

**Response of Gaz Métro Limited Partnership (Gaz Métro) to the IGUA's request for
information no. 3 presented to Gaz Métro**

1. Extension projects targeted by the proposed methodology

References:

- (i) B-0178, page 8
- (ii) B-0253, page 4
- (iii) B-0277, page 16

Preamble:

- (i) *"[TRANSLATION] Based on the findings of the a posteriori profitability analysis, Gaz Métro established the acceptable minimum threshold at 2% of the IRR for extension projects associated with an investment level of less than \$1.5 million. "*
- (ii) *"[TRANSLATION] The AMT criterion presented in January 2017 in Exhibit B-0178, Gaz Métro-7, Document 1, applies to extension projects valued at less \$1.5 million. For those extension projects where investments exceed \$1.5 million, the files will be presented to the Régie in accordance with section 73, clause (1) of the first paragraph of the Act respecting the Régie de l'énergie "*
- (iii) *"[TRANSLATION] The development plan must achieve a minimum profitability index greater than or equal to 1.1, which corresponds to an IRR of approximately 6.01%."*

Questions:

- 1.1 Please specify whether the new proposed methodology that is based on the calculation of a profitability index and is presented in Exhibit B-0277 will only apply to projects of \$1.5 million or less, ref (i) and (ii)). If so, please justify the relevance of maintaining an approach that is based on an internal rate of return (IRR) calculation for projects valued at over \$1.5 million whereas an approach based on a profitability index is used for projects valued at less than \$1.5 million.

Response:

The new methodology presented in Exhibit B-0277, Gaz Métro-7, Document 4 that is based on the calculation of a profitability index applies to projects valued at under \$1.5 million.

Gaz Métro is of the opinion that the proposed methodology could also be applied to projects where investments exceed \$1.5 million. Seeing as the files of projects exceeding \$1.5 million are handled on a case-by-case basis and presented to the Régie, in accordance with section 73, clause (1) of the first paragraph of the *Act respecting the la Régie de l'énergie*, the Régie might eventually determine whether the new methodology can be applied to projects valued at over \$1.5 million.

- 1.2 Please indicate whether the calculation of the overall profitability index applicable to the entire development plan will take into consideration projects valued at over \$1.5 million requiring the Régie's approval.

Response:

Yes, the calculation of the overall profitability index applicable to the entire development plan will take into consideration projects valued at over \$1.5 million that acquire the Régie's approval.

2 Proposed profitability index

References:

- (i) B-0277, page 17
- (ii) Ontario Energy Board, O.E.B. 188, appendix B, Guidelines for assessing and reporting on natural gas system expansion in Ontario, paragraph 361
- (iii) FortisBc Energy Inc, 2015 system extension application, section 2: Background, page 17
- (iv) B-0207, Schedule 1

Preamble

- (i) “[TRANSLATION] The first change regards the use of an approach based on the PI used by *Fortis BC, Union Gas Limited and Enbridge Gas Distribution*, rather than the *AMT method*, thus aligning the project acceptance threshold with the approach currently used by similar gas utilities in Canada.”
- (ii) *In Ontario, the following equation is used:*

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$$\text{Profitability Index ("PI")} = \frac{\text{PV of Operating Cash Flow} + \text{PV of CCA Tax Shield}}{\text{(PV of Capital)}}$$

(iii) The profitability index formula retained by Fortis BC is the following

Figure 2-1: Current MX Test Formula

$$\text{P.I.} = \frac{\text{Net Present Value of Net Cash Inflows (20 Year DCF Term)}}{\text{Net Present Value of Capital Costs (5 years of Attachments)}}$$

(Delivery Margin + Application Fees-O&M-System Improvement –Municipal Tax-Property Tax-Income Tax)
(Mains, Services & Meter Costs + Overhead + Working Capital)

Questions:

2.1 Please produce the specific profitability index equation that Gaz Métro proposes to use to evaluate the profitability of investment projects, including a definition of each of the equation's parameters.

