

**RE - ENGINEERING OF
INTERRUPTIBLE SERVICE**

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INTRODUCTION

1 The environment in which the gas market operates has undergone changes since the early 2000s,
2 which have compelled Gaz Métro Limited Partnership (“Gaz Métro”) to revise its ways of doing
3 business, particularly with regard to rates.

4 First, the **relocation of the supply structure to Dawn** led to new questioning of the cost functionalization
5 methods and a revision to the rate structures for supply, transportation, and load-balancing services (these
6 items are covered in exhibit R3867-2013, Gaz Métro⁵, Document 1). The relocation also led to an
7 extension of transportation agreement durations, thereby increasing the risks of stranded costs if demand
8 were to decline.

9 Next, a sizeable number of customers reduced their interruptible volumes in recent years in favour of
10 continuous service. This trend intensified after winter 2013-2014, which, as a result of the very cold
11 weather, saw many days of interruptions for Rate D₅ customers. The **migration of interruptible**
12 **service customers to continuous service** has increased the transportation capacity needs. This
13 has been compounded by the effect of **many customers returning to the distributor's**
14 **transportation service**. In 2013, 179 customers owned their own transportation, for a total of
15 1952 103m³/day. In 2015, this figure had fallen to 13 customers, a total of 252 10³m³/day.

16 Finally, for the 2014¹ and 2015² Rate Cases, Gaz Métro proposed **improvements to the**
17 **forecasting method for ongoing demand on peak days**, which led to an increase in that
18 demand.³ In order to meet this additional expected demand, Gaz Métro is expected to contract
19 additional transportation capacity in the short term on the secondary market and/or from
20 TransCanada Pipelines Ltd (“TCPL”), if available. In the medium and long term, Gaz Métro is
21 expected to ask TCPL to build new capacity.

¹ R-3737-2013, B-0054, Gaz Métro², Document 1, section 9.2.

² R-3879-2014, B-0017, Gaz Métro-4, Document 1, section 2.

³ In decision D-2014-201, the Régie approved the new methodology for calculating ongoing demand on peak days. It also asked Gaz Métro to present follow-ups regarding the calculation of the adjustment factor and the 2% increase in subscribed volume to account for customers' peak make-up gas when on combined rates.

1 The increase in transportation needs, combined with the extension of agreement durations,
2 opened the way for new options to be analyzed. Thus, in decision D-2014-201, the Régie
3 emphasized the low recurrence of peak winter days and invited Gaz Métro to assess alternative
4 solutions to purchasing transportation capacity in order to meet the increase in ongoing demand:

5 *"[46] The Régie believes that it is important for the Distributor to study alternative solutions in due*
6 *course in order to meet low-recurrence needs rather than commit without conducting the analyses*
7 *normally required for a 15-year period.*

8 *[47] The Hearing has brought up three solutions that could meet low-recurrence peak needs, which are:*

- 9 - *amending the service conditions so that MUGI customers are interrupted in order to*
10 *ensure service to continuous-service customers as needed;*
11 - *creating a new class of interruptible service for unusual interruptions;*
12 - *increasing vaporization capacity at the LSR plant."*

13 The amendment of service conditions for make-up gas to avoid an interruption ("MUGI") were
14 handled in the 2014 Rate Case.⁴ Creating a new interruptible class and increasing vaporization
15 capacity in the LSR plant were covered by evidence presented in the 2015 Rate Case.⁵ In
16 response to that evidence, the Régie has asked Gaz Métro to revise its interruptible offering by
17 proposing enhancements to interruptible service categories A and B, and by examining the
18 possibility of introducing a "super interruptible" category for Rate D₄ customers.

19 *"[208] The Régie holds that the Distributor must continue its analysis aimed at setting up an*
20 *interruptible category intended for Rate D₄ customers (super-interruptible category). The Distributor*
21 *must consider, as proposed by the UC, the fact that these customers might not possess alternative*
22 *energy sources.*

23 [...]

24 *[211] Furthermore, given that the migrations recently observed in interruptible service time for*
25 *continuous service, the Régie is of the opinion that it is important to revise the interruptible service*
26 *categories A and B currently in effect. The Régie believes that such efforts must be concurrent with*
27 *the examination of the super-interruptible category's feasibility.*

28 *[212] The Régie has asked the Distributor to revise interruptible service categories A and B and to*
29 *investigate the possibility of adding a super-interruptible category. It therefore asks the Distributor*
30 *to promptly submit a proposal to that effect."*⁶

⁴ R-3837-2013, B-0448, Gaz Métro-2, Document 60.

⁵ R-3879-2014, B-0047, Gaz Métro-6, Document 1.

⁶ D-2014-201

1 Likewise, besides the questions about interruptible service, in recent years the Régie has
2 requested multiple follow-ups, primarily due to changes in the gas supply market, which
3 particularly include:

- 4 - consideration of “Option consommateurs” (OC) proposals in order to eliminate the
5 presence of free-rider interruptible customers (D-2012-158);
- 6 - minimizing the impact of interruptible customer migrations to continuous service on
7 continuous service customers (D-2014-201);
- 8 - including the 2% flexibility in the subscribed volume (D-2014-201);
- 9 - functionalizing income for unauthorized withdrawals and tax ceilings caps between
10 different services (D-2015-125).

11 This document presents a new interruptible offering, and addresses the other requested follow-
12 ups, including those mentioned above.

1. DEVELOPMENT OF THE INTERRUPTIBLE SERVICE

1.1. BACKGROUND

13 The first interruptible service with its own separate rate was set up in 1977.⁷ At the time, the only
14 goal of interruptible service was to ensure “sound management of supply and an optimal average
15 unit cost.”⁸ Given that the transportation contracted by Gaz Métro from its supplier reflected the
16 peak winter needs of its continuous service customers, a surplus for interruptible sales was
17 available in summer months, and to a lesser extent, in the spring and fall. When the distributor
18 contracted volumes from its supplier in excess of the peak, the availability of the interruptible
19 service would be extended to be year-round. Interruptible service was therefore considered a tool
20 for optimizing supply costs.

21 However, during the 1980s, the distributor sought to reinforce its competitive position relative to
22 other sources of energy, particularly electricity. The form of the interruptible rate was therefore
23 adapted to achieve a new market growth target, in addition to its function as a supply cost
24 optimization tool.

