

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c.15, Schedule B;

AND IN THE MATTER OF an Application on the Ontario Energy Board's own motion to consider potential alternative approaches to recover costs of expanding natural gas service to communities that are not currently served

**CROSS-EXAMINATION COMPENDIUM OF THE SCHOOL ENERGY COALITION
(Enbridge Panel)**

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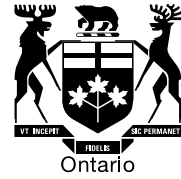
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BY E-MAIL

BY: EMAIL AND WEB POSTING

February 18, 2015

To: All Applicants and Potential Applicants for Expansion of Natural Gas Distribution

Re: Expansion of Natural Gas Distribution

The Provincial Government has set out a goal of ensuring that Ontario consumers in communities that currently do not have access to natural gas are able to share in affordable supplies of natural gas. In an effort to facilitate enhanced access to natural gas for rural and remote communities and businesses in the province, the Ontario Energy Board (the "Board") is inviting parties with the appropriate financial and technical expertise to propose one or more plans for natural gas expansion.

In this context and depending on the nature and scope of any proposals made, the Board is aware that regulatory flexibility may be required. The Board will hear requests for regulatory flexibility or appropriate exemptions in the context of an application made for approvals pertaining to expansion portfolios and specific projects.

Background

In the Long Term Energy Plan the Ontario Government signaled that it would look at opportunities to expand natural gas service within the Province to areas that are not currently served. In support of this objective, the Government, through the Minister of Economic Development, Employment and Infrastructure, will be making available;

- \$200 million in Natural Gas Access Loans over two years to help communities partner with utilities to extend access to natural gas, and
- \$30 million in "Natural Gas Economic Development Grants" to accelerate projects with clear economic development potential.

In 1998, the Board established guidelines for the expansion of natural gas service in its *EBO 188 Report on Natural Gas Distribution System Expansion* (EBO 188). The intent of EBO 188 is to facilitate the expansion of natural gas service while holding other customers harmless from the cost of new connections.

EBO 188 adopts a portfolio approach for gas expansion/connections, which requires distributors to design a portfolio of projects that will achieve an overall profitability index (PI) of 1. This means that over the life of the projects within the portfolio, connected customers will pay the entire costs (through rates and a capital contribution if required). EBO 188 also specifies that any one individual expansion project within a portfolio or otherwise must meet a PI of 0.8. This requirement is intended to minimize cross-subsidization across customers within a portfolio.

While minimizing cross-subsidization either within a portfolio of projects, or between a portfolio and the rest of Ontario customers remains an important goal, the Board is cognizant that the specific requirements of EBO 188 may require some flexibility to expand access to natural gas for communities that are not currently served.

The Board's Approach

To the extent that the economics of a proposed project may not be accommodated within the current regulatory construct, the Board invites proponents to identify, within their applications, any options to address such regulatory issues. The Board will consider any such options as part of its adjudicative process. For instance, the Board may consider specific and supportable proposals that address;

- Whether the Board should allow existing natural gas distributors to establish surcharges to improve the feasibility of potential expansion projects by minimizing the level of required capital contribution.
- Whether the Board should allow for recovery of the revenue requirement associated with expansion costs in rates prior to the end of any incentive regulation plan term once the assets are used and useful.
- Whether projects that have a portfolio PI less than 1.0 and individual projects within a portfolio that have a PI lower than 0.8 should be considered.

Applicants should take the following into consideration when filing their application:

- Where no certificate of public convenience and necessity has been previously granted in a particular area, applications will be considered from all proponents with the requisite financial and technical expertise and experience.

- Proponents should develop proposals that, while ensuring safety and reliability, are cost effective and incorporate flexibility with respect to cost recovery (e.g. ROE, depreciation period, recovery of capital contribution, etc.).
- Proponents should develop proposals that include measures that foster predictability and cost certainty from a consumer perspective.
- Proponents should develop proposals that minimize impacts on existing natural gas ratepayers as a result of new expansion projects.

The Board is considering the need and manner in which to provide clarity for municipalities and potential new service providers on the processes needed to be taken to expand access to natural gas and will communicate further on this.

Invitation to Submit Application

The Board encourages parties interested in distributing natural gas to unserved rural and remote communities to submit an application seeking one or more required approvals (e.g. certificate of public convenience and necessity, franchise agreement, leave to construct) for the Board's consideration.

Subsequent to any Board approval of the above applications, a company would be required to apply to the Board for an order approving just and reasonable rates for the sale of gas and provisions of gas distribution services.

A summary of the requisite approvals is found under Appendix A of this letter.

Any questions relating to this letter should be directed to **Jason Craig** at jason.craig@ontarioenergyboard.ca at 416-440-8139. The Board's toll-free number is 1-888-632-6273.

