Notwithstanding the above, nominations shall be made via Unionline, subject to execution of an agreement for use of Unionline and will be deemed to be received on the same Day and same time as sent.

5 BILLING

5.01 Monthly Billing

Each Month, Union shall render a bill for Services and any other charges for the preceding Month. Charges may be based on estimated quantities. If based on an estimate, Union shall provide, in a future Month's billing, an adjustment based on any difference between actual quantities and estimated quantities. In addition to the charges and rates as per the applicable rate schedule, Customer is responsible for any applicable Goods and Services Tax, Harmonized Sales Tax, or other taxes, royalties, charges, duties or levies, (including but not limited to charges under any form of cap and trade, carbon tax, or similar system) imposed currently or subsequent to the execution of this Contract by any legal authority having jurisdiction.

5.02 Right of Examination

Both Union and Customer shall have the right to examine, at any reasonable time, copies of the books, records and charts of the other to the extent necessary to verify the accuracy of any statement, chart or computation made under or pursuant to the provisions of this Contract.

5.03 Payments

5.03-1 Payment Date

Payment date is identified in the applicable Rate Schedule. If payment date is not identified in a Rate Schedule, it will be as identified on the invoice.

5.03-2 Remedies For Non-Payment

In the event that Customer fails to pay Union when payment is due, late payment charges as identified in the applicable Rate Schedule and the suspension and termination provisions in Section 3 will apply.

5.03-3 Adjustment for Underpayment or Overpayment

If a Customer in good faith disputes a bill or any portion thereof, notwithstanding such dispute, Customer shall pay to Union the entire amount set forth in the bill, or such amount as determined by Union, acting reasonably. Together with such payment, Customer shall provide written Notice to Union setting out the portions of the bill that are in dispute, an explanation of the dispute and the amount that Customer believes is the correct amount.

If it is subsequently determined that Customer has been overcharged and Customer has actually paid the bill(s) containing the overcharge then, within thirty (30) calendar days after the final determination, Union shall refund the amount of any such overcharge with Interest.

If it is subsequently determined that Customer has paid less than the full amount of an invoice which has been shown to be correct, Customer shall pay the amount owing, with Interest.

Customer and Union each expressly disclaims and waives any claim or dispute (including those related to amounts charged for Services or quantities of Gas distributed, stored, or transported) that relate to a period that is earlier than 12 Months prior to the date written Notice to the other party of such claim or dispute is asserted. This applies to the extent allowed under law regardless of and whether such claim or dispute is related to a billing error or measurement error or any other error or circumstance whatsoever.

5.04 Financial Assurance

If at any time during the term of this Contract, Union has reasonable grounds to believe that Customer's creditworthiness under this Contract has become unsatisfactory, then Union may, by written Notice, request financial assurances from Customer in an amount determined by Union in a commercially reasonable manner. Upon receipt of such written Notice, Customer shall have fourteen (14) calendar days to provide such financial assurances.

The financial assurances requested by Union will not exceed the sum of the following:

- a) an amount equal to sixty (60) calendar days of all Services; and,
- b) if Customer holds a temporary capacity assignment from Union of a third party asset (for example, upstream pipeline capacity), an amount equal to the higher of sixty (60) calendar days of all charges for the third party asset, or security equivalent to that which may be required by the third party asset provider as if Customer held the asset directly; and,
- c) if Customer supplies their own Gas, an amount equivalent to the value, as determined by Union, of any current or projected negative Banked Gas Account balance.

Customer may provide Union such financial assurances in the form of cash, letters of credit, guarantees or such other form as may be agreed upon between Customer and Union.

In the event that Customer fails to provide financial assurances as set out above, the termination and suspension provisions in Section 3 shall apply.

Where Customer has provided financial assurances to Union, and the grounds for requesting such financial assurances have been removed so that Customer's creditworthiness under this Contract has become satisfactory, then Customer may request the return of such financial assurances from Union by written Notice. Upon receipt of such written Notice, Union shall have fourteen (14) calendar days to return such financial assurances to Customer.

5.05 Non-Payment Remedy

If Customer shall be indebted (whether past, present, or future, liquidated, or unliquidated) to Union, under this Contract or any other agreement including one with a third party asset provider, Union has the right to reduce any amount payable by Union to Customer under this Contract by an amount equal to the amount of such indebtedness to Union. As part of this set-off remedy, Union may take title to any or all of Customer's Gas in Union's possession. Such Gas shall be valued at the Day price for Gas at Dawn as listed in Canadian Gas Price Reporter (or equivalent) for the Day of set off.

6 QUALITY

6.01 Natural Gas Quality

In any Month, the minimum average gross heating value of the Gas received by Union from Customer, and delivered to Customer by Union, shall be thirty-six (36) Megajoules per Cubic Metre. Gas shall not contain more than seven (7) milligrams of hydrogen sulphide per Cubic Metre nor four hundred and sixty (460) milligrams of total sulphur per Cubic Metre of Gas, as determined by standard methods of testing.

6.02 Freedom from Objectionable Matter

The Gas received by Union and delivered to Customer hereunder shall be commercially free (at prevailing pressure and temperature in Union's pipeline at the Point of Receipt or Point of Consumption, as the case may be) from bacteria, dust, or other solids or liquids which cause injury to, or interfere with proper operation of the lines, regulators, or meters through which it flows.

6.03 Parties' Responsibilities

If the Gas being received by Union from Customer or delivered by Union to Customer fails at any time to conform to any of the specifications set forth in this Section 6, the party receiving such Gas shall notify the delivering party of such deficiency. The party receiving the Gas may, at its option, refuse to accept receipt of Gas pending correction by the party delivering the Gas. Neither party is responsible for any loss, damage, nor injury resulting from such party's delivery of Gas that does not conform to any specifications set forth in Section 6 except to the extent any such loss, damage or injury arises as a result of such party's gross negligence or wilful misconduct.

7 MEASUREMENT

7.01 Determination of Volume and Energy

- a) The volume and energy amounts shall be determined in accordance with the Electricity and Gas Inspection Act, R.S.C. 1985 c. E-4 (the "Act") and the Electricity and Gas Inspection Regulations, S.O.R 86/131 (the "Regulations"), and any documents issued under the authority of the Act and Regulations and any amendments thereto. Where there is no site specific energy measurement, Union's Average Heat Value will be used to convert volumes to energy.
- b) The supercompressibility factor shall be determined, at Union's discretion, 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's "Transmission Measurement Committee Report No. 8, Nov. 1992".

7.02 Metering by Union, Check Measuring Equipment

Union will install and operate meters and related equipment in accordance with the Act and the Regulations referenced in these General Terms and Conditions.

Customer may install, maintain, and operate, such check measuring equipment as desired, and shall be so installed as not to interfere with the operation of Union's measuring equipment at or near the Consumption Point. This check measuring equipment will be downstream of the Consumption Point and at Customer's own expense.

Where Union has installed heat value measuring equipment at Customer's end use location, the heating value properly measured at this site will be used to convert volume to energy for Gas delivered by Union to Customer.

7.03 Observation of Measurement Work

Union and Customer shall have the option to have representatives present at the time of any installing, reading, cleaning, changing, repairing, inspecting, testing, calibrating, or adjusting done in connection with the other's measuring equipment. Each party shall provide reasonable notification to the other party in connection with testing, calibrating or adjusting measuring equipment, to enable the other party to be present if desired.

7.04 Calibration and Test of Meters

The accuracy of Union's measuring equipment shall be verified by Union at reasonable intervals.

If Customer notifies Union that it desires a special test, the expense of any such test shall be borne by Customer if the measuring equipment tested is found to be in error by two per cent (2%) or less. In this event, previous recordings shall be considered accurate, but such equipment shall be adjusted to record as near to absolute accuracy as possible. If the special test shows a percentage of inaccuracy greater than two percent (2%), the expense of the test will be borne by Union and the financial adjustment shall be calculated in accordance with the Act and Regulations thereunder, and any successor statutes and regulations. Union shall not be required to verify the accuracy of such equipment more frequently than once in any thirty (30) calendar day period.

7.05 Correction of Metering Errors - Failure Of Meters

In the event a meter is out of service, or registered inaccurately, the volume or quantity of Gas shall be determined by Union as follows:

- a) by using the registration of any check meter or meter, if installed and accurately registering; or, in the absence of (a) then;
- b) by correcting the error if the percentage of error is ascertainable by calibration, tests or mathematical calculation; or in the absence of both (a) and (b), then;
- c) by estimating the quantity of Gas delivered during periods under similar conditions when the meter was registering accurately.

8 POSSESSION OF, AND RESPONSIBILITY FOR, GAS

8.01 Point of Receipt and Point of Consumption Controls

As between Union and Customer, control, responsibility, and possession of all Gas received and/or delivered and transported hereunder shall pass from the delivering party to the receiving party at the Points of Receipt and the Points of Consumption as applicable.

8.02 Title to the Gas

Each party warrants that it owns or controls, or has the right to deliver or have delivered to the other party, Gas that is free and clear of any lien, mortgage, security interest or other encumbrance whatsoever. The delivering party shall indemnify and hold harmless the receiving party from all claims, actions, or damages arising from any adverse claims by third parties claiming an ownership or an interest in such Gas.

8.03 Common Carrier and Insurance

To further clarify the relationship between Union and Customer, Union is not a common carrier and Union is not an insurer of Customer's Gas.

8.04 Right to Commingle the Gas

Union shall have the right to commingle and use the Gas received under this Contract with Gas owned by Union or others and deliver such commingled Gas to Customers.

9 FACILITIES AT CONSUMPTION POINT

9.01 Construction, Maintenance and Entry

Union may construct on Customer's property (whether owned by Customer or any other party), at each Point of Consumption, the metering stations and facilities required by Union. With notification to Customer (except in cases of emergency where no notification is required), Union employees or agents may, at any reasonable time, enter Customer's property, provided that in all cases, Union's employees or agents agree to abide by Customer's facility security policies and procedures and health and safety policies (provided that they are reasonable and provided by Customer to Union's employees or agent prior to entry to the property).

9.02 Property, Easements, Utilities

Customer agrees that all stations and facilities installed by Union, including the meter station, are the property of Union whether the facilities are on property belonging to Customer or some other party.

Customer grants to Union, on such non-financial commercial terms and conditions as may be agreed upon, any required easements or agreements and undertakes to obtain or execute and deliver to Union such required easements or agreements, to allow Union to have the related use of Customer's land interests which may be reasonably required by Union to facilitate Construction.

In the event that the station at the Point of Consumption requires electrical power circuitry, exclusive telecommunications and/or telecommunications lines, or other utility supply apparatus ("Equipment"), at each or any meter in the station, for telemetry; in addition to telemetry; or for purposes unrelated to telemetry, Customer agrees to provide and pay for all such Equipment and all utilities required (including power and telephone service as specified by Union) for the purpose of serving the Equipment. The exclusive telephone line for each meter must not employ a manual switchboard.

10 INDEMNITY

Each party (the "Indemnifying Party") hereby agrees to indemnify and save the other party (the "Indemnified Party") harmless from and against all claims, demands, actions, causes of action, damage, loss, deficiency, cost, liability and expense which may be brought against the Indemnified Party or which Indemnified Party may suffer or incur as a result of, in respect of, or arising out of any of the following:

- a) any non-performance or non-fulfilment of any covenant or agreement on the part of the Indemnifying Party contained in this Contract;
- b) any misrepresentation, inaccuracy, incorrectness or breach of any representation or warranty made by the Indemnifying Party contained in this Contract or contained in any document given pursuant to this Contract;
- c) *(Subsection 10(c) is only applicable to Agent or Customer as the Indemnifying Party)*
the failure of the Indemnifying Party to satisfy its obligations to end use locations listed in Schedule 3 (where a Schedule 3 is included in this Contract);
- d) *(Subsection 10(d) is only applicable to Agent as the Indemnifying Party)*
any dispute arising out of any aspect of the relationship between the Agent and Customer;
- e) any negligence or wilful misconduct of the Indemnifying Party;
- f) all costs and expenses including, without limitation, legal fees, incidental to or in respect of the foregoing.

This indemnity shall survive the termination or expiration of this Contract.

11 REPRESENTATIONS AND WARRANTIES BY AGENT

Agent hereby represents and warrants to Union as follows and confirms that Union is relying upon the accuracy of each of such representations and warranties in connection with the execution of this Contract by Union and the acceptance of its rights and obligations hereunder:

- a) Agent is the duly appointed agent of Customer and, in such capacity, is entitled to enter into this Contract on behalf of Customer and to act on its behalf hereunder;

- b) Union is entitled to rely on anything done or any document signed by Agent on behalf of Customer, in respect of this Contract as if the action had been taken or the document had been signed by Customer; and
- c) payments made by Customer to Union pursuant to invoices shall be made without any right of deduction or set-off regardless of any rights Customer may have against Agent or any rights Agent may have against Customer.
- d) Agent shall be the only person to deliver or receive all Notices, invoices, and payments. Any Notice, invoice, or payment made to Union by Agent will be deemed to be received from Customer. Any Notice, invoice, or payment made by Union to Agent will be deemed to be received by Customer. Union shall not be responsible to communicate to End Users any such Notice, invoice, or payment from or to Agent.

12 MISCELLANEOUS PROVISIONS

12.01 Interpretation

12.01-1 Definitions and Industry Usage

Capitalized terms and certain other terms used in this Contract and not specifically defined shall have the meaning set forth in these General Terms and Conditions, Schedules and/or Rate Schedule. Words, phrases or expressions which are not defined herein and which, in the usage or custom of the business of the exploration, production, transmission, storage, and distribution or sale of natural gas in Canada have an accepted meaning shall have that meaning.

12.01-2 Expanded Meaning

In this Agreement, unless there is something in the subject matter or context inconsistent therewith:

- a) words importing the singular shall include the plural and vice versa;
- b) words importing the gender shall include the masculine, feminine and neuter genders; and
- c) references to any statute shall extend to any orders in-council or regulations passed under and pursuant thereto, of any amendment or re-enactment or such statute, orders-in-council or regulations, or any statute, orders-in-council or regulations substantially in replacement thereof.

12.01-3 Inconsistency

In the event of a conflict among the terms of the (i) Rate Schedules; (ii) the body of the Contract; (iii) Schedules to the Contract; and, (iv) these General Terms and Conditions, the terms of the documents shall govern in the priority as listed.

12.01-4 Currency

Unless otherwise indicated, all reference to dollars in this Contract shall mean Canadian dollars.

12.01-5 Time

All references to time in this Contract shall be stated in Eastern Clock Time.

12.02 Assignability

Neither the rights nor the obligations of Customer under this Contract shall be assignable without the prior written consent of Union. Union's consent may not be unreasonably withheld or delayed.

