Régie de l'énergie

Gaz Métro – Request regarding the generic file on Gaz Métro's cost allocation and rate structure

R-3867-2013, Phase 3B

Brief by the Association des Consommateurs Industriels de Gaz (ACIG)

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Table of Contents

BACKGROUND

In its decision D-2016-169, the Régie established the following subjects for Phase 3 of file no. R-3867-2013:

a- the method for determining the marginal costs for long-term service delivery;
b- the methodology for evaluating the profitability of network extension projects.

On September 1, 2017, the Régie ruled on Subject A of Phase 3 of the file in its decision D-2017-092.

In June 2017, Gaz Métro filed its last pieces of evidence regarding Subject B of the file, which proposes a new methodology for evaluating the profitability of investment projects.

ACIG hereby submits its comments on said proposed methodology for evaluating the profitability of network expansion projects.

1. USING A PROFITABILITY INDEX

Gaz Métro is proposing to determine the profitability of investment projects by using a profitability index which represents the ratio between the discounted revenues of the planned investment and the discounted costs of the investment. In reply to ACIG, Gaz Métro provided the precise equation of the profitability index that will be used to test the profitability of investment projects.[1]

[1] B-0282, page 3

The profitability index (PI) is calculated as follows for each project:

$$PI = \frac{\text{Current value of cash flows from operations (40 years)}}{\text{Current value of the initial investment}}$$

Where:

Current value of cash flows from operations = Current value of project revenues
- current value of operating costs
- current value of royalties to the Régie de l'énergie and to the Régie du bâtiment
- current value of public utility taxes
- current value of taxes

Current value of the initial investment = Current value of all the project costs, including
connection costs, mains costs, meter costs and fees to the Union des municipalités
+ current value of financial assistance (PRC and CASEP) granted to the client
- current value of customer contributions and external subsidies

According to a recent study prepared by the American engineering firm EES Consulting for FortisBC, the approach based on calculating a profitability index, as is proposed here, is commonly used in Canada.

> *"While there are differences in the actual tests used, all of the tests are attempting to quantify the benefits and costs associated with a new customer. FEI uses a discounted cash flow model and looks at the cost benefit ratio in determining the customer's share of extension costs. This is the most common approach across Canada and in Washington State. Other utilities in the U.S. look at costs and benefits but use an internal rate of return calculation to determine the amount owed by the customer. Still others look at just the revenues over a set number of years as a proxy for the full cost-benefit approach. Additional methods include allowing a set distance at no cost to the customer, or allowing a set credit for each appliance installed, as in the case in Oregon and California. These latter methods are based on an underlying cost-benefit analysis but are streamlined for the sake of simplicity.*
>
> *These general approaches are different but are all attempting to measure the same incremental cost theory."*[2]

In Québec, the profitability test was, until now, based on the internal rate of return (IRR) of the project, which must be equal to or greater than the prospective capital cost (PCC).

[2] FortisBC Energy Inc. (FEI), 2015 System Extension Application, Annexe A - FortisBC Energy Inc. System Extension Policy Review, June 2015, page 92

According to the benchmarking study carried out by EES Consulting, this approach is more commonly used in the United States.

Although ACIG did not object to the use of a profitability test based on the internal rate of return (IRR) as is currently used, it is not opposed to switching to a method based on a profitability index.

The proposed profitability index is conceptually simpler and more transparent than the approach based on the IRR. The profitability index (PI) consists in comparing the discounted revenues resulting from an extension project with the discounted costs of that same project. The ratio of revenues over costs will be greater than 1 for projects that bring in more revenues than they generate costs, and less than 1 for projects that generate lower revenues than their costs.

The profitability test based on a PI like that which is being proposed has the advantages of being very simple and transparent, and of being commonly used elsewhere in Canada. For these reasons, ACIG supports the initiative of applying it in place of the IRR that was historically used by Gaz Métro.

2. THE CONCEPT OF INCREMENTAL COSTS

The approach that Gaz Métro is proposing is based on the concept of incremental costs associated with projects. If the costs generated by an extension project are at least offset by revenues, the existing customers are no worse off, that is, they do not suffer a rate increase due to an extension project from which they do not benefit directly. This is what is called the "no burden criterion."