Yours truly,

Original Signed By

Peter Fraser
Vice President, Industry Operation Performance

**ENBRIDGE GAS DISTRIBUTION INC. (ENBRIDGE)
RESPONSES TO INTERROGATORIES OF VECC**

INTERROGATORY #3

Reference: All

- f) Please produce a table which shows the elements of the proposal of EGD and contrasts and compares that with the proposal of Union Gas.
- g) Please provide a column in the above table with EGD’s comment as to the reason for the difference in any specific aspect of the two proposals.

RESPONSE

f) and g) Please see the requested comparison Enbridge vs. Union Gas

	Elements of proposal	Enbridge	Union	Comments
1	Revenue surcharge in addition to existing distribution revenue	System Expansion Surcharge (SES) to be charged over 40 years	Temporary Expansion Surcharge (TES) applicable up to a maximum of the first 10 years after in service date of the project	Enbridge proposal provides a better PI, and allows more projects under consideration to go forward.
2	Revenue surcharge rate	\$0.23 / m ³	\$0.23 / m ³	Same
3	Treatment of revenue surcharge	Revenue	Revenue	Same
4	Municipal tax rebate (ITE)	To be applied over 10 years	To be applied up to 10 years	Enbridge proposal fixed ten years.
5	Community Expansion Portfolio (the “CE Portfolio”)	Separate rolling portfolio for defined expansion projects	Projects with PI > 0.4 can go forward	Allows a degree of cross subsidy with the CE Portfolio, more projects under consideration by Enbridge can proceed

Table 5: Preliminary Profitability Analysis with Proposed TES and ITE Enhancement

Col 1	Community	Communities	Potential Customers			Forecast Customers			Distance from Source (kms)	Total Investment	PI Normal	PI Proposed	CIAC req'd for PI=0.8	Proposed Solution
			Conversions	New	Total	Conversions	New	Total						
Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11	Col 12	Col 13	Col 14	Col 15	
1	Fenelon Falls & Bobcaygeon	2	3,029	3,213	6,242	2,272	3,213	5,485	47	\$111,956,990	0.26	0.70	\$10,980,000	Pipeline
2	Scugog Island	1	1,177	291	1,468	883	291	1,174	8	\$19,714,126	0.24	0.58	\$6,189,863	Pipeline
3	Cambray	1	400		400	300	0	300	10	\$7,583,140	0.19	0.45	\$3,565,567	Pipeline
4	Zephyr	1	250		250	188	0	188	11	\$5,184,375	0.16	0.39	\$3,124,677	Pipeline
5	Cotnam Island	1	100		100	75	0	75	10	\$2,171,890	0.13	0.36	\$1,285,518	Pipeline
6	Sarsfield	1	200		200	150	0	150	10	\$4,147,500	0.15	0.38	\$2,535,094	Pipeline
7	Udora	1	400		400	300	0	300	8	\$8,842,300	0.16	0.37	\$5,460,127	Pipeline
8	Wilkinson Sub, Innisfil	1	90		90	68	0	68	2	\$1,897,055	0.12	0.35	\$1,253,680	Pipeline
9	Town of Marsville	1	350		350	263	0	263	8	\$8,047,225	0.16	0.36	\$5,102,644	Pipeline
10	Town of Mansfield	1	294		294	221	0	221	8	\$6,817,129	0.15	0.36	\$4,366,730	Pipeline
11	Glendale Subdivision	1	100		100	75	0	75	6	\$2,509,250	0.12	0.31	\$1,781,728	Pipeline
12	Caledon - Humber Station	1	72		72	54	0	54	3	\$2,067,960	0.10	0.26	\$1,594,818	Pipeline
13	Enniskillen	1	200		200	150	0	150	10	\$5,109,500	0.14	0.33	\$3,497,095	Pipeline
14	Village of Lisle	1	400		400	300	0	300	5	\$9,966,800	0.15	0.34	\$6,584,626	Pipeline
15	5th Line, Mono Twp.	1	32		32	24	0	24	3	\$1,798,760	0.05	0.15	\$1,674,004	Pipeline
16	Sandford	1	200		200	150	0	150	9	\$5,590,500	0.13	0.31	\$3,978,095	Pipeline
17	Leaskdale	1	200		200	150	0	150	8	\$5,590,500	0.13	0.31	\$3,978,095	Pipeline
18	Curran	1	100		100	75	0	75	7	\$3,640,250	0.11	0.25	\$2,912,728	Pipeline
19	Bainsville	1	100		100	75	0	75	7	\$3,997,750	0.10	0.23	\$3,270,228	Pipeline
20	Westmeath	1	200		200	150	0	150	10	\$6,448,500	0.13	0.28	\$4,836,094	Pipeline
21	Haydon	1	100		100	75	0	75	10	\$3,441,281	0.11	0.26	\$2,679,802	LNG
22	Woodville	1	300		300	225	0	225	9	\$5,797,180	0.17	0.41	\$3,602,262	LNG
23	South Glengary	1	200		200	150	0	150	10	\$4,590,881	0.15	0.35	\$3,114,668	LNG
24	Caledon - Torbram Road	1	79		79	59	0	59	11	\$3,117,191	0.10	0.23	\$2,512,246	LNG
25	Chute-a-Blondeau	1	200		200	150	0	150	10	\$5,335,501	0.14	0.33	\$3,511,703	LNG
26	Hockley Village, Mono Twp.	1	64		64	48	0	48	13	\$2,950,428	0.09	0.20	\$2,451,366	LNG
27	Maxville	1	400		400	300	0	300	10	\$7,147,877	0.18	0.44	\$4,224,146	LNG
28	Lanark & Balderson	1	400		400	300	0	300	12	\$8,637,117	0.17	0.40	\$5,018,218	LNG
29	Douglas	1	200		200	150	0	150	20	\$5,335,501	0.14	0.33	\$3,511,703	LNG
30	Eganville	1	700		700	525	0	525	40	\$14,063,487	0.19	0.43	\$7,718,759	LNG
31	Kinburn/Fitzroy Harbour	1	500		500	375	0	375	15	\$10,588,874	0.18	0.41	\$6,051,359	LNG
32	St. Isidore	1	400		400	300	0	300	10	\$7,147,877	0.18	0.44	\$4,224,146	LNG
33	Kirkfield	1	800		800	600	0	600	25	\$15,604,747	0.19	0.44	\$8,370,140	LNG
34	Minden	1	1,414		1,414	1,061	0	1,061	68	\$26,418,325	0.20	0.46	\$13,624,673	LNG
35	Coboconk	1	400		400	300	0	300	40	\$8,637,117	0.17	0.40	\$5,018,218	LNG
36	Norland	1	200		200	150	0	150	50	\$5,335,501	0.14	0.33	\$3,511,703	LNG
37	Barry's Bay	1	500		500	375	0	375	90	\$10,761,872	0.17	0.41	\$6,212,245	LNG
38	Kinmount	1	200		200	150	0	150	60	\$5,335,501	0.14	0.33	\$3,511,703	LNG
39	Haliburton (Dysert)	1	2,035		2,035	1,526	0	1,526	88	\$37,161,620	0.20	0.47	\$18,762,625	LNG