Response:

The Profitability Index (PI) is calculated in the following manner for each project.

$$\text{PI} = \frac{\text{Present value of net cash flow (40 years)}}{\text{Present value of initial investment}}$$

Where:

Present value of net cash flows = Present value of project's income

- present value of operating costs
- present value of royalties payable to the Régie de l'énergie and Régie du bâtiment
- present value of tax on utilities
- present value of taxes

Present value of initial investment = Present value of all project costs, including the connection costs, service line costs, meter costs and Union des municipalités fees
+ present value of financial assistance (RCP and AASPES) granted to the customer
- present value of customer contributions and external subsidies

Note that to evaluate the overall profitability of the development plan, the current value of the initial investment would also include the general corporate expenses and general contractor expenses, as well as reinforcement costs.

2.2 Please calculate what the profitability index would be for the Serres Demers project cited in the reference

- (iv) if all of Gaz Métro's proposals were retained. Please provide the values that would have been used as inputs for each variable retained in the index calculation. Please provide the results in the form of the usual Excel file presented in reference (iv).

Response:

Please find, in Schedule Q-2.2, the Excel file containing the detailed calculation used for the profitability index.

The profitability index of the Serres Demers project, once the general contractor expenses and general corporate expenses are subtracted (in a manner coherent with the New Methodology presented) stands at 1.46.

2.3 Please produce the method used to estimate the overall profitability index, taking care to identify each of the variables considered. Please support with numerical examples.

Response:

Please refer to the response to question 2.1 for a detailed explanation of the PI calculation per project and for overall profitability. Note that overall profitability is evaluated based on the same costs as the Current Method, namely by considering the general corporate expenses and general contractor expenses, along with reinforcement costs. Please find, in Schedule Q-2.3, the Excel file containing the detailed calculation used for the overall profitability index.

3. Establishing the financial contribution of customers

References:

- (i) B-0178, page 8
- (ii) British Columbia Utilities Commission, An Application by Terasen Gas Inc. and Terasen Gas (Vancouver Island) Inc. for a review of its System Extension and Connection Policies, Terasen Gas Inc. and Terasen gas (Vancouver Island) Submission, October 2007, page 4.

Preamble:

- (i) *[TRANSLATION] If the a priori profitability of a potentially profitable development project fails to achieve a PI of 0.8. In such a situation, Gaz Métro may demand a contribution so as to achieve a PI of 0.8. Such development projects must have a potential for future densification allowing for a PI of 1.*
- (ii) *"[ORIGINAL ENGLISH] The Companies submit that the evidence demonstrates that the existing policies are leading to new customers being required to contribute more than their costs to attach to the system; which results in existing customers receiving a substantial benefit from these new customers. The Companies also submit that the stringency of the existing policies imposes inappropriate barriers for new customers seeking to connect to the gas system. The Companies submit that their MX Tests should not be designed in a manner that results in the new customers added each year contributing more to the system than their costs. But the current design of the MX Tests of the Companies leads to this result."*

Questions:

- 3.1 Please confirm whether, under Gaz Métro's proposal, the projects for which the probability index is higher than 0.8 but lower than 1 may be carried out without requiring a financial contribution from customers corresponding to an amount that would allow for a PI of 1.

Response:

Gaz Métro confirms that a development project with profitability potential for which the profitability index is higher than 0.8 but lower than 1 may be carried out without a financial contribution being required from customers.

- 3.2 Please confirm that projects with a profitability index lower than 1 are those for which the anticipated revenues are lower than the projected costs and, consequently, are those that are not profitable from an economic perspective. Please clarify or correct, as needed.

Response:

By definition, projects whose profitability index is lower than 1 have an internal rate of return (IRR) lower than the prospective capital cost (PCC). Consequently, the net operating revenues, once capitalized, are indeed lower than the project costs (also capitalized). Indeed, the profitability index identifies the relationship between (capitalized) net operating revenues and (capitalized) project costs.