⁷ Order G-166 of the Régie de l'électricité et du gaz.

⁸ R-2997-84, GMI-21, Document 1, page 4.

1 Gradual changes were thereafter made in order to limit the drawbacks of interruptions and thereby
2 make the interruptible offering more attractive and competitive. Gaz Métro attempted to halt the
3 gradual erosion of the customer base as they moved to competitive energy sources. Different
4 categories were therefore added to the rate over time.⁹

1.2. HOW INTERRUPTIBLE SERVICE CURRENTLY WORKS

5 The current interruptible service is accessible to large consumers who possess facilities that
6 enable them to have their natural gas service interrupted, particularly during the winter. The
7 service's access threshold is an average daily volume of 3,200 m³. This access volume includes
8 subscription to the stable-volume service, where appropriate.

9 Customers can opt to join category A of interruptible service, in which the maximum number of
10 interruption days is higher, or category B, in which interruption days are limited to 20 or 30,
11 depending on the level. The maximum number of interruption days in category A is determined
12 annually, and is conveyed to customers in the *Conditions of Service and Tariff* (article 15.4.6).

13 In exchange for service that can be interrupted for a preset maximum number of days, interruptible
14 customers get a better rate, both for distribution service and load-balancing service.

1.2.1. DISTRIBUTION SERVICE

15 Interruptible customers are subject to distribution service D₅. All of the rate rules
16 surrounding this service are detailed in article 15.4 of the *Conditions of Service and Tariff*.
17 Generally speaking, the unit price is the result of the following:

i) The unit rate for the volume withdrawn

18 The distribution rate for interruptible service does not contain a fixed portion, only
19 a variable component which is the unit rate for the volume withdrawn. This rate is set
20 based on the projected average daily volume, then billed based on the monthly
21 volumes consumed.
22

⁹ Categories 1 and 2 (R-3324-95, SCGM 5, Document 1), Category 1B (R-3376-97), interruptible service optimization (R-3397-98, SCGM-18, Document 1.1), Make-up gas (R-3484-2002, SCGM-13, Document 1), etc.

1 **ii) Discounts**

2 Two discounts to the unit rate for the volume withdrawn are granted, based on the
3 following criteria:

- 4 ▪ A discount is obtained for contracts lasting longer than 12 months. This discount
5 may be up to 40% for a five-year contract.
- 6 ▪ A discount is also obtained for any consumption agreement (called a minimum
7 annual obligation or MAO) greater than 60% of the projected volume and may
8 represent an additional 30% discount for a commitment of 85% or more.

9 **iii) Prohibited withdrawals**

10 During the period from November to March, an interruptible customer to whom Gaz
11 Métro has asked to cease withdrawals but which still consumes despite the interruption
12 notice is liable for a penalty of 50 ¢/m³ at the distribution rate, and at the greatest
13 between the market price and fuel oil price No. 6 at the time of withdrawal.

14 **iv) Combined rates**

15 It is possible to combine an interruptible rate with a stable-volume rate. In a combined
16 rates scenario, the volumes are first considered as continuous service until they have
17 reached the subscribed volume, then as interruptible service above that point. This
18 option makes it possible to minimize the price paid for all of the natural gas service
19 while benefiting from both the better price of interruptible service and price optimization
20 for stable-volume service.

1.2.2. LOAD-BALANCING SERVICE

21 The current load-balancing rate is based on the following consumption parameters:
22 A (annual average daily consumption), H (winter average daily consumption), and P (peak
23 daily consumption).

24 Based on these parameters, the load-balancing price is calculated using the following formula:

25
$$\text{Prix de l'équilibrage} = \frac{\text{Taux pointe} \times (P - H) + \text{Taux espace} \times (H - A)}{\text{Volume annuel}}$$

1 On the other hand, for interruptible-service customers, the formula's parameters are
 2 modified to take into account the number of days of interruption to which they may be
 3 exposed. Parameters A, H, and P are modified as follows:

$$4 \quad A_m = A \times \frac{\# \text{ jours du } 1^{er} \text{ octobre au } 30 \text{ septembre} - J_{max}}{\# \text{ jours du } 1^{er} \text{ octobre au } 30 \text{ septembre} - J_{réel}}$$

$$5 \quad H_m = H \times \frac{\# \text{ jours du } 1^{er} \text{ novembre au } 31 \text{ mars} - J_{max}}{\# \text{ jours du } 1^{er} \text{ novembre au } 31 \text{ mars} - J_{réel}}$$

$$6 \quad P_m = P \times \max\left(\frac{74 - J_{max}}{74}, 0\right)$$

7 Where J_{max} = Maximum number of days of interruption planned for year t

8 $J_{réel}$ = Number of actual days of interruption in year $t-1$.

9 Interruptible service customers therefore get a discount on load balancing compared to other customers.

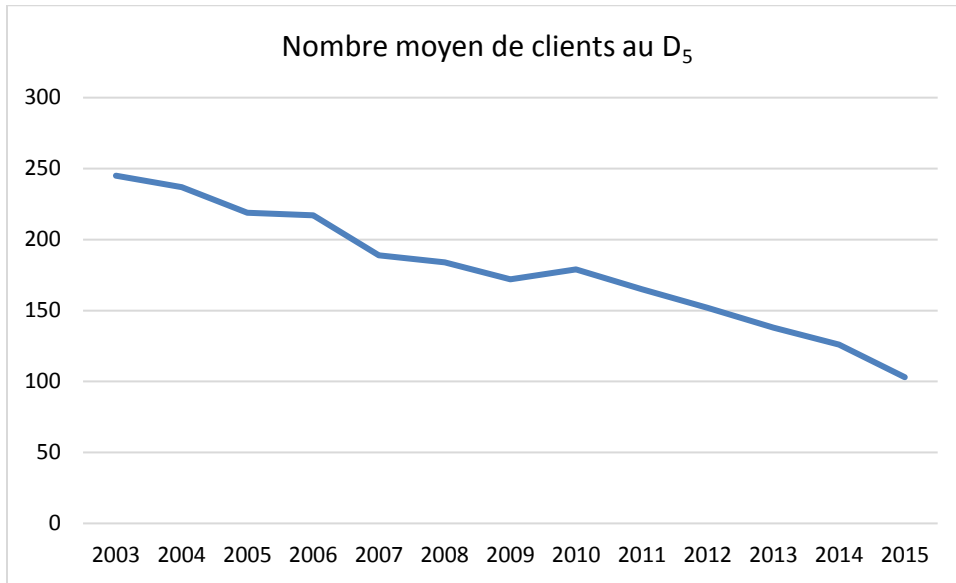
1.3. STATUS OF THE SITUATION

10 As mentioned in the introduction, significant erosion in the number of customers who opt for
 11 interruptible service has been observed over the past fifteen years. There were 245 interruptible
 12 service customers in 2003.¹⁰ In the 2016 Rate Case, this figure was expected to drop to 86.¹¹