> *"A common objective of line extension rules is to hold existing customers harmless. That is, utilities apply what economists call a "burden test" to protect existing customers. That is why, for example, rules require new customer contributions and economic tests for assessing proposals for line extensions. As a rule, when a utility receives revenues from new customers equal to or greater than the incremental cost, existing customers are either no worse off or better off."*[3]

[3] Line extensions for Natural Gas: Regulatory considerations, Prepared by Ken Costello for the National Regulatory Research institute, NRRI, Report No. 13-01, February 2013, page 27

In a case where the assessment of the profitability of an investment project took into account a lesser cost than the incremental costs associated with the investment project, the existing customers would be put at a disadvantage compared with the new customers that they would be cross-subsidizing. As long as the cost allocated to the project at least matches the incremental cost of it, the existing customers suffer no ill effects, as they don't have to subsidize a portion of a project from which they derive no benefit.

> *"As long as the utility recovers from new customers sufficient revenues to cover the incremental costs, no burden falls on existing customers."* [4]

It is important that existing customers be protected from a rate increase following the completion of an extension project from which they will not directly benefit. Thus, the costs allocated to the project as part of the profitability analysis must be at least equivalent to the incremental costs of the project, to avoid having the new customers be subsidized by the existing customers.

By the same token, the cost allocated to the project cannot be higher than the standalone cost, otherwise the existing customers would be cross-subsidized by the new customers.[5] Using a cost that is lower than the incremental cost or higher than the standalone cost will generate inequity for a segment of the customer base.

As explained in this file, Gaz Métro plans to include, in its profitability analysis, only the direct incremental costs of the projects, and to exclude indirect development costs (overhead) and network reinforcement costs (*system incremental capital investment*). Those costs would only be taken into account when analyzing the profitability of the entire portfolio of projects. ACIG does not object to this approach, provided that it does not result in underestimating project costs and, consequently, undertaking extensions that appeared to be profitable based on the PI of individual projects but that prove not to be so when all costs are taken into consideration.

[4] Line extensions for Natural Gas: Regulatory considerations, prepared by Ken Costello for the National Regulatory Research Institute, NRRI, Report No. 13-01, February 2013, page 29

[5] For these concepts, ACIG refers to the excellent text by Ken Costello of the National Regulatory Research Institute entitled *Line extensions for Natural Gas: Regulatory considerations*, pages

ACIG is of the opinion that the cost allocated to an individual project for the PI assessment must be equivalent to at least the incremental cost of the project and, at most, to the cost of treating the customers affected by the project on a standalone basis. Otherwise, these customers will either cross-subsidize the others, or be cross-subsidized.

3. ACCEPTANCE OF PROJECTS WITH A PI OF 0.8 OR MORE

Gaz Métro is proposing to undertake extension projects with a PI between 0.8 and 1, if the projects offer potential for densification suggesting that the PI will eventually reach the value of 1. Thus projects that are not yet profitable at the time they are carried out, but that are expected to become so, would be undertaken. Gaz Métro is also proposing to maintain an overall PI of 1.1 for its entire portfolio. Thus, overall, the revenues of these extension projects will exceed the incremental costs and thus benefit existing customers.

Generally speaking, ACIG is of the opinion that network extension projects that are not net revenue generators should not be carried out because they are not profitable. Undertaking an investment that will bring in less revenue than the costs it generates puts existing customers in a situation of having to finance a portion of the costs of these projects and thus subsidize the new clientele at which the investment project is aimed. This cross-subsidization of new customers by existing customers is inequitable because the costs are transferred to customers who did not cause them and who will not benefit from the new infrastructures. These investments result in a disadvantage for existing customers and contravene the "no burden" criterion.

> *"A common objective of line extension rules is to hold existing customers harmless. That is, utilities apply what economists call a "burden test" to protect existing customers. That is why, for example, rules require new customer contributions and economic tests for assessing proposals for line extensions. As a rule, when a utility receives revenues from new customers equal to or greater than the incremental cost, existing customers are either no worse off or better off."*[6]

[6] 6 Line extensions for Natural Gas: Regulatory considerations, prepared by Ken Costello for the National Regulatory Research Institute, NRRI, Report No. 13-01, February 2013, page 27

Besides being inequitable, the situation of one group of customers financing an extension project that will benefit another group of customers is inefficient from an economic perspective. Cross-subsidization sends a distorted price signal that encourages consumers to switch to using natural gas, whereas they would not have done so if they had had to pay the total cost of the network extension. If such unprofitable projects would not see the light of day in a competitive and non-regulated market, they should also be rejected in a regulated market.

The fact that Gaz Métro is aiming for a PI of 1.1 for the portfolio as a whole does not constitute a valid reason for including unprofitable network extension projects in the distributor's investment portfolio.

ACIG feels that carrying out projects with a PI of less than 1 can lead to cross-subsidization favouring the new customers who will benefit from the facilities without having to pay all the costs. ACIG submits that a minimum PI of 1 ensures that the rate impact of network extension projects on existing customers will be zero or negative, i.e. these customers will be held harmless. Existing customers should not have to support or finance a portion of the costs of an extension project.