82. Table 5 expands upon the information provided in Table 4 by adding the “Proposed PI” and the calculated Contribution in Aid of Construction (“CIAC”) required in order to bring the PIs of these potential projects up to 0.8. The Proposed PIs include the impact of the additional financial support provided by the implementation of the SES and the ITE. Based on the Company’s current cost estimates fourteen projects achieve PIs greater than or equal to 0.4. However, only three potential projects achieve a PI of 0.4 or greater under the Company’s proposal when the cost of transmission mains is included in the analysis for all projects. It can also be seen that in some cases significant additional financial support would be required in order to achieve PIs of 0.8 as set-out in EBO 188.

83. As noted earlier, the Company has also identified a subset of communities that could potentially be more economically served through the utilization of LNG as an alternate means of transporting natural gas to these locations. This analysis indicates that in cases where the capital cost of transmission main to connect these communities to the Company’s existing natural gas distribution system

basis for ten years (Column 8) only two of the thirty-nine potential community expansion projects would achieve PIs in excess of 0.4, the revised project PI proposed by Union Gas.

57. The estimated capital costs used to determine the PIs shown in Table 3 are based on transmission main that would need to be built to extend service to these communities. The main factor leading to the low PIs for these potential projects are high capital costs that are driven by long distances from the existing gas distribution system, difficult terrain and contingency amounts that have been factored into these estimates. Enbridge expects that once more detailed assessments of the design and construction requirements of these projects and scheduling are completed and once the work is tendered contingency amounts can be reduced resulting in lower overall capital cost estimates.

Proposal Objectives

58. The parameters of Enbridge's proposal in this proceeding have been set to achieve the following objectives:
- To maximize the number of new communities to receive natural gas service without the use of provincial funding support, and
 - To limit the rate impacts on existing customers to a maximum approximating \$2 per month (\$24 per year) over the multi-year expansion program.
59. Under this proposal Enbridge expects that it could complete approximately thirty-nine community expansion projects that would provide natural gas service to approximately 16,000 homes and businesses in the first ten years at a total capital cost of approximately \$410 million. In assessing the second objective guidance can be found in the level of ratepayer subsidy that the Board has determined to be appropriate for the funding of the Demand Side Management programs of both Enbridge and Union Gas (EB-2015-0029/EB-2015-0049 Decision and Order, page 6).

Elements of the Enbridge Proposal

- a) Adopt Union's proposed definitions of a Community Expansion Project and a Small Main Extension Project;

ENBRIDGE GAS DISTRIBUTION INC. (ENBRIDGE)
RESPONSES TO INTERROGATORIES OF SEC

INTERROGATORY #22

[p.27, Table 5] Please provide a table showing for each listed community expansion project:

- a. total SES forecasted to be collected
- b. total ITE amount to be collected
- c. the amount forecasted to be collected from existing customers to make up the shortfall in the PI

RESPONSE

Due to the manner in which the models used to calculate these tables are constructed Enbridge is unable to provide the information requested for each individual project at this time. In order to be responsive Enbridge is providing the requested information in aggregate for all 39 projects.