12.03 Proper Law of Contract

This Contract shall be governed by and construed in accordance with the laws of the Province of Ontario, and the parties to this Contract exclusively attorn to the jurisdiction of the Courts of Ontario.

12.04 Successors and Assigns

The Contract shall be binding upon and shall enure to the benefit of the Parties hereto and their respective successors and permitted and lawful assigns.

12.05 Entire Contract

This Contract constitutes the entire agreement between the parties pertaining to the subject matter hereof. This Contract supersedes any prior agreements, understandings, negotiations or discussions, whether oral or written, between the Parties in respect of the subject matter hereof.

12.06 Confidentiality

Except for credit purposes, unless the Parties to this Contract otherwise expressly agree in writing, the terms of this Contract will remain strictly confidential except as otherwise required by applicable law or by any competent regulatory body or court of competent jurisdiction.

12.07 Priority of Service

Despite any other provision of this Contract, when the use of Gas or Service is curtailed or restricted, by order of any authorized government agency, or by Force Majeure, Customer shall, in accordance with the direction of Union, curtail or discontinue use of Gas or Service during the period in which such Gas or Service is so jeopardized. Union shall not be liable for any loss of production or for any damages whatsoever by reason of such curtailment or discontinuance or because of the length of advance Notice given directing such curtailment or discontinuance. However, Union shall use its reasonable efforts to provide Notice as soon as possible to Customer, of such curtailment or discontinuance of Gas or Service as aforesaid.

12.08 Waiver and Future Default

No waiver by either Union or Customer of any one or more defaults by the other in the performance of any provisions of this Contract, nor any waiver by either Union or Customer in the enforcement of any right under this Contract, shall operate or be construed as a waiver of any future default or defaults, or as a waiver of enforcement of any future rights, whether of a like or a different character.

12.09 Laws, Regulations and Orders

This Contract and the respective rights and obligations of the Parties hereto are subject to all present and future valid laws, statutes, orders, rules and regulations of any competent legislative body, or duly constituted authority now or hereafter having jurisdiction. This Contract 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 this Contract.

12.10 Right to Contract

Customer hereby represents and warrants to Union that it or its Agent has the sole right to enter into this Contract for each of the Points of Consumption, for the term of this Contract.

12.11 Surviving Obligations

Despite the termination or expiry of this Contract, the following defined provisions shall remain in full force and effect in accordance with their terms and shall survive termination or expiry. The term of the survival shall be for the period referenced in this section.

- a) confidentiality as outlined in Section 12.06
- b) liability and Gas balancing obligations to the extent any liabilities and Gas balancing obligations have accrued prior to the date of termination or expiry of this Contract, and may continue as a result of an event occurring prior to the termination or expiry of this Contract (for the period until all liabilities and Gas balancing and reconciliations have been completed)
- c) settlement of accounts; rights to set off; calling any Letter of Credit; collecting on any security (for the period until all accounts have been settled).

12.12 Joint and Several Liability

In the event that Customer is more than one person the obligations of all of such persons shall be joint and several and Union shall not be required to exhaust its rights and remedies against any one person prior to exercising its rights and remedies in respect of any other person.

12.13 Invalidity of Provisions

If any of the provisions of this Contract are invalid, illegal or unenforceable in any respect, the validity or legality of enforceability of the remaining provisions shall not in any way be affected.

12.14 Service Curtailment

Union may be required from time to time to perform Construction to its facilities, which may impact Union's ability to meet Customer's requirements. In such event, Union shall have the right to suspend any Service in whole or in part but will use reasonable efforts to determine a mutually acceptable period during which such Construction will occur and also to reasonably limit the extent and duration of any impairment. Union shall provide at least fifteen (15) calendar days Notice (except in cases of emergency, in which event it may be done immediately with Notice provided as soon as reasonably possible afterwards) to Customer of the extent that Union's ability to provide Service may be impaired. During any such curtailment, Customer will be relieved of the demand charges for Services directly related to the said curtailment, but commodity and proportionate demand charges for Services available to Customer will be payable.

12.15 Unauthorized Use of Services

Subject to Section 1.07, where Union is unable to completely or partially schedule Interruptible Service during periods of peak demand or for causes which require the reduction of load on any part of Union's Gas transmission or distribution system, such Service shall be subject to discontinuance of use by Union upon Notice, given in accordance with these General Terms and Conditions. Union shall have the sole right and discretion to give Notice to discontinue use. Each discontinuance of use shall be referred to as an "Interruption" and the applicable period referred to as the "Interruption Period".

Customer shall comply with any Notice of Interruption provided by Union to Customer and shall discontinue its use of Interruptible Gas supplied or transported by Union for the Interruption Period. If the Customer fails to comply with Union's Notice, then (a) such failure shall constitute an Event of Default; and (b) Union shall have the right to immediately and without further Notice to the Customer, suspend the delivery of Gas to the Consumption Point. Subject to Section 9 hereof, Customer hereby expressly and irrevocably consents to Union and its representatives entering onto the property of the Customer, for the purpose of enforcing Union's rights under this agreement, including accessing Union's equipment to physically suspend the delivery of Gas to the Consumption Point.

Customer shall be deemed to have failed to comply with Union's Notice in accordance with this section if, during the Interruption Period, any Gas is consumed in excess of Customer's Firm Service. In such circumstances, during the course of the Interruption Period, Union shall be entitled to suspend delivery of Gas to the Consumption Point under this section even where the Customer is also receiving Service which is not Interruptible.

For clarity, Union would only exercise its ability to suspend delivery of Gas to Customer during an Interruption Period when Union, acting reasonably, has determined there is a risk to system integrity.

If the Customer has not complied with a Notice from Union in respect of an Interruption, the Customer shall reimburse Union for all of Union's costs of suspending delivery of Gas to the Consumption Point including charges identified in the Rate Schedules as well as any direct

damages resulting from exceeding contract parameters and not complying fully with any Notice or direction.

If Customer failed to comply during an Interruption Period in breach of a Notice as contemplated herein, Union shall, notwithstanding any other term of this Contract, have the right to give Notice to suspend all Services to Customer, and terminate this Contract at a future date, pending the negotiation of a new Contract for Services which Customer qualifies for.

The Customer acknowledges and agrees that it can accommodate any total or partial Interruption of Gas by Union as contemplated in this section and that Union shall have no liability of any loss arising from any such Interruption of Service.

12.16 Consequential Claims or Damages

Neither party shall be responsible for any consequential, incidental, special nor indirect damages howsoever caused, including, without limitation, loss of profits, loss of earnings, business interruption losses, cost of capital or loss of business opportunities. This provision shall survive the termination or expiration of this Contract.

12.17 Further Assurances

Each party will do, execute and deliver, or will cause to be done, executed and delivered, all such further acts, documents, and assurances as may reasonably be requested for the carrying out and performance of this Contract.

12.18 Amendment

Union may from time to time incorporate updates to Schedule 2 and/or these General Terms and Conditions which are intended to be applicable to all of Union's customers on non-discriminatory basis. Union will notify Customer no less than sixty (60) calendar days prior to the effective date of the update and post the update on Union's website. If, ten (10) Business Days prior to the effective date, Customer has not provided Notice to Union objecting to the updates, the Customer will be deemed to have accepted the revised Schedule 2 and/or these General Terms and Conditions, as the case may be, which shall, as of the effective date, apply to this Contract. If Customer has provided Notice objecting to such revision, Union and Customer shall use reasonable efforts to negotiate an accommodation, failing which the updates shall not apply to this Contract.

12.19 Counterparts

This Agreement may be executed in several counterparts, each of which so executed being deemed to be an original. Such counterparts together shall constitute one and the same instrument and notwithstanding their date of execution shall be deemed to be made and dated as of the date hereof.

12.20 Changes to Services

Any changes to Services are subject to Union having the facilities on its system, and, where applicable, capacity or Services contracted with third parties.

12.21 Overrun in Union's Northern and Eastern Operations Areas

12.21-1 Distribution Overrun

If, on any Day, Customer consumes Gas in excess of the sum of:

- a) Firm Transportation Service Contract Demand, if applicable; plus,
- b) Firm Sales Service Contract Demand, if applicable; plus,
- c) Firm Bundled Transportation Service Contract Demand, if applicable; plus,
- d) The uninterrupted contracted quantity of Rate 25 Large Volume Interruptible T-service, if applicable; plus,
- e) The uninterrupted contract quantity of Rate 25 Large Volume Interruptible Utility Sales Service if applicable,

then such excess shall be deemed Overrun and charged to Customer as either Authorized or Unauthorized Overrun.

Authorized Overrun

Overrun may be authorized if requested in writing by Customer and agreed to by Union in advance of the Day, subject to Union's sole discretion. If Union specifically provides prior written authorization to Customer to exceed the quantities identified in Schedule 1, such excess quantity shall be deemed Authorized Overrun. Customer shall be charged the delivery charge for Rate 25 Sales Service as defined in Schedule 1.

Unauthorized Overrun

Any Overrun quantity not authorized by Union shall be deemed Unauthorized Overrun. Customer shall be charged 150% of the maximum delivery charge identified in the Rate 25 Rate Schedule, in addition to any other remedies Union may pursue.

Any Overrun quantity when a Notice of Interruption is in effect (including any quantity which had been previously considered Authorized Overrun), shall be deemed Unauthorized Overrun. Customer shall be charged the Unauthorized Overrun Non-Compliance Rate as identified in the applicable Rate Schedule, in addition to any other remedies Union may pursue.

12.21-2 Gas Supply Overrun

If, on any Day, Customer consumes Gas in excess of the sum of:

- a) The quantity of Firm T-service delivered to Union, if applicable, plus
- b) The quantity of Rate 25 Large Volume Interruptible T-service delivered to Union, if applicable; plus,
- c) Firm Sales Service Contract Demand, if applicable; plus,
- d) Firm Bundled Transportation Service Contract Demand, if applicable; plus,

- e) The uninterrupted contract quantity of Rate 25 Large Volume Interruptible Utility Sales Service if applicable,

then such excess shall be deemed Overrun and purchased from Union by Customer as either Authorized Overrun or Unauthorized Overrun.

Authorized Overrun

Overrun may be authorized if requested in writing by Customer and agreed to by Union in advance of the Day, subject to Union's sole discretion. If Union specifically provides prior written authorization to Customer to exceed the quantities identified in Schedule 1, such excess quantity shall be deemed Authorized Overrun. Customer shall be charged the Gas Supply Charge for Rate 25 Utility Sales provided in Schedule "A" (Union North Gas Supply Charges) for the appropriate Delivery Area, if applicable.

Unauthorized Overrun

Any Overrun quantity not authorized by Union shall be deemed Unauthorized Overrun. In addition to any other remedies Union may pursue, Customer shall be charged the greatest of:

- 1)
 - a) in Union's Northwest Zone, the highest daily cost of Gas at Dawn, Emerson (GLGT) or Empress in the month the Overrun occurred or the month following, as published in the Canadian Gas Price Reporter ("CGPR") or equivalent as determined by Union plus all applicable costs associated with transporting such overrun to the applicable Delivery Area; or
 - b) in Union's Northeast Zone, the highest daily cost of Gas at Dawn, Parkway, Niagara, Empress or Iroquois in the month the Overrun occurred or the month following, as published in the Canadian Gas Price Reporter ("CGPR") or equivalent as determined by Union plus all applicable costs associated with transporting such overrun to the applicable Delivery Area;
- or,
- 2) Union's Ontario Landed Reference Price as approved by the Ontario Energy Board for the Day the Overrun occurred plus all applicable costs associated with transporting such overrun to the applicable delivery area;
- or,
- 3) the Gas Supply Charge for Rate 25 Utility Sales provided in Schedule "A" (Union North Gas Supply Charges) for the appropriate Delivery Area for the Day the Overrun occurred.

12.22 Overrun in Union's Southern Operations Area

12.22 -1 Distribution Overrun

If on any Day, Customer consumes Gas in excess of the sum of:

- a) Firm Contract Demand, if applicable; plus
- b) Uninterrupted Interruptible Contract Demand, if applicable

then such excess shall be deemed Overrun and charged to Customer as either Authorized Overrun or Unauthorized Overrun.

Authorized Overrun

Overrun may be authorized if requested in writing by Customer and agreed to by Union in advance of the Day, subject to Union's sole discretion. If Union specifically provides prior written authorization to Customer to exceed the quantities identified in Schedule 1, such excess quantity shall be deemed Authorized Overrun. Customer shall be charged the Authorized Overrun charge as per the applicable Rate Schedule.

Unauthorized Overrun

Any Overrun quantity not authorized by Union shall be deemed Unauthorized Overrun. Customer shall be charged the Unauthorized Overrun charge as per the applicable Rate Schedule, in addition to any other remedies Union may pursue.

Any Overrun quantity when a Notice of Interruption is in effect (including any quantity which had been previously considered Authorized Overrun), shall be deemed Unauthorized Overrun. Customer shall be charged the Unauthorized Overrun Non-Compliance Rate as identified in the applicable Rate Schedule, in addition to any other remedies Union may pursue.

12.22-2 Gas Supply Overrun

If a Utility Sales Customer incurs Distribution Service Overrun, regardless of whether it is Authorized Overrun or Unauthorized Overrun, Customer shall be charged the total Gas Supply Charge for Utility Sales provided in Schedule "A" (Gas Supply Charges) for all Gas Supply quantities deemed to be purchased.

13 DEFINITIONS

Except where this Contract expressly states another meaning, the following definitions, when used in these General Terms and Conditions or in this Contract, shall have the following meanings:

"Agent" means such person as appointed by Customer as its agent to enter into the Contract on behalf of the Customer and to act on Customer's behalf hereunder.

"Average Heat Value" means the average forecasted heating value of all Gas to be received by Union for the applicable Delivery Area for the applicable period.

"Authorization Notice" means the written approval provided by Union in response to Customer's request for a short-term amendment to certain contract parameters or additional Services. Such Authorization Notice shall specify the approved amended parameters and the term for the amendment.

“Business Day” means any day upon which Union's head office in Chatham, Ontario, is normally open for business.

“Bundled Service” means a Service provided by Union under the Gas Distribution Contract and/or the Bundled T Gas Contract without daily Nominations at the Consumption Point.

“Bundled T” means the Bundled T Gas Contract with Union under which Customer receives Receipt Services.

“Compressor Fuel” means an amount of Gas specified by Transporter to be supplied by a shipper as a fuel source for Transporter's pipeline compressors.

“Construction” means constructing, maintaining, removing, operating and/or repairing Union's facilities for the purpose of commencing, maintaining, or discontinuing deliveries of Gas to Customer.

