RESPONSE TO SOCIÉTÉ EN COMMANDITE GAZ MÉTRO (GAZ MÉTRO) TO THE INFORMATION REQUEST NO. 3 FROM EXPERT PAUL L. CHERNICK ON THE ADDITIONAL EVIDENCE OF GAZ MÉTRO

1. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 2.

Preamble:

- "Acceptability criteria [is] IRR greater than the Prospective WACC."

Questions:

1.1. Please explain why Gaz Métro intends to use the IRR test, rather than the net present value at the WACC or other discount rate.

Response:

The IRR and the WACC are two investment evaluation concepts that are strongly linked to one another, the IRR being the discount rate for which a WACC is equal to 0. The use of the IRR simplifies comparison with the capital cost; an IRR above the capital cost means that the project is economically profitable (reduction of the rates over the analysis period) whereas an IRR below the capital cost means that the project is not economically profitable (increase of rates over the analysis period). Nevertheless, the decision-making processes to accept (or not accept) a project based on either the IRR or the WACC are equivalent; an IRR greater than the capital cost implies a WACC above 0 and, therefore, the project is economically profitable and thus accepted. For the sake of simplicity, the IRR is the tool used by Gaz Métro to determine whether a project is above the prospective capital cost. This method was approved by the Régie in its decision D-97-25.

1.2. Since customers will pay the net revenue requirements of the extension project, why does Gaz Métro propose to use the WACC rather than an estimate of the cost of capital to its customers?

Response:

Investments are financed by a capital structure authorized by the Régie (debt and equity), the weighted average cost of the prospective capital therefore being the representative cost of funding the investment. This method was approved by the Régie in its decision D-97-25.

a. Please provide any available estimate of the cost of capital for any of Gaz Métro's rate classes.

Response:

See response to previous question.

b. Please provide and available estimate of the percentage of Gaz Métro residential customers who carry a credit-card balance.

Response:

Gaz Métro has no information regarding the credit card balances of its customers.

2. Source: R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 2.

Preamble:

- "[…] the cost of a distribution system project undertaken by a gas utility to replace a segment of its existing distribution mains or the cost to replace a gas service line or gas meter at a particular customer's location would not constitute an incremental cost. It is simply the cost of maintaining the existing level of output and not an incremental cost to increase the utility's output."

- "Current costs should be used to determine the directly attributable, capital-related costs to connect a new customer (e.g., main extension, service line, meter and regulator)"

Questions:

2.1. Please explain in detail how Gaz Métro reflects the costs of maintenance capital expenditures for the "directly attributable" additions over the life of the analysis.

Response:

The cost of maintenance capitalizable expenditures are used to either prolong the lifespan of an asset, or to replace it and therefore continue the service. For Gaz Métro, these investments are seen as improvements to the system and ensure the maintenance of safe and viable assets. Therefore, investments in system improvements do not constitute incremental costs and are not taken into account in the profitability analysis as is indicated in exhibits provided by Gaz Métro[1] and the expert[2].

2.2. Please provide any available data on the retirements and replacements of each of the following by age of the installation:

a. Mains;

b. Service lines;

c. Meters;

d. Regulators.

Answer:

Retirement amount *($)*					
Age of assets	**Between 0 and 10 years**	**Between 11 and 20 years**	**Between 21 and 30 years**	**Between 31 and 40 years**	**Total by category**
Steel and direct plastic connections	(257,817)	(622,593)	(847,218)	(1,106,940)	(2,834,568)
Steel and direct plastic service lines	(338,340)	(181,641)	(501,182)	(2,390,752)	(3,411,915)
Meters	(851,680)	(1,773,798)	(3,550,513)	0	(6,175,991)
Total per age group	**(1,447,837)**	**(2,578,032)**	**(4,898,913)**	**(3,497,691)**	**(12,422,473)**

[1] B-0277, Gaz Métro-7, Document 4.
[2] B-0278, Gaz Métro-7, Document 5.

Retirements related to regulators are included with those of connections. Gaz Métro does not have a separate asset category for regulators.

In the majority of cases, a retirement is carried out following an asset replacement project.

3. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), pp. 3 and 34.

Preamble:

- "As long as the incremental revenues from a new customer to be served by the gas utility can recover, at a minimum, the directly attributable costs of the proposed new connection to the utility's gas distribution system, any revenues above that minimum level will provide a positive contribution to the recovery of the gas utility's fixed costs that are common to the specific activities and functions of the gas utility's development efforts to add new customers and to continue to serve existing customers."

Questions:

3.1. Please explain how this statement applies if Gaz Métro needs to add upstream capacity during the analysis period to meet the combined load of this new customer, other new customers on the line extension, new customers on other line extensions, new customers along existing lines, and additional load from existing customers.

Response:

Black & Veatch

The statement will also apply in this situation because each of the new customers will provide a positive contribution to the recovery of Gaz Métro's fixed costs of the added upstream capacity during the analysis period, while its existing customers will also contribute to the recovery of those development costs when they are eventually reflected in Gaz Métro's rates.

3.2. If a new customer would require service-extension investment and expenses (including metering, billing, and the like) with a present value of $1 million, provide GM with revenues of $1.3 million and require a $1 million upgrade in the upstream distribution system about five years after it comes on line, would that customer be profitable to Gaz Métro?

Response:

Black & Veatch

The profitability of the assumed upstream distribution system project should not be evaluated solely on the basis of the profitability of a single customer. As explained in the response to FCEI question 9.1 (Gaz Métro-9, Document 11), in this type of situation, Gaz Métro would review the potential for creating future customer benefits from the upstream distribution system investment. Moreover, as explained in the responses to questions 12.1 and 12.3 below, distribution networks are complex and it is not possible to generalize the impact of network reinforcement. Some reinforcements have an impact on a small part of the network, while other reinforcements impact the entire Gaz Métro network. The inclusion of the System Incremental Capital Investment at the portfolio level is efficient because it would avoid having to develop a process and methodology to apportion the cost of the System Incremental Capital Investment to individual projects, and possibly to Gaz Métro's existing customers. This method is equitable because it recognizes the lumpy nature of the investment by aligning the number of new customers to be served and their capacity needs over the analysis time period with the investment level needed to satisfy those customer requirements rather than attributing the entire cost of the investment to the "next customer" at the margin causing the need for the investment. Finally, the inclusion of the System Incremental Capital Investment at the portfolio level is straightforward and not subject to variations in interpretation or application.

Nevertheless, in the example posed in the question which is a very rare occurrence, if the upstream distribution system investment is only to be used to serve this one customer, with no possibility of serving future customers or creating other system benefits, then this project would not be deemed to be profitable because the directly assignable costs for this customer would also include the costs of the upstream investment.

4. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), pp. 3 and 11.

Preamble:

- "Using LRIC costing concepts to establish *each* cost component in a gas utility's economic evaluation of system extension projects could violate the "matching principle" of utility ratemaking (i.e., a utility's revenues derived from rates must match its total cost of service or total revenue requirement approved by the regulator)."

Questions:

4.1. Please define as precisely as possible what is meant by "LRIC" in this context.

a. Does "long-run" in this context mean the average expected incremental cost to the system due to this incremental load over the analysis period?

Response:

Black & Veatch

Conceptually, Long-Run Incremental Cost ("LRIC") is a variant of Long-Run Marginal Cost ("LRMC") that examines changes in costs associated with a multiple unit (i.e., incremental) change in utility service or output. For both LRIC and LRMC, such costs are derived over a sufficiently long period of time in which all inputs of production are considered to be variable. As a result of using an incremental change in output, because capacity additions tend to be lumpy, LRIC may reflect more capacity additions than those required to serve the increment of load assumed for any one particular project or group of projects.

For purposes of Gaz Métro's profitability analysis, LRIC reflects the change in capital costs associated with the expansion of Gaz Métro's gas distribution system to serve new customers. These capital costs are derived based on the specific facilities required to connect the new customers to the utility's existing gas distribution system and to serve the customer's peak capacity requirements. Where this type of cost determination can be made, the LRIC amount should not be derived based on a generalized measure of the change in costs across the utility's system (i.e., as would be derived in an LRIC study) and added into the profitability analysis, irrespective of whether such facilities are actually required to serve the new customers that are being evaluated. It is

not appropriate to use a generalized measure of LRIC in a profitability analysis for system extension projects because the resulting level of costs does not reflect the actual cost of the facilities required to connect the new customers to the gas utility's existing gas distribution system.

b. Does "long-run" in this context mean the average cost of replacing the entire Gaz Métro system at current prices?

