Discovery on GMI

Reference :

- Gaz Métro-2, Document 7 - Étude d'allocation des coûts de distribution selon les méthodes actuelles - Complément de preuve (chiffrier Excel), R-3867-2013-B-0031
- Gaz Métro-2, Document 8 - Étude d'allocation des coûts de distribution selon les méthodes proposées - Complément de preuve (chiffrier Excel), R-3867-2013-B-0032

1. The workbook "R-3867-2013-B-0031-DemAmend-Piece-2014_11_20.xls" provides some results from the Gaz Métro Cost of Service Allocation model with current methods and the workbook "R-3867-2013-B-0032-DemAmend-Piece-2014_11_20.xls" provides some results from the Gaz Métro Cost of Service Allocation model with GMI's proposed method.

   a. The spreadsheets do not provide the formulas used in the Cost of Service Allocation model. Please provide the model with formulas intact, all links to other workbooks intact, and all linked workbooks.

   b. Approximately 35 worksheets in these workbooks (from FB01D to CA-Client) list the allocation factors by rate class. Please provide all data and workpapers from which GMI computed each of these class allocation factors, including:

      i) FB01D

      ii) FB01D`

      iii) FB01FV

      iv) FB07D

      v) FB08

      vi) FB09CL

      vii) FB10

viii) FB11

ix) FS21

x) FS22

xi) FS26

xii) FS27

xiii) FS28

xiv) FS31

xv) CA

xvi) CONDPRIN

xvii) EXPLOITD

xviii) TEMPER

xix) TEMPER-A

xx) BASETARD

xxi) Biogaz

xxii) PGEE

xxiii) PGEE-FR

xxiv) PRC

xxv) PRCA

xxvi) PRCVN

xxvii) FEE-FR

xxviii) CASEP

xxix) AEE

xxx) AEE-FR

xxxi) FS15

xxxii) FS13

xxxiii) CAUPCA

xxxiv) FS23

xxxv) FS24

xxxvi) FS25

xxxvii) FS29

Reference:

- Gaz Métro-1, Document 1 - Étude des experts Black & Veatch intitulée « Review of Gaz Metro's cost of service and rate design » , R-3867-2013-B-0005

2. This document is a draft report. Please state whether Black & Veatch has provided GMI with a later draft or final version of this report, and if so, please provide all such updated reports.

3. Please provide any other reports or presentations that Black & Veatch has provided GMI in connection with this project.

4. Please provide all workpapers that Black & Veatch utilized in preparing the document B-0005 and any succeeding reports.

5. Page 2 of document B-0005, footnote 3, says that "Fixed costs do not change with the level of output while variable costs change directly with the utility output." Does GMI agree that some costs that are "fixed" by this definition are determined or affected by the planned capacity or throughput of the utility system?

6. Regarding pages 13–15 of the Black & Veatch report (document B-0005), please provide the following information for each regression described at (including the version of the "model without the intercept term" for Model Three, the "regression analysis was prepared for each utility based on the Model Four specification," the regressions for each utility for any other specification estimated separately by utility, and any other alternatives tested for each model specification):

   a. The data used in the regression.

   b. The estimated coefficients from the regression.

c. All computed measures of significance and fit, such as R^2 and t-statistics.

7. Please provide the workpapers supporting the statements regarding the percentage of variation explained by each variable in the Model Three Specification.

8. Please explain whether Model 5 was applied to each utility separately, as was Model 4, or to the aggregate data set.

9. Please provide the workpapers supporting the column "Design Day Capacity M³/day" in Table 1 of Document B-0005, pages 10–11, including the assumptions regarding distribution of load along the line, internal roughness, elevation difference, efficiency, specific gravity, viscosity, temperature, and inlet and outlet pressure.

10. With regard to page 10 of Document B-0005 , Please provide the computations supporting the assertions that "For a low pressure system, increasing pipe size from two inch to four inch allows over five times the amount of gas to flow and under higher pressure, the flow rate increases by more than six times that of two inch pipe all else equal," including:

    a. The definitions of "low pressure" and "higher pressure" used in this statement.

    b. The input assumptions underlying the computations.

Reference :

- Gaz Métro-1, Document 1 - Étude des experts Black & Veatch intitulée « Review of Gaz Metro's cost of service and rate design » , R-3867-2013-B-0005
- Gaz Métro-1, Document 2 - Document de réflexion relatif à l'allocation des coûts de service de Gaz Métro , R-3867-2013-B-0006, p. 15, line 5 to 10

With regard to GMI's approach to identifying customer-related mains costs in Gaz Métro-1, Document 2 - Document de réflexion relatif à l'allocation des coûts de service de Gaz Métro , R-3867-2013-B-0006, p. 15, line 5 to 10 :

11. Please state whether GMI believes the following statements from page 11 of Document B-0005, and if not, what disagreement GMI has with these statements:

    a. "the minimum size of pipe installed will serve the design day load characteristics of the smallest residential or commercial customers and even for larger customers up to 65,481 m³ per year assuming a 25 percent annual load factor."

    b. "36,500 m³ would represent an appropriate level of maximum annual use that permits two inch main to serve all of the customers"

12. Regarding the statement that "As density increases and operating pressure declines, less design day load is served" (page 11 of Document B-0005), please explain why density increase reduces operating pressure, unless greater load is being served.