- a. Total SES to be collected over 40 years - \$414.84 million
- b. Total ITE amount to be collected over 10 years - \$12.99 million
- c. The amount forecast to be collected from existing customers over 40 years- \$439.22 million

ENBRIDGE GAS DISTRIBUTION INC. (ENBRIDGE)
RESPONSES TO INTERROGATORIES OF SEC

INTERROGATORY #20

[p.22-23] Please explain why Enbridge proposes System Expansion Surcharge and Incremental Tax Equivalent will go into general revenue and not treated similar to aid to construction.

RESPONSE

Enbridge Gas Distribution's proposed treatment of System Expansion Surcharge ("SES") as revenue instead of Contribution in Aid of Construction ("CIAC") is better from a rate impact perspective. Treatment of SES as revenue results in an overall increase in revenue requirement ("RR") compared to the scenario if it is treated as CIAC. However, this increase in RR is significantly off-set by the amount of SES and results in a reduction of net RR that impacts rates. As such, treatment of SES as revenue would lower the rate impact on existing ratepayers and is a better proposition.

The ITE is a refund of municipal tax and is effectively a reduction to operating expenses and should not impact rate base. This treatment is consistent with how taxes are treated in feasibility assessment based on EBO 188 guidelines.

Table 10: Other Public Interest Factors Including Stage 2 Benefits for New Customers

Col 1	Col 2	Col 3
Stage 1 Benefits: Based on project cash flows		NPV
Stage 1 NPV (at social discount rate = 4%)	A	(122,702,977)
Stage 2 Benefits: Based on Customers' cash flows		
Energy cost savings		384,495,523
Less: Conversion costs		(27,418,920)
Stage 2 Benefits (NPV)	B	357,076,603
Combined benefits (Stage 1 + Stage 2)	A+B	234,373,626

96. In the absence of any contribution in aid of construction the Community Expansion Portfolio produces a negative NPV of utility cash flows (Stage 1 analysis) of approximately \$123 million. A social discount rate of 4% was used for these calculations.
97. A Stage 2 assessment was also done to evaluate new customer benefits for switching to natural gas at significantly lower retail rates than competitive fuels. The customers' cost of natural gas was compared to the cost of either propane or fuel oil or electricity and any savings are netted against the conversion costs. The net savings are then discounted at a social discount rate to produce an NPV of customer cash flows. The resulting NPV of customers' net fuel savings from this Stage 2 assessment for all 39 projects is approximately \$357 million.
98. In a Cap and Trade (C&T) environment those using electricity for heating and water heating are expected to have lower exposure to the cost of carbon compared to those using natural gas, propane or heating oil for the purpose of heating and water heating. A revised Stage 2 analysis based on information provided in the Province's 2016 Budget indicates that under a C&T environment it would be expected that there would be a modest reduction in Stage 2 benefits reducing them to \$351 million from the figure noted in Table 10.
99. The analysis summarized in Table 10 shows that in combination Stage 1 and Stage 2 benefits result in a total quantifiable public interest benefit of approximately \$234 million. The revised Stage 2 benefit analysis indicates that the combined Stage 1 and Stage 2 benefit under a C&T environment would be reduced to \$228 million.

ENBRIDGE GAS DISTRIBUTION INC. (ENBRIDGE)
RESPONSES TO INTERROGATORIES OF SEC

INTERROGATORY #14

[p.15, Table 1] Please add an additional column to table that shows the payback period if the SES was set at a rate to ensure that each community expansion project met the PI of 0.8 (i.e. there was no subsidy from existing customers).

RESPONSE

Please see the requested information in Column 8 of Table 1.

Table 1:

Primary Fuel Type	Penetration %	Annual Heating Bill	Natural Gas Saving	Natural Gas Saving	Estimated Conversion Cost	Payback Period (Years)	Payback Period (Years)
			(no SES)	(with SES)		(with SES)	(with SES at PI = 0.8)
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8
Natural Gas	n/a	949					
Electricity	18%	3,114	2,165	1,613	7,250	4.5	6.3
Heating Oil	27%	2,771	1,822	1,270	3,500	2.8	4.3
Propane	43%	2,582	1,633	1,081	1,525	1.4	2.5
Wood	13%	1,537	588	36	3,500	96.3	NA *
Other (Equal Mix)	0%	2,619	1,670	1,118	3,500	3.1	5.3
Weighted Average	0.00	0	1,661	1,103	3,361	3.0	3.4

*A significant increase in SES is required to achieve a PI of 0.8. Such an increase would make natural gas more expensive than wood, meaning that the concept of a payback period has no application.

ENBRIDGE GAS DISTRIBUTION INC. (ENBRIDGE)
RESPONSES TO INTERROGATORIES OF SEC

INTERROGATORY #18

[p.26] Please provide a breakdown of the potential and forecast customers for each community into the following categories:

- a. residential
- b. commercial
- c. industrial

RESPONSE

Please see table below.