Conceptually, projects that do not have a PI of 1 should not be carried out even if, overall, the portfolio has a PI greater than 1, i.e. 1.1. However, the approach that Gaz Métro is proposing allows some flexibility in its application. ACIG would point out three reasons that would justify not strictly applying the profitability test:

- Gaz Métro does not include a customer growth factor in its profitability analysis of specific projects. The profitability index is calculated based on the number of customers who have already signed a distribution contract, and does not take into account additional customers who might arrive on the scene within the first three or five years after the completion of the project. This approach creates bias in the calculation of the PI which does not reflect the size of projects' growth potential. This has the effect of treating two projects with very different potentials, but a similar PI, on an equal footing.
- Gaz Métro is proposing to not take certain fixed costs, such as corporate overhead, into account when calculating the profitability index of specific projects, but instead to

do so when calculating the PI of the portfolio of projects. This approach also introduces a bias into the calculation of the index. This bias would lead one to conclude that the incremental costs of certain projects are entirely offset by revenues whereas, in fact, they are not.

- The profitability index is a forward-looking tool that is based on several assumptions about anticipated revenues and all the incremental costs including future taxes, the anticipated return and all the planned capitalizable costs. This tool for predicting the profitability of projects certainly carries a margin of error.

These considerations show that a certain margin of error is inherent in the PI and suggest allowing a degree of flexibility in applying the profitability test, rather than imposing a strict application of it under which any project that failed to present a PI of 1 would be rejected. Since the profitability of a project cannot be known exactly a priori, it is reasonable to allow projects with strong expectations of densification to proceed. However, this flexibility must be balanced by discipline in the quality and regularity of a posteriori follow-ups that should confirm whether the projects carried out have indeed been profitable and, overall, to customers' benefit. It must be possible to quickly make adjustments if it can be demonstrated that the target PI of 0.8 is too low.

Accordingly, ACIG supports the intention that Gaz Métro has expressed to improve its a posteriori profitability analysis which is filed in its annual report.

> *"Gaz Métro will improve the a posteriori profitability analysis that is filed in its annual report. More specifically, Gaz Métro will add the a posteriori profitability analysis six years later for development projects whose PI is between 0.8 and 1, as well as for industrial park and road repaving projects. In this way, Gaz Métro will be able to measure the densification of all these projects and make adjustments as needed."*[7] *[Our translation]*

Given the inherent margin of error that exists in any profitability index of a network extension project, and given that Gaz Métro takes only signed contracts into account and does not include a customer growth factor when calculating the PI, ACIG feels that it is reasonable for projects presenting a strong expectation of densification and a PI of 0.8 or more to be carried out without requiring any contribution from the target customers. However, this flexible

[7] B-0277, page 17

approach to the application of the profitability test must include a posteriori follow-ups that would confirm the profitability of projects and their favourable rate impact.

4. EXCEPTION TO THE APPLICATION OF A MINIMUM PROFITABILITY THRESHOLD

Gaz Métro has identified two exceptional cases in which a profitability index below the minimum threshold of 0.8 would be accepted for extension projects. These exceptional cases are:

1- Development of an industrial park
2- Road repaving activities.

For industrial park and road repaving projects, Gaz Métro could arrive at a PI of less than 0.8 because, in some cases, no customer is known and ready to make a commitment at the time of deciding to proceed with these projects. However, Gaz Métro will rely on its assessment of the potential for growth and densification that is presented by extension projects[8] before making the decision to go ahead with them.

For both industrial parks and repaving projects, Gaz Métro expects the projects to eventually be profitable. Gaz Métro also indicates that it intends to set up a budget of approximately $1.5 million that would be available in order to reach a PI of 0.8 for industrial park and road repaving projects where future densification is expected. Said budget would cover the amounts that would normally have to be funded by contributions from customers who have signed a contract.

ACIG supports Gaz Métro's approach of taking advantage of development opportunities when municipalities approach it with an invitation to bury its mains when new roads are being paved for future residential or industrial neighbourhoods or when existing roads are being repaved. At this initial stage of such projects, insufficient numbers of customers have signed a contract with Gaz Métro to achieve a PI of 0.8. However, ACIG notes that the paving and industrial park projects that will be undertaken are those that are deemed to have the potential for reaching that profitability threshold.