¹⁰ R-3521-2003, SCGM6, Document 1, page1.

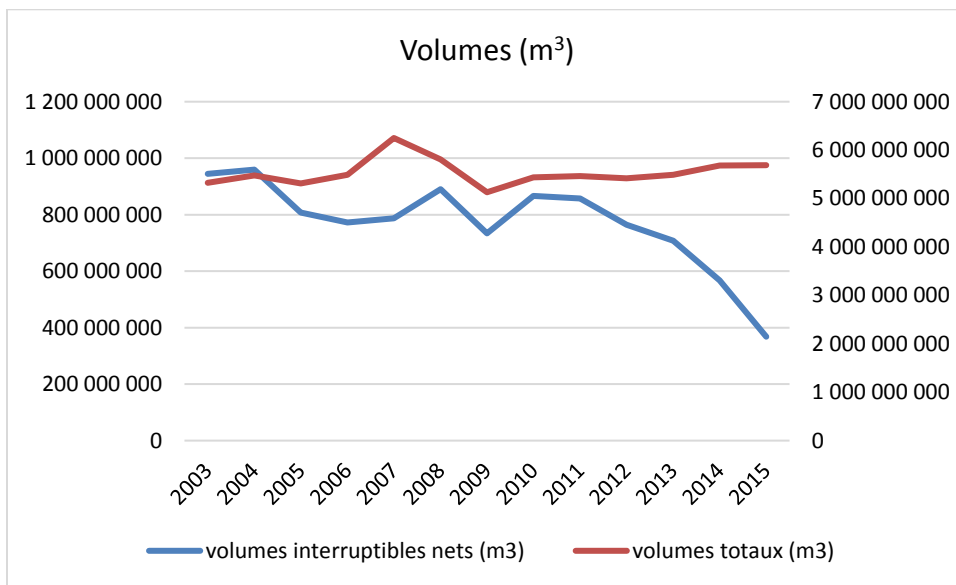
¹¹ R-3879-2014, Gaz Métro-112, Document 9, page 1.

Figure 1



- 1 The volumes withdrawn by interruptible customers followed the same general downward trend. This
- 2 decline in the relative size of the interruptible customer base, both in terms of the number of customers
- 3 and the volumes withdrawn, has nonetheless occurred against the backdrop of overall growth.

Figure 2



1 During the years 2013-2014 and 2014-2015, interruptible service customers experienced more
 2 days of interruption, with some hitting their maximum number. Furthermore, MUGI was less easy
 3 to access, and was acquired at a greater cost than in earlier years. Due to the relatively high price
 4 of alternative energy, customers sometimes chose to consume through unauthorized withdrawals
 5 despite receiving an interruption notice.

6 The following table shows the change in net interruptions¹² in recent years. It should be noted that
 7 for the years 2010-2011 and 2011-2012, MUGI volumes were greater than the gross interruption
 8 volumes. This is due to the fact that the gross interruptions represent an assumed projection of
 9 what might be consumed by customers if they were not interrupted, while the MUGI volumes
 10 corresponded to their actual consumption.

Tableau 1
Interruptions nettes par année

	Interruptions brutes (10 ⁶ m ³)	GAI (10 ⁶ m ³)	retraits interdits (10 ⁶ m ³)	Interruptions nettes (10 ⁶ m ³)
	(1)	(2)	(3)	(4) = (1)-(2)-(3)
2014-2015	56	29	1	26
2013-2014	120	46	2	74
2012-2013	85	66	1	18
2011-2012	38	40	0	-2
2010-2011	36	37	1	-2

Sources : *Rapports annuels : Demande et sources d'approvisionnement gazier*

11 A movement in customers from interruptible service to continuous service has therefore been
 12 observed, and this trend has increased after two very cold winters, which lead to a greater number of
 13 interruption days. The customer base has sought to avoid drawbacks due to service interruptions.

14 This observation with respect to the drawbacks of interruptions has been corroborated by the
 15 results of a survey among Major Industries Sales customers in July 2013, which aimed to poll its
 16 perception under the current *Conditions of Service and Tariff*.¹³ This enabled the gathering of

¹² Net interruptions are equal to gross interruptions minus the MUGI and unauthorized withdrawal volumes.

¹³ In July 2013, detailed interviews were carried out with 15 "Major Industries Sales" customers in all. The consultation was performed by the firm Extract Recherche Marketing.

1 information about the interruptible rate. Based on the results observed, customers chose the
2 interruptible rate mainly to:

- 3 - benefit from the better price it would get in order to avoid needing to set a high subscribed
4 volume for continuous service to meet peak demand; and
- 5 - ensure a minimum volume under continuous, and benefit from the better conditions of
6 interruptible service for the remaining volume required.

7 The interruptible service customers had also indicated that they were not comfortable with the
8 growing number of interruption days in recent years.

9 Half of the customers consulted said that they would migrate to the D₄ rate if make-up gas to
10 offset interruptions was no longer available. Three out of ten customers said that they would
11 remain on interruptible service because they were able to use an alternative energy source. Two
12 out of ten customers would remain on the interruptible rate, but said that they would need to make
13 changes to their equipment in order to enable the use of an alternative energy source.

14 Through its new interruptible natural gas offering, Gaz Métro hopes to retain on interruptible
15 service those customers who are able to use another source of energy or suspend their operations
16 during the interruption.