Response:

Black & Veatch

No. Please see the response to question 4.1 above.

4.2. Please explain whether this statement is intended to suggest that using LRIC concepts in the economic evaluation of system extension projects could result in Gaz Métro receiving revenues exceeding its revenue requirement.

Response:

Black & Veatch

The statement is intended to suggest caution when determining the level of incremental costs that should be attributed to new customers under Gaz Métro's evaluation of the profitability of its system extension projects. For example, based on the results of an LRIC study, all new customers would be assigned the LRIC of a main extension, but only some new customers will actually require this capital investment based on where they are located in relation to the utility's existing gas distribution grid. The attribution of additional costs to these customers under this situation could create the need for a contribution from the customer, where one is not needed.

a. If so, please explain how this could occur and provide numerical examples of this effect.

Response:

Black & Veatch

Please see the response to question 4.2 above.

b. If not, please explain what this assertion means.

Response:

Black & Veatch

Please see the response to question 4.2 above.

4.3. Please explain why the word "each" is italicized in this passage on page 3.

Response:

Black & Veatch

The word "each" was italicized to emphasize the cautionary note indicating that the results of a LRIC study should not always be used as the basis for valuing the cost of each and every plant component required to serve new customers.

5. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 11.

Preamble:

- "[C]aution must be exercised in order to prevent a mismatch between the embedded costs used to set rates for the utility's existing customers (which are the same rates used to derive the revenues expected from new customers) and the LRIC used to derive the profitability of serving new customers, and the level of any customer contribution required of new customers."

Questions:

5.1. Please define the "mismatch" and provide numerical examples of the problems that B&V anticipates could arise from this mismatch.

Response:

Black & Veatch

The "mismatch" described in the referenced document could occur If a generalized measure of LRIC is used (as derived in a LRIC study) in the gas utility's profitability

analysis instead of using the actual incremental costs of connecting its new customers at the time the evaluation of the system extension project is being conducted. Under a LRIC study, the capital-related costs that are derived represent a system-wide measure of the change in costs over a long-term period caused by changes in the number of customers served and the level of capacity available to satisfy customers' demand requirements. As such, it does not necessarily reflect the actual change in costs associated with a particular system extension project or group of projects to serve new customers.

Taking the use of LRIC values to an extreme, the profitability of new customers would be evaluated using incremental revenues derived from rates based on embedded costs while the cost inputs into the gas utility's system extension profitability analysis would be valued on a LRIC basis, thereby potentially overburdening new customers with costs they are not actually causing the gas utility to incur. This situation would create a "mismatch" between the revenues and costs reflected in the profitability analysis which could create a below target financial outcome and the need for a customer contribution. This mismatch of revenues and costs would indicate the need for a customer contribution where, in reality, such a contribution would not be required if the actual capital costs of the facilities were utilized in the profitability analysis.

5.2. Please explain whether this statement implies that the Régie cannot require that Gaz Métro charge new customers more than it charges existing customers, since that would result in a "mismatch" between the costs used in setting charges for existing customers and the costs used in setting charges for new customers.

Response:

Black & Veatch

While Black & Veatch cannot offer a legal opinion on the ability of the Régie to undertake certain ratemaking actions, Black & Veatch's referenced statement was provided to highlight the importance of properly matching the change in rate revenues with capital-related costs actually caused by new customers within the context of Gaz Métro's analysis to evaluate the profitability of its system extension projects.

5.3. Please provide citations to any legal or other authority that B&V or Gaz Métro believe indicate that Gaz Métro cannot impose different charges on existing and new customers.

Response:

Black & Veatch

Please see the response to question 5.2 above.

6. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 3 and 34.

Preamble:

- "If LRIC is used as the cost basis in a gas utility's economic evaluation of system extension projects, new customers could subsidize existing customers because the gas utility's revenue requirement and current rates are based on historical, embedded costs while the costs in the profitability model would be based on LRIC – which could be higher than the level of embedded costs underlying the gas utility's current rates."

Questions:

6.1. Please explain how this subsidization would happen.

Response:

Black & Veatch

Please see the response to question 5 above. In some of the LRIC studies that Black & Veatch has conducted for gas utilities, the results indicated that the gas utility's total revenue requirement based on LRIC was higher than the level of its total revenue requirement based on embedded or historical costs.

6.2. Please explain whether this subsidization would only occur if the incremental costs due to the system extension project were less than the upstream LRIC assumed in the economic evaluation.

Response:

Black & Veatch

This type of subsidization could occur under the conditions described in the response to question 5 above.

a. If this subsidization would only occur in other situations, please describe those situations.

Response:

Black & Veatch

Please see the response to question 6.2 above.

6.3. Please explain whether the incremental costs due to the system extension project could be higher than the average upstream LRIC assumed in the economic evaluation.

Response:

Black & Veatch

Please see the response to question 6.2 above.

a. If so, would those circumstances result in existing customers subsidizing the new customers on the service extension?

Response:

Black & Veatch

Please see the response to question 6.2 above.

7. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 3 and 34.

Preamble:

- "Under this approach, the common fixed costs of providing utility service to a particular rate class are attributed to all customers within the class – not to any one customer."

Questions:

7.1. Does this statement also apply to :

a. all the new customers on a service extension?

Response:

Black & Veatch

Yes, if a "service extension" is defined as a single system extension project.

b. all the new customers on all service extensions in a capital plan?

Response:

Black & Veatch

Yes, if all the new customers on all service extensions are included in the portfolio of projects.

c. all the new customers on all service extensions over the next 40 years?

Response:

Black & Veatch

No. The referenced statement is applicable to a 12-month test year that would be used as the basis for a gas utility's cost of service study, class revenues and rate design.

7.2. Does B&V mean to suggest that new customers should not be charged for their contribution to adding or advancing system reinforcements that serve both new and existing customers?

Response:

Black & Veatch

No. The capital-related costs of system reinforcements will be included in Gaz Metro's profitability analysis conducted on a project portfolio basis and will be included in future base rates that will be charged to all customers.

a. If so, please provide the rational for prohibiting such charges.

Response:

Black & Veatch

Not Applicable.

b. If new customers require expensive upstream additions (i.e., additions not dedicated to the new customers) over the analysis period, but pay only the average embedded costs, could existing customers wind up subsidizing the new customers?

Response:

Black & Veatch

No. Please see the response to question 12 below. The profitability analysis conducted on a portfolio basis would include the cost of System Incremental Capital Investments and is targeted to have a Profitability Index (P.I.) of 1.1. If the portfolio P.I. is greater than 1.0, new customers are effectively providing more revenues than their incremental costs so there would be no subsidy from existing customers to new customers. In other words, the inclusion of the costs of additional upstream additions in future base rates will not increase the rates charged to existing customers if the portfolio P.I. is greater than 1.0 for all new projects. This outcome occurs because Gaz Métro's profitability analysis conducted on a portfolio basis is a conservative approach since it reflects the entire cost of System Incremental Capital Investments in evaluating the profitability of its new customers.

Moreover, to the extent upstream main reinforcements also provide additional capacity and operational flexibility to Gaz Métro's existing customers, attributing the entire cost of such investment to new customers should be viewed as a conservative approach to evaluating the profitability of system extension projects since a portion of those facilities will also provide benefits to Gaz Métro's existing customers.

8. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 3 and 34.

Preamble:

- "Determination of the portion of upstream main reinforcements attributable to each new customer can be difficult since the main investment could provide future service to new customers, to all future customers, and/or to existing customers who require additional capacity over the life of the new facilities – which would be viewed as a lumpy system investment."