Gaz Métro insists that in the case of individual development projects with profitability potential the profitability index must, generally speaking, be greater than or equal to 0.8. It is important to bear in mind that the densification potential of these projects must nonetheless allow for a

profitability index of 1, which corresponds to an IRR that is at least equal to the PCC. Over time, the project must therefore be economically profitable.

- 3.3 Please identify the reasons why some projects with a PI lower than 1 should be carried out despite the fact that they are not economically profitable. Please elaborate.

Response:

Gaz Métro repeats that it will generally accept a project with a profitability index lower than 1 if the densification potential allows for a profitability index of 1 to be achieved. Consequently, the existing clientele could benefit over time from lower rates resulting from the acceptance of these types of projects with densification potential.

- 3.4 Please confirm that the existing clientele will be required to absorb the costs associated with projects presenting a PI lower than 1 that are not assumed by the new customers through the intermediary of a financial contribution at the time these projects are carried out. If necessary, please clarify or correct, providing explanations.

Response:

Please refer to the response to question 3.3.

- 3.5 The IGUA could confirm that the fact of completing projects with a PI between 0.8 and 1 without requiring financial contributions from new customers would result in transferring a portion of the costs attributable to the new customers to the existing clientele. Please confirm and comment on the possibility of an inter-financing of the new clientele by the existing clientele when projects that fail to achieve the minimum profitability level (PI of 1) are carried out and the existing clientele must consequently assume a portion of the project costs.

Response:

Please refer to the response to question 3.3.

- 3.6 In 2007, Fortis BC secured a PI reduction of 1 to 0.8 based on an argument to the effect that the profitability test was such that new customers generated higher revenues than the costs of new projects (ref.(ii)). Does Gaz Métro believe that Fortis BC's justification supporting its request to reduce the PI from 1 to 0.8 should also apply to Gaz Métro? Please elaborate.

Response:

As indicated in its evidence,¹ Gaz Métro reiterates that it endorses all of the recommendations contained in Black & Veatch's report. In its report, Black & Veatch recommends, among things, adopting the profitability index ("PI") approach used by Fortis BC, Union Gas Limited and Enbridge Gas Distribution instead of the AMT method so as to bring the project acceptance threshold in line with the approach currently used by similar gas utilities in Canada.

Under the PI-based approach, Fortis BC, Union Gas Limited and Enbridge Gas Distribution accept projects whose profitability achieve a PI of 0.8, and Gaz Métro proposes using this acceptance criterion for projects with densification potential.² Gaz Métro repeats that it has also implemented a governance process that frames each step leading to the completion of projects. In this manner, a project whose profitability is situated between a PI of 0.8 and 1 may be authorized if the sensitivity analyses shows it is likely that a PI of 1 may be achieved over time.

As indicated in the Black & Veatch report,³ which is cited in Gaz Métro's evidence,⁴ Fortis BC, Union Gas Limited and Enbridge Gas Distribution include potential customers in their profitability evaluation of a project with a 5 or 10 year horizon. Consequently, potential revenues are considered to achieve a PI of 0.8. Gaz Métro repeats that it proposes an even more conservative approach than these three utilities, seeing as it considers only the revenues of customers that have contractually agreed to achieve a PI of 0.8 under the New Method.⁵

What is more, based on the response to question 9.3a of the Régie's request for information no. 9 (Gaz Métro-9, Document 1, revised), Gaz Métro notes that the medium term densification (after 4 to 6 years) helps increase the *a posteriori* IRR of both residential and commercial projects.

Moreover, it is important to note that, overall, new customers generate revenues that exceed the costs. This is moreover why the *a priori* profitability of the development plan filed in the context of the annual report has in the past revealed a profitability that is by far higher than the PCC.

4. Revenues integrated in the profitability analysis

References:

¹ Please refer to the section «"Constats et recommandations de l'expert" (expert's findings and recommendations) in the evidence of Gaz Métro, Exhibit B-0277, Gaz Métro-7, Document 4.