Ontario Energy Board Generic Community Expansion

Filed: 2016-04-22

EB-2016-0004

Exhibit S3.EGDI.SEC.18

Page 2 of 2

		Potential Customers			Forecast Customers		
	Community	Residential	Commercial	Industrial	Residential	Commercial	Industrial
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8
1	Fenelon Falls & Bobcaygeon	5,903	338	1	5,218	266	1
2	Scugog Island	1,468			1,174		
3	Cambray	400			300		
4	Zephyr	250			188		
5	Cotnam Island	100			75		
6	Sarsfield	200			150		
7	Udora	400			300		
8	Wilkinson Sub, Innisfil	90			68		
9	Town of Marsville	350			263		
10	Town of Mansfield	294			221		
11	Glendale Subdivision	100			75		
12	Caledon - Humber Station	72			54		
13	Enniskillen	200			150		
14	Village of Lisle	400			300		
15	5th Line, Mono Twp.	32			24		
16	Sandford	200			150		
17	Leaskdale	200			150		
18	Curran	100			75		
19	Bainsville	100			75		
20	Westmeath	200			150		
21	Haydon	100			75		
22	Woodville	300			225		
23	South Glengary	200			150		
24	Caledon - Torbram Road	79			59		
25	Chute-a-Blondeau	200			150		
26	Hockley Village, Mono Twp.	64			48		
27	Maxville	400			300		
28	Lanark & Balderson	400			300		
29	Douglas	200			150		
30	Eganville	700			525		
31	Kinburn/Fitzroy Harbour	500			375		
32	St. Isidore	400			300		
33	Kirkfield	800			600		
34	Minden	1,414			1,061		
35	Coboconk	400			300		
36	Norland	200			150		
37	Barry's Bay	500			375		
38	Kinmount	200			150		
39	Haliburton (Dysert)	2,035			1,526		
	Total	20,151	338	1	15,977	266	1

ENBRIDGE GAS DISTRIBUTION INC. (ENBRIDGE)
RESPONSES TO INTERROGATORIES OF SEC

INTERROGATORY #17

[p.26] Please explain how Enbridge determined the number of potential customers who will convert to natural gas (forecast customers)? How does the ratio between potential and forecast customers compare to Enbridge's past experience with connecting new communities?

RESPONSE

The customer forecast is based on the assumption that 75% of existing homes and businesses will convert to natural gas over 10 years – this assumption was made based on customer surveys conducted in the Fenelon Falls and Bobcaygeon areas on behalf of Enbridge by a third party market research firm.

Enbridge has interpreted the question “How does the ratio between potential and forecast customers compare to Enbridge’s past experience with connecting new communities?” to mean “How does the ratio between forecast and actual customers compare to Enbridge’s past experience with connecting new communities?”

Please see the response to BOMA Interrogatory #26 at Exhibit S3.EGDI.BOMA.26.

ENBRIDGE GAS DISTRIBUTION INC. (ENBRIDGE)
RESPONSES TO INTERROGATORIES OF BOMA

INTERROGATORY #26

General

Ref: Page 20, Paragraph 58

In community expansion projects in the past ten years, please provide a comparison of EGD's forecast and actual costs of expansion programs, together with the actual versus forecast conversions for the ten year period, with reference to OEB case numbers in cases where leave to construct was required.

RESPONSE

Enbridge has only completed one community expansion project in the last ten years that required a Leave to Construct application which was the provision of service to the community of Alfred and Plantagenet in eastern Ontario in 2008 (EB-2007-0745). The actual project cost was \$2,313,444, which was \$320,838 less than the original total cost estimate of \$2,634,282. The Company's Leave to Construct Application associated with this project was based on the addition of 2,376 customers for feasibility calculation purposes. The in-service date for this project was October 30, 2008 and since that time 1,382 customers have been added to the facilities constructed to serve this community.

ENBRIDGE GAS DISTRIBUTION INC. (ENBRIDGE)
RESPONSES TO INTERROGATORIES OF CCC

INTERROGATORY #14

Reference: EGD Evidence/p. 22

EGD is proposing an Incremental Tax Equivalent (“ITE”) based on the estimated value of incremental property taxes collected from the utility as a result of a community expansion project in that community. Why would EGD not seek to recover more money from the municipalities? Has EGD sought financial contributions from any of the municipalities included on the list of potential expansion projects? If not, why not?

RESPONSE

Enbridge has not sought to recover more funds from the municipalities beyond what it has described in its EB-2016-0004 proposal. The Company has not done this because it believes the proposed ten year ITE will provide for a reasonable contribution from the municipalities associated with the community expansion projects.



Exhibit S4.EPCOR.Board Staff.8

**Reference: Evidence of Adonis Yatchew for Epcor Utilities Inc., Pages 12-13,
Paras. 29-38**

Dr. Yatchew's evidence proposes an "Expansion Reserve" whereby the OEB would establish and administer a reserve that would be funded through a levy on Ontario's existing natural gas customers. System expansion could then be partially funded by this reserve, subject to certain parameters.