2. THE GOALS OF THE INTERRUPTIBLE OFFERING

17 During the 1991 generic case relating solely to interruptible service, Gaz Métro noted the close
18 link between that service and the transportation service.

“Selling gas in interruptible service is essential to managing our gas supplies, and consequently is highly advantageous for all customers, in that it makes it possible to give them access to the surplus capacity contracted to serve our continuous-service customers. A lack of interruptible sales would reduce the load factor of the transportation agreements, and would thereby increase the unit costs of transportation.”¹⁴

19

¹⁴ R-3200-91, GMI-1, Document 1, page 4.

1 The interruptible offering leads to supply cost optimization in two ways:

- 2 - It makes it possible to lower demand during peak winter days relative to a situation where
3 all customers are consuming on a continuous basis. This reduces the need for supply
4 tools in order to meet the demand.
- 5 - It makes it possible to use up the natural gas surpluses observed during the warmer months,
6 when demand is lower. Generally speaking, the transportation contracted from Gaz Métro
7 suppliers ensures constant delivery of natural gas year-round. Furthermore, as customer
8 demand is subject to seasonal fluctuations, there are surplus volumes during summer months.
9 The use of these surpluses by interruptible customers makes it possible to minimize stranded
10 costs related to surplus transportation contracted to meet demand during cold months.

11 As mentioned above, over the years, the goals of interruptible service have been expanded to
12 include aspects related to market development and customer retention. Although those goals are
13 still present, Gaz Métro believes that interruptible service is no longer the best way to meet these
14 business needs. They will be covered in phase 4 of the rate vision, related to changes to the
15 distribution rate structure.

16 More recently, the matter of interventions for distribution service has come up in the context of
17 distribution network saturation problems. These problems are specific and are not necessarily
18 linked to the supply structure upstream of the network. For example, on a cold day, the capacity
19 available upstream of the distribution network might be sufficient to supply all of Gaz Métro's
20 demand, even if one segment of the distribution network is saturated, limiting what customers on
21 that segment can be served. The need for interruption in distribution service due to saturation will
22 also be covered in the revision of the distribution pricing structure.

23 Therefore, Gaz Métro aims to refocus interruptible service on its core mandate, which is to
24 optimize supply costs. The distributor is proposing an interruptible offering intended for the
25 following three goals:

- 26 i. offering an alternative to purchasing tools in peak periods for continuous service
27 customers;
- 28 ii. offering a way to use up transportation surpluses at the best possible price all year long;
- 29 iii. recognizing the costs of the interruptible option only in the load-balancing service.

3. COST CAUSATION

1 In section 2.1.4 of exhibit Gaz Métro5, Document 1 of this case, Gaz Métro explains that it is
2 possible to lower the total costs of supply by replacing annual transportation tools with lower-cost
3 seasonal tools.

4 Gaz Métro therefore stated from the premise that all customers are in continuous service. The
5 fact that some customers agree to interrupt their natural gas consumption during colder periods
6 may in such a case be considered a seasonal supply tool. In fact, interrupting the customers'
7 service reduces their demand relative to a situation where all customers would be consuming,
8 and consequently, enables Gaz Métro to lower the required, contracted supply costs. However,
9 this has a cost in that the interruptible customer base wants to be compensated for the volumes
10 made available during the interruption. The compensation to be paid to the customers therefore
11 corresponds to the "Interruptible Offering" tool.

12 Gaz Métro takes into account the relative costs of each tool at the time of its annual supply
13 planning. The distributor is therefore faced with the alternative of using the "Interruptible Offering"
14 tool or contracting additional supply tools to meet the demand. If the cost of the "Interruptible
15 Offering" tool were greater than the cost of the alternative, it would be beneficial solely on a cost
16 basis to contract more supply tools rather than offer an interruptible option.

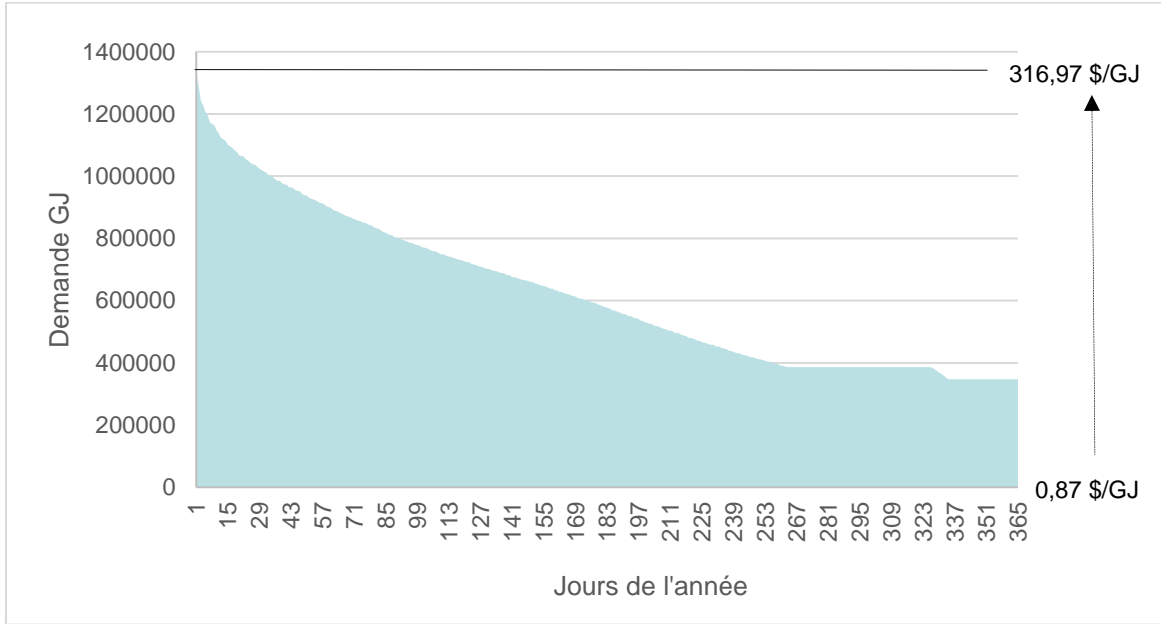
17 It was these observations that led Gaz Métro to develop the new interruptible offering. On the one
18 hand, its costs were set to be beneficial compared to the cost of the other supply tools that would
19 have been contracted in the absence of interruptible volume. On the other hand, the proposed
20 interruptible offer was also calibrated such that the total (downward) impact on supply costs are
21 greater than the total compensation amounts paid to customers for volumes made available.
22 Thus, the savings generated by the offering will be beneficial for all customers, whether their
23 service is continuous or interruptible.