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- (i) B-0277, page 7
- (ii) B-0253, page 11

Preamble

- (i) *"[TRANSLATION] Contrary to what is the case with the Current Method, Gaz Métro only considers the revenues of customers having made contractual commitments when analyzing a project's profitability using the AMT Method or the New Method. This way, the project's profitability analysis is more systematic, as it excludes potential customers."*
- (ii) *"[TRANSLATION] The unit rate for each customer is based on their specific forecasted consumption."*

Questions:

- 4.1 In all probability, the number of customers will increase during the first years of residential or commercial development projects. Please justify why Gaz Métro has rejected the option of anticipating a conservative growth in the number of customers for the first years of residential or commercial development projects instead of only considering customers that have committed themselves contractually. Please provide an evaluation of the importance of the bias that this approach causes.

Response:

As specified in its evidence B-0273, Gaz Métro-7, Document 2, page 5, including a conservative growth in the number of customers for the first years is the approach that was privileged before the AMT and it was, according to Gaz Métro, less defined and uniform. The point of including only those revenues agreed to contractually is to be able to rationally determine if the extension project will more likely than not achieve and, over time, exceed the PCC by qualitatively assessing the potential for future densification using a systematic and rigorous process. Overall, projects with potential having an *a priori* PI lower than 1 will benefit from future densification in order to achieve an overall profitability index greater than 1.

- 4.2 In the revenue evaluation, please indicate whether the distribution service rate that was applied to the volumes anticipated for each D1 rate customer takes into consideration the basic costs applicable to that rate (ref.(ii)). Please provide a numerical example of how the distribution rate establishment is applied for customers of the various rates.

Response:

The distribution service rate that is applied to the anticipated volumes for each customer takes into consideration the basic costs applicable to that rate. Based on their estimated

volume, each customer will be attributed unit rate as well as base costs in keeping with the service conditions in force.

Please refer to Schedule Q-4.2 for a numerical example of how the distribution rate calculation is applied to customers with various rates.

5. Costs considered in the profitability evaluation

Reference:

- (i) B-0277, page 8
- (ii) B-0278, page 31
- (iii) B-0277, page 4
- (iv) FortisBc Energy Inc, 2015 system extension application, appendix A, EES Consulting – FEU system extension policy review report, page 15
- (v) EB-2015-0179, Exhibit A, Tab 2, Section C, , Schedule 4, Page 1 of 1

Preamble

- (i) “[TRANSLATION] For Gaz Métro, indirect development costs are the general corporate and contractor expenses. According to Black & Veatch, given that these costs remain relatively stable for a certain group of projects authorized annually, are incurred on an annual basis, and are not directly impacted by the number of new customers or new projects, they must be considered in the overall profitability of the development plan.”
- (ii) The following excerpt was taken from the expert report of Gaz Métro
 - Capitalized General Contractors Fees that cover the contractors’ general and administrative costs
 - Capitalized General Overhead Expenses (i.e., the portion of general and administrative costs that are capitalized)

These costs, which are fixed for a certain range of projects done each year, should be considered only at a portfolio level when the profitability of all the development activities is evaluated.
- (iii) “[TRANSLATION] Apply the profitability index (“PI”) approach used by Fortis BC, Union Gas Limited and Enbridge Gas Distribution instead of the AMT Method, and this so as to bring the project acceptance threshold in line with the approach currently used by similar gas utilities in Canada.”
- (iv) “[TRANSLATION] *All of the utilities surveyed incorporate overhead costs into cost*

calculations”

- (v) The following excerpt was taken from the investment request of Union Gas in the matter cited in reference (v)

Moraviantown Island Expansion Costs

2016 Construction

Pipeline & Equipment		Cost
250m	NPS 1-1/4 PE	\$393
2040m	NPS 2 PE	\$6,291
5140m	NPS 4 PE	\$48,234