Regarding Gaz Métro Cost Allocation and Rate Design Application, R-3867-2013.

Reference :

Gaz Métro-2, Document 1 - Allocation du coût de service de Gaz Métro – Complément de preuve, B-0023, page 28 of 97.

13. Please provide the workpapers supporting Table 5.

    a. Provide the cost and length of main installed in each year for each length.

    b. Provide the inflation rates used to restate each year's cost in 2012 dollars.

14. If GMI has updated Table 5 for the purposes of the Cost Allocation model, please provide that update.

15. Please explain how, if at all, GMI uses the costs restated in 2012 dollars, as opposed to original costs, in the cost allocation, and explain why these uses of 2012 dollars are appropriate.

16. For each type and diameter of pipe listed in Table 5, please provide the length of pipe operated at each pressure level

Reference :

- Vision tarifaire, Allocation des coûts—Séance de travail 1, Allocation des conduites principales, 3 avril 2014.
- Gaz Métro-1, Document 2 - Document de réflexion relatif à l'allocation des coûts de service de Gaz Métro, B-006, page 24 to 27

17. Please provide the workpapers supporting the table on slide 17 of the 3/4/2014 presentation.

    a. Provide the cost and length of main installed in each year for each length.

    b. Provide the inflation rates used to restate each year's cost in 2012 dollars.

18. Please provide the following information for each of the regressions summarized on slide 24 of the 3/4/2014 presentation.

    a. The data used in the regression.

    b. The estimated coefficients from the regression.

Reference :

- Vision tarifaire Allocation des coûts - Séance de travail 2 Suivi sur l'allocation des conduites principales, branchements et compteurs, 17 avril 2014
- Gaz Métro-1, Document 2 - Document de réflexion relatif à l'allocation des coûts de service de Gaz Métro, B-006, page 24 to 27

19. Please provide a table similar to the top table on slide 8 of the 17/4/2014 presentation, showing the system-wide distribution of mains length by pressure, for each diameter and material.
20. While all distribution mains operate at <1,000 kPa, it appears from GMI's documents that various mains operate at different pressures. Please list the standard operating pressures that GMI typically uses for distribution mains, in kPa.
21. Please explain whether GMI varies the inlet pressure for distribution mains as a function of demand, or typically attempts to maintain constant inlet pressure.
22. Please provide the fraction of distribution main length that typically operates at each of GMI's standard operating pressures.
23. For each distribution main material and diameter, please provide the length of those mains that typically operate at each of GMI's standard operating pressures.

Allocation of connection costs by class

24. Does GZM maintain a record of the number of connections by type or size of customer?
    a. Does that database distinguish residential from small commercial, apartments from office buildings, or commercial from industrial buildings?

b. Do some connections serve multiple kinds of customers in one building, like the central boiler, a restaurant on the ground floor, and apartments above?

c. Does the database track the diameter and length of the each connection?

Development of the Demand Allocators

Reference :

- Vision tarifaire, Allocation des coûts—Séance de travail 1, Allocation des conduites principales, 3 avril 2014.
- Vision tarifaire Allocation des coûts - Séance de travail 2 Suivi sur l'allocation des conduites principales, branchements et compteurs, 17 avril 2014

25. Are the Maximum daily demand (DQM) and Maximum hourly demand (DHM) used in the CA and CAU allocators the customers' contribution to the coincident annual system peak, or the sum of each customer's own maximum daily (or hourly) demand, whenever those occur?

26. Please explain how GMI converts the Maximum Daily Demand (DQM) for customers without daily readings and the Maximum hourly demand (DHM) for commercial and industrial customers with daily readings to a consistent base for computation of the CA and CAU allocators (3/4/2014 presentation, slide 22).

27. Please provide CT 2014, R-3837-2013, B-0082, GM-02, Doc. 14, cited in the 3/4/2014 presentation, slide 22.

28. Please provide all data and computations used in the calculations of the CA and CAU allocators.

29. Please explain whether GMI includes expected interruptible sales in decisions regarding extension of mains and sizing of mains, and if so, how interruptible load is included in those decisions.

Regarding allocation of Transmission costs

30. Does GZM currently allocate the costs of the non-GZM transmission within its territory (TQM and Champion) in the same way as GZM transmission?

    a. If not, how do they differ?

    b. Is GZM proposing to change the allocation of non-GZM transmission?

31. How does GZM currently allocate the costs of TCPL transmission?

32. How does GZM currently allocate the costs of other upstream transmission (Union, Enbridge, transmission of US gas to GZM delivery points)?

33. Is GZM proposing to change the allocation of TCPL or other upstream transmission?

Understanding the factors that determine the length of distribution mains

Reference :

- Gaz Métro-1, Document 1 - Étude des experts Black & Veatch intitulée « Review of Gaz Metro's cost of service and rate design » , R-3867-2013-B-0005, pp. 10–11.