3.1. TRANSPORTATION COST TOOLS

24 In order to be able to compare the cost of the annual transportation tools with the cost of the replacement
25 tool (i.e. the cost of the interruptible offering), the peak per-unit cost of each tool is calculated. The peak
26 unit cost corresponds to the supply cost of the last unit delivered during the peak day.

1 For example, to supply the highest demand of the year, shown in Figure 3,¹⁵ let us assume that
 2 Gaz Métro only contracts transportation capacity on the Dawn-EDA segment on an annual basis,
 3 at a cost of \$26.41/GJ/month.¹⁶ As the tool’s cost is entirely fixed, this tool will cost \$316.97/GJ in
 4 total (\$26.41/GJ/month x 12 months).

Figure 3



5 When the transportation tool is used every day, the cost per GJ consumed is \$0.87 (\$316.97/365).
 6 While if the tool is used only for one day, the cost to supply that GJ is \$316.97. In all cases, the
 7 total annual cost to meet 1 GJ of peak demand is \$316.97, or \$12.01/m³. Thus, if the distributor
 8 could replace transportation on that segment, the replacement tool should cost less than
 9 \$12.01 for each m³ of transportation per day replaced in order for the transaction to be profitable.

10 The following table details the cost per m³ at peak of different transportation segments (with no
 11 price differential for the location):

12

¹⁵ The graph is ordered from the highest-consumption day to the lowest-consumption day.

¹⁶ Amended TCPL rates as of January 29, 2016: \$24.96083/month (FT Toll) + \$1.45344/month (Abandonment Surcharge).

Tableau 2

Tronçon	FT Toll (\$/GJ/mois)	Abandonment Surcharge (\$/GJ/mois)	Union (\$/GJ/mois)	Total - jour de pointe (\$/GJ)	Total – jour de pointe (\$/m ³)
Dawn – Eda	24,96083	1,45344		316,97	12,01
Empress – Eda	61,27133	5,30407		798,90	30,27
Dawn - Parkway - Eda	19,47488	1,08161	2,604	277,93	10,53

1 The interruptible offering must enable savings relative to the least expensive transportation tool,
2 namely the Dawn – Parkway – Eda segment.

3.2. COST OF THE INTERRUPTIBLE OFFERING

3 Once the peak per-unit cost of the transportation tools had been calculated, the same exercise
4 was done for the interruptible offer. The peak per-unit cost of the interruptible offer can be obtained
5 simply by the following equation:

6
$$\text{Total cost of the interruptible offering (\$) / Transportation tool discount (GJ or m}^3\text{)}$$

7 The cost of the interruptible offering currently in place, i.e. the compensation currently paid to
8 interruptible service customers, may be estimated by comparing the distribution and
9 load-balancing revenues that were generated by the interruptible service customers in a given
10 year to what would have been generated if they had been on the continuous service rate, all other
11 things being equal. The difference between the revenue with the interruptible offering and without
12 it represents the cost arising from the fact that a preferential rate was offered to the interruptible
13 service's customers. Naturally, the rates in force would be different if all of the customers had had
14 continuous service. However, the exercise helps estimate an order of magnitude. Gaz Métro
15 estimated the total cost of the interruptible offering to be about \$19.8 million for the year 2014/2015.¹⁷

16 Moreover, in the 2014-2015 supply plan, the daily interruption volume is estimated to be 1.56 x 106m³,
17 or 59,200 GJ/day.¹⁸

¹⁷ The analysis performed to determine this difference is given in Appendix 1.

¹⁸ The daily interruption volume is estimated by dividing the interruptible winter volume of 236 x 106m³ (R-3879-2014, B-0283, Gaz Métro-7, Document-6, column 1, line 2) by the number of winter days (151).

1 The peak unit cost for 2015 may therefore be estimated to be about \$12.67/m³ (\$19.8 million/
2 1.56 x 106m³).

3 For 2016, the interruptible offering's cost was much less than the Empress – GMIT EDA
4 transportation cost that would have been required to make up the missing volumes if the
5 interruptible customers had been subject to continuous service (\$12.67/m³ vs \$30.27/m³). In that
6 sense, the current offering was advantageous for interruptible customers as well as for all
7 continuous service customers, when the benchmark of the supply structure was Empress. In fact,
8 Gaz Métro continuous service customers received capacity freed up by interruptions for a lower
9 cost than that of the additional FTLH transportation capacity between Empress and GMIT-EDA
10 that would have been required in the absence of interruptible volumes. However, after completely
11 moving the supply structure to Dawn, the benchmark alternative will be Dawn – Parkway – GMIT
12 EDA, whose cost is lower (\$10.53/m³ vs. \$30.27/m³).¹⁹

13 Gaz Métro aims to develop an interruptible option that is cost-competitive with the transportation
14 and load-balancing tools that would need to be contracted in the absence of interruptible volume.
15 In that sense, the cost of the interruptible offering for Gaz Métro should not exceed the cost of
16 \$10.53/m³. If the interruptible offering's cost were to be greater than the corresponding
17 transportation cost, it would then be advantageous to contract additional transportation capability
18 rather than offer an interruptible option.

4. PRELIMINARY OPTIONS CONSIDERED

4.1. RECOGNIZING INTERRUPTIBLE IN LOAD-BALANCING

19 Gaz Métro proposes that the contribution of interruptible customers be recognized and
20 compensated only in the load-balancing service rather than in both the distribution and
21 load-balancing services. Two main motives are behind this proposal.

- 22 - First, Gaz Métro believes that there is a causal link between the interruptible and the load-
23 balancing service, as the interruptible offering makes it possible to reduce transportation
24 purchases for load-balancing purposes. In fact, the interruptible customers do not

¹⁹ See Tableau 2.