Sub Total	\$54,918
Contingency 10%	\$6,590
Total	\$61,508

Construction & Labour

Lay price	NPS 1-1/4 PE	\$7,129
Lay price	NPS 2 PE	\$58,169
Lay price	NPS 4 PE	\$230,467
Overheads		\$56,674
Survey		\$10,000
Archeological		\$25,000

Sub Total	\$387,438
Contingency 10%	\$38,744
Total	\$426,182

Interest During Construction	\$0
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Total Project Costs	\$487,690
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Questions:

- 5.1 Please confirm whether, under Gaz Métro’s proposal, the general expenses will not be taken into consideration when evaluating the profitability of specific projects but rather only when evaluating the overall profitability of the development plan (references (i) and (ii)). If so, please justify excluding the general expenses when evaluating the profitability of specific projects other than the fact that including these costs lowers their profitability index.

Response:

Gaz Métro confirms that, under the New Methodology, the general expenses will not be taken into consideration when evaluating the profitability of specific projects, but rather when evaluating the overall profitability of the development plan. Gaz Métro refers to Exhibit B-0277, Gaz Métro-7, Document 4, pages 8 and 9, dealing with the indirect development costs in order to reiterate that the general expenses represent relatively stable costs for a group of projects authorized annually, are incurred on an annual basis and consequently do not vary directly based on the number of new customers or new projects. These costs are therefore not attributable to specific projects or customers. If these indirect costs are assigned on a project-by-project basis, some projects taken individually might not meet the profitability acceptance criteria. This situation would prevent Gaz Métro from enjoying economies of scale, and all customers from enjoying the resulting rate reduction. The example presented in section 4.5 of the Black & Veatch report (R-3867, Gaz Métro 7, Document 5) clearly illustrates this point.

- 5.2 Please indicate how the general expenses taken into consideration when evaluating projects are estimated. More specifically, please indicate, where applicable, what rate will be applied to the value of capital to estimate the general expenses and how it was determined.

Response:

As indicated in its evidence in Exhibit B-0277, Gaz Métro-7, Document 4, page 12, line 12, general expenses will now be taken into consideration in the overall profitability of the development plan, instead of on a project-by-project basis.

- 5.3 Gaz Métro indicates in its evidence (ref iii) that it intends to use an approach similar to the one applied by Union Gas, Enbridge Gas Distribution and Fortis, three distributors that include general expenses when evaluating profitability on a project-by-project basis (ref(v)). What particularity makes Gaz Métro different from these three distributors as regards including general expenses when evaluating the profitability of specific projects. Please elaborate.

Response:

Gaz Métro emphasizes that the OEB, in its reference guide on evaluating expansion projects in Ontario (*Appendix B: Ontario Energy Board Guidelines for Assessing and Reporting on Natural Gas System Expansion in Ontario*), page 2, paragraph 261, proposes dropping the project-by-project approach in favour of a portfolio approach:

“[ORIGINAL ENGLISH] The main change from prior policy and practice is the use of a portfolio approach, as opposed to a project-by-project approach, to the planning, analysis, management and reporting of distribution system expansion projects. The intent of the portfolio approach is to provide the utilities a greater degree of flexibility in determining which projects to undertake, while the Board retains overall regulatory control to ensure no undue cross subsidy or rate impacts result from distribution system expansion. ” (emphasis added by Gaz Métro)

Also as regards the OEB's reference guide on evaluating expansion projects in Ontario, Gaz Métro would also like to emphasize that general expenses are applied to the portfolio, as indicated on page 4, paragraphs 287 to 289:

“[ORIGINAL ENGLISH] *For capital costs, the common elements will be as follows:*

- (a) an estimate of all costs directly associated with the attachment of the forecast customer additions, including costs of distribution mains, services, customer stations, distribution stations, land and land rights;*
- (b) an estimate of incremental overheads applicable to distribution expansion at the portfolio level; and [...]*”

(Emphasis added by Gaz Métro)

Gaz Métro has also reconfirmed with its expert as well as a representative of Union Gas the general treatment of general expenses carried out at the project portfolio level, and not on a project-by-project basis. However, as illustrated in reference (v), under certain special circumstances, some projects may be attributed specific general expenses when these are significant and directly attributable thereto.