Questions:

8.1. Does B&V believe that values that "can be difficult" to determine should be set to zero?

Response:

Black & Veatch

No. The issue is not whether all or a portion of the cost of an upstream main reinforcement should be excluded from the profitability analysis, but rather at what point in time should those costs be valued and included in the analysis, and how should that be accomplished. Black & Veatch's recommendation is to include Gaz Métro's upstream main reinforcement costs in its profitability analysis on a portfolio basis rather than on an individual project basis. There is much greater certainty when calculating total upstream reinforcement costs at a portfolio level compared to at an individual project level. Therefore, inclusion of upstream reinforcement costs in the profitability analysis for an individual project adds unnecessary uncertainty and variability to the resulting calculations. This is due to the fact that any method of

attributing upstream reinforcement costs to an individual project will be imperfect, and would by its very nature likely create an overstatement of the incremental investment costs required to provide the level of capacity for the new customers associated with that single project. The attribution of additional costs to these customers under this situation could create the need for a contribution from the customer, where one is not needed and therefore some projects taken individually could not meet the profitability index criteria. This situation would result in the utility foregoing an opportunity to take advantage of economies of scale and scope - missing an opportunity to decrease rates for its existing customers. As such, it is best to measure the profitability of upstream system reinforcement investments over the entire portfolio of projects rather than for each individual project.

Please, also see the response to question 9.1 in the Information Request from OC (Gaz Métro-9, Document 12).

a. If not, does B&V agree that a portion of future "upstream main reinforcements" should be attributed to load growth from new customers?

Response:

Black & Veatch

Please see the responses to questions 4.1 and 8.1 above.

9. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 3 and 34.

Preamble:

(i) "The evaluation of the profitability of system extension projects to serve new customers provides the gas utility with the flexibility needed to add new customers to the gas distribution system who can recover through rates their direct incremental costs of connection (i.e., the main extension, service, meter and regulator) and to

recognize that all new customers as a group contribute to the recovery of the gas utility's common fixed costs as part of an overall project portfolio."

Questions:

9.1. To the extent that a new customer, or a group of new customers, requires additional common fixed costs exceeding the average cost of service, does B&V believe that the existing customers should subsidize these new customers?

Response:

Black & Veatch

This question assumes that a gas utility's additional common fixed costs can be allocated to new customers or to a group of new customers. By definition, a gas utility's common fixed costs represent the costs of gas utility activities that support the provision of gas service to all customers. Additional common fixed costs are incurred to support all customers, not just to support a subset of those customers. Often the level of additional common fixed costs incurred is caused by a number of operating considerations, and not solely due to the addition of new customers. For example, a gas utility's additional investment in Information Technology (IT) systems to operate a utility's call center has more to do with the economic trade-off between labor and capital (the leveraging of technology) than to the number of customers served, or the desire to enhance customer service.

The nature of common fixed costs requires that they be allocated to entire rate classes when setting base rates and not to new and existing customers separately. Any split of common fixed costs between new and existing customers would be arbitrary and likely be a poor representation of cost causation. In the example above, it would be arbitrary to attribute to new customers only a portion of the additional IT costs for the call center since these costs are incurred on a system-wide basis to serve all customers.

As explained in the Black and Veatch report (B-0278, Gaz Métro-7, Document 5), the only capital-related costs that can be attributed to new customers on an individual project basis are those that are the direct incremental costs of connection (i.e., the main extension, service, meter and regulator), which are referred to in the Black & Veatch report as Direct Incremental Development Costs. The Indirect General Capitalized Development Costs referred to in the Black & Veatch report are costs that are incurred by Gaz Métro on annual basis and are fixed for a certain range of projects that are undertaken by year so they do not change directly based on the number of new customers connected in that year. In other words, these costs are not related to any particular single project. As a result, Black & Veatch

recommends that it is reasonable and appropriate to assign these costs to new customers on a project portfolio basis only because they are indirect common costs that are incurred by Gaz Métro to support the entirety of its development activities for all new customers. The profitability analysis conducted on a portfolio basis would include these indirect general capitalized development costs and is targeted to have a Profitability Index (P.I.) of 1.1. If the portfolio P.I. is greater than 1.0, new customers are effectively providing more revenues than their incremental costs so there would be no subsidy from existing customers to new customers. In other words, the inclusion of the indirect general capitalized development costs in future base rates will not increase the rates charged to existing customers if the portfolio P.I. is greater than 1.0 for all new projects.

a. If so, please explain why.

Response:

Black & Veatch

See response to question 9.1 above.

b. If not, please explain how B&V and Gaz Métro would avoid that outcome.

Response:

Black & Veatch

See response to question 9.1 above.

10. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 4, 35 and Table 3.

Preamble:

- "Black & Veatch recommends that Gaz Métro continue using its current valuation period of forty (40) years, which is the most common valuation period utilized by the Peer Group utilities and reflects the average life of the capital placed into service during a system extension project."

Questions:

10.1. Please provide all the data, analysis and other sources on which B&V reviewed in making this recommendation, other than the Table 3 at p. 18 and 19.

Response:

Black & Veatch

Black & Veatch understands that the Régie renewed the use of a 40-year valuation period by Gaz Métro in R-3173-89-E (Decision D-90-60,). In addition, during the course of its project with Gaz Métro, Black & Veatch was made aware of the average service lives of the facilities placed into service in conjunction with Gaz Métro's system extension projects, and the lives were within a reasonable range of the 40-year valuation period.

Gaz Métro

For more information, please see the Régie's response to question 13.1 Gaz Métro-9, Document 9).

10.2. Please provide any evidence available to B&V regarding the probability that a customer will continue to take service from Gaz Métro at an existing location for 40 years.

Response:

Black & Veatch

Black & Veatch did not evaluate the longevity of customers taking gas service from Gaz Métro.

Gaz Métro

Please see the response to question 7.1 of the FCEI's Request for Information no. 2 (B-0257, Gaz Métro-9, Document 3).

10.3. Please provide any evidence available to B&V regarding the likelihood of customers reducing their energy consumption or abandoning a location over the next 40 years.

Response:

Black & Veatch

Black & Veatch did not evaluate the likelihood of Gaz Métro's customers reducing their energy consumption or abandoning a location over the next 40 years, However, to the extent new customers added to Gaz Métro's gas distribution system reduce their future energy consumption in a similar manner to its existing customers, Gaz Métro's rates will increase over time to account for the lower annual volumes over which costs will be recovered, and all customers will be charged those higher rates.

10.4. Please provide any analysis that B&V has conducted regarding the amount of natural gas that Québec can utilize and still meet its obligation under Canada's and Quebec's plans for greenhouse-gas reductions.

Response:

Black & Veatch

Black & Veatch did not conduct any analyses regarding the amount of natural gas that Québec can utilize and still meet its obligation under Canada's and Quebec's plans for greenhouse-gas reductions.

Gaz Métro

For more information, please see the response to question 7.10 of the request for information the ROEÉ's expert (B-0264, Gaz Métro-9, Document 6).

11. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 4, 35 and 36.

Preamble:

- "Black & Veatch finds that the approach utilized by FortisBC, Union Gas Limited and Enbridge Gas Distribution is a reasonable and well-balanced approach. This

method utilizes an individual project P.I. of 0.8 and a project portfolio P.I. of 1.1 as the appropriate profitability targets. Black & Veatch recommends that Gaz Métro adopt this type of approach."

- "[…] adopt a P.I. of 0.8 for individual projects (if further growth is anticipated) […]"

Questions:

11.1. Please explain whether the 0.8 project P.I. "target" would mean that projects would only be required to provide an IRR equal to 80% of the WACC.

Response:

No, a P.I. target of 0.8 does not mean that the required IRR would be equal to 80% of the WACC.

a. If not, what does that the 0.8 target mean?

Response:

The profitability index, also known as the cost/benefit ratio, relates a project's positive flows (or operational flows) and its negative flows (or project costs). The target PI of 0.8 means that the ratio between the operational flows (discounted to the PCC) and the project costs (also discounted) must be at least 0.8. In other words, a target PI of 0.8 means that for each dollar invested, a project must generate a minimum of $0.80 in actual value.

b. If the capital anticipated for a service extension were $1 million, and the present value of the operating expenses were $200,000, how much would the present value of revenues need to be for the project to pass the 0.8 P.I. threshold?

(i) Please explain why it is fair for the existing customers, and profitable new customers, to pay for this unprofitable service extension.

Response:

The actual value of the revenues, in the above example, should be $1 million.

Please refer to the response to question 3.6 of the ACIG'S Request for Information no. 3 (Gaz Métro-9, Document 10).