1 consume in peak periods, which lowers the total peak need that would otherwise require
2 the purchasing of transportation tools.

3 Furthermore, the presence of interruptible service to lower the transportation costs of delivery in
4 franchise does not in any way affect the distribution or capacity of the distribution network to
5 meet the demand from all customers. Transportation capacity to the franchise and transmission
6 capacity within the franchise are two different things. For example, transportation capacity to the
7 franchise could be sufficient to supply all the needs of Gaz Métro's customers, even as the
8 transmission capacity on one segment is saturated. The need for interruptible service may
9 therefore be required in either case for different reasons and uses.

10 When the rates were set apart in 2000, Gaz Métro indicated that an interruptible distribution
11 rate was not required, given that the distribution network's capacity was sufficient to
12 accommodate the demand from all customers, including customers of the interruptible
13 service. Therefore, there was no reason to retain a separate interruptible distribution rate.
14 However, Gaz Métro has chosen at this time to defer the application of a single distribution
15 rate for both continuous and interruptible service customers until a later case.

16 *"We should add, regarding the present subject, that an interruptible D rate would only exist*
17 *if specifically required to manage the use of the distribution capacity of the distributor's*
18 *network. As there are currently no restrictions on the use of distribution pipelines, the*
19 *separate distribution rates are being introduced without any interruptible distribution rate.*
20 *Separate distribution rate D₅ is therefore the same for all interruptible customers*
21 *irrespective of their number of days of interruption, and we shall later see how it may be*
22 *possible to arrive at a single distribution rate that is valid both for continuous customers*
23 *and interruptible customers."*²⁰

24 Even today, there is no reason to treat those customers who have chosen an interruptible
25 option aimed at reducing off-franchise supply costs and those who have not any differently
26 with respect to the distribution rate. If there were a specific need for interruptible service
27 within distribution, then that need should be treated differently and considered separate
28 from interruptible service aimed at reducing customers' supply costs.

- 29 - Secondly, Gaz Métro is of the opinion that recognizing the interruptible option in the
30 load-balancing service makes it possible to move closer to a cost logic. At present, signing
31 up for interruptible service is compensated by a preferential rate for distribution service,
32 among other things. That preferential rate is applied, regardless of the number of days of

²⁰ R-3443-2000, SCGM-2, Document 1, page 70.

1 interruption during a given year. Thus, the cost paid out by Gaz Métro for the interruptible
2 offering has no connection to the volumes interrupted, but rather to the volumes
3 consumed. The cost of the interruptible offering is entirely fixed, and is borne whether or
4 not there is any interruption in service. This formula, which gives the same compensation
5 to interruptible customers, whether or not there have been interruptions during a year, is
6 aimed at attempting to limit the inconvenience of interruptions rather than offering
7 interruptible capacity. In fact, the interruptible service customers are ensured their special
8 rate, hence they have more incentive to try to avoid interruptions by drawing on MUGI or
9 even by agreeing to pay penalties for unauthorized withdrawals.

10 For these reasons, Gaz Métro proposes to permanently eliminate the interruptible distribution
11 rate, and to transfer all customers to one of the continuous service rates. The interruptible offering
12 would thereafter be recognized in the load-balancing service only. Furthermore, given that the
13 distribution rate structure is going to change as a result of the work in customer segmentation and
14 in redefining rates that will take place during phase 4 of this case, Gaz Métro proposes that the
15 D₅ rate be kept in place until the time when the new distribution rates go into effect (on this topic,
16 see section 11).

4.1.1. BASICS OF THE APPROACH

17 The approach proposed by Gaz Métro is partially inspired by a method that was submitted
18 by *Approvisionnement Montréal, Santé et Services Sociaux* (AMSSS) in case R-3323-95
19 on the matter of allocating transportation and load-balancing costs. In that case, the
20 AMSSS proposed that interruptible customers be compensated by a credit calculated
21 based on the cost avoided by the distributor as a result of serving the continuous-service
22 customers using the capacity released by the interruptions. From this perspective, the
23 interruptible volumes are considered a source of supply that makes it possible to limit the
24 costs of supply tools. The possibility of interruption therefore makes it possible for the
25 distributor to avoid the costs of the supply tools that would be required in the absence of
26 interruptible volume for serving customers.

27 *“GMI relies on its ability to curtail service to its interruptible customers to meet the loads of*
28 *its firm customers on peak days and, in recent years, over the winter season. The ability to*
29 *curtail service to these customers allows GMI to contract for less storage capacity and*
30 *seasonal transportation service. Hence, the costs to serve the firm customers is reduced.*

1 *These costs saving arise as a direct result of the curtailable nature of the interruptible*
2 *customers' load and are properly allocated to the interruptible customers.*²¹

3 Using this approach, the value of the costs avoided is totally or partially passed on to
4 interruptible customers in the form of a credit. The AMSSS's proposal in this case was
5 viewed favourably by the Régie, which had retained the idea of offering a credit based on
6 the costs avoided.²²

7 The approach proposed by Gaz Métro is also inspired by the interruptible option offered
8 by Hydro Québec Distribution ("HQD") to its main customers of the L rate since 2003 and
9 renewed twice since. The following excerpt drawn from HQD's initial evidence briefly
10 describes the spirit of its interruptible option. A more detailed description of HQD's
11 interruptible electricity option is presented in case R-3891-2014.²³

12 *"Hydro-Québec Distribution proposes that effective December 1, 2003, an interruptible*
13 *electricity option be offered to its large-power customers. To participate, customers must*
14 *commit to making their power interruptible for the entire baseline year. In return, those*
15 *customers get a minimum credit when the Distributor exercises the option."*²⁴

16 This option had been proposed following the request from the Régie that Hydro-Québec
17 consider using an interruptible option *"to increase its flexibility in managing unforeseen*
18 *load peaks and energy needs.*²⁵

19 The approach adopted by Gaz Métro also has similarities with the interruptible service in
20 place at the distributors Enbridge and Gazifère, which offer a credit for interruption applied
21 to average daily volumes.²⁶

22 **Gaz Métro asks the Régie to approve the recognition of the interruptible offering for**
23 **load-balancing only, as well as the elimination of the interruptible rate for distribution**
24 **service (D₅).**

²¹ R-3323-95, Evidence of Sharon L. Chown on behalf of Approvisionnement-Montréal and Nova Gas Clearinghouse Limited.