“Contract” means the contract entered into between Union and Customer to which these General Terms and Conditions, Rate Schedules and Schedules apply, and into which they are incorporated by reference.

“Contract Demand” (“CD”) means the maximum volume or quantity of Gas that Union is obliged to deliver in any one Day to a Customer under all Services or, if the context so requires, a particular Service at the Consumption Point.

“Contract Year” means a period of twelve (12) consecutive Months beginning on the Day of First Delivery and each anniversary date thereafter unless mutually agreed otherwise.

“Cubic Metre” (“m³”) means the volume of Gas which occupies one cubic metre when such Gas is at a temperature of 15 degrees Celsius, and at an absolute pressure of 101.325 kilopascals.

“Customer” shall have the meaning as defined in this Contract.

“Daily Contract Quantity” (“DCQ”) means that portion of the daily parameters as set out in Schedule 1, being a quantity of Gas which Customer must deliver to Union on a Firm basis.

“Day” means Gas Day.

“Day of First Delivery” means the date the Service, obligations, terms and conditions of the Gas Distribution Contract commence, as set out in its Schedule 1.

“Day of First Receipt” means the date the Service, obligations, terms and conditions of the Bundled T commence, as set out in its Schedule 1.

“Delivery Area” means the receipt zone(s) of Union (Manitoba, Western, Northern, Sault

Ste. Marie, Central, North Central or Eastern Delivery Areas) which are defined as the delivery zone(s) of TCPL for service under its applicable toll schedules.

“Delivery Service” means the transportation of Gas by Union to storage or the Consumption Points.

“Distribution Service” means any combination of Delivery Service and Storage Service.

“End User” means the ultimate user of the Gas in Union’s franchise area.

“Equipment” is as defined in Section 9.02 of this General Terms and Conditions.

“Failure to Deliver” means the circumstance where Customer is obligated to deliver a quantity of Gas to Union, and all or a portion of the said quantity is not received by Union at the Points of Receipt.

“Firm” means any Services not subject to interruption or curtailment except under sections titled Force Majeure; Service Curtailment; and Priority of Service of these General Terms and Conditions.

“Firm Entitlements” means the quantity of Gas as set out in Schedule 1 of the Unbundled Service contract which Customer will nominate and deliver to Union and Union shall receive at each contracted Receipt Point.

“Firm Hourly Quantity” means the maximum quantity of natural gas that may flow during any hourly period when a Notice of Interruption is in effect within a Day.

“Force Majeure” is as defined in Section 2 of this General Terms and Conditions.

“Gas” means Gas as defined in the Ontario Energy Board Act, 1998, as amended, supplemented or re-enacted from time to time, which may be commingled supplies.

“Gas Day” is as defined by the North American Energy Standards Board (“NAESB”).

“Interruptible” means any Services subject to interruption, after being notified by Union.

“Interruption” is as defined in Section 12.15 of this General Terms and Conditions.

“Interruption Period” is as defined in Section 12.15 of this General Terms and Conditions.

“Interest” means a rate equivalent to the prescribed interest rate for Ontario Energy Board approved deferral and variance accounts as posted on the Ontario Energy Board’s website.

“Joule” (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” (MJ) shall mean 1,000,000 Joules. The term “gigajoule” (GJ) shall mean

1,000,000,000 Joules.

“Month” means a period beginning at 10:00 a.m. (Eastern Clock Time) on the first Day of the calendar month and ending at the same hour on the first Day of the next succeeding calendar month.

“Nomination” means a request to Union for a Service in accordance with Union’s nomination provisions.

“Non-Obligated” means any quantities of Gas that are not committed to be delivered by Customer on a Firm basis and which Union will receive on a Firm basis when delivered by Customer.

“Northeast Zone” means Union’s NDA, NCDA and EDA on TCPL’s Canadian Mainline system.

“Northwest Zone” means Union’s WDA, SSMDA and MDA on TCPL’s Canadian Mainline system.

“Notice” is defined in Section 4 of this General Terms and Conditions.

“Obligated” means that quantity of Gas which Customer is committed to deliver to Union on a Firm basis at the Points of Receipt.

“Parkway Call” is defined in Section 1.08 of this General Terms and Conditions

“Points of Consumption” or “Consumption Points” means, unless otherwise specified in this Contract, the outlet side of the Union measuring equipment located at Customer’s or End User locations as specified in Schedule 1 or Schedule 3, as applicable.

“Rate Schedule” means the Ontario Energy Board approved rate schedule applicable to the Service being provided, (including schedules attached thereto), or such other replacement rate schedule as approved by the Ontario Energy Board from time to time.

“Receipt Service” means the approved receipt of Gas from Customer to Union at the Points of Receipt.

“Receipt Point” or “Points of Receipt” shall mean the points listed on Schedule 1 of this Contract where Union may receive Gas from Customer.

“Schedules” means the schedules attached to and forming part of this Contract.

“Seasonal” means any Service that is available during a specified period of the Year.

“Service(s)” means Receipt, Delivery or Storage Service as defined herein.

“Storage Service” means the space and deliverability service for storage under either Bundled Service or Unbundled Service.

“TCPL” means TransCanada PipeLines Limited.

“Timely Nomination Cycle” means the first nomination cycle for Union’s Gas Day.

“Transporter” means the transmission company that transports the Gas to the Receipt Point.

“Unbundled Service” means a Service provided by Union under which Customer will nominate and balance daily for Receipt, Storage and Delivery Services.

“Unionline” means Union’s electronic web based system for Customer and Union to interact electronically, including but not limited to nominating and information exchange.

“When Available” means any interruptible Service that is available based on Union’s sole discretion after Firm and Interruptible Services have been exhausted and is priced at the interruptible rate in the applicable Rate Schedule.

“Western” means the points of receipt on the TCPL system where Union is able to receive Gas.

“Year” means a period of 365 days; provided, however, that any such Year, which contains a date of February 29, shall consist of 366 days.

Customer Name
Address
Address
Postal Code
("Customer")

Attention: Name, Title

Dear Name:

Re: Service and Station Installation

This Letter of Agreement documents the terms upon which Union Gas Limited ("Union") and Customer shall proceed with the installation **Work Description**("Work") to provide natural gas service as set out as follows:

1. Union will install the necessary customer service, natural gas main, regulating and metering station to supply natural gas service to Customer at Service Address to be able to satisfy Customer's request for firm natural gas requirements (applicable at the M2 Rate) estimated to be _____ m³/year for a minimum of __ years:
 - a) The maximum allowable hourly delivery rate will be _____m³/hour.
 - b) The natural gas supply pressure will be up to one hundred forty kilopascals (140) kPa gauge at the outlet of Union's metering and regulating station.
2. Union will extend firm natural gas service to Customer to meet the natural gas requirements as follows:

For the Year	Minimum Natural Gas Requirement
Year 1	_____m ³ /year
Year 2	_____m ³ /year
Year 3	_____m ³ /year
Year 4	_____m ³ /year
Year 5	_____m ³ /year
Year 6	_____m ³ /year
Year 7	_____m ³ /year
Year 8	_____m ³ /year
Year 9	_____m ³ /year
Year 10	_____m ³ /year

The first year will begin on the first day of the first complete business month that the metering station is put into service by Union.

3. Prior to the commencement of the Work, Union shall have received from Customer the requisite financial assurances reasonably necessary to ensure Customer's ability to honour the provisions of this Letter of Agreement which financial assurances, if required, will be in the form and amount determined solely by Union. As consideration for the Work, Customer is hereby committed to purchase and consume the minimum natural gas requirements, as specified in clause (2). If Customer fails to consume the minimum natural gas requirements during each of the specified years, Customer shall pay to Union after each one year period on or before the 55th day after the end of such year a Shortfall Payment equal to the delivery commodity charge identified in the applicable rate schedule multiplied by the difference between the minimum natural gas requirements as specified in section 2 and quantity of gas consumed in such year.

4. Customer agrees to the obligation to consume the gas set out in this schedule or pay the shortfall payment which takes precedence over all other arrangements. It is agreed that once _____m³ has been consumed at this location starting on the first day of the first complete business month that the metering station is put into service by Union, that this Letter of Agreement will be satisfied and will expire, provided that Customer pays an upfront contribution in aid of construction in the amount of _____prior to Union starting the Work.

This Shortfall Payment is in addition to amounts paid or owing for gas taken and consumed and for minimum annual volume requirements under Union's applicable gas sales agreement and sales rate.

Any quantities of natural gas consumed at any rate class different than M2, in any year of the LOA, Union will calculate the difference in effective revenues and either charge or refund the difference. Such additional charges or refunds shall be added to the Shortfall Payment, if any, and paid in the same manner as the Shortfall Payment.

5. Customer agrees that the Shortfall Payments are charges for provision of a public utility as that term is used in the Public Utilities Act RSO 1990 c P-52 and that the remedies set out in this letter are in addition to and not in substitution for any remedies that may be available in such Act or other related legislation.
6. Customer will own all piping beyond the outlet of Union's metering and regulating station and will be responsible for the design, installation and maintenance of same. All facilities installed by Union, including the meter station, will remain the property of Union whether the facilities are on property belonging to Customer or some other person.
7. Customer agrees that all facilities installed by Union, including the meter station, will become the property of Union whether the facilities are on property belonging to Customer or some other person. Customer undertakes to forthwith, upon request, execute and deliver to Union any required easements or agreements and allow Union such related use of Customer's land interests which may be reasonably required by Union to facilitate completion, maintenance, replacement and removal of the Work and said gas service to the point of delivery. Customer agrees to continue to provide one (1) 115 V.A.C. single phase 15 ampere power circuit and one exclusive telephone line at the metering stations for Union's telemetry purposes.

Kindly confirm your acceptance of the terms hereof by executing and returning a copy of this letter to the writer.

Yours truly,

Union Gas Limited

Customer Name

Per: _____
Duly Authorized Officer
(I have authority to bind the corporation)

ACCEPTED AND AGREED TO this _____ day of _____, 2015.

Assumptions:

Customer has requested 550 m3/hour of new firm capacity as part of the project. The capital cost of the project is \$230/m3/hour and the estimated distribution facility cost is \$110,000.00

Capital Cost	126,500
Distribution Cost	110,000
Total	\$ 236,500.00

		Aid Payment Required			
		No Contract or Letter of Agreement	1 Year	5 Year	10 Year
M2 Example					
Firm (m3/hour)		\$ 236,500			
Estimated Annual Volume	Incremental 550 916,667	Existing Parameters 900 1,500,000	New Parameters 1450 2,416,667		
		AID required to get PI = 1.0	\$ 153,620	\$ -	\$ -
		PI	0.4	1.6	2.9
M4 Example		\$ 236,500			
M4 CD	7,700	12,600	20,300		
M4 MAV	1,124,200	1,839,600	2,963,800		
M4 EAV	1,506,428	1,839,600	3,346,028		
		AID required to get PI = 1.0	\$ 212,426	\$ 120,964	\$ 33,820
		PI	0.1	0.5	0.9
M5 Example		\$ 236,500			
Firm CD	7,700	7,700			
Firm MAV	1,124,200	1,124,200			
Firm EAV	1,506,428	1,506,428			
Interruptible CD		12,600	12,600		
Interruptible MAV		350,000	350,000		
Interruptible EAV		1,839,600	1,839,600		
		AID required to get PI = 1.0	\$ 192,620	\$ 30,970	\$ -
		PI	0.2	0.9	1.5
M7 Example		\$ 236,500			
Firm CD	7,700	7,700			
Firm MAV	1,124,200	1,124,200			
Firm EAV	1,506,428	1,506,428			
Interruptible CD		62,000	62,000		
Interruptible MAV (\$0.025/M3)		7,380,952	7,380,952		
Interruptible EAV		7,380,952	7,380,952		
		AID required to get PI = 1.0	\$ 215,220	\$ 133,670	\$ 56,470
		PI	0.1	0.4	0.8

**OPCC Review Summary 2016
EB-2016-0013**

Leamington Expansion Pipeline Project

AGENCY	COMMENT	RESPONSE
Email received by Paul Neals Azimuth Environmental Consulting October 9, 2015 Essex Region Conservation Authority Corinne Chiasson Resource Planner	Email indicates that a permit will be required for all watercourse crossings. Also indicated that the project will be adjacent to a significant woodlot that may contain Species at Risk.	Permit # 56-15-500-3500 has been received from the Conservation Authority. Due to the proximity of the woodlot, the pipeline will be installed using the horizontal directional drill method minimizing the amount of disturbance in the area.
Letter received by Norm Dumouchelle Union Gas Limited January 19, 2016 Forwarded to: Essex Region Conservation Authority Michael Nelson Watershed Planner	Majority of comments centered on Species at Risk. (SAR)	Response sent March 22, 2016.
Email received by Norm Dumouchelle Union Gas Limited January 21, 2016 Ministry of Natural Resources and Forestry Rick Visser Lands and Water Technical specialist	No concerns under the Public Lands Act.	Not required
Email received by Norm Dumouchelle Union Gas Limited February 9, 2016 Ministry of Transportation Ryan Mentley Corridor Management Officer	Indicated that following the review of the EA, no permit will be required.	Not required
Letter received from Heather Riddell Ministry of Natural Resources and Forestry March 22, 2016.	Comments regarding Fisheries, Vegetation and Species at Risk	Response sent March 22, 2016

From: [Paul Neals](#)
To: [Dumouchelle, Norm](#)
Subject: leamington
Date: October-13-15 2:26:47 PM
Attachments: [image001.png](#)
[image002.png](#)
[Notice 20150901_ZIMUTH ENVIRONMENTAL.pdf](#)

fyi

From: Mike Jones
Sent: Tuesday, October 13, 2015 2:12 PM
To: Paul Neals
Subject: Environmental Report - AEC 15-151

From: Corinne Chiasson [<mailto:CChiasson@erca.org>]
Sent: October-09-15 9:06 AM
To: info
Subject: Environmental Report - AEC 15-151

Good morning Mr. Neals:

The Essex Region Conservation Authority has had an opportunity to review your request for information regarding: Environmental Report Commencement – Union Gas Limited, Leamington Line Phase II Pipeline Project. We understand that the project will include the construction of a 12 inch diameter natural gas pipeline between County Road 14 and County Road 18, located to the west of Highway 77 along the abandoned railway/recreational trail.

We therefore provide the following information for your consideration.