11.2. Please explain how B&V found the 0.8 project P.I. to be appropriate.

Response:

Black & Veatch

Black & Veatch's review of the Peer Group research noted that FortisBC, Union Gas Limited and Enbridge Gas Distribution each use the 0.8 project P.I., Black & Veatch also reviewed the additional evidence filed by Gaz Métro on January 20, 2017 in R-3867-2013. That evidence showed that the profitability of the extension projects analyzed by Gaz Métro increased an average of 4.48% (i.e., the internal rate of return or IRR increased by 4.48%). This data indicates that historically there has been an increase in the a priori profitability and the profitability actually realized. As stated in Gaz Metro's evidence, this result supports a 2% acceptable minimum threshold. This also provides strong evidence that the individual project P.I. should be set at a level below 1.00.

Using an acceptable minimum threshold IRR of 2% in a profitability analysis is equivalent to a project P.I. of 0.6, which is below the P.I. of 0.8 used in Ontario and British Columbia. Based on this evidence, Black & Veatch concluded that a conservative approach would be to utilize a P.I. of 0.8, which is the same value used by multiple gas utilities in the Peer Group.

11.3. Please provide B&V's estimate of the growth that should be anticipated "if further growth is anticipated."

Response:

Black & Veatch

Black & Veatch did not estimate of the growth that should be anticipated.

Gaz Métro

Please refer to the response to question 3.6 of the ACIG'S Request for Information no. 3 (Gaz Métro-9, Document 10).

a. Please provide the basis for that estimate.

Response:

Please refer to the response to question 11.3.

b. Please explain how that growth rate justifies the 0.8 P.I. threshold.

Response:

Please refer to the response to question 11.3.

11.4. Please explain how B&V expects that Gaz Métro would be able to determine whether further growth should be anticipated.

Response:

Please refer to the response to question 11.3.

a. How much further growth should be anticipated to invoke the 0.8 P.I. threshold?

Response:

Please refer to the response to question 11.3.

b. How would the determination of future growth reflect the costs associated with the future growth (service lines, meters, metering, billing and customer service, further main extension, etc.)?

Response:

In Phase 2 of its governance process, Gaz Métro conducts sensitivity analyses to evaluate the number of customers in addition to those identified a priori will be needed to achieve a profitability equal to a PI of 1. Gaz Métro notes that there are costs are associated these additional customers.

For more information on the governance process, please refer to Schedule Q-18.1 of the Régie's Request for Information no. 11 (Gaz Métro-9, Document 9).

12. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 32, 34.

Preamble:

p. 32 (B-0278): "**System Incremental Capital Investment** – includes the capital-related costs incurred to increase the capacity and operating flexibility of the gas distribution system caused by the addition of new customers (i.e., caused by development activities).

These common capital-related investment costs should be assigned to those customers who created the need for the investment. This type of incremental investment could be required to serve new customers, all future customers, and/or existing customers who require additional capacity depending on the purpose of the investment and the timeframe considered in conjunction with the utility's ongoing distribution system planning activities.

Those costs should also be considered for inclusion at the portfolio level when the profitability of all the development activities is evaluated."

p. 34 (B-0278): "[…] the utility's fixed costs that are lumpy in nature and support gas service to both new and existing customers should not be attributed only to new customers in any one particular project, but should be attributed to all new customers on a project portfolio basis."

Questions:

12.1. Are all System Incremental Capital Investments required equally for load growth on the Gaz Métro system, or are some System Incremental Capital Investments required for load growth on some parts of the system, but not other parts?

Response:

Distribution systems are complex and it is not possible to generalize the impact of system reinforcements. In fact, certain reinforcements impact on a limited section of a system, whereas others impact on Gaz Métro's entire system.

12.2. Please provide the System Incremental Capital Investment associated with each system extension and each annual portfolio over the last ten years.

Response:

Please refer to the table below, in which the years have been added to the list of reinforcement projects provided in the response to question 1.6 of the Request for Information no. 2 of the ROEÉ's expert (B-0264, Gaz Métro-9, Document 6, page 3).

Pressure Class	Project #	Project Definition	Costs from 2004 to 2017	Completion years
Distribution	1	Looping of 640, Terrebonne	407,785	2002-2004
Distribution	2	Looping, Croissant des Iles, Laval	11,809	2003-2004
Distribution	3	Looping, Repentigny - Residential	529,558	2004-2007
Distribution	4	Looping, Syst. Polymère Structural, Magog	42,251	2004
Distribution	5	Looping, Beloeil - St-Jean-Baptiste	420,799	2005-2006
Distribution	6	Looping, Bromont - Rue des Carrières	245,249	2005
Distribution	7	Looping, Montcalm, Candiac	212,256	2005-2006
Distribution	8	Reinforcement, St-Sébastien	269,988	2006-2007
Distribution	9	Reinforcement, St-Valérien	353,127	2006-2007
Distribution	10	Looping system cl 400 de St-Jérôme	64,658	2007-2009
Distribution	11	Looping, Boisbriand, 3825 Alfred-Laliberté	243,455	2008-2010
Distribution	12	Véolia, rue Pion, St-Hyacinthe	354,646	2011-2013
Distribution	13	Meubles Ashley, Sherbrooke	27,104	2010-2011
Distribution	14	Reinforcement, Asphalte générale	789,484	2010-2013
Distribution	15	System Reinforcement, Pierrefonds	342,891	2011-2012

Pressure Class	Project #	Project Definition	Costs from 2004 to 2017	Completion years
Distribution	16	550 McArthur, St-Laurent	64,541	2011
Distribution	17	Reinforcement, Émile Giroux, Qc	677,765	2012-2014
Distribution	18	UDM Outremont campus	164,057	2016
Distribution	19	Rang St-Paul, St-Rémi	569,041	2016
Distribution	20	Groupe Robin, Trois-Rivières	777,713	2015-2016
Distribution	21	Sani Estrie, 405 Rudolphe Racine, Sherbrooke	246,944	2015-2016
Distribution	22	System reinforcement, Regional dev. Bedford	799,312	2014
Distribution	23	2911 Marie-Curie Ave., St-Laurent	247,674	2015-2016
Distribution	24	Delivery Point, St-Jérôme	661,789	2017
Distribution	25	Looping, Fruit D'Or	994,040	2016-2017
Distribution	26	Looping, boul. Mercure, St-Nicéphore	528,478	2015-2016
Distribution	27	99999 rue du parc industriel, Lanoraie	195,839	2017
Distribution	28	Looping, Petites Soeurs Ste-Famille	27,454	2016
Distribution	29	Serres Marian Vinet, St-Rémi	87,528	2017
Distribution	30	Boul. de Portland, Sherbrooke	318,269	2016-2017
Distribution	31	Outremont campus UDM	102,929	2016-2017
Distribution	32	Marché aux puces / Faubourg Carignan	333,187	2016-2017
Distribution	33	NRC St-Paul	414,051	2016-2017

Pressure Class	Project #	Project Definition	Costs from 2004 to 2017	Completion years
		d'Abbotsford		
Distribution	35	Sherbrooke East / Georges V	249,764	2002-2004
Distribution	36	System looping, town of Labaie	42,343	2002-2004
Distribution	37	Looping, aut. 13 & boul. Ste-Rose	109,902	2003-2004
Distribution	38	Qc - Looping, rue St-Jean	88,814	2004-2005
Distribution	39	Looping, St-Valérien-de-Milton	202,142	2005-2007
Distribution	40	System looping, St-Lambert	155,908	2007-2009
Distribution	41	System reinforcement, PL Oka/St-Eustache	153,535	2008
Distribution	42	System reinforcement, Guthrie Dorval	22,795	2008
Distribution	43	Looping, Ste-Marie 3 km 6" plastic	348,315	2008-2009
Distribution	44	Looping, rue des Châteaux, Blainville	108,896	2009-2010
Distribution	45	Reinforcement, PD3087 - 3090 Lachute	98,942	2010-2012
Distribution	46	Qc - Looping, St-Amable (La Chevrotière-Art)	38,924	2010
Distribution	47	Qc - System looping, rue Guimont, Beauport	77,175	2010-2013
Distribution	48	Looping, Pionnières-de-Beauport, Qc	27,412	2010
Distribution	49	Looping, ind. park, Terrebonne	268,062	2011-2012
Distribution	50	Looping, des Hêtres, Shawinigan	24,945	2010