[8] B-0178, page 9

ACIG reiterates its position that a flexible approach to applying the profitability test is desirable, provided that a posteriori follow-ups are carried out to confirm the profitability of projects and their favourable rate impact. Seizing the opportunity to carry out certain extension projects that do not reach a PI of 0.8 when municipalities are repaving roads or developing an industrial park is reasonable and desirable, provided that profitability is achieved in the long term.

5. MAINTAINING A PI OF 1.1 FOR THE PORTFOLIO

According to Gaz Métro's proposal, the development plan must achieve, at the minimum, a profitability index of 1.1 or more, which would correspond to an IRR of approximately 6.01%. The total of investments in development projects, corporate overhead, contractors' overhead, network reinforcement costs and investment in exceptional cases should reach a minimum PI of 1.1.

This approach, which is followed in Ontario and in British Columbia in particular, ensures the overall profitability of extension projects and offsets the stranded costs of individual projects whose anticipated profitability fails to materialize.

ACIG is of the opinion that the undertaking of extension projects should be based on their anticipated profitability, and that a portfolio approach should not be adopted to justify the execution of unprofitable projects. The proposed "*portfolio"* approach could be perceived as permission to allow unprofitable projects to be funded by profitable projects, which is economically inefficient and inequitable from ACIG's point of view.

Accordingly, ACIG believes it is appropriate to prevent the possibility of cross-subsidization between the various clienteles. ACIG submits that a profitability threshold should be set on a per-market basis, i.e. that the target PI of 1.1 should be reached for each of the three major market segments, i.e. residential, commercial and industrial. In reply to the Canadian Federation of Independent Business, Gaz Métro states that profitability thresholds have been set for each of the various markets. In particular, a profitability threshold of 6.28% has been set for extension projects serving the residential market; these historically offer lower profitability.

"As far as the residential and major industries markets are concerned, the target has been set at prospective capital cost + 1% to ensure a profitability target that would generate rate reductions. For the residential market, the profitability target has been set at that level because historically, the investments and the profitability are lower there than in the other markets."[9] *[Our translation]*

ACIG submits that a profitability threshold of 1.1 applied to each of Gaz Métro's major markets, i.e. residential, commercial and industrial, would avoid situations of cross-subsidization between the major categories of customers. It therefore invites Gaz Métro to consider adopting separate profitability thresholds for the residential, commercial and industrial portfolios.

The portfolio approach was first applied in Ontario in 1998 and, more recently, in British Columbia (2007). Fortis BC targets a PI of 1.1 for all of its extension projects.

"The company proposed to use a PI of 0.8 as the lower economic threshold for passing individual main extensions, and an aggregate PI of 1.1 as the threshold for all main extensions completed on an annual basis."[10]

Furthermore, in Ontario the OEB specifies that the portfolio must also include projects that are undertaken for network security or reinforcement reasons that are not economically profitable.

"The Board is of the view that all distribution system expansion projects should be included in a utility's portfolio. This includes projects being developed for security of supply and system reinforcement reasons."[11]

Gaz Métro is justifying switching to a portfolio approach with a profitability index of 1.1 by the fact that this approach is commonly used in other parts of Canada.

"Profitability Index of 1.1 (based on ensuring ratepayer benefits and consistency with system extension profitability methods used by other Canadian utilities.)"[12]

[9] B-0286, page 2

[10] FortisBC Energy Inc. (FEI), 2015 System Extension Application, Annexe A - FortisBC Energy Inc. System Extension Policy Review, June 2015, page 15

[11] E.B.O. 188, section 2.1.2

[12] C-OC-0047, Attachment A, page 1

Thus, for the sake of consistency, it would be appropriate to consider including all extension and reinforcement projects in the portfolio, including those that are undertaken for network security reasons, as is the case in Ontario.

ACIG believes it would be appropriate to specify exactly which extension projects will be included in the portfolio to which the PI of 1.1 will be applied. In particular, it should be specified whether that portfolio will also include projects that are undertaken for network security and reinforcement reasons, as is the case in Ontario.

6. METHODOLOGY FOR PROJECTS OF $1.5 M OR MORE

In reply to ACIG, Gaz Métro states that the new methodology based on a profitability index applies to projects of less than $1.5 million. However, the distributor specifies that the proposed methodology could also be applied to projects where the investment is more than $1.5 million. Since projects costing over $1.5 million are approved individually by the Régie, Gaz Métro feels that it would be up to the Régie to determine what approach is appropriate for large-scale projects.

In ACIG's opinion, whatever approach is adopted for assessing the profitability of projects and whatever profitability criteria are targeted, these must apply across the board to all projects, i.e. both to those costing $1.5 million or more and to those costing less than $1.5 million. This is a matter of consistency and of equity towards the various classes of customers.