We note that the project study area identified will pass through several areas that are subject to our Development, Interference with Wetlands and Alteration to Shorelines or Watercourse Regulations under Section 28 of the Conservation Authorities Act (Ontario Regulation No. 158/06). These specific sites are located along the intersecting areas of the abandoned rail trail and regulated municipal drains. The intersecting regulated drains are identified as the following (starting from the north extent of the study area to the southern extent): 4th Concession Rd Drain, Pelee Creek Drain, 5th Concession Drain, Beacom Drain, South, Middle and North Branches of the Lebo Creek Drain, Hooker Drain & Extension Drain, and the 9th Concession Road Branch Drain. Please note that any works undertaken within the vicinity of these drains would require a permit approval from this office prior to any site alteration commencing. This information is readily available in a digital map format on our website: www.erca.org under the tab programs and services, GIS and Interactive Mapping.

The subject study area identified between the intersecting roads of Mersea Road 5 on the north and Mersea Road 4 on the south, is located directly adjacent to a natural heritage feature that is identified as a significant woodlot, significant wildlife habitat, and may contain habitat of Species at Risk and/or Endangered Species. As per Section 2.1.7 of the PPS, 2014 – “Development and site

alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements. “ All species listed as endangered or threatened (aquatic species, plants, mammals, birds, reptiles, amphibians, etc.) as well as their related habitats, are protected under the provincial *Endangered Species Act*. It is the proponent’s responsibility to exercise due diligence in ensuring that all issues related to the provincial *Endangered Species Act* and its regulations have been addressed. Inquiries regarding the applicability of the *Endangered Species Act* to the property should be made to Aylmer District office of the OMNR (E-mail: ESAScreeningRequest.AylmerDistrict@ontario.ca). Attached is a copy of the MNRF Technical Memorandum: Species At Risk Screening Process.

The Essex Region Conservation Authority produced an Essex Region Natural Heritage Systems Study (ERNHSS, 2013) which is available at <http://erca.org/resource-info/resources/>. This report details a proposed consideration for the establishment of a natural heritage system in the region and may be useful information to incorporate into the Environmental Review. If you are interested in obtaining the data for this study in the vicinity of the study area please contact Tom Dufour, Geomatics Technician, directly at tdufour@erca.org.

Additionally the above noted significant woodlot is owned by Highline Produce Limited, and is maintained as a Conservation Area by the Essex Region Conservation Authority. For further information regarding this specific property or prior to any construction and/or site alteration activities adjacent to the Highline Produce Woods, please contact Kevin Money, Director of Conservation Services at

If further information is required please don’t hesitate to contact Mr. Mike Nelson, Watershed Planner at , or myself at the contact information below.

Hope you have a good day,

CORINNE CHIASSON

Resource Planner

Essex Region Conservation Authority

360 Fairview Avenue West, Suite 311 · Essex, Ontario · N8M 1Y6



**Essex Region
Conservation
Authority**



360 Fairview Avenue West, Suite 311, Essex, ON, Canada, N8M 1Y6 | P 519-776-5209 | F 519-776-8688 | erca.org | ourgreenlegacy.org

Partner Municipalities

Town of Amherstburg

Town of Essex

Town of Kingsville

Town of Lakeshore

Town of LaSalle

Municipality of
Leamington

Township of Pelee

Town of Tecumseh

City of Windsor

January 19, 2016

Norm Dumouchelle, Environmental Planner
Union Gas Limited
P.O. Box 2001
50 Keil Drive North
Chatham, ON N7M 5M1

RE: Leamington Phase II Pipeline Project, Environmental Report review

Dear Mr. Dumouchelle,

Thank you for providing the Essex Region Conservation Authority with the copy of the Environmental Report (ER) for review. The Essex Region Conservation Authority (ERCA) has had an opportunity to review the "Leamington Phase II Pipeline Project Environmental Report prepared for Union Gas Limited by Azimuth Environmental Consulting, Inc., dated December 2015 [AEC 15-151] and can provide the following comments.

Our office did provide a response to an information request dated October 9, 2015 that outlined some of our natural heritage concerns with the project and outlined that project approvals of the watercourse crossings would be required.

In addition, our office received an application for approval to construct, maintain and operate the subject pipeline dated October 27, 2015. Our office reviewed this information and has provided Union Gas Limited with a project approval dated January 4, 2016, to the attention of Michelle Landuyt.

Specific comments related to the ER and detailed below, indicating the page number associated with each comment.

Page i: The Ontario Energy Board has made available online an updated Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition, 2011.
www.ontarioenergyboard.ca/oeb/_Documents/Regulatory/Enviro_Guidelines_HydrocarbonPipelines_2011.pdf

Section 3.3, page 6: Please provide documentation for references not listed in section 12.0 References, e.g., Stantec, 2006. If these are provided from the ERCA fish record review request, or from the Fish Habitat Management Plan, it is suggested that this could be referenced accordingly.

Page 1 of 2





**Essex Region
Conservation
Authority**



360 Fairview Avenue West, Suite 311, Essex, ON, Canada, N8M 1Y6 | P 519-776-5209 | F 519-776-8688 | erca.org | ourgreenlegacy.org

Partner Municipalities

Town of Amherstburg

Town of Essex

Town of Kingsville

Town of Lakeshore

Town of LaSalle

Municipality of
Leamington

Township of Pelee

Town of Tecumseh

City of Windsor

Union Gas Limited

January 19, 2016

For future work in the Essex region, please note that we have made available several key references on natural heritage in the region on our website:

<http://erca.org/resource-info/resources/> including in particular, a Fish Habitat Management Plan.

The Essex region currently supports a greater number of species at risk than six. Please refer to the Conservation Ontario website for an up to date screening map provided by Fisheries and Oceans Canada on the aquatic species at risk found in the Essex region: www.conservation-ontario.on.ca/what-we-do/watershed-stewardship/aquatic-species-at-risk. It should also be noted that there are extant mussel species at risk populations in the Essex region that should be identified in the report. In addition, it is suggested that the federal species at risk status also be identified for fishes and mussels.

Section 3.3.4 Wildlife, page 7: it is suggested that the number of provincially identified species at risk found in the Essex region is far greater than the ones listed in this section. It is suggested that the entire list be referenced and greater detail provided on the specific species of turtles identified to be at risk. Also, this list of species at risk is not consistent with the species listed in section 3.3.6.

Section 6.2.1, page 13: as indicated in the correspondence above, ERCA has provided a project approval taking into consideration the potential effects of the works and the proposed mitigation measures. It may be appropriate to include in this section the identified mitigations measures as referenced in the ERCA project clearance letter, dated January 4, 2016.

If you should have any questions or require any additional information, please do not hesitate to contact the ERCA Watershed Planner, Michael Nelson by phone at _____ or by e-mail at _____

Sincerely,

Michael Nelson, *Watershed Planner*
/mn





Environmental Assessments & Approvals



March 22, 2016

AEC 15-151

Union Gas Limited
1145 Richmond Street
Chatham, ON N7M 5J5

Attention: Norm Dumouchelle, Environmental Planner

Re: Leamington Phase II Pipeline Project – ERCA Comments

Dear Mr. Dumouchelle:

The purpose of the correspondence is to provide our response to the comment provided by the Essex Region Conservation Authority (ERCA) regarding the Leamington Phase II Pipeline Project Environmental Report (ER) in their letter dated January 19, 2016. The comments provided do not change the conclusions of the study and are primarily editorial. ERCA has issued the permit for the construction of the pipeline, confirming their acceptance of the route and the impact assessment on natural heritage features. The following section provide the ERCA comment and our response.

Comment

Page i: The Ontario Energy Board has made available online an updated Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition, 2011.

www.ontarioenergyboard.ca/oeb/_Documents/Regulatory/Enviro_Guidelines_HydrocarbonPipelines_2011.pdf

Response

The Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition, 2011 is the most current version. The ER was completed in accordance with the 2011 guideline although the reference to the 2003 version was made in error.



Comment

Section 3.3, page 6: Please provide documentation for references not listed in section 12.0 References, e.g., Stantec, 2006. If these are provided from the ERCA fish record review request, or from the Fish Habitat Management Plan, it is suggested that this could be referenced accordingly.

Response

The fish species information was from the Fish Habitat Management Plan for the Essex Region undertaken by ERCA, MNR and Environment Canada in 2005. The reference to Stantec 2006 was from Stantec Consulting Ltd. December 2006. Leamington Critical Route Analysis prepared for Union Gas. Review of the ERCA interactive mapping confirmed all the affected watercourses are channelized agricultural drainage. All the watercourses will be directionally drilled to avoid any disturbance to the aquatic habitat.

Comment

For future work in the Essex region, please note that we have made available several key references on natural heritage in the region on our website: <http://erca.org/resource-info/resources/> including in particular, a Fish Habitat Management Plan.

Response

Thank you for that information.

Comment

The Essex region currently supports a greater number of species at risk than six. Please refer to the Conservation Ontario website for an up to date screening map provided by Fisheries and Oceans Canada on the aquatic species at risk found in the Essex region: www.conservation-ontario.on.ca/what-we-do/watershed-stewardship/aquatic-species-at-risk. It should also be noted that there are extant mussel species at risk populations in the Essex region that should be identified in the report. In addition, it is suggested that the federal species at risk status also be identified for fishes and mussels.



Response

The Ministry of Natural Resources and Forestry (MNRF) provided the Species at Risk information for this project on March 22, 2016. They confirmed there are no known occurrences of SAR on the abandoned railway/trail affected by the preferred pipeline route. The only two species identified by the Ministry to occur in the general area are Eastern Foxsnake (regulated habitat protection) and Barn Swallow (general habitat protection). There are no structures suitable for Barn Swallow nesting along the route. Given the disturbed nature of the abandoned railway/trail corridor there is no preferred habitat for Eastern Foxsnake.

All the watercourses will be directionally drilled to avoid any disturbance to the aquatic habitat and any potential aquatic Species at Risk. In the event a SAR is observed the Ministry of Natural Resources and Forestry will be contacted immediately to solicit their participation in the action to be taken to protect the species.

The portion of the right-of-way adjacent to the Andrew Murray O'Neil Memorial Woods will be directionally drilled to avoid any disturbance to the vegetation adjacent to the railway/trail.

Comment

Section 3.3.4 Wildlife, page 7: it is suggested that the number of provincially identified species at risk found in the Essex region is far greater than the ones listed in this section. It is suggested that the entire list be referenced and greater detail provided on the specific species of turtles identified to be at risk. Also, this list of species at risk is not consistent with the species listed in section 3.3.6.

Response

Section 3.3.4 dealt with wildlife that are Species at Risk. Section 3.3.6 dealt with all Species at Risk. As discussed previously MNRF has defined the SAR as Barn Swallow and Eastern Foxsnake. It is our experience that MNRF does not always provide the list of Species at Risk turtles that can be found in specific locations to avoid the public from seeking out the species and potentially harming the species. Given the entire route is located within an abandoned railway bed now being maintained as a public trail there is no expectation Species at Risk will be affected.



Comment

Section 6.2.1, page 13: as indicated in the correspondence above, ERCA has provided a project approval taking into consideration the potential effects of the works and the proposed mitigation measures. It may be appropriate to include in this section the identified mitigations measures as referenced in the ERCA project clearance letter, dated January 4, 2016.

Response

Thank you for providing the permit (clearance letter) for this project in your letter of January 4, 2016. The mitigation measure defined in the permit will be applied during construction as per your recommendations. It is not our practice to revise the Environmental Report that has been submitted to the Ontario Energy Board and approvals have been granted by the agency. The mitigation measures will be incorporated into future projects in the watershed.

Please contact me if you have any questions or comments.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Paul Neals, B.Sc., P.Agr.
Vice-President

From: [Visser, Richard \(MNRF\)](#)
To: [Dumouchelle, Norm](#)
Subject: RE: Leamington Environmental Report
Date: January-21-16 3:54:40 PM

Hi Norm,

I have no concerns under the Public Lands Act, but have passed this on to our Planner, Heather Riddell for broader circulation and comments.

Thanks

R Visser

*Richard Visser
Lands and Waters Technical Specialist
Ministry of Natural Resources
615 John Street North
Aylmer, Ontario, N5H 2S8*

From: Dumouchelle, Norm [mailto:NPDumouchelle@uniongas.com]
Sent: January 5, 2016 7:15 AM
To: Visser, Richard (MNRF)
Subject: Leamington Environmental Report

Hi Rick

As discussed please find the ER for the Leamington Phase II Pipeline Project which is scheduled for construction this summer. I was good talking to you.

Thanks

Norm Dumouchelle
Environmental Planner
Permitting and Environmental Planning
Union Gas Limited

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retransmission or dissemination of this information by anyone other than the intended recipient is prohibited. If you receive this email in error, please contact the sender and delete this communication and any copies immediately. Thank you.

From: [Mentley, Ryan \(MTO\)](#)
To: [zora.Crnojacki](#)
Cc: [Dumouchelle, Norm](#)
Subject: Union Gas Ltd Pipeline Project - Leamington Phase II
Date: February-09-16 9:37:59 AM

Zora,

Thank you for contacting the Ministry of Transportation (MTO) regarding the Union Gas Ltd Pipeline Project – Leamington Phase II, in Essex County.

MTO has completed its review of the Leamington Phase II submission (Environmental Report). The location indicated for Phase II does not impact the highway right-of-way. No permits from MTO will be required, however, the proponent must meet all of the requirements of the local municipality and any other agencies having jurisdiction, and obtain any additional permits and/or approvals as required.

MTO should be contacted during the planning process for any future work that may impact the highway right-of-way.

Do not hesitate to contact me with any questions or concerns you may have.

Regards,

Ryan Mentley

*Corridor Management Officer
Corridor Management Section
Ministry of Transportation
659 Exeter Rd, London ON, N6E 1L3*

From: [Dumouchelle, Norm](#)
To: [Bechard, Shelley](#)
Subject: Fwd: Leamington Phase II
Date: March-22-16 10:50:26 AM
Attachments: [image001.png](#)

Here you go

Thanks

Norm Dumouchelle
Environmental Planner
Union Gas Limited

Begin forwarded message:

From: Paul Neals <
Date: 22 March, 2016 10:34:10 AM EDT
To: "Dumouchelle, Norm" <
Subject: Fwd: Leamington Phase II

Norm

Attached is MNRF response for Leamington.

Paul

----- Forwarded message -----

From: **Riddell, Heather (MNRF)** <
Date: 22 March 2016 at 10:25
Subject: RE: Leamington Phase II
To: Paul Neals

Hi Paul,

The MNRF Aylmer District has reviewed the 'Leamington Phase II Pipeline Project Environmental Report' and we have the following comments:

- In Section 8.3.1 'Fisheries', the correct timing window to restrict work in-water between March 15 and July 15.
- In Section 8.3.3 'Vegetation', any vegetation that must be cut should be piled and remain on-site to provide habitat.