34. Regarding the statement that "Historically, an extension policy would have allowed, for example, 100 feet of main for each new residential customer. Under current policies that are based on revenues, the system expands with each new residential customer by adding footage to connect the customer."

    a. Please provide the current line-extension policies of GMI.

    b. Please specify the m^3 of anticipated sales that would result in GMI paying for:

        i) Extension of a typical main by 30 m.

        ii) Extension of a typical main by 60 m.

c. Please state when GMI changed from a fixed mains allowance to an allowance based on revenues.

d. Please provide the past line-extension policies of GMI, as they have changed over the years.

Reference :

- UQAC : Cartothèque : http://cartotheque.uqac.ca/cartes/G3451h8_2003G.pdf

35. Please confirm that the distribution map of GMI is the most recent map of the GMI system. If not, please provide the most recent available map.

36. For each of the distribution mains shown on the map of the GMI system Please provide the following information:

    a. The year the main was first installed.

    b. The diameter and material of the main.

    c. The pressure at which the main operates.

    d. If the line were extended to service one or more industrial installations?

37. Please provide a history of the expansion of the service territory of GMI, since 1985, listing the communities to which GMI extended service in each year.

38. Please provide the number of GMI customers by community, 1980 to 2014. If the data are not available for all years, please provide the data for the available years.

39. Please provide GMI gas delivery in m^3 by community, 1980 to 2014. If the data are not available for all years, please provide the data for the available years.

40. Please provide the number of meters of GMI distribution main by community, 1980 to 2014. If the data are not available for all years, please provide the data for the available years.

41. Please provide the following data by rate class (or by customer class if data by rate class are not available) by community for every year since 1980 for which GMI has such data:

    a. Number of customers by class

    b. Deliveries by class

42. For each extension of GMI's service territory proposed since 2000, including but not limited to the Thetford Mines and Côte-Nord projects, please provide

    a. All analyses of the financial viability of the project.

    b. The number of customers and/or deliveries by class (commercial, industrial and residential) required to make the project financially feasible.

    c. The cost of the project.

    d. The portion of the project cost charged to the customers connected by the project, as contributions in aid of construction.

43. For each extension of a GMI distribution main since 2000 of more than 1 km, please provide the following information:

    a. The financial analysis of the project.

    b. The loads expected to be added, by rate class.

    c. The cost of the project.

    d. The portion of the project cost charged to the customers connected by the project, as contributions in aid of construction.

44. Please provide a map of GMI's distribution system, showing all mains.

45. Please list each distribution main that GMI has added to meet growing load or avoid low-pressure situations since 1990, and for each provide any of the following information that is available:

    a. The financial analysis of the project.

    b. The loads expected to be added, by rate class.

    c. The cost of the project.

d. The portion of the project cost charged to the customers connected by the project, as contributions in aid of construction.

46. Please provide the distance that GMI would extend a distribution main to connect each of the following residential loads (assuming typical main trenching costs and typical customer connection costs):

    a. One 365 m^3 customer

    b. One 3,650 m^3 customer

    c. One 36,500 m^3 customer

    d. Ten 365 m^3 customers

    e. Ten 3,650 m^3 customers

    f. Ten 36,500 m^3 customers

Reference :

- the address given by Sophie Brochu, President and Chief Executive Officer, Gaz Métro, at Chambre de commerce et d'industrie de Laval, September 17, 2009. (http://www.corporatif.gazmetro.com/corporatif/communique/en/html/1689236_en.aspx?culture=en-ca)

47. Ms. Brochu says "Laval is the second-largest city in Québec in terms of natural gas consumption, beaten only by Montréal. Other than Montréal, Laval is also the only place in Québec where the natural gas grid extends from one end of the territory to the other."

    Please explain why GMI has not extended the natural gas grid "from one end of the territory to the other" in all the communities it serves.

48. She also says "Gaz Métro has been able to connect [Serres Sylvain Cléroux and Ferme Grover] to the natural gas grid and to service them since they are located in a city with a dense and diversified economic structure and they are thus near the major natural gas distribution arteries. Unfortunately, extending our grid is very expensive, which explains why many rural zones cannot profitably be served by natural gas."

Please explain why some rural zones can be profitably be served by natural gas, but not all.

49. Please provide GMI's guidelines for deciding whether to extend service to a rural zone.

Overhead costs

50. Please describe and explain the treatment of overheads and general expenses in the cost allocation methodology.

Treatment of Supply Mains

51. Please explain whether GMI proposes to allocate supply mains in on the basis of a demand measure, like transmission lines, or as a mixture of demand and access, like distribution mains.

    a. If the latter, please explain why.

52. Please provide the number of customers served directly from a supply main.

    a. Please provide the number of customers by class served directly from a supply main.

    b. Please provide the annual usage of the smallest customer served directly from a supply main.

53. Please identify any supply mains that were extended to directly connect specific customers, and for each such main:

    a. Identify the rate class of the customers for whom the main was extended.

    b. Provide the annual gas consumption of the customers for whom the main was extended.