²² D-97-47, page 21.

²³ R-3891-2014, HQD-1, document 1

²⁴ R-3518-2003, HQD-1, document 1, page 11.

²⁵ D-2002-169, page 50.

²⁶ Enbridge (rate 145 and 170) and Gazifère Rate 9

4.2. VALUE OF THE INTERRUPTIBLE OFFERING

1 Currently, the recognition of the interruptible offering in load-balancing is done by modifying
2 parameters A, H, and P when calculating the price, as described in section 1.2.2. Gaz Métro
3 proposes to no longer modify the calculation parameters, but rather to add a new component to
4 the load-balancing rate, making it possible to compensate the interruptible volumes by means of
5 credits. At that point, it will be important to determine, for starters, the value of the compensation
6 that may be offered. It must be high enough to attract customers to the interruptible offering, but
7 must also make it possible to reduce the total supply costs, as indicated in section 3.

8 Thus, in order to ensure a decline in supply costs, the credits offered must be calibrated from the
9 comparison tools. In this evidence, the alternative that will be considered at interruptible volumes
10 is purchasing FTSH transportation capacities (Dawn-Parkway-Eda segment). The financial
11 compensation offered to participating customers therefore may not exceed Gaz Métro's
12 opportunity cost, or in this case, the cost of FTSH capacity.

4.2.1. COMPENSATED INTERRUPTIBLE VOLUME

13 The proposed approach relies on determining the interruptible volumes of customers
14 participating in the option, meaning assessing the volumes made available for interruption on
15 interruption days. Compensation shall be made based on the volumes "not consumed" and
16 "made available" by customers. It is important to correctly assess the volumes for which credits
17 will be paid. In fact, miscalculating the volumes could mean that the cost of the interruptible
18 would be greater than the cost of the alternative, namely the FTSH transportation supply.

19 For the compensated interruptible volumes to approach the FTSH transportation volumes
20 that they help to avoid, Gaz Métro needed to consider the following:

- 21 - A steadily-consuming customer makes it possible to ensure a stable interruptible
22 volume all winter long, while a variable-consumption customer will be able to offer
23 greater or smaller quantities each day.
- 24 - Demand is higher during weekdays (Monday-Thursday) than on weekends
25 (Friday-Sunday) or on holidays.

- 1 - Interruptible service may be necessary outside of the peak period: Several days of
2 interruption may be required; interruption days in extreme winter may occur at the
3 end of winter at much less cold temperatures than at the peak while still requiring
4 the same interruptible volume as a peak day.

5 In order to take all of these factors in account, Gaz Métro proposes to calculate the
6 compensated interruptible volume based on the formula:

7 $DVI_i = VPI_i - MCV_i$

8

9 where DVI_i = Daily interruptible volume of customer i

10 VPI_i = Average volume of the interruption period of customer i

11 MCV_i = Maximum continuous service volume of customer i.

12 The average volume of the interruption period (VPI) is an estimate of what the customer's
13 daily consumption would have been without the interruption. The VPI would be determined
14 at the time the customer signed up for the interruptible offering based on the average
15 volumes withdrawn during the previous year's winter days,²⁷ unless major changes are
16 planned in the customer's consumption. The calculation would only take into account the
17 volumes consumed during working days from Monday to Thursday. The period from
18 December 1 to February 28 would be used for estimating the VPI in order to model the
19 new proposed period to determine the customer's peak,²⁸ even though service might
20 sometimes be interrupted outside of that period.²⁹

21 The maximum continuous service volume (MCV) corresponds to the maximum daily
22 withdrawal that the customer agrees not to exceed during an interruption day. It is in fact
23 the minimum continuous volume required by the customer, i.e. the daily level of
24 consumption that must be maintained even during an interruption day. During interruption
25 days, the customer cannot consume more than that volume threshold, or else it will be
26 forced to pay a penalty. The MCV would be set by the customer at the time it signs up for
27 the interruptible options and for a period corresponding to the duration of the interruptible

²⁷ The details of how VPI is determined are presented in Appendix 2.

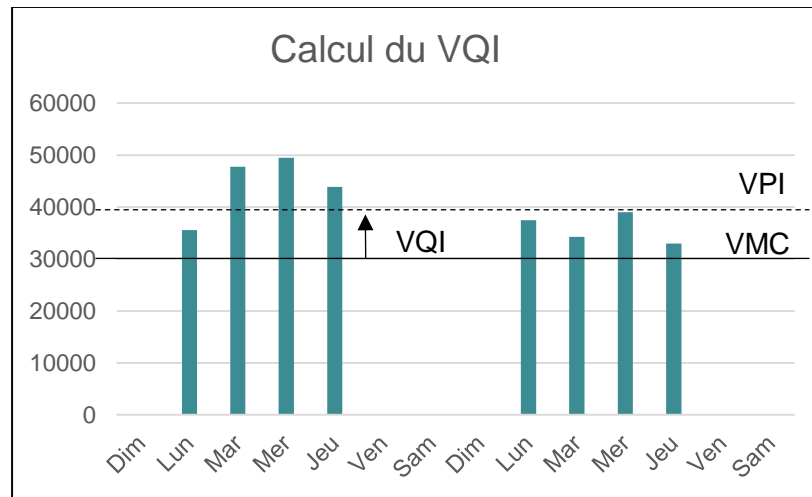
²⁸ The proposed period for determining the peak is detailed in exhibit Gaz Métro5, Document 3, section 4.

²⁹ The majority of interruptions are expected to occur between December and February. On the other hand, Gaz Métro could interrupt customers in November, March, or even during other months of the year for operational reasons.

1 contract. All customers who choose the interruptible option would need to have equipment that
2 can read volumes daily, as is the case for the customers of the current interruptible service.

3 The following graphic illustrates the method for calculating the volumes made available
4 during an interruption or DVI.

Figure 4



5 The proposed interruptible offering is therefore based on three parameters: The *maximum*
6 *continuous service volume* (MCV), the *volume in the period of interruption* (VPI), and the
7 *daily interruptible volume* (DVI).