- With respect to Section 8.3.5 'Species At Risk', limit any work occurring during the hibernation season for snakes. No work should occur near potential hibernacula between October 1 and May 1.
- Construction machinery and vegetation clearing equipment that is left idle for over one (1) hour or is parked overnight at the project location between April 1st to November 30th must be surveyed for the presence of snakes before (re)ignition. This visual examination should include all lower components of the machinery, including operational extensions and running gear.

Below is the information requested regarding SAR species occurrences in the area, requested on October 22, 2015.

Species at Risk (SAR)

The Species at Risk in Ontario (SARO) List (<http://www.ontario.ca/environment-and-energy/species-risk-ontario-list>) is Ontario Regulation 230/08 issued under the *Endangered Species Act, 2007* (ESA). The ESA came into force on June 30, 2008, and provides both species protection (section 9) and habitat protection (section 10) to species listed as endangered or threatened on the SARO List. The current SARO List can be found on e-laws (<http://www.e-laws.gov.on.ca/navigation?file=home&lang=en>).

An initial SAR (Endangered and Threatened species) screening has been completed for the above-noted project.

There are no known occurrences of SAR on the property; however, there are known occurrences of SAR in the general project area, including:

- Eastern Foxsnake (Endangered), with regulated habitat protection
- Barn Swallow (Threatened), with general habitat protection

Please note that this is an initial screening for SAR and the absence of an element occurrence does not indicate the absence of species. The province has not been surveyed comprehensively for the presence or absence of SAR and MNRF data relies on observers to report sightings of SAR. Field assessments by a qualified professional may be necessary if there is a high likelihood for SAR species and/or habitat to occur within

the project footprint.

It is important to note the following:

- Changes may occur in both species and habitat protection which could affect whether proposed projects may have adverse effects on SAR.
- The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate new species for listing and/or re-evaluate species already on the SARO List. As a result, species designations may change, which could in turn change the level of protection they receive under the ESA 2007.
- Habitat protection provisions for a species may change if a species-specific habitat regulation comes into effect.

If an activity or project will result in adverse effects to endangered or threatened species and/or their habitat, additional action would need to be taken in order to remain in compliance with the ESA. Additional action could be applying for an authorization under section 17(2)(c) of the ESA, or completing an online registry for an ESA regulation, if the project is eligible (<http://www.ontario.ca/environment-and-energy/natural-resources-approvals>).

Please be advised that applying for an authorization does not guarantee approval and the process can take several months.

If you wish to determine whether a project may be eligible for the online registry process, please refer to MNRF's website (<http://www.ontario.ca/environment-and-energy/natural-resources-approvals>). Questions about the registry process should be directed to MNRF's Registry and Approval Services Centre at or at

Please feel free to contact me if you have any questions.

Regards,
Heather

Heather Riddell

District Planner

Ministry of Natural Resources and Forestry

Aylmer District

615 John Street North

Aylmer, ON N5H 2S8

From: Paul Neals
Sent: October-22-15 11:26 AM
To: ESA Screening Request Aylmer District (MNRF)
Subject: Leamington Phase II

Azimuth Environmental Consulting, Inc. (Azimuth) has been retained by Union Gas Limited (Union) to prepare an Environmental Report (ER) for the proposed Leamington Line Phase II Pipeline Project. The project will include the construction of a 12 inch natural gas pipeline from the existing Union Gas County Road 14 Station west of Highway 77 south along the abandoned railway/recreational trail to a new station to be constructed north of County Road 18. From the new station approximately 250m of 10 inch natural gas pipeline will be built to connect to the existing 10 inch pipeline on County Road 18. Attached is a figure showing the route location.

Could you please provide the current SAR information for the area.

Thank You

Paul Neals

Vice-President

Azimuth Environmental Consulting, Inc.

85 Bayfield Street, Suite 400

Barrie, ON L4M 3A7

Smaller Sticker



Providing services in hydrogeology, terrestrial and aquatic ecology & environmental engineering.

--

Paul Neals

Vice-President

Azimuth Environmental



Environmental Assessments & Approvals



March 22, 2016

AEC 15-151

Union Gas Limited
1145 Richmond Street
Chatham, ON N7M 5J5

Attention: Norm Dumouchelle, Environmental Planner

Re: Leamington Phase II Pipeline Project – MNRF Comments

Dear Mr. Dumouchelle:

The purpose of the correspondence is to provide our response to the comment provided by Heather Riddell at the Alymer District Ministry of Natural Resources and Forestry (MNRF) regarding the Leamington Phase II Pipeline Project Environmental Report (ER) in her email dated March 22, 2016. The comments provided do not change the conclusions of the study and are primarily providing information on Species at Risk and timing windows for construction. The following sections provide the MNRF comments and our response.

General Comments on Environmental Report

- In Section 8.3.1 'Fisheries', the correct timing window to restrict work in-water between March 15 and July 15.
- In Section 8.3.3 'Vegetation', any vegetation that must be cut should be piled and remain on-site to provide habitat.
- With respect to Section 8.3.5 'Species At Risk', limit any work occurring during the hibernation season for snakes. No work should occur near potential hibernacula between October 1 and May 1.
- Construction machinery and vegetation clearing equipment that is left idle for over one (1) hour or is parked overnight at the project location between April 1st to November 30th must be surveyed for the presence of snakes before (re)ignition. This visual examination should include all lower components of the machinery, including operational extensions and running gear.



Response

We recommend that Union Gas incorporate the MNRF timing restrictions for fisheries, Species at Risk and the required checking for snakes on construction equipment in the environmental information provided to the contractor(s) prior to construction. We recommend Union Gas confirm with the contractor(s) they are fully aware of their responsibilities under the Endangered Species Act, 2007.

It is our understanding Union is planning to directionally drill all watercourses therefore the timing window for in-water works would not apply.

In our opinion there is no potential hibernacula for Eastern Foxsnake on the route. They use deep cracks in bedrock and man-made structures for hibernation, none of which occur along the route.

The retention of cut vegetation within the public trail area should be discussed with the Town of Leamington as it may be contrary to their management plan for the trail. Given the minimal amount of vegetation along the trail, the lack of natural areas and the predominance of the adjacent agricultural use, in our opinion the cut vegetation would not provide any significant wildlife habitat function. The only area with any significant vegetation adjacent to the route is the Andrew Murray O'Neil Memorial Woods. This area is proposed to be directionally drilled to avoid any disturbance to the vegetation adjacent to the railway/trail.

Comment on Species at Risk Occurrence

There are no known occurrences of SAR on the property; however, there are known occurrences of SAR in the general project area, including:

- Eastern Foxsnake (Endangered), with regulated habitat protection.
- Barn Swallow (Threatened), with general habitat protection.

Response

There are no structures suitable for Barn Swallow nesting along the route. Given the disturbed nature of the abandoned railway/trail corridor there is no preferred habitat for Eastern Foxsnake. We recommend that the contractor(s) be provided with information on Eastern Foxsnake to enable construction forces to recognize the species and what actions are to be taken should it be observed on or adjacent to the work area.



Please contact me if you have any questions or comments.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

A handwritten signature in blue ink that reads "Paul Neals". The signature is written in a cursive, flowing style.

Paul Neals, B.Sc., P.Ag.
Vice-President

UNION GAS LIMITED

Answers to Interrogatories from
Hydro One Networks Inc.

1. Ref: **UTILITY MAPPING**

Preamble:

- (i) “Attached hereto as Schedule “A” is a map showing the general location of the proposed pipeline and the municipalities, highways, railways, utility lines and navigable waters through, under, over, upon or across which the proposed pipeline will pass” - **EB-2016-0013, Page 1 of 2, paragraph 2**
- (ii) “As this is a continuation of the Leamington Phase I Project (EB-2012-0431) no other alternatives were considered except to extend the NPS 12 pipeline further south from County Road 14” - **EB-2016-0013, Page 5 of 15, paragraph 35**
- (iii) Hydro One applied to the Ontario Energy Board (“OEB”) for leave to construct the Supply to Essex County Transmission Reinforcement (“SECTR”) project in accordance with Section 92 of the *Ontario Energy Board Act, 1998* on January 22, 2014. The OEB issued its decision on July 16, 2015 granting Hydro One Networks Inc. approval to proceed with the construction of the SECTR project – **EB-2013-0421**.

Questions:

- a) Please update Schedule “A” to show Hydro One’s approved SECTR Project.
- b) On the same map, please provide the current route and run of the existing NPS 12 pipeline, north of County Road 14.

Responses:

- a) There is insufficient detail in Hydro One’s evidence to superimpose the route of the SECTR project on Schedule ‘A’, however, there was an understanding that Hydro One intended to utilize a similar route.
- b) Attached at Schedule 1 is a copy of Schedule 15 from Union’s OEB application EB-2012-0431 which shows the route of the existing NPS 12 pipeline, north of County Road 14.

2. Ref: **UTILITY MAPPING**

Preamble:

- (i) “Union was not able to satisfy all of requested capacity from the expressions of interest due to limited capacity on the pipeline system that feeds the Proposed Facilities. Union is in the process of reviewing additional projects to reinforce the pipeline system which supplies the Proposed Facilities” – **EB-2016-0013, Page 4 of 15, paragraph 24**

Questions:

- a) Are any of these additional projects currently planned to cross the same corridor? If so, please provide detailed mapping.
 - b) Do any of these projects cross the Hydro One approved SECTR Project route?
-

Responses:

- a) Currently, Union has no additional projects planned that will cross the same corridor.
- b) Currently, Union has no additional projects planned that will cross the SECTR Project Route. In the future, Union may need to add infrastructure to the Comber Transmission Station which is located at 9488 Rochester Townline in Lakeshore. This station is in the area of the SECTR Project route.

3. Ref: CORRIDOR AVAILABILITY/CONSULTATION

Preamble:

- (i) “Due to the availability of the abandoned railway/recreational trail for routing the pipeline no alternative routes were considered. Any alternative route beyond the abandoned railway/recreational trail within the municipality would have utilized road allowances or agricultural land” – **EB-2016-0013, Schedule 12, Page 3 of 111.**
- (ii) “Consultation with the Municipality of Leamington confirmed the availability of the abandoned railway/recreational trail for the proposed pipeline” – **EB-2016-0013, Schedule 12, Page 4 of 111.**
- (iii) “During the 2012 Phase I study for reinforcing the natural gas supply to Leamington area the Municipality of Leamington was approached regarding the use of the railway. At that time Hydro One was proposing to use the railway for a transmission line which limited the availability of the lands for a pipeline. Union Gas contacted the Municipality during this project again regarding the availability of the railway lands and Leamington staff confirmed Hydro One no longer had an interest in the lands” – **EB-2016-0013, Schedule 12, Page 24 of 111**
- (iv) “Leamington public works and engineering staff will be consulted during detailed engineering regarding the most appropriate location for the pipeline within the railway property. Union Gas is aware of the municipality’s concerns and will be contacting them during detailed design” – **EB-2016-0013, Schedule 12, Page 21 of 111.**
- (v) **Table 1, EB-2016-0013, Schedule 12, Page 51**

Questions:

- a) When did Union confirm with Municipality of Leamington staff that Hydro One no longer had an interest in the abandoned railway lands?
- b) Please provide documented evidence of this confirmation. If the confirmation was oral, who at the Municipality told Union that Hydro One had lost or given up its interest in the railway lands?
- c) Please confirm whether Union was aware of Hydro One’s proposed SECTR Project. If Union was aware of Hydro One’s SECTR Project, did Union consult with Hydro One regarding the Leamington Expansion Project proposed in this application? Did Union seek to confirm with Hydro One that Hydro One no longer had an interest in the railway lands and, if not, why?
- d) Please provide any alternate route for Union to complete the Leamington Expansion Project if Union’s proposed route is determined to be unfeasible?
- e) Please provide the specifics of the Municipality’s concerns documented in reference iv and v above.
- f) Further to the meeting of February 25, 2016, that Hydro One initiated, would Union be amenable to a meeting to discuss opportunities to develop both projects? If so, would Union be willing to request a temporary stay or adjournment of the proceeding while these discussions are in progress?

Responses:

a&b) At a meeting on April 29, 2015 between Union Gas and the Municipality of Leamington, Rob Sharon, Director of Infrastructure for the Municipality of Leamington, notified Union that Hydro One had a proposed project in the area of the abandoned railway corridor. Mr. Sharon indicated that Hydro One had no formal interests or rights to the abandon railway lands; therefore, Union Gas anticipated no conflict between the proposed pipeline and transmission lines.

c) Yes, Union was aware of Hydro One's proposed SECTR project. In December 2015, Union became aware of Hydro One's pre-construction activities along the abandoned railway corridor and initiated contact with Hydro One to coordinate planning activities. Attached as Schedule 1 are emails documenting Union making contact with Hydro One's project manager for the SECTR project.

Union contacted the SECTR project manager on February 1, 2016 to schedule a coordination meeting between Union and Hydro One, as per the email communication attached as Schedule 2. Union was interested in understanding the scope and schedule of the SECTR project and sharing the same with Hydro One regarding Union's proposed pipeline.

On February 25, 2016, a coordination meeting took place between Union, Hydro One, and Leamington personnel. In this meeting, Union sought confirmation of Hydro One's interest in the abandoned railway corridor. Union, Hydro One and Leamington developed a mutually agreeable solution for both projects. This solution involved Hydro One locating their transmission tower bases 6 meters to the east of the abandon rail corridor, to avoid conflict between Hydro One's transmission towers and a drainage ditch that runs on the easterly property line of the abandon railway corridor.

d) Should the Ontario Energy Board not approve the routing of this project, Union would have to restart the OEB process with a new route away from the abandon railway corridor.

The route identified in Union's filing (EB-2016-0013) is feasible as determined by the pre-engineering field work and environmental report. This route was selected based on detailed engineering, surveys, and future maintenance considerations which identified the abandon railway corridor as the preferred route. Union has obtained the necessary land rights for the route detailed in the filing (EB-2016-0013).

e) Through regular communication between Union and the Municipality of Leamington, Union addressed concerns raised by the Municipality regarding the impact of the pipeline construction on existing infrastructure and the walking trail.

Union's proposed pipeline route was approved by the Leamington Council on December 7, 2015. The permanent pipeline easement between Union and the Municipality was signed by John Paterson, the Mayor of Leamington, on January 14, 2016.

- f) Union is amenable to further discussion with Hydro One to develop both projects. Union had requested a follow up meeting on March 10, 2016 that was cancelled by Hydro One. Union has rescheduled this meeting for April 1, 2016.