Request:

- (a) Is Dr. Yatchew aware of any other jurisdiction that uses a similar type of reserve to support natural gas system expansion? If so, please provide details.
- (b) In Dr. Yatchew's opinion, does the OEB have the jurisdiction to establish an Expansion Reserve and implement an Expansion Charge on customer bills?
- (c) OEB staff would be assisted by some more detail on how the Expansion Reserve would work. Please elaborate on the examples provided in paras. 30-31.
- (d) Would an Expansion Charge be applicable to all customer classes: residential, commercial, industrial and contract customers?
- (e) Epcor's proposal recommends a volumetric levy on province-wide sales of natural gas. Does Epcor propose any maximum monthly surcharge for large commercial or industrial customers or would the volumetric levy determine the monthly surcharge irrespective of the amount?
- (f) Under Epcor's proposal, would the ratepayers of one utility be responsible for paying a portion of the cost of capital of another utility? Is Dr. Yatchew aware of any cases in other jurisdictions where this has happened?



- (g) The evidence at para. 32 states that the OEB should determine what projects are eligible for funds from the Expansion Reserve. What eligibility criteria does EPCOR propose?
- (h) The evidence at para. 37 states that existing customers could benefit in the longer term from system expansion if expansion reduces their unit transmission, distribution, storage or commodity costs. Has EPCOR conducted any research to determine the likelihood of existing customers benefitting financially from system expansion if that expansion has a Profitability Index of, for example, 0.4 or 0.6?
- (i) The evidence at para. 38 states that a “modest surcharge” to current customers would be within the bounds of equity. Can EPCOR quantify what it believes a “modest surcharge” to be? Under EPCOR’s proposals, what is the maximum surcharge that existing customers could be faced with? What is the expected annual amount that would be collected into the “Expansion Reserve”?

Response:

- (a) I have not conducted an exhaustive survey. However, I am aware of several jurisdictions that have adopted an approach which has similarities to the one being proposed here, among them collection of funds from existing customers to support expansion of service to new customers.
 - i. Mississippi
The Mississippi Public Service Commission approved a Supplemental Growth Rider (“SGR”) permitting one of its natural gas utilities, Atmos Energy Corporation to spend up to \$5 million annually on system expansion to support industrial projects. The SGR is designed to encourage industrial development and job creation in Mississippi by providing Atmos with an incentive to extend gas service to potential industrial sites which are not otherwise economically feasible. SGR investments are authorized to earn an equity return equal to 12% for a 10-year



period. The SGR costs are recovered as a surcharge added to Atmos customers' base rate.²

ii. Georgia

In 2013, the Georgia Public Service Commission approved a \$46 million expansion of Atlanta Gas Light's Customer Growth program to extend the natural gas system into communities throughout the state that are currently unserved or underserved. The approval was essentially a second phase extension of the Strategic Infrastructure Development and Enhancement Program ("STRIDE") that the Commission approved in 2009. The STRIDE program allowed Atlanta Gas Light to recover the cost of investments from all of its customers through an additional surcharge.³

iii. Nebraska

In 2012, the Nebraska State Legislature passed legislation which facilitated the expansion of natural gas infrastructure to unserved or underserved areas in the state. The law streamlines the regulatory review process and allows utilities to spread costs across all ratepayers.⁴

iv. North Carolina

In North Carolina, the General Assembly enacted legislation for the creation of expansion funds for uneconomic line extensions. Gas utilities may only apply those funds to economically infeasible expansions. These funds can come from a surcharge imposed on existing ratepayers, supplier refunds and other sources approved by the NC PUC. (See KPMG Report, March 2015, prepared for the OEB.)

(b) EPCOR will respond to this in its legal argument.

²http://www.psc.state.ms.us/InsiteConnect/InSiteView.aspx?model=INSITE_CONNECT&queue=CTS_ARCHIVE_Q&docid=310900.