Finally, for more information on the measure's justification, please refer to the response to question 5.1.

6. Monitoring reports

References:

- (i) B-0277, page 17
- (ii) FortisBc Energy Inc, 2015 system extension application, section 2: Background, page 47

Preamble

- (i) “[TRANSLATION] *Gaz Métro will improve the a posteriori profitability analysis that is filed with the annual report. Gaz Métro will add the a posteriori profitability analysis six years later for the development projects whose PI is between 0.8 and 1, and for industrial park and road repaving projects. Consequently, Gaz Métro will be able to measure the densification all of these projects and make adjustments when necessary.*”
- (i) “[ORIGINAL ENGLISH] *In this section, FEI addresses an improved approach (the Rate Impact approach) for assessing whether or not the MX Test is achieving its intended result. FEI is proposing that this Rate Impact approach inform any*

future changes to FEI's system extension policy. Specifically, FEI proposes to conduct the Rate Impact analysis at the time of any future reviews of the system extension policies to help guide the review. (...) In simple terms, the Rate Impact analysis looks at what customer rates would be in aggregate with and without actual, historical system extensions installed within a predetermined period. This point in time analysis considers whether the incremental revenue and cost of extensions completed in the predefined timeframe raises or lowers customer rates, all else equal. If rates with capital growth equal rates without capital growth, it indicates a balance of new and existing customer interests having been met. If the rates are not equal, the Company may want to consider changes to its policies."

Questions:

- 6.1 Please describe the methodology Gaz Métro intends to use to determine, *a posteriori*, the performance of investment projects carried out in the past.

Response:

Gaz Métro will continue to analyze the *a posteriori* profitability of investment projects three years later in the context of the annual report filed before the Régie. Gaz Métro will add the *a posteriori* profitability analysis six years later for the investment projects whose PI is, *a priori*, between 0.8 and 1, and for industrial parks and road repaving projects. This addition will apply as soon as the Régie takes note of the new methodology for evaluating the profitability of projects and it will apply for projects approved after that date.

- 6.2 In the opinion of Fortis BC, the fact of taking the initial PI that is calculated based on projected data and comparing it with a PI updated based on the projected and actual data is of little use when determining the economic performance of extension projects. Fortis BC therefore applies an *a posteriori* evaluation that is based on the rate impact, in other words on a comparison of the rates with and without investment projects (ref ((ii)). Would Gaz Métro be amenable to adopting an approach based on the *a posteriori* rate impact of investment projects in its evaluation of the benefits procured after the fact. Please elaborate.

Response:

Gaz Métro already estimates the rate impact of its development both in connection with the *a priori* profitability and *a posteriori* profitability, the two exhibits being filed in the annual report. For example, in the context of the 2016 Annual Report, see R-3992, B-0075, Gaz Métro-14, Document 3, page 1, lines 36 and 37, as well as page 13, lines 39, 40, 44 and 45.

Schedule Q-2.2 is filed as a distinct Excel file.

Schedule Q-2.3 is filed as a distinct Excel file.

[illegible]

Level (m ³ /day)		Base expenses (m ³ /day)	Unit rate (€/m ³)	
Lower end	Upper end		Level	Level cumulated
0	3	51,781	25,924	0,000
3	10	51,781	25,924	25,924
10	30	51,781	25,924	25,924
30	100	105,503	17,702	25,924
100	300	125,843	15,303	20,169
300	1 000	132,805	11,592	16,925
1 000	3 000	174,188	8,579	13,192
3 000	10 000	229,522	6,026	10,117
10 000	30 000	570,927	4,848	7,253
30 000	100 000	570,927	4,022	5,650
100 000	300 000	570,927	3,332	4,510
300 000	and up	570,927	3,332	3,725

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applied to the profitability analysis, R-3867-2013