The February 25, 2016 meeting was attended by Engineering, Project Management, and Lands personnel from Union Gas and Hydro One. The meeting was also attended by staff from the Municipality. During the technical review, environmental and maintenance concerns were identified in relation to Hydro One's proposed tower locations along the easterly limit of the railway corridor. Hydro One's proposed towers are in direct conflict with a drainage ditch. Figure 1 shown below provides a pictorial representation of the abandoned rail corridor.

Figure 1

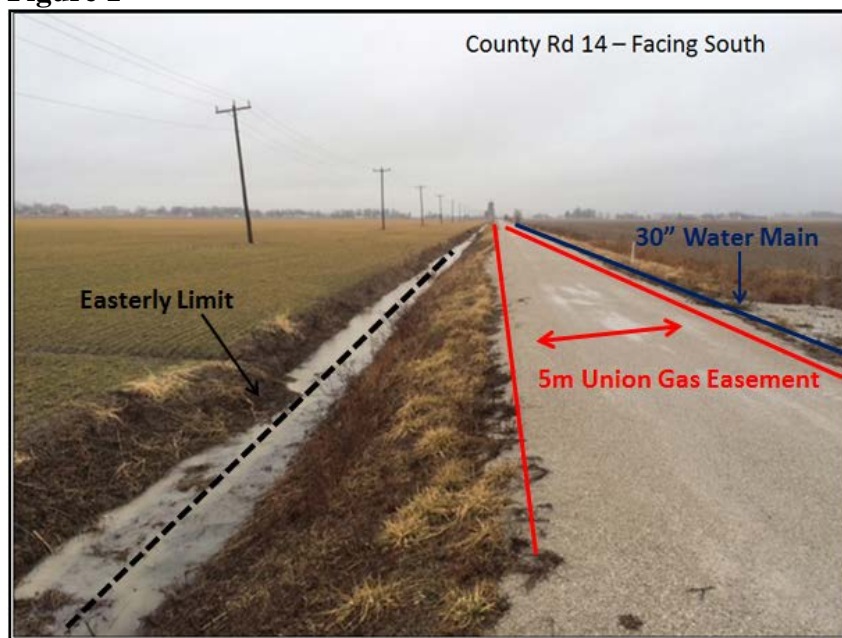


Figure 1: Abandoned rail corridor, facing south from County Road 14 in Leamington. Union's proposed pipeline sits within their 5 meter easement, as identified.

A mutually agreeable solution was reached between Union, Hydro One and Leamington. Hydro One indicated that they were starting the process of acquiring land rights. Hydro One estimated an additional 6 meters of easement would be required from the private land owners on the east side of the abandon railway corridor to accommodate moving the tower bases out of the drainage ditch. By moving the tower bases out of the drainage ditch, Union and Hydro One can obtain the recommended 10 meter separation between Union

and Hydro One's proposed infrastructure. Hydro One identified that additional land would be required from six land owners which Hydro One is already acquiring land from, on the east side of the rail corridor to implement this solution. The solution also alleviates the need for Hydro One to pursue land rights from six land owners on the west side of the rail corridor.

Union sees no reason to stay the proceeding provided Union and Hydro One can continue to work towards a technical solution. An adjournment of Union's proceeding will delay the construction of the pipeline and the in service date for Union's customers. The setback to the in service date means that Union would not be able to fulfill the signed firm commitments for gas service starting November 2016. In addition, a delay may impact the availability of the abandon railway corridor for construction activities of projects planned for execution in the same year.

4. Ref: ER AND CUMULATIVE IMPACT

Preamble:

- (i) “A cathodic protection system is placed on the pipeline to prevent corrosion from occurring during operation” - **EB-2016-0013, Schedule 12, Page 10 of 111**
- (ii) “Utilities in the area are limited to natural gas transmission/distribution lines, Bell phone lines, municipal water lines and rural distribution lines for electricity that serve the area residents and communities” – **EB-2016-0013, Schedule 12, Page 21 of 111.**
- (iii) “The Ontario Energy Board (OEB) environmental guidelines require proponents to follow a decision-making process for the identification, evaluation and comparison of alternative routes, and to have regard for environmental, land use, socio-economic, heritage and pipeline engineering and construction requirements” - **EB-2016-0013, Schedule 12, Page 24 of 111.**
- (iv) “Mitigation and restoration measures will be completed in accordance with established procedures as outlined in the Ontario Energy Board, *Environmental Guidelines For Locating, Constructing and Operating Hydrocarbon Pipelines in Ontario, 2003, Fifth Edition*” - **EB-2016-0013, Schedule 12, Page 26 of 111.**
- (v) “Based on the ability to restore the affected lands to the pre-development use, financially compensate affected landowners for all temporary disturbances and utilize railway for utility placement there are no significant cumulative effects anticipated from the construction and operation of the proposed natural gas pipeline and the associated facilities for the Leamington Phase II Pipeline Project” - **EB-2016-0013, Schedule 12, Page 46 of 111.**

Questions:

- a) In 2009, Hydro One worked with Union to have an AC Interference Study conducted in the area of the proposed transmission RoW. Will Union take the Hydro One approved SECTR transmission line into account when developing the cathodic protection for the proposed pipeline?
- b) During Hydro One’s SECTR Class Environmental Assessment, Hydro One worked closely with Union to ensure that the mandatory separation between a transmission line and a pipeline was taken into account during the planning process. In January 2014, Hydro One notified Union that Hydro One had applied for Leave to Construct approval from the OEB. If Union builds in the proposed location, and Hydro One builds in the approved location as per the Class EA, will the mandatory separation between pipeline and transmission line be maintained?
- c) Will the existence of Hydro One’s already-approved SECTR Project require Union to assess alternatives in accordance with the OEB environmental guidelines? For ease of reference, the SECTR Project includes the construction of 13km of new 230kV transmission line along the same abandoned railway corridor and a new transmission station.
- d) If the answer to the preceding question is “no,” why will Union not need to assess alternatives?

- e) With consideration of the fact that Hydro One's SECTR Project has already been approved by the Ontario Energy Board, if Union must accommodate the SECTR Project, can Union's Leamington Expansion Project still be considered to have no significant cumulative effect?
 - f) Hydro One corresponded with Union between 2009 and 2014 about Hydro One's plans to build a transmission line along the abandoned rail corridor since, as noted in the ER, Hydro One was known to have an interest in the lands. It appears from Hydro One's reading of the ER that Union did not consult with Hydro One on the ER. Please confirm. If so, is Union considering revisiting the Environmental Report, considering that Union failed to consult Hydro One and that Union failed to take the Hydro One SECTR Project into account in the planning process? If not, please explain.
-

Responses:

- a) Yes, as discussed at the February 25, 2016 meeting, Union will conduct an AC Interference Study for the area where the proposed Leamington Expansion project and the proposed SECTR project routes are parallel. Hydro One indicated that they were still in the preliminary design stage and would not have the final design information available to start the study until later this year. Union has started the process and has requested from Hydro One the necessary design information to complete the AC Interference study. Attached as Schedule 1 is an email from Union Gas to Hydro One regarding this issue.
- b) The code CAN/CSA C22.3 No. 6, Principles and Practices of Electrical Coordination between Pipelines and Electrical Supply Lines, states that the separation distance of 10 meters between a pipeline and a transmission line is a recommended best practice and not a mandatory requirement. Engineering solutions can be developed to mitigate the AC interference effects between power lines and pipelines.

At the February 25 meeting, Hydro One and Union Gas were agreeable to a technical solution in situations where 10 meter separation may not be achievable for practical reasons.

- c&d) No, Hydro One's SECTR project parallels portions both Union existing pipeline (EB-2012-0431) and Union's Proposed Facilities (EB-2016-0013). It is Union's understanding that Hydro One did not assess additional alternatives to deal with Unions existing facilities. Union's proposal is an extension of an existing pipeline approved and constructed in 2013. At that time alternatives were considered and the abandoned railway corridor was identified as the preferred running line to feed expansion in the Leamington area. Union does not believe it is necessary to assess additional alternatives to deal with Hydro One's proposed facilities. Union approached and obtained approval from the municipality about using their corridor.
- e) In view of the fact that the pipeline will be installed within municipal property along the existing recreational trail and constructed prior to the proposed SECTR Project, Union

anticipated no significant cumulative effects.

- f) Union consulted extensively with the directly affected landowners along the route of the propose facilities. It is these landowners who Union requires permanent and temporary land rights from to construct the Proposed Facilities. Utilities or other organizations that have, or will have encumbrances on these properties are met with after the primary land rights have been obtained.

5. Ref: STATUS OF CURRENT NEGOTIATIONS – LAND MATTERS

Preamble:

- (i) “Union has discussed the Project with all directly affected landowners. These landowners have not identified any concerns with the Project. Union expects to have all the necessary land rights in place by March 2016” – **EB-2016-0013, Page 1 of 15, Paragraph 7, Lines 23 - 25.**
- (ii) “Temporary Land Use Agreements are usually required for a period of two years. This allows Union the opportunity to return in the year following construction to perform further clean-up and remediation work as may be required. Union will offer a form of Temporary Land Use Agreement previously approved by the Board and utilized by Union in the past on similar pipeline projects.” **EB -2016-0013, Page 13 of 15, Paragraph 84, Lines 13 - 17.**

Questions:

- a) What is the current status of negotiations with current affected landowners?
- b) What size of easement is Union currently seeking from these landowners?
- c) Will the easement being requested by Union from the affected landowners be large enough to account for a safe operating distance from the approved SECTR Project?
- d) How would Union accommodate Hydro One’s approved SECTR project where temporary land use requirements conflict?
- e) Given the duration of the Union Temporary Land Use Agreement, do these agreements allow owners to enter into temporary land use agreements with another party, e.g., Hydro One?

Responses:

- a) Please see Union’s response to Board Staff Interrogatory 6a.
- b) Union has signed an agreement with the Municipality of Leamington for a 5 meter permanent easement.
- c) Please see Union’s response to HONI Interrogatory 3c.
- d) Union’s Temporary Land Use Agreements with the affected landowners expire on December 31, 2017 and are non-exclusive.
- e) Please see Union’s response to HONI Interrogatory 5d.

6. Ref: COST IMPACTS

Preamble:

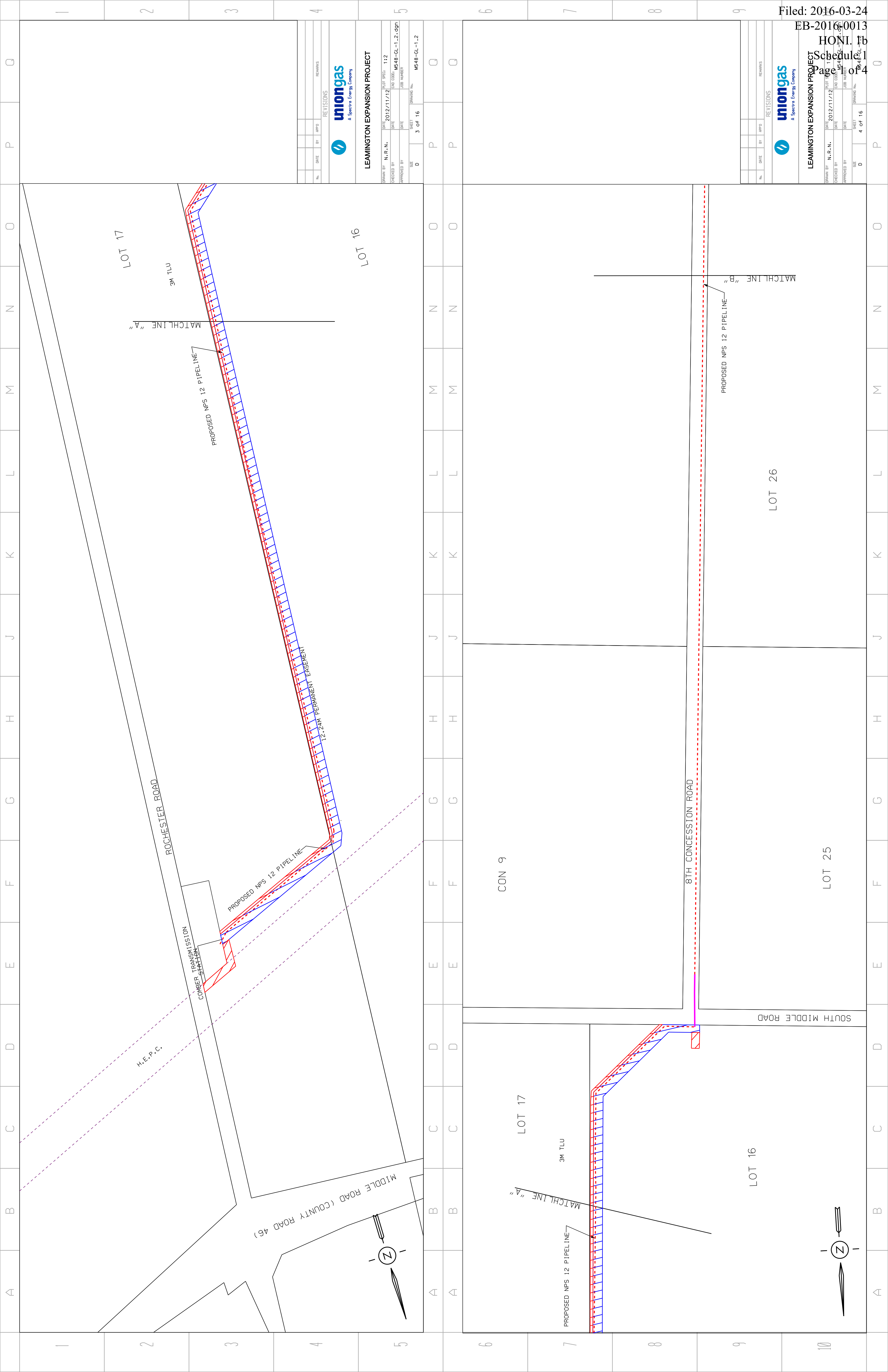
- (i) “Union has entered into negotiations with the customers who had successful bids during the expression of interest, for capacity to serve their greenhouse operations. Union expects to have signed contracts with these growers by February 29, 2016” – **EB-2016-0013, Page 1 of 15, Paragraph 2, Lines 10 - 12.**
- (ii) “The total capital costs of the Proposed Facilities, including all pipeline and station costs, are estimated to be approximately \$12,344,000” – **EB-2016-0013, Page 1 of 15, Paragraph 3, Lines 13 - 14.**
- (iii) **EB-2016-0013 Schedules 6 and 7**

Questions:


- a) What is the current status of negotiations with customers who had successful bids?
- b) Does the cost of Union’s application include any potential costs that will be incurred by Hydro One if Hydro One needs to move the location of the approved SECTR Project?