³<http://ir.aglr.com/mobile.view?c=79511&v=203&d=1&id=1884375>

⁴<http://nebraskalegislature.gov/FloorDocs/102/PDF/Final/LB1115.pdf>



- (c) Implementation could incorporate the following:
- i. The Board would determine an appropriate volumetric levy to be applied to all natural gas customers. As an upper bound, the Board may consider a magnitude similar to that proposed by Union in its application which represents an increase of about \$3 to \$4 per year for a residential customer consuming 2,200 m³ per year in Union South. This in turn suggests a levy of about \$0.002 per m³.
 - ii. All natural gas distributors would recover the levy from their customers through a new charge code identified on the customer's monthly bill. The funds would be transferred to an Expansion Reserve account administered by the Board.
 - iii. Once a prospective distributor reaches a franchise agreement with a municipality, it would apply to the OEB for franchise approval. At the same time, it could apply for access to funds from the Expansion Reserve. The maximum amount would be based on forecasted volumes of sales over the forthcoming 10-year period in the expansion area.
 - iv. The prospective distributor would be eligible for a contribution from the Expansion Reserve if
 - a. it met the normal Board criteria for approval of a franchise, certificate of public convenience and leave to construct;
 - b. it demonstrated a Profitability Index of 1 for the expansion project; the profitability index would be calculated recognizing Government grants and loans, contributions from the municipality, customers and the utility, contributions from the Expansion Reserve, and revenues from future natural gas sales.
 - v. Any funds collected from the Expansion Reserve would be treated as a 'Contribution in Aid of Construction'. The distributor would not earn a regulated rate of return on these funds.
 - vi. The term of the Expansion Reserve could be set at 10 years, with a Board review after 5 years. If and when the Board decides to terminate the Reserve, the funds would be redistributed to ratepayers.
- (d) Yes, under our proposal, a small volumetric levy on Province-wide sales of natural gas would apply to all current customers.



- (e) The simplest approach would be a volumetric levy across all customers. Given the proposed magnitude of the charge (\$0.002 per m³), a more complex approach may not be warranted.
- (f) The amount recovered by a utility under the Expansion Reserve would be treated as a Contributions in Aid of Construction and would not enter rate base or attract a return on capital. The response to part (a) above provides examples where current customers made a contribution to capital costs for expansion purposes.
- (g) See response to part (c) above.
- (h) I am advised by EPCOR that it has not conducted an analysis of this type. However, changing geographical patterns of natural gas supply, combined with impacts on demand arising from a price on carbon, may lead to reduced utilization of existing transmission, distribution and storage infrastructure. In such cases, new customer contributions to fixed costs may have a beneficial impact on existing customer rates.

Lower energy prices in a newly serviced region can generate economic growth with wider benefits by stimulating economic activity in surrounding areas and elsewhere. There would also be increased tax revenues at local and Provincial levels. Current electricity prices are high and rising, which discourages business activity in areas not served by natural gas.

The benefits to Provincial customers are not independent of which companies will provide service to expansion areas. Competition for franchises and expansion opportunities is likely to reduce capital costs. Innovative business models (e.g., those which improve efficiency through economies of scope) may result in similar models being adopted more widely. Finally, the presence of new distributors is likely to improve regulatory efficacy as the Board will have additional comparators.



- (i) A surcharge of \$0.002 per m³ would be less than 0.5% of the gas bill for a typical residential customer. Given the potential for wider benefits, the amounts would seem to be reasonable and of minimal distortionary impact. Province wide the levy would raise at least \$50 million per year.

1 **South Bruce Interrogatory Responses**

2 **EXHIBIT S13**

3 **Exhibit R13.South Bruce.SEC.7**

4 Reference: Bacon Report

5 **Interrogatory:**

6 Please explain how Mr. Bacon believes that the Rural Rate Assistance methodology can be
 7 adapted for community expansion. Please provide a sample calculation.

8 **Response:**

9 For discussion purposes only the following outlines illustrative steps that could be taken to
 10 implement the rural rate assistance methodology

11 Step 1: Periodically (i.e. a period determined by the OEB), determine the weighting average
 12 urban residential monthly bill for delivery for Enbridge Gas Distribution Inc (“Enbridge”),
 13 Natural Resource Gas Limited (“NRG”) and Union Gas Limited (“Union”). For illustration
 14 purposes, assume average monthly consumption is 170 m³

Distributor	Estimated Monthly Residential Delivery Bill for 170 m ³ (A)	Estimated Number of Residential Customers (B)	(C) = (A) * (B)	Contributing % (D)
Enbridge Gas Distribution Inc	\$35.09	1,850,000	\$64,909,942	59.4%
Natural Resource Gas	\$41.22	8,000	\$329,784	0.3%

Limited				
Union Gas Limited	\$35.21	1,250,000	\$44,012,550	40.3%
Total		3,108,000	\$109,252,276	100.0%
Weighted Average Urban Residential Monthly Delivery Bill = Total (C) / Total (B) = \$109,252,276 / 3,108,000 = 35.15 per month				

- 1
- 2 Step 2: The OEB would determine the appropriate level of differential between rural and urban
- 3 residential rates above which rural rate assistance would apply. For illustration purposes, assume
- 4 rural rate differential is 20%.
- 5 Step 3: The entity providing natural gas delivery service to the rural community would submit a
- 6 cost of service application to the OEB according to OEB prescribed filing requirements. Within
- 7 that application the applicant would develop residential delivery rates before applying rural rate
- 8 assistance. For illustration purposes, assume the proposed “gross” monthly residential delivery
- 9 bill for the rural community would be \$45.00 for a monthly consumption of 170 m³
- 10 Step 4: The application would also determine the rural rate assistance amount. It is assumed there
- 11 would be 4,000 residential customers in the rural community. The annual rural rate assistance
- 12 would be the \$45.00 minus \$35.15, from above, adjusted for the rural rate differential of 20%
- 13 times the number of residential customers times 12. This would be (\$45.00 – (35.15 x 1.20 or
- 14 \$42.18)) x 4,000 x 12 or \$135,360 which would provide funding to produce a “net” monthly
- 15 residential delivery bill for the rural community of \$42.18 which is slightly above the delivery
- 16 bill for Natural Resource Gas Limited .
- 17 Step 5: After the review of the application by the OEB and other parties, the OEB would
- 18 approve the cost of service, the appropriate rates and the level of rural rate assistance.