Pressure Class	Project #	Project Definition	Costs from 2004 to 2017	Completion years
Distribution	51	Reinforcement, Ste-Elizabeth, Laurentians	336,138	2010-2012
Distribution	52	Looping, aut. 15/30 Delson	249,646	2010-2012
Distribution	53	Estrie - Looping, St-Georges Drummondville	38,003	2011-2012
Supply	54	Repl. supports/coating - Pont-Jacques Cartier1	13,062,744	2011-2015
Distribution	55	Systems looping, Vaudreuil	58,372	2012
Distribution	56	(ES) Sag-Lac, looping 160m De Monfort	47,546	2013-2014
Distribution	57	ES/Ph3 System reinforcement, Fleury & CN	194,391	2014-2015
Distribution	58	System reinforcement, Clark-Graham	320,510	2013-2016
Distribution	59	Increase of system pressure, St-Clet	31,000	2013
Distribution	60	Sag-Lac Ab-reconst. reg. line PL4024-Chic	47,000	2013-2014
Distribution	61	Hydraulic Capacity, rue St-Antoine	199,978	2014-2015
Distribution	62	System Reinforcement, 32nd ave. Lachine	19,854	2014
Distribution	63	System Reinforcement, Dagenais blvd.	141,762	2014
Distribution	64	System reinforcement, rue Norman	154,241	2015
Distribution	65	System reinforcement, blvd. Tecumseh	705,664	2016
Transmission	67	Compressor station, St-Maurice[1]	31,933,122	2015-2017

Pressure Class	Project #	Project Definition	Costs from 2004 to 2017	Completion years
Transmission	68	Compressor station, La Tuque	48,763,054	2015-2017
Supply	69	Pétromont[1]	19,993,979	2012-2017
Total			129,840,551	

[1] The costs of major projects include general corporate costs.

a. Identify the type, cost and timing of System Incremental Capital Investment assumed.

Response:

Please refer to the response to question 12.2.

b. To the extent possible, provide the derivation of the estimate of the cost of the System Incremental Capital Investment.

Response:

Costs indicated in the table in the response to question 12.2 are actual costs [...].

12.3. Please explain why the inclusion of the System Incremental Capital Investment only at the portfolio level would be efficient and equitable.

Response:

Black & Veatch

Please, also see the response to question 9.1 in the Information Request from OC (Gaz Métro-9, Document 12).

Please see the responses to question 8.1 above and to question 9.1 in the Information Request from OC (Gaz Métro-9, Document 12). The inclusion of the System Incremental Capital Investment at the portfolio level is efficient because it

would avoid having to develop a process and methodology to apportion the cost of the System Incremental Capital Investment to individual projects, and possibly to Gaz Métro's existing customers. This method is equitable because it recognizes the lumpy nature of the investment by aligning the number of new customers to be served and their capacity needs over the analysis time period with the investment level needed to satisfy those customer requirements rather than attributing the entire cost of the investment to the "next customer" at the margin causing the need for the investment. Finally, the inclusion of the System Incremental Capital Investment at the portfolio level is straightforward and not subject to variations in interpretation or application. As noted at page 30 of its evidence (B-0278, Gaz Métro-7, Document 5), Black & Veatch recently conducted an electric line extension policy project where one of the focus areas specifically addressed the determination of when to attribute system reinforcement costs to a particular line extension project. The general findings were that it is quite difficult to do so, and when it was attempted, it was the basis of significant contention between new customers and the utility.

a. If the portfolio exceeds the target return, would B&V and Gaz Métro propose that existing customers subsidize the new customers who require the System Incremental Capital Investment?

(i) If so, please explain why that is equitable.

(ii) If so, please explain whether that would be the position of Gaz Métro and B&V, even if the service extension(s) that require the System Incremental Capital Investment would fail the economic test if the cost of the System Incremental Capital Investment were included in the analysis.

Response:

Black & Veatch

(i) Under the situation where the System Incremental Capital Investment was included in the profitability analysis, new customers would induce decreasing tolls for existing customers because the profitability analysis for the portfolio of projects resulted in a P.I. in excess of the target P.I.

(ii) Black & Veatch would not recommend to Gaz Métro that its existing customers should subsidize new customers if the results of the profitability analysis (which included the cost of its System Incremental Capital Investment)

indicated a P.I. of below 1.1.

b. How would the costs of the System Incremental Capital Investment be allocated among the new customers on the service extensions in the portfolio?

(i) If the System Incremental Capital Investment results in the portfolio missing its profitability target, how would Gaz Métro decide which customers must contribute more to finance the service extensions?

Response:

Gaz Métro reiterates that the distribution system reinforcement costs are considered in the overall profitability of the development plan. The development plan includes all sales approved throughout the fiscal year.

Gaz Métro will prioritize the reinforcement projects that are the most profitable and will seek to ensure that the development plan achieves a profitability index greater than or equal to 1.1.

12.4. Please explain why B&V believes that new customers whose location does not contribute to the need for a System Incremental Capital Investment should be attributed to those customers as part of the "portfolio" of service extensions.

Response:

Black & Veatch

A primary basis for including the costs of the System Incremental Capital Investment in the profitability analysis at the portfolio level, and not at the individual project level, is that it is not necessary to determine which new customers create the need for the system investment. As such, all system extension projects and the associated new customers would be included in the profitability analysis for the project portfolio. Please also see the response to question 12.3 above.

13. Source:

R-3867-2013, B-0278, Review of Methodologies for Evaluating the Profitability of System Extension Projects – Black and Veatch evidence, (Gaz Métro-7, Document 5), p. 13, 14 (Section 3.2).

Preamble:

- B&V selected a peer group of five Canadian utilities and five US utilities (one of which is a holding company of six utilities).

Questions:

13.1. Please list all Canadian gas utilities.

Response:

Gaz Métro

Please refer to the response to question 10.1 of the CFIB's request for information no. 3 (Gaz Métro-9, Document 11).

13.2. Please list all US gas utilities.

Response:

Black & Veatch

Please see the attachment to this response, "ROEE-Expert 13.2 Attachment 1.pdf" for a list of investor owned gas utilities that operate in the U.S.

13.3. Please explain why B&V selected these peers and not others.

Response:

Canadian utilities (Gaz Métro)

Please refer to the response to question 10.1 of the CFIB's request for information no. 3 (Gaz Métro-9, Document 11).

American utilities (Black & Veatch)

Please see the response to question 10 in the Information Request from FCEI (Gaz Métro-9, Document 11).

13.4. Please provide the documents on which B&V relied in describing the policies and

practices of each of the members of the peer group as regards methodologies for evaluating the profitability of system extension projects.

Response:

Black & Veatch

The documents on which B&V relied are voluminous in nature and can, for most of them, be referred to on the internet. Given that situation, B&V refers to the attached list of the references of the said documents (ROEÉ-Expert 13.4 Attachment 1). However, B&V includes some documents in ROEÉ-Expert 13.4 Attachment 1 that cannot be consulted on the internet. B&V is willing to provide on request any document specifically identified, should it be difficult or impossible for the ROEÉ to consult on the internet.