Responses:

- a) Please see Union’s response to Board Staff Interrogatory 3a.
- b) No.




REVISIONS				REMARKS			
No.	DATE	BY	APPD				

**uniongas**
A Spectra Energy Company

LEAMINGTON EXPANSION PROJECT

DRAWN BY	N.R.N.	DATE	2012/11/12	PLUT SPEC	1:2
CHECKED BY		DATE		CAD CODE	MS48-GL-1.2.dgn
APPROVED BY		DATE		JOB NUMBER	
SIZE	D	SHEET	3 OF 16	DRAWING No.	MS48-GL-1.2

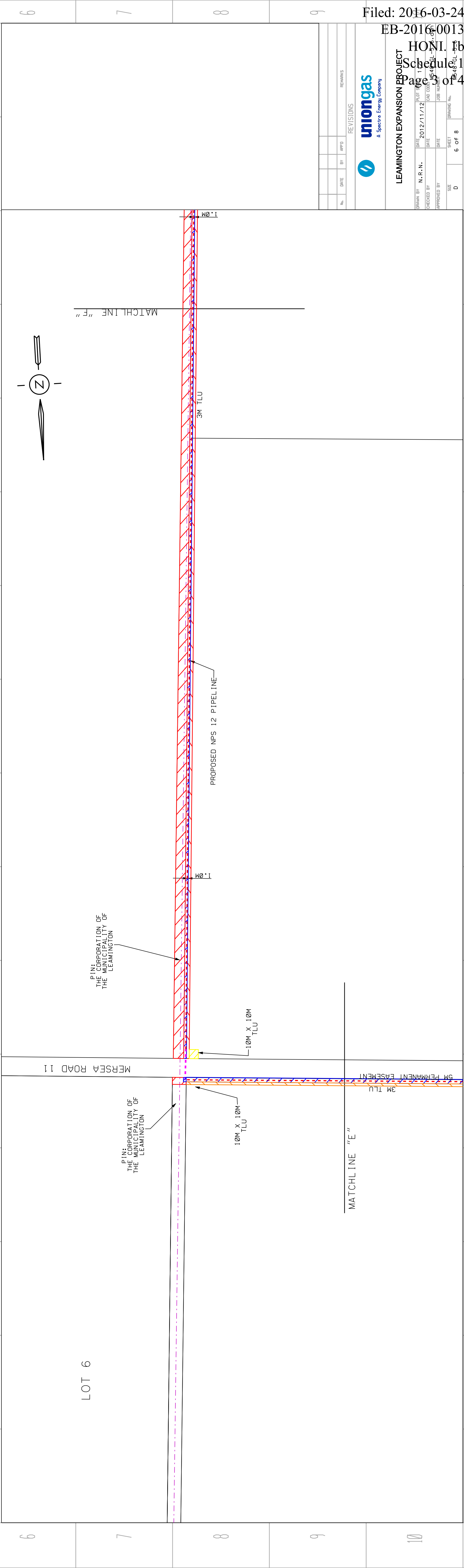
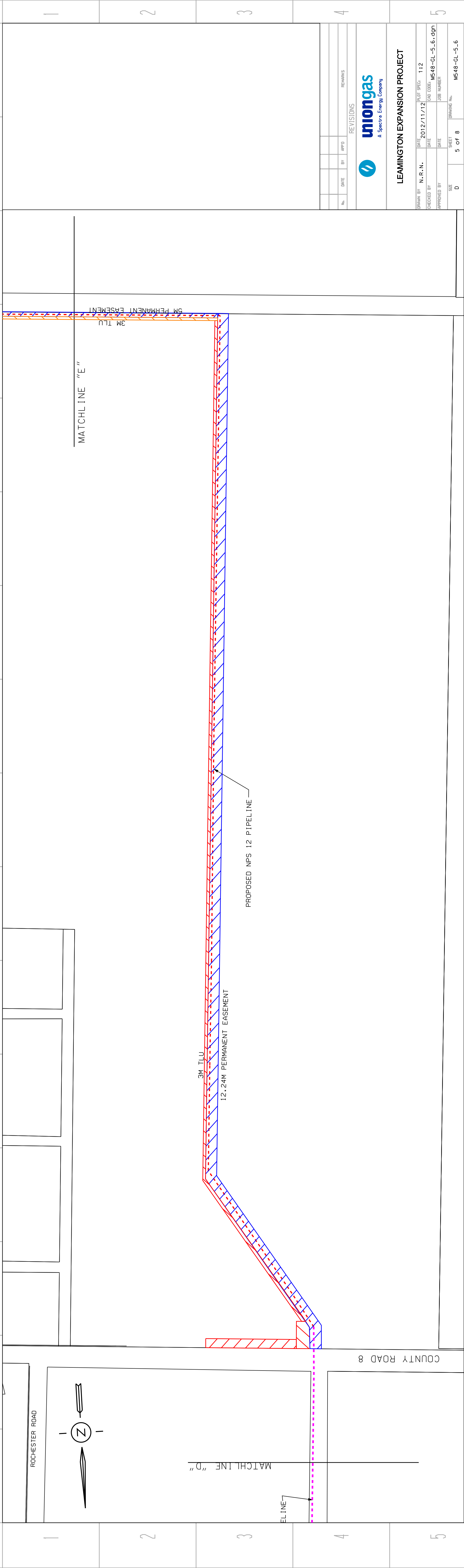
REVISIONS				REMARKS			
No.	DATE	BY	APPD				

**uniongas**
A Spectra Energy Company

LEAMINGTON EXPANSION PROJECT

DRAWN BY	N.R.N.	DATE	2012/11/12	PLUT SPEC	1:2
CHECKED BY		DATE		CAD CODE	MS48-GL-1.2.dgn
APPROVED BY		DATE		JOB NUMBER	
SIZE	D	SHEET	4 OF 16	DRAWING No.	MS48-GL-1.2





From: [Pagaduan, Alicja](#)
To: [Hammell, Paul](#)
Subject: Fwd: Hydro One Construction in Leamington
Date: December-19-15 5:13:54 PM
Attachments: [image001.jpg](#)

Hi Paul, please see hydro contacts below.

Thanks,
Alicja

Sent from my iPhone

Begin forwarded message:

From: <[mehrgan.mazaheri](#)>
Date: December 18, 2015 at 11:43:17 AM EST
To: <[APagaduan](#)>
Cc: <[patricia.staite](#)>, <[Andrew.Luis](#)>, _____
<[Constantin.Culinescu](#)>
Subject: RE: Hydro One Construction in Leamington

Alicja,

We are currently designing our new 230kV transmission line and I will ask you to share with us any further info you have about Union Gas new NPS 12 pipeline. Constantin Culinescu is the line designer for our new line.

Mehrgan Mazaheri
Project Manager
Project Delivery Department, TCT 12N
Hydro One Networks Inc.

From: LUIS Andrew
Sent: Thursday, December 17, 2015 6:35 PM
To: [APagaduan](#)
Cc: MAZAHERI Mehrgan; STAITE Patricia
Subject: RE: Hydro One Construction in Leamington

Hi Alicja,

Mehrgan is the Project Manager for the [Supply to Essex County Transmission](#)

Reinforcement (SECTR) Project. I have also copied Patricia Staite from our Environmental Group who has been in communication with representatives from Union Gas.

Both are copied on this email.

Andrew
Real Estate

From: Pagaduan, Alicja
Sent: Wednesday, December 02, 2015 8:35 AM
To: DORFMAN Roman
Subject: Hydro One Construction in Leamington

Hi Roman,

Union Gas has a project planned to construct a NPS 12 pipeline in Leamington and in speaking with some of the land owners to obtain temporary land rights we learned that they are also receiving letters from Hydro One. It appears that Hydro has plans to construct a transmission line in the municipality next year. The area we're looking at is down the municipality owned rail corridor between County Rd 14 and County Rd 18 in particular. Hydro has an existing easement on the East side of the trail (approx. 10m away).

I was wondering if we can get the name of the project manager at Hydro who is handling the Leamington work so that we can coordinate our work ahead of time and avoid any potential roadblocks.

Thanks,

[Alicja Pagaduan](#)
Land Resource Agent
Union Gas Limited | A Spectra Energy Company
50 Keil Drive North | Chatham, ON N7M 5M1 T

[cid:image001.jpg@01CF0BBA.EA7C48F0](#)



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From: [mehrگان mazaheri](#)
To: [Hammell, Paul](#)
Subject: RE: Leamington Projects
Date: February-02-16 10:44:22 AM

Paul,

Feb 10th, 9am-12am would work the best for my project team. Please send me the invite.

Regards,

Mehrgan Mazaheri

Project Manager

Project Delivery Department, TCT 12N

Hydro One Networks Inc.

From: Hammell, Paul
Sent: Monday, February 01, 2016 10:46 AM
To: MAZAHERI Mehrgan
Subject: Leamington Projects

Hi Mehrgan,

I would like to setup a meeting to discuss the upcoming projects in the Leamington area. I understand that you are currently designing a new 230kV transmission line and it may be a good opportunity to share scope and schedule information as we are planning a NPS 12 pipeline into Leamington as well.

I have reviewed the calendars of my project team and here are some dates and times that would work on our end for a conference call.

Feb 9th: 3pm-4pm

Feb 10th: 9am-12am

Feb 11th: 10am-11am

Feb 16th: 2pm-4pm

Please let me know your preferred dates and times for your group. I will send out a meeting invite for a conference call for an hour which you can then forward to the correct people on your side.

Thanks,

Paul Hammell

Engineering Construction
Union Gas Limited | A Spectra Energy Company

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From: Hammell, Paul
To: [Constantin Culescu](#)
Cc: [Simpson, Carl](#); [Grochmal, Tom](#)
Subject: Powerline Data Required for AC Mitigation Study
Date: March-07-16 2:37:00 PM
Attachments: [AC Study -Required Powerline Data Parallel.doc](#)

Hi Constantin,

Attached is a document listing the information that our consultant requires from Hydro One to complete an AC mitigation study. As soon as we can get this information we can start the study, determine the engineering controls we are required to install, and get the materials ordered to complete the work during the construction. We can discuss more at this week's meeting.

Thanks,

Paul Hammell

Union Gas Limited | A Spectra Energy Company

UNION GAS LIMITED

Answers to Interrogatories from
Ontario Greenhouse Vegetable Growers

1. Ref: Application for Leave to Construct pages 1, 3.

Preamble:

The Proposed Facilities will provide 51,900 m³/hour of additional capacity to the Project Area.

Initially there were 62 customers with 73 bids into the expression of interest for firm capacity. The 62 customers bid for a total capacity of 129,097 m³/hour.

Questions:

- a) What is the current capacity of the local distribution network (relative to the proposed increase in capacity by 51,900 m³/hour)?
- b) Please explain why Union is not proposing or cannot propose an increase in capacity that would meet the 129,097 m³/hour in additional firm capacity that was requested through the bidding process. In providing the explanation please provide details as to the scope and cost of any additional capital investment that would be required in order to increase the capacity of the local distribution network by more than the proposed 51,900 m³/hour; please also differentiate between necessary upstream work and necessary work to increase capacity on the local distribution network.
- c) In EB-2015-0179, Exhibit B.LPMA.14 b), Union describes the difference between a Minimum Design and a Preferred Design; please discuss whether the Proposed Pipeline is based on a Minimum Design, a Preferred Design, or whether the distinction may not apply in the current case. If the Proposed Pipeline is based on a Minimum Design, please describe the scope and costs related to a Preferred Design, and if based on a Preferred Design, please describe the scope and costs related to the Minimum Design.

Responses:

- a) The local distribution network highlighted in Union's pre-filed evidence at Schedule 5 servicing Leamington/Kingsville is fed from the Panhandle System highlighted in Schedule 4 of the pre-filed evidence. The constraint Union is addressing in this application is the laterals that link the NPS 20 Panhandle Line to the local distribution network. These laterals have a current firm capacity of 129,358 m³/h. The 2016 Leamington Expansion Pipeline Project increases the capacity of these laterals by 51,900 m³/h.

- b) In order to accommodate the total open season bid of 129,097m³/h of firm capacity Union Gas would need to install the 2016 Leamington Expansion Pipeline Project and upstream reinforcement of the Panhandle System from Dawn, as referred in the answer to OEB Staff Interrogatory 1 a). Union is currently preparing an OEB application for an upstream expansion project with a targeted in service date of November 1, 2017. That application does not address any reinforcement of the local distribution network, the need for which is customer specific and independent of the proposed upstream expansion project.
- c) The concept of Minimum Design and Preferred Design is not applicable in this case.

2. Ref: Application for Leave to Construct page 5.

Preamble:

As this is a continuation of the Leamington Phase I Project (EB-2012-0431) no other alternatives were considered except to extend the NPS 12 pipeline further south from County Road 14.

Questions:

- a) What would be the effect of extending the NPS 12 pipeline further south from County Road 14?
-

Responses:

- a) The proposed project extends the existing NPS 12 pipeline south from County Rd 14 ending at County Rd 18, where a new large capacity station will connect to the existing local distribution network. This location has existing large diameter distribution pipelines available to deliver the required gas to customers.

3. Ref: Application for Leave to Construct page 5.

Preamble:

As the purpose of the Proposed Facilities is to provide more gas to the local distribution network, there will be no customers attached directly to the Proposed Facilities.

Questions:

- a) Please confirm that to the extent there is an opportunity for Union to provide additional interruptible service as a result of the Proposed Pipeline that additional interruptible service would be available to all customers that are or can be connected to the local distribution network.

Responses:

- a) Please see Union's response to Board Staff Interrogatory 1e. Union will offer a limited amount of interruptible service up to the interruptible system capacity on a first come first served basis to all customers that are or can be connected to the local distribution network.

4. Ref: Application for Leave to Construct page 3.

Preamble:

The customer may elect to pay the total cost up front as aid to construct or the customer may elect to sign a long-term contract or a Letter of Agreement. If the customer elects to sign a long term contract or a Letter of Agreement, the projected future revenue will reduce or eliminate the aid to construct payment.