1 Step 6: The OEB would order Enbridge, NRG and Union to pay the entity providing natural gas
2 delivery service to the rural community the portion of the rural rate assistance as per the
3 contribution percentage shown in the table above. For rural rate assistance of \$135,360, this
4 would result in a contribution of \$80,421 for Enbridge, \$409 for NRG and \$54,530 for Union. In
5 turn, Enbridge, NRG and Union would be allowed to recover the assigned amount in their
6 delivery rates. This would result in an annual cost per customer of 4.3 cents for Enbridge, 5.1
7 cents for NRG and 4.4 cents for Union.

8

ENBRIDGE GAS DISTRIBUTION INC. (ENBRIDGE)
RESPONSES TO INTERROGATORIES OF SEC

INTERROGATORY #1

Please provide details of all other alternative regulatory methodologies/mechanisms for community expansion projects that Enbridge considered and the rationale for why they were not ultimately proposed. Please provide copies of all proposals, analysis, business cases, studies, and all other documents regarding any alternative methodologies/mechanisms considered.

RESPONSE

Enbridge originally worked with Union Gas when developing its community expansion proposal. At the time Enbridge's community expansion proposal was structured similarly to the proposal developed and filed by Union Gas in EB-2015-0179 with slight differences related primarily to administration of the system expansion surcharge (TES in the case of Union Gas) and differences in market characteristics. Enbridge presented to the Board, on December 18, 2015, an outline of its community expansion proposal as it was structured at the time, during the pre-hearing conference for the aforementioned proceeding. As Enbridge continued working on its community expansion proposal and the Board took procedural steps to begin the immediate generic proceeding, Enbridge continued to evaluate its community expansion proposal. Through these evaluations Enbridge determined that the initial approach to community expansion would not allow the Company to pursue many of the community expansion projects it had identified. Changes to the Company's initial community expansion proposal and the impacts thereof have been identified in the Company's evidence in this proceeding.

Please also see the response to IGUA interrogatory #7 at Exhibit S3.EGDI.IGUA.7.

Initial Thoughts From ICF

Potential Implications for Enbridge and Customers

- 1. Energy Efficiency / Demand Side Management**
 - Rate of energy efficiency needs increase dramatically with GHG reductions as the key objective
- 2. EGD will need to acquire \$300M–\$500M of allowance per year**
 - Current settlement price of \$17/t results requires roughly \$350M of allowance (depending on inclusion of unbundled customers)
- 3. EGD will need to build allowance acquisition infrastructure**
 - Accounting, finance, trading, analytics, offset/allowance sourcing, brokerage, MM&V, billing, customer relations, DSM, IT, etc.
- 4. EGD will need to re-imagine infrastructure and business model**
 - Residential, commercial, institutional NG consumption could need to decline by ~40% by 2030
 - Even if protection afforded industrial emitters consumption will need to decline by 20 – 30%
 - No net increase in NG consumption for electricity generation
 - Electrification of transport and buildings



ENBRIDGE GAS DISTRIBUTION INC. (ENBRIDGE)
RESPONSES TO INTERROGATORIES OF SEC

INTERROGATORY #10

[p.10] Please provide Enbridge's forecast of annual natural gas consumption for each of the next 40 years, on a per customer basis, for the average:

- a. Residential customer
- b. Commercial customer
- c. Industrial customer

RESPONSE

The Company's latest long-term average use forecast by sector was produced in February 2015 for the period of 2016-2030. Average use forecasts are generated only for General Service customers on Rate 1 and Rate 6.

	Consumption per Customer forecast (m3)*			
	Rate 1	Rate 6		
	Residential Average Use	Apartment Average Use	Commercial Average Use	Industrial Average Use
2016B	2,480	145,181	19,826	109,381
2017	2,454	143,314	19,741	109,600
2018	2,425	141,454	19,656	109,820
2019	2,396	139,533	19,576	110,036
2020	2,367	137,409	19,498	110,154
2021	2,343	135,334	19,438	110,274
2022	2,319	133,138	19,381	110,394
2023	2,296	130,822	19,326	110,517
2024	2,273	128,380	19,272	110,644
2025	2,251	125,808	19,221	110,773
2026	2,228	123,106	19,172	110,905
2027	2,207	120,273	19,125	111,041
2028	2,185	117,308	19,079	111,181
2029	2,164	114,367	19,036	111,323
2030	2,144	111,448	18,993	111,469

*Normalized to 2016 Budget Degree Day. Includes the Company's planned DSM programs