Line No.	Name	Company Name	Ultimate Parent Company Name	State
2	Alabama Gas Corporation- AL	Alabama Gas Corporation	Spire Inc.	AL
3	Ameren Illinois Company- IL	Ameren Illinois Company	Ameren Corporation	IL
4	Virginia Gas Distribution Co.- VA	Appalachian Natural Gas Distribution Company	ANGD LLC	VA
5	Arkansas Oklahoma Gas Corp.- AR	Arkansas Oklahoma Gas Corp.	A.O.G. Corporation	AR
6	Atlanta Gas Light Company- GA	Atlanta Gas Light Company	Southern Company	GA
7	Atmos Energy Louisiana Division- LA	Atmos Energy Corporation		LA
8	Atmos Energy West Texas Division- TX	Atmos Energy Corporation		TX
9	Atmos Energy Colorado-Kansas Division- CO	Atmos Energy Corporation		CO
10	Atmos Energy Kentucky Division- KY	Atmos Energy Corporation		KY
11	Atmos Energy Mississippi Valley Gas- MS	Atmos Energy Corporation		MS
12	Atmos Energy Colorado-Kansas Division- KS	Atmos Energy Corporation		KS
13	Atmos Energy Mid-States Division- GA	Atmos Energy Corporation		GA
14	Atmos Energy Mid-States Division- IA	Atmos Energy Corporation		IA
15	Atmos Energy Mid-States Division- IL	Atmos Energy Corporation		IL
16	Atmos Energy Mid-States Division- TN	Atmos Energy Corporation		TN
17	Atmos Energy Mid-States Division- VA	Atmos Energy Corporation		VA
18	Atmos Energy Mid-Tex Division- TX	Atmos Energy Corporation		TX
19	Atmos Energy Corporation- MO	Atmos Energy Corporation		MO
20	Avista Corporation- ID	Avista Corporation		ID
21	Avista Corporation- OR	Avista Corporation		OR
22	Avista Corporation- WA	Avista Corporation		WA
23	Baltimore Gas and Electric Company- MD	Baltimore Gas and Electric Company	Exelon Corporation	MD
24	Bangor Gas Company, LLC- ME	Bangor Gas Company, LLC	Gas Natural Inc.	ME
25	Bay State Gas Company- MA	Bay State Gas Company	NiSource Inc.	MA
26	Berkshire Gas Company- MA	Berkshire Gas Company	Iberdrola, S.A.	MA
27	Black Hills Colorado Gas Utility Company, LP- CO	Black Hills Colorado Gas Utility Company, LP	Black Hills Corporation	CO
28	Black Hills Energy Arkansas, Inc.- AR	Black Hills Energy Arkansas, Inc.	Black Hills Corporation	AR
29	Black Hills Gas Distribution LLC- WY	Black Hills Gas Distribution LLC	Black Hills Corporation	WY
30	Black Hills Iowa Gas Utility Company, LLC- IA	Black Hills Iowa Gas Utility Company, LLC	Black Hills Corporation	IA
31	Black Hills Kansas Gas Utility Company, LLC- KS	Black Hills Kansas Gas Utility Company, LLC	Black Hills Corporation	KS
32	Black Hills Nebraska Gas Utility Company LLC- NE	Black Hills Nebraska Gas Utility Company LLC	Black Hills Corporation	NE
33	Black Hill Northwest Gas Utility Company, LLC d/b/	Black Hills Northwest Wyoming Gas Utility Company, LLC	Black Hills Corporation	WY
34	Bluefield Gas Company- WV	Bluefield Gas Company	ANGD LLC	WV
35	Boston Gas Company- MA	Boston Gas Company	National Grid plc	MA
36	Brainard Gas Corp.- OH	Brainard Gas Corp.	Gas Natural Inc.	OH
37	Brooklyn Union Gas Company- NY	Brooklyn Union Gas Company	National Grid plc	NY
38	Cascade Natural Gas Corporation- OR	Cascade Natural Gas Corporation	MDU Resources Group, Inc.	OR
39	Cascade Natural Gas Corporation- WA	Cascade Natural Gas Corporation	MDU Resources Group, Inc.	WA
40	CenterPoint Energy-Entex- TX	CenterPoint Energy Resources Corp.	CenterPoint Energy, Inc.	TX
41	CenterPoint Energy-Minnesota Gas- MN	CenterPoint Energy Resources Corp.	CenterPoint Energy, Inc.	MN
42	CenterPoint Energy-Arkla- AR	CenterPoint Energy Resources Corp.	CenterPoint Energy, Inc.	AR
43	CenterPoint Energy-Arkla- LA	CenterPoint Energy Resources Corp.	CenterPoint Energy, Inc.	LA
44	CenterPoint Energy-Oklahoma Gas- OK	CenterPoint Energy Resources Corp.	CenterPoint Energy, Inc.	OK
45	CenterPoint Energy-Arkla- TX	CenterPoint Energy Resources Corp.	CenterPoint Energy, Inc.	TX
46	CenterPoint Energy-Entex- LA	CenterPoint Energy Resources Corp.	CenterPoint Energy, Inc.	LA
47	CenterPoint Energy-Mississippi Gas- MS	CenterPoint Energy Resources Corp.	CenterPoint Energy, Inc.	MS
48	Central Hudson Gas & Electric Corporation- NY	Central Hudson Gas & Electric Corporation	Fortis Inc.	NY
49	Chattanooga Gas Company- TN	Chattanooga Gas Company	Southern Company	TN
50	Chesapeake Utilities-Delaware Division- DE	Chesapeake Utilities Corporation		DE
51	Chesapeake Utilities-Florida Division- FL	Chesapeake Utilities Corporation		FL
52	Chesapeake Utilities-Maryland Division- MD	Chesapeake Utilities Corporation		MD
53	Cheyenne Light, Fuel and Power Company- WY	Cheyenne Light, Fuel and Power Company	Black Hills Corporation	WY
54	Citizens Gas- IN	Citizens Energy Group		IN
55	Citizens Gas Fuel Company- MI	Citizens Gas Fuel Company	DTE Energy Company	MI
56	Colonial Gas Company- MA	Colonial Gas Company	National Grid plc	MA
57	Colorado Natural Gas, Inc.- CO	Colorado Natural Gas, Inc.	JPMorgan Chase & Co.	CO
58	Columbia Gas of Kentucky, Incorporated- KY	Columbia Gas of Kentucky, Incorporated	NiSource Inc.	KY
59	Columbia Gas of Maryland, Incorporated- MD	Columbia Gas of Maryland, Incorporated	NiSource Inc.	MD
60	Columbia Gas of Ohio, Incorporated- OH	Columbia Gas of Ohio, Incorporated	NiSource Inc.	OH
61	Columbia Gas of Pennsylvania, Inc.- PA	Columbia Gas of Pennsylvania, Inc.	NiSource Inc.	PA
62	Columbia Gas of Virginia, Incorporated- VA	Columbia Gas of Virginia, Incorporated	NiSource Inc.	VA
63	Connecticut Natural Gas Corporation- CT	Connecticut Natural Gas Corporation	Iberdrola, S.A.	CT
64	Consolidated Edison Company of New York, Inc.- N	Consolidated Edison Company of New York, Inc.	Consolidated Edison, Inc.	NY
65	Consumers Energy Company- MI	Consumers Energy Company	CMS Energy Corporation	MI
66	Corning Natural Gas Corporation- NY	Corning Natural Gas Corporation	Corning Natural Gas Holding Corporation	NY
67	Cut Bank Gas Co- MT	Cut Bank Gas Co	Gas Natural Inc.	MT
68	Delmarva Power & Light Company- DE	Delmarva Power & Light Company	Exelon Corporation	DE
69	Delta Natural Gas Company, Inc.- KY	Delta Natural Gas Company, Inc.		KY
70	DTE Gas Company- MI	DTE Gas Company	DTE Energy Company	MI
71	Duke Energy Kentucky, Inc.- KY	Duke Energy Kentucky, Inc.	Duke Energy Corporation	KY
72	Duke Energy Ohio, Inc.- OH	Duke Energy Ohio, Inc.	Duke Energy Corporation	OH
73	East Ohio Gas Company- OH	East Ohio Gas Company	Dominion Energy, Inc.	OH
74	Eastern Natural Gas Company- OH	Eastern Natural Gas Company	Utility Pipeline Ltd	OH
75	Empire District Gas Company- MO	Empire District Gas Company	Empire District Electric Company	MO
76	Energy West - Great Falls- MT	Energy West, Incorporated	Gas Natural Inc.	MT
77	Energy West - Cascade- MT	Energy West, Incorporated	Gas Natural Inc.	MT
78	ENSTAR Natural Gas Company- AK	ENSTAR Natural Gas Company	AltaGas Ltd.	AK
79	Entergy Gulf States Louisiana, L.L.C.- LA	Entergy Gulf States Louisiana, L.L.C.	Entergy Corporation	LA
80	Equitable Gas Company, LLC- PA	Equitable Gas Company, LLC	SteelRiver Infrastructure Partners, LP	PA
81	Equitable Gas Company, LLC- WV	Equitable Gas Company, LLC	SteelRiver Infrastructure Partners, LP	WV
82	Fitchburg Gas and Electric Light Company- MA	Fitchburg Gas and Electric Light Company	Unitil Corporation	MA