Questions:

- a) What is the difference between a long-term contract and a Letter of Agreement? Please provide samples of both a long-term contract and a Letter of Agreement in relation to the Proposed Pipeline, along with commentary as to which terms of those documents will vary from customer to customer, the manner in which they will vary, and the extent to which they may vary.
- b) How many long-term contracts and Letters of Agreement have been entered into in relation to the Proposed Pipeline to date, and how much of the proposed new capacity do those contracts relate to?
- c) Please list the number of executed long-term contracts and Letters of Agreement that are based on a term of one year, two years, three years, etc. up to the maximum 10 year contract as suggested in the Expression of Interest documents.
- d) Please confirm that the intent of a long-term contract or Letter of Agreement is to provide customers with a way to secure firm capacity without paying any amounts in excess of distribution charges associated with their actual consumption so long as their actual consumption meets or exceeds the minimum annual volume (the "MAV") that is included in their contract in each year of the contract.
- e) Please provide detailed examples of how to arrive at a long-term contract or Letter of Agreement that avoids the need for an Aid to Construct Payment using the capacity for Customer No. 1 in Schedule 3 in the first instance and Customer No. 53 in Schedule 3 in the second instance. In each case show what costs are allocated to each customer (including a theoretical, reasonable estimate of customer specific connection costs for illustrative purposes). It is not OGVG's intent that Union provide the actual estimated volumes for Customer No. 1 and Customer No. 53; it is OGVG's intent that Union describe how the annual volumes for those customers would be estimated, and then provide a reasonable annual volume based on the contracted for capacity in order to illustrate how the contract terms would be arrived at.
- f) Does Union intend to adjust the terms of the long-term contracts and Letters of Agreement to reflect the actual construction costs (i.e. by adjusting the allocation of costs to each

customer and the resulting MAV requirements)? Why or why not?

- g) Please confirm that in the event a customer has to terminate or materially curtail its consumption during term of its long-term contract or Letter of Agreement, Union can make the unused capacity available to a new customer. If not why not; if so does the contracting for that capacity differ from the contracting of that capacity in the first instance (i.e. as part of the initial offering of the capacity)?
- h) Please confirm that as a result of the use of MAVs in the contracting for the newly available capacity, Union is 100% protected from the risk of a revenue shortfall from customers as a result of reduced annual volumes (whether as a result of customer specific operational issues or changes, conservation measures engaged in by the customer either on their own or in conjunction with Union, the weather sensitivity of the load, etc.) while at the same time Union benefits from any revenue as a result of increased volumes?
- i) When Union engages a customer that has a multiyear obligation as is proposed in this Application in a Demand Side Management (“DSM”) activity that has the effect of reducing the customer’s annual consumption below the MAV embedded in its contract, does Union allow the customer to adjust its contract terms going forward in order to reflect the impact of the DSM activity?
- j) If a customer falls below their MAV in some years and exceeds their MAV in other years such that, in aggregate, they meet the total volumes in the contract, can the customer avoid charges related to failing to meet their MAV in some years using “credit” for exceeding their MAV in other years? If so explain how this credit is calculated and applied, and if not please discuss whether Union agrees that it would be fair to provide such credit when, in aggregate, a customer meets their contracted for volume and related revenue stream requirements even if in some years they fall below their MAV.
- k) How many of the executed long-term contracts or Letters of Agreement include an Aid to Construct payment as opposed to relying entirely on an MAV for one or more years? If any, please explain what factors did or may have led to the inclusion of an Aid to Construct payment rather than the avoidance of such a payment through a commitment to an MAV over a term of one or more years?
- l) Of the long-term contracts and Letters of Agreement that have been entered into, how many of them included MAVs that Union believes materially exceed the annual volumes that the relevant customer will expect to consume in a “weather normal” year?

Responses:

- a) Please see Union’s response to Board Staff Interrogatory 2 e and f.

b) As of March 23, 2016:

- 32 contracts/letters of agreements have been executed
- 11 contracts are waiting customer execution

This represents 42,676 m³/hour of firm capacity or 82% of the volume available from the proposed facilities.

Union is in final stages of negotiating the contract parameters with 12 customers for the remaining volumes.

c) Please see Union's response to Board Staff Interrogatory 3c.

d) Confirmed.

e) Attached as Schedules 1 and 2 are the economic evaluations for Customer #1 and Customer #53.

f) The contracts for this project do not include a true up provision. Therefore, there will be no adjustment to reflect the actual cost of construction.

g) The customer is obligated to their contract. Should the customer wish to terminate or materially curtail their consumption, the customer would need to find another customer willing to take on the contractual/financial obligations. Union would attempt to contact any parties waiting for firm service to aid in re-contracting for the capacity. The contracting for that capacity would be similar to the contracting of the capacity in the first instance, with the required revenue to recover costs being reduced by the contribution made by the customer who terminated or curtailed its consumption.

h) When a commitment to the revenue requirement is made through the use of the MAV, Union is assured of receiving revenue to support the initial capital expenditure. The MAV commitment is being made by the customers for whom the investment is being made. Since the MAV is an annual requirement, no adjustments are made for inter-period variances.

i) If a customer with a multiyear obligation approaches Union to adjust its contract terms going forward in order to reflect the impact of DSM activity Union will consider allowing the customer to adjust their contract terms. The multiyear obligation will still need to insure a recovery of the remaining project costs that the customer is responsible for and cannot extend beyond a 10 year term.

j) No, a customer could not use "excess MAV" in some years to provide a credit to years where there would be a shortfall

- k) Four executed long-term contracts or Letter of Agreements include an aid payment prior to construction.

The total project costs (Leamington Expansion capital and distribution capital to connect the customer) resulted in the requirement of an aid payment where the customer specific Discounted Cash Flow did not result in a $PI > 1.0$ for the term that they chose.

- l) Based on the information provided by customers for the projected operations of their facilities and connected gas equipment, Union does not believe anyone has an MAV that materially exceeds the annual volumes that a customer would be expected to consume in a “weather normal” year.

5. Ref: Application for Leave to Construct Schedule 8.

Preamble:

Schedule 8 provides the DCF analysis for the Proposed Pipeline.

Questions:

- a) Please detail how the revenue figures in Schedule 8 (starting with projected revenue of \$2,041,000 in year 1 and ending with \$2,534,000 in Year 10) were forecast. In particular detail how the annual gas volumes underpinning the projected revenue based on 2016 General Service Rates was forecast.
- b) Please confirm that the revenue figures in Schedule 8 do not include any revenue associated with the increased availability of interruptible service as a result of the Proposed Pipeline.
- c) Please provide an estimate of the annual revenue from interruptible service that Union recovers from:
 - i) the capacity on the local distribution system not including the additional capacity provided by the Leamington Phase 1 project or the Proposed Pipeline,
 - ii) the incremental capacity provided by the Leamington Phase 1 project, and
 - iii) the incremental capacity to be provided by the Proposed Pipeline.

Responses:

- a) Please see Union's response to Board Staff Interrogatory 2b.
- b) The revenue in Schedule 8 does not include incremental interruptible services.
- c)
 - i) \$ 5,050,000.00 annual interruptible revenue
 - ii) \$657,500.00 incremental annual interruptible revenue from Leamington Phase
 - iii) \$970,000.00 estimated annual incremental revenue provided by the Proposed Pipeline if Union is able to contract with customers who want interruptible service.

6. Ref: Application for Leave to Construct page 2.

Preamble:

In EB-2012-0431 (Leamington Phase 1) the cost of the facilities was allocated to customers based on a standard hourly consumption per acre of greenhouse. For this Application the cost is allocated based on an hourly consumption where the customer selects the usage per hour that meets their needs. Allocating the costs based on m3/hour provides the customer with a more accurate indication of the capital cost associated with their operations, earlier on in the process.

Questions:

- a) With respect to the Leamington Phase 1 project, please provide the number of customers that entered into either a long-term contract or Letter of Agreement for firm capacity, and indicate how many of those customers fell below their contracted for MAV since the pipeline was put into service.
-

Responses:

- a) For the Leamington Phase I project, 32 customers entered into long-term contracts or Letters of Agreement for firm capacity. Five customers have been billed an MAV deficiency charge.

7. Ref: Application for Leave to Construct page 7.

Preamble:

The DCF analysis found at Schedule 8 is based on a total capital cost of \$14.0 million which is the sum of the capital cost of \$12.3 million for the Proposed Facilities plus \$1.7 million as the sum of the estimated cost of the individual distribution facilities to connect the customers.

Questions:

Please confirm that with respect to the estimated \$1.7M estimated cost of individual distribution facilities to connect customers, it is the case that this amount is not allocated to customers when determining the proposed contractual obligations, rather each customer's contract obligation is based on a) an allocation of the estimated costs of the Proposed Pipeline based on their share of the capacity, plus b) the estimated cost of connecting that specific customer to the distribution system, if any.

Responses:

Confirmed

Profitability Index

Customer #1
SA

Feasibility Estimate for Account Managers

- this is the agreed upon feasibility level contingency

Contingency	20%
-------------	-----

Station	Item	Cost
	Material	\$18,000
	Plant Items	\$32,400
	UG Labour	\$23,997
	Non-UG Labour	\$28,140
	Miscellaneous	\$0

Service		
	Material	\$3,326
	UG Labour	\$2,778
	Non-UG Labour	\$72,580
	Miscellaneous	\$0

Main/Reinforcement		
	Trans Build	\$99,590
	UG Labour	\$0
	Non-UG Labour	\$0
	Miscellaneous	\$0

Total	\$280,811
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Allocated	M3/Hr	\$230
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Existing	Estimated Future Parameters Absent Leamington Phase 2										
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Class	M2	M2	M2	M2	M2	M2	M2	M2	M2	M2	
Annual Volume	1,124,141	1,124,141	1,124,141	1,124,141	1,124,141	1,124,141	1,124,141	1,124,141	1,124,141	1,124,141	
New	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
	M2	M2	M2	M2	M2	M2	M2	M2	M2	M2	
Annual Volume	1,966,085	1,966,085	1,966,085	1,966,085	1,966,085	1,966,085	1,966,085	1,966,085	1,966,085	1,966,085	

Current Revenue	M2	43327	43327	43327	43327	43327	43327	43327	43327	43327	
Gross		43327	43327	43327	43327	43327	43327	43327	43327	43327	
Deduct		10522	10522	10522	10522	10522	10522	10522	10522	10522	
Margin		32805	32805	32805	32805	32805	32805	32805	32805	32805	
New Revenue	M2	74668	74668	74668	74668	74668	74668	74668	74668	74668	
Gross		74668	74668	74668	74668	74668	74668	74668	74668	74668	
Deduct		18402	18402	18402	18402	18402	18402	18402	18402	18402	
Margin		56266	56266	56266	56266	56266	56266	56266	56266	56266	

Incremental											
Gross	31341	31341	31341	31341	31341	31341	31341	31341	31341	31341	
Deduct	7880	7880	7880	7880	7880	7880	7880	7880	7880	7880	
Margin	\$23,461	\$23,461	\$23,461	\$23,461	\$23,461	\$23,461	\$23,461	\$23,461	\$23,461	\$23,461	

Customer #1
(Project Specific DCF Analysis)

**Stage 1 DCF - Listing of Key Input
Parameters, Values and Assumptions
(\$000'S)**

Discounting Assumptions

Project Time Horizon

10 years commencing at facilities in-service date of
01 Nov 16

Discount Rate

Incremental after-tax weighted average
cost of capital of 5.03%

**Key DCF Input Parameters,
Values and Assumptions**

Net Cash Inflow:

Incremental Distribution Revenue:
General Service rates

Approved per EB-2015-0340 Effective January 1, 2016

Operating and Maintenance Expense

No incremental O&M

Incremental Tax Expenses:

Municipal Tax
Income Tax Rate

Estimated incremental cost
26.50%

CCA Rates:

CCA Classes:
Eligible Capital Expenditure (ECE)
Class 51 (Distribution Mains)
Class 51 (Distribution Services)
Class 51 (Measuring & Regulating Equipment)

Declining balance depreciation rates by CCA class:
7%
6%
6%
6%

Cash Outflow:

Incremental Capital Costs Attributed

Change in Working Capital

5.0513% applied to O&M

Customer #53
SA 7856
Rate Class T1

Feasibility Estimate for Account Managers

- this is the agreed upon feasibility level contingency

Contingency	10%
-------------	-----

Station	Item	Cost
	Material	\$1,100
	Plant Items	\$0
	UG Labour	\$815
	Non-UG Labour	\$0
	Miscellaneous	\$0

Service		
	Material	\$0
	UG Labour	\$0
	Non-UG Labour	\$0
	Miscellaneous	\$0

Main/Reinforcement	
Trans Build	\$453,790
UG Labour	\$0
Non-UG Labour	\$0
Miscellaneous	\$0

Total	\$455,705
-------	-----------

Allocated	M3/Hr	\$230
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Existing Contract

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Current Contract										
Class	T1	T1	T1	T1	T1	T1	T1	T1	T1	T1
CD	136,000	81,600	81,600	81,600	81,600	81,600	81,600	81,600	81,600	81,600
MAV	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000

New

Class	T1	T1	T1	T1	T1	T1	T1	T1	T1	T1
CD	140,870	140,870	140,870	140,870	140,870	140,870	140,870	140,870	140,870	140,870
MAV	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000

Current Revenue

Gross T1	414185	258508	258508	258508	258508	258508	258508	258508	258508	258508
Deduct	1503	1503	1503	1503	1503	1503	1503	1503	1503	1503
Margin	412682	257005	257005	257005	257005	257005	257005	257005	257005	257005

New Revenue

Gross T1	433836	433836	433836	433836	433836	433836	433836	433836	433836	433836
Deduct	6013	6013	6013	6013	6013	6013	6013	6013	6013	6013
Margin	427823	427823	427823	427823	427823	427823	427823	427823	427823	427823

Incremental

Gross	19651	175328	175328	175328	175328	175328	175328	175328	175328	175328
Deduct	4510	4510	4510	4510	4510	4510	4510	4510	4510	4510
Margin	\$15,141	\$170,818	\$170,818	\$170,818	\$170,818	\$170,818	\$170,818	\$170,818	\$170,818	\$170,818

Customer #53
(Project Specific DCF Analysis)

**Stage 1 DCF - Listing of Key Input
Parameters, Values and Assumptions**

Discounting Assumptions

Project Time Horizon

10 years commencing at facilities in-service date of
01 Nov 16

Discount Rate

Incremental after-tax weighted average
cost of capital of 5.03%

**Key DCF Input Parameters,
Values and Assumptions**

Net Cash Inflow:

Incremental Distribution Revenue:
General Service rates

Approved per EB-2015-0340 Effective January 1, 2016

Operating and Maintenance Expense

Estimated incremental cost

Incremental Tax Expenses:

Municipal Tax
Income Tax Rate

Estimated incremental cost
26.50%

CCA Rates:

CCA Classes:
Eligible Capital Expenditure (ECE)
Class 51 (Distribution Mains)
Class 51 (Distribution Services)
Class 51 (Measuring & Regulating Equipment)

Declining balance depreciation rates by CCA class:
7%
6%
6%
6%

Cash Outflow:

Incremental Capital Costs Attributed

Refer to Schedule 5

Change in Working Capital

5.0513% applied to O&M