Line No.	Name	Company Name	Ultimate Parent Company Name	State
83	Indiantown Division- FL	Florida Public Utilities Company	Chesapeake Utilities Corporation	FL
84	Gas division- FL	Florida Public Utilities Company	Chesapeake Utilities Corporation	FL
85	Frontier Natural Gas LLC- NC	Frontier Natural Gas LLC	Gas Natural Inc.	NC
86	Molokai Gas District- HI	Gas Company, LLC	Macquarie Infrastructure Corporation	HI
87	Lanai Gas District- HI	Gas Company, LLC	Macquarie Infrastructure Corporation	HI
88	Oahu Gas District- HI	Gas Company, LLC	Macquarie Infrastructure Corporation	HI
89	Hilo Gas District- HI	Gas Company, LLC	Macquarie Infrastructure Corporation	HI
90	Maui Gas District- HI	Gas Company, LLC	Macquarie Infrastructure Corporation	HI
91	Kauai Gas District- HI	Gas Company, LLC	Macquarie Infrastructure Corporation	HI
92	Hope Gas, Inc.- WV	Hope Gas, Inc.	Dominion Energy, Inc.	WV
93	Illinois Gas Company- IL	Illinois Gas Company		IL
94	Indiana Gas Company, Inc.- IN	Indiana Gas Company, Inc.	Vectren Corporation	IN
95	Intermountain Gas Company- ID	Intermountain Gas Company	MDU Resources Group, Inc.	ID
96	Interstate Power and Light Company- IA	Interstate Power and Light Company	Alliant Energy Corporation	IA
97	Interstate Power and Light Company- MN	Interstate Power and Light Company	Alliant Energy Corporation	MN
98	Kansas Gas Service Company- KS	Kansas Gas Service Company	ONE Gas, Inc.	KS
99	KeySpan Gas East Corporation- NY	KeySpan Gas East Corporation	National Grid plc	NY
100	Laclede Gas Company- MO	Laclede Gas Company	Spire Inc.	MO
101	Liberty Utilities (EnergyNorth Natural Gas) Corp.- N	Liberty Utilities (EnergyNorth Natural Gas) Corp.	Algonquin Power & Utilities Corp.	NH
102	Liberty Utilities (EnergyNorth Natural Gas) - Keene	Liberty Utilities (EnergyNorth Natural Gas) Corp.	Algonquin Power & Utilities Corp.	NH
103	Liberty Utilities (Midstates Natural Gas) Corp- IL	Liberty Utilities (Midstates Natural Gas) Corp	Algonquin Power & Utilities Corp.	IL
104	Liberty Utilities (Midstates Natural Gas) Corp- MO	Liberty Utilities (Midstates Natural Gas) Corp	Algonquin Power & Utilities Corp.	MO
105	Liberty Utilities (Midstates Natural Gas) Corp- IA	Liberty Utilities (Midstates Natural Gas) Corp	Algonquin Power & Utilities Corp.	IA
106	Liberty Utilities (New England Natural Gas Compan	Liberty Utilities (New England Natural Gas Company) Corp.	Algonquin Power & Utilities Corp.	MA
107	Liberty Utilities (Peach State Natural Gas) Corp- GA	Liberty Utilities (Peach State Natural Gas) Corp	Algonquin Power & Utilities Corp.	GA
108	Louisville Gas and Electric Company- KY	Louisville Gas and Electric Company	PPL Corporation	KY
109	Madison Gas and Electric Company- WI	Madison Gas and Electric Company	MGE Energy, Inc.	WI
110	Maine Natural Gas- ME	Maine Natural Gas	Iberdrola, S.A.	ME
111	Great Plains Natural Gas Co- MN	MDU Resources Group, Inc.		MN
112	Great Plains Natural Gas Co- ND	MDU Resources Group, Inc.		ND
113	Montana-Dakota Utilities Co- MT	MDU Resources Group, Inc.		MT
114	Montana-Dakota Utilities Co- ND	MDU Resources Group, Inc.		ND
115	Michigan Gas Utilities Corporation- MI	Michigan Gas Utilities Corporation	WEC Energy Group, Inc.	MI
116	MidAmerican Energy Company- IA	MidAmerican Energy Company	Berkshire Hathaway Inc.	IA
117	MidAmerican Energy Company- IL	MidAmerican Energy Company	Berkshire Hathaway Inc.	IL
118	MidAmerican Energy Company- SD	MidAmerican Energy Company	Berkshire Hathaway Inc.	SD
119	Midwest Energy, Inc.- KS	Midwest Energy, Inc.		KS
120	Midwest Natural Gas Corporation- IN	Midwest Natural Gas Corporation		IN
121	Midwest Natural Gas, Inc.- WI	Midwest Natural Gas, Inc.		WI
122	Minnesota Energy Resources - PNG- MN	Minnesota Energy Resources Corporation	WEC Energy Group, Inc.	MN
123	MINNESOTA ENERGY RESOURCES- MN	Minnesota Energy Resources Corporation	WEC Energy Group, Inc.	MN
124	Missouri Gas Energy- MO	Missouri Gas Energy	Spire Inc.	MO
125	Mobile Gas Service Corporation- AL	Mobile Gas Service Corporation	Spire Inc.	AL
126	Mountaineer Gas Company- WV	Mountaineer Gas Company	Mountaineer Gas Holdings Ltd Partnership	WV
127	Mt. Carmel Public Utility Company- IL	Mt. Carmel Public Utility Company		IL
128	Narragansett Electric Company- RI	Narragansett Electric Company	National Grid plc	RI
129	National Fuel Gas Distribution Corporation- NY	National Fuel Gas Distribution Corporation	National Fuel Gas Company	NY
130	National Fuel Gas Distribution Corporation- PA	National Fuel Gas Distribution Corporation	National Fuel Gas Company	PA
131	New Jersey Natural Gas Company- NJ	New Jersey Natural Gas Company	New Jersey Resources Corporation	NJ
132	New Mexico Gas Company, Inc.- NM	New Mexico Gas Company, Inc.	Emera Incorporated	NM
133	New York State Electric & Gas Corporation- NY	New York State Electric & Gas Corporation	Iberdrola, S.A.	NY
134	Niagara Mohawk Power Corporation- NY	Niagara Mohawk Power Corporation	National Grid plc	NY
135	North Shore Gas Company- IL	North Shore Gas Company	WEC Energy Group, Inc.	IL
136	Northeast Ohio Natural Gas Corp.- OH	Northeast Ohio Natural Gas Corp.	Gas Natural Inc.	OH
137	Northern Illinois Gas Company- IL	Northern Illinois Gas Company	Southern Company	IL
138	Northern Indiana Public Service Company- IN	Northern Indiana Public Service Company	NiSource Inc.	IN
139	Northern States Power Company - MN- ND	Northern States Power Company - MN	Xcel Energy Inc.	ND
140	Northern States Power Company - MN- MN	Northern States Power Company - MN	Xcel Energy Inc.	MN
141	Northern States Power Company - WI- MI	Northern States Power Company - WI	Xcel Energy Inc.	MI
142	Northern States Power Company - WI	Northern States Power Company - WI	Xcel Energy Inc.	WI
143	Northern Utilities, Inc.- ME	Northern Utilities, Inc.	Unitil Corporation	ME
144	Northern Utilities, Inc.- NH	Northern Utilities, Inc.	Unitil Corporation	NH
145	Northwest Natural Gas Company- OR	Northwest Natural Gas Company		OR
146	Northwest Natural Gas Company- WA	Northwest Natural Gas Company		WA
147	NorthWestern Corporation- SD	NorthWestern Corporation		SD
148	NorthWestern Corporation- MT	NorthWestern Corporation		MT
149	NSTAR Gas Company- MA	NSTAR Gas Company	Eversource Energy	MA
150	Ohio Gas Company- OH	Ohio Gas Company	Nwo Resources Inc	OH
151	Ohio Valley Gas Corporation- OH	Ohio Valley Gas Corporation		OH
152	Ohio Valley Gas Inc- IN	Ohio Valley Gas Inc	Ohio Valley Gas Corporation	IN
153	Oklahoma Natural Gas Company- OK	Oklahoma Natural Gas Company	ONE Gas, Inc.	OK
154	Orange and Rockland Utilities, Inc.- NY	Orange and Rockland Utilities, Inc.	Consolidated Edison, Inc.	NY
155	Orwell Natural Gas Co.- OH	Orwell Natural Gas Co.	Gas Natural Inc.	OH
156	Orwell Natural Gas Co.- PA	Orwell Natural Gas Co.	Gas Natural Inc.	PA
157	Pacific Gas and Electric Company- CA	Pacific Gas and Electric Company	PG&E Corporation	CA
158	PECO Energy Company- PA	PECO Energy Company	Exelon Corporation	PA
159	Peoples Gas Light and Coke Company- IL	Peoples Gas Light and Coke Company	WEC Energy Group, Inc.	IL
160	Peoples Gas System- FL	Peoples Gas System	Emera Incorporated	FL
161	Peoples Gas WV, LLC- WV	Peoples Gas WV, LLC	SteelRiver Infrastructure Partners, LP	WV
162	Peoples Division- PA	Peoples Natural Gas Company LLC	SteelRiver Infrastructure Partners, LP	PA
163	Equitable Division- PA	Peoples Natural Gas Company LLC	SteelRiver Infrastructure Partners, LP	PA

Line No.	Name	Company Name	Ultimate Parent Company Name	State
164	Peoples TWP LLC- PA	Peoples TWP LLC	SteelRiver Infrastructure Partners, LP	PA
165	Philadelphia Gas Works Co.- PA	Philadelphia Gas Works Co.	Philadelphia City of	PA
166	Piedmont Natural Gas Company, Inc.- NC	Piedmont Natural Gas Company, Inc.	Duke Energy Corporation	NC
167	Piedmont Natural Gas Company, Inc.- SC	Piedmont Natural Gas Company, Inc.	Duke Energy Corporation	SC
168	Nashville Gas Company- TN	Piedmont Natural Gas Company, Inc.	Duke Energy Corporation	TN
169	Pike County Light and Power Company- PA	Pike County Light and Power Company	Corning Natural Gas Holding Corporation	PA
170	Pike Natural Gas Co- OH	Pike Natural Gas Co		OH
171	Florida City Gas- FL	Pivotal Utility Holdings, Inc.	Southern Company	FL
172	Elizabethtown Gas Company- NJ	Pivotal Utility Holdings, Inc.	Southern Company	NJ
173	Elkton Gas- MD	Pivotal Utility Holdings, Inc.	Southern Company	MD
174	Public Gas Company, Inc.- KY	Public Gas Company, Inc.	Kentucky Frontier Gas, LLC	KY
175	Public Service Company of Colorado- CO	Public Service Company of Colorado	Xcel Energy Inc.	CO
176	Public Service Company of North Carolina, Incorpo	Public Service Company of North Carolina, Incorporated	SCANA Corporation	NC
177	Public Service Electric and Gas Company- NJ	Public Service Electric and Gas Company	Public Service Enterprise Group Incorporated	NJ
178	Puget Sound Energy, Inc.- WA	Puget Sound Energy, Inc.	Puget Holdings LLC	WA
179	Questar Gas Company- ID	Questar Gas Company	Dominion Energy, Inc.	ID
180	Questar Gas Company- UT	Questar Gas Company	Dominion Energy, Inc.	UT
181	Questar Gas Company- WY	Questar Gas Company	Dominion Energy, Inc.	WY
182	Roanoke Gas Co.- VA	Roanoke Gas Company	RGC Resources, Inc.	VA
183	Roanoke Gas Company- VA	Roanoke Gas Company	RGC Resources, Inc.	VA
184	Rochester Gas and Electric Corporation- NY	Rochester Gas and Electric Corporation	Iberdrola, S.A.	NY
185	San Diego Gas & Electric Co.- CA	San Diego Gas & Electric Co.	Sempra Energy	CA
186	SEMCO Energy, Inc.- MI	SEMCO Energy, Inc.	AltaGas Ltd.	MI
187	Sierra Pacific Power Company- NV	Sierra Pacific Power Company	Berkshire Hathaway Inc.	NV
188	South Carolina Electric & Gas Co.- SC	South Carolina Electric & Gas Co.	SCANA Corporation	SC
189	South Jersey Gas Company- NJ	South Jersey Gas Company	South Jersey Industries, Inc.	NJ
190	Southern California Gas Company- CA	Southern California Gas Company	Sempra Energy	CA
191	Southern Connecticut Gas Company- CT	Southern Connecticut Gas Company	Iberdrola, S.A.	CT
192	Southern Indiana Gas and Electric Company, Inc.-	Southern Indiana Gas and Electric Company, Inc.	Vectren Corporation	IN
193	Southwest Gas Corporation- AZ	Southwest Gas Corporation	Southwest Gas Holdings, Inc.	AZ
194	Southwest Gas Corporation- CA	Southwest Gas Corporation	Southwest Gas Holdings, Inc.	CA
195	Southwest Gas Corporation- NV	Southwest Gas Corporation	Southwest Gas Holdings, Inc.	NV
196	St. Joe Natural Gas Co, Inc.- FL	St. Joe Natural Gas Co, Inc.		FL
197	St. Lawrence Gas Company, Inc.- NY	St. Lawrence Gas Company, Inc.	Enbridge Inc.	NY
198	Summit Natural Gas of Missouri, Inc.- MO	Summit Natural Gas of Missouri, Inc.	JPMorgan Chase & Co.	MO
199	Superior Water, Light and Power Company- WI	Superior Water, Light and Power Company	ALLETE, Inc.	WI
200	Sycamore Gas Company- IN	Sycamore Gas Company	INOH Gas Inc.	IN
201	Texas Gas Service Company- TX	Texas Gas Service Company	ONE Gas, Inc.	TX
202	UGI Central Penn Gas, Inc.- MD	UGI Central Penn Gas, Inc.	UGI Corporation	MD
203	UGI Central Penn Gas, Inc.- PA	UGI Central Penn Gas, Inc.	UGI Corporation	PA
204	UGI Penn Natural Gas, Inc.- PA	UGI Penn Natural Gas, Inc.	UGI Corporation	PA
205	UGI Utilities, Inc.- PA	UGI Utilities, Inc.	UGI Corporation	PA
206	Union Electric Company- MO	Union Electric Company	Ameren Corporation	MO
207	UNS Gas, Inc.- AZ	UNS Gas, Inc.	Fortis Inc.	AZ
208	Valley Gas- PA	Valley Energy Inc.	C&T Enterprises, Inc.	PA
209	Waverly Gas Service- NY	Valley Energy Inc.	C&T Enterprises, Inc.	NY
210	Vectren Energy Delivery of Ohio, Inc.- OH	Vectren Energy Delivery of Ohio, Inc.	Vectren Corporation	OH
211	Vermont Gas Systems, Inc.- VT	Vermont Gas Systems, Inc.	Caisse de dépôt et placement du Québec	VT
212	Virginia Natural Gas, Inc.- VA	Virginia Natural Gas, Inc.	Southern Company	VA
213	Washington Gas Light Company- MD	Washington Gas Light Company	WGL Holdings, Inc.	MD
214	Washington Gas Light Company- VA	Washington Gas Light Company	WGL Holdings, Inc.	VA
215	West Yellowstone Gas- MT	West Yellowstone Gas	Gas Natural Inc.	MT
216	Willmut Gas & Oil Company- MS	Willmut Gas & Oil Company	Spire Inc.	MS
217	Wisconsin Electric Power Company- WI	Wisconsin Electric Power Company	WEC Energy Group, Inc.	WI
218	Wisconsin Gas LLC- WI	Wisconsin Gas LLC	WEC Energy Group, Inc.	WI
219	Wisconsin Power and Light Company- WI	Wisconsin Power and Light Company	Alliant Energy Corporation	WI
220	Wisconsin Public Service Corporation- MI	Wisconsin Public Service Corporation	WEC Energy Group, Inc.	MI
221	Wisconsin Public Service Corporation- WI	Wisconsin Public Service Corporation	WEC Energy Group, Inc.	WI
222	Wyoming Gas Company- WY	Wyoming Gas Company		WY
223	Yankee Gas Services Company- CT	Yankee Gas Services Company	Eversource Energy	CT

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