8 **Gaz Métro is asking the Régie to approve the method of calculating the daily volumes**
9 **interruptible (DVI), based on the difference between:**

- 10 - the estimated volume of the interruption period (VPI); and
11 - the maximum continuous volume (MCV).

4.3. DESCRIPTION OF THE CONSIDERED PRELIMINARY OPTIONS

12 In the fall of 2015, Gaz Métro conducted a consultation exercise with its Major Industries Sales
13 customers. Five interruptible options were presented to customers at that time in order to test
14 their popularity. Gaz Métro's goal was to gather comments from its customers and their
15 preferences with respect to the different offering profiles, and to set the final parameters of its

1 interruptible option. The purpose of this approach was to ensure the interruptible option put in
2 place would be one that customers would appreciate, and which would meet Gaz Métro's
3 profitability needs. The results of the consultation are presented in section 6.

4 The options created have been calibrated to be competitive with the transportation tools that
5 would need to be contracted in the absence of interruptible volumes. As the price of the
6 Dawn-Parkway-EDA transportation service has been assessed at slightly more than \$10.00/m³
7 (see Tableau 2), the value of the credit granted therefore may not exceed that avoided cost. In
8 fact, Gaz Métro is of the opinion that the credit granted cannot be exactly equivalent to the cost
9 avoided in terms of supply tools for several reasons:

- 10 - the administration of interruptible volumes is demanding; the credit granted for interruptible
11 volumes must take into account the greater operational complexity that their
12 management requires;
- 13 - the interruption reduces the transportation revenues generated by the interruptible
14 customer as well as the potential to resell surplus;
- 15 - Gaz Métro aims to give all customers the benefit of the avoided cost resulting from the
16 presence of interruptible volumes. The distributor is seeking to reduce the cost of its supply
17 tools using the interruptible offering.

18 Consequently, Gaz Métro estimates that the maximum credit granted should be about \$7.50/m³,
19 representing nearly 75% the cost of the alternative. The interruptible options were calibrated so
20 as to not exceed that credit in order to measure the customers' interest.³⁰

21 The five options submitted for the assessment of Major Industries Sales customers are described
22 below. The credits calculated for each of the options would be granted to the load-balancing service.

23 **A. Seasonal options**

24 Unlimited seasonal interruptible service – Option 1

- 25 - This option has been planned as a replacement for category A of the current interruptible service.
- 26 - A **fixed credit** of \$6/m³ would apply to the DVI annually.

³⁰ The way the credits have been determined for each option is detailed in Appendix 3.

- 1 - The fixed credit would be applied to the customer in four payments: December, January,
2 February, and March.
3 - The distributor would be able to interrupt the customer based on the supply needs and
4 would set the maximum number of days needed each year, during the rate case.

5 For example, a customer with a DVI of 10,000 m³/day would have a fixed compensation of
6 \$60,000 (\$6/m³ x 10,000 m³) paid in four equal instalments. This compensation would remain
7 the same, regardless of the actual number of interruption days.

8 Unlimited seasonal interruptible service – Option 2

- 9 - This option has been planned as a replacement for category A of the current interruptible service.
10 - Fixed and variable interruption credits will be given to the customer.
11 - The variable credit will be given for each m³ interrupted during the year and applied to the
12 DVI. The variable credit will be \$0.25/m³.
13 - A fixed credit of \$2/m³ would apply to the DVI annually.
14 - The fixed credit will be applied to the customer in four payments: December, January,
15 February, and March.
16 - The distributor will be able to interrupt the customer based on the supply needs and will
17 set the maximum number of days needed each year, during the rate case.

18 For example, a customer with a DVI of 10,000 m³/day would have a fixed compensation of
19 \$20,000 (\$2/m³ x 10,000 m³) paid in four equal instalments and a variable compensation of
20 \$2,500 (\$0.25/m³ x 10,000 m³) per day for each day of interruption. If that customer were
21 interrupted 20 days during the winter, its total compensation would be \$70,000, i.e. \$20,000
22 of fixed compensation and \$50,000 of variable compensation (20 days x \$2,500 = \$50,000).

23 Limited seasonal interruptible service – Option 3

- 24 - This option has been planned as a replacement for category B of the current interruptible service.
25 - A **fixed credit** of \$1.50/m³ would apply to the DVI annually.
26 - The fixed credit will be applied to the customer in four payments: December, January,
27 February, and March.
28 - The maximum number of days of interruption will be set at 20.

1 For example, a customer with a DVI of 10,000 m³/day would have a fixed compensation of
2 \$15,000 ($\$1.50/\text{m}^3 \times 10,000 \text{ m}^3$) paid in four equal instalments. This compensation would
3 remain the same, regardless of the actual number of interruption days.

4 **B. Peak options**

5 These options were planned in order to meet the Régie's request to develop an interruptible option
6 to meet peak management needs.

7 Peak interruptible offer – Option 4

- 8 - A **variable credit** of $\$4/\text{m}^3$ for every m³ interrupted would apply to the DVI.
- 9 - The distributor would be able to interrupt the customer for a maximum of five days. The
10 days of interruption could be consecutive.
- 11 - The quantities available may be limited. Gaz Métro would select customers with the largest DVI.

12 For example, a customer with a DVI of 10,000 m³/day would have \$40,000 compensation for
13 one day of interruption ($1 \text{ day} \times 10,000 \text{ m}^3/\text{day} \times \$4/\text{m}^3$), which would only be paid if an
14 interruption actually took place.

15 Peak interruptible offer – Option 5

- 16 - **Fixed and variable** interruption credits will be given to the customer.
- 17 - The variable credit will be given for each m³ interrupted during the year and applied to the
18 DVI. The variable credit will be $\$2/\text{m}^3$.
- 19 - A fixed credit of $\$0.50/\text{m}^3$ would apply to the DVI annually.
- 20 - The fixed credit will be applied to the customer in four payments: December, January,
21 February, and March.
- 22 - The distributor will be able to interrupt the customer for a maximum of 5 days. The days
23 of interruption may be consecutive.
- 24 - The quantities available may be limited. Gaz Métro would select customers with the largest DVI.

25 For example, a customer with a DVI of 10,000 m³/day would have a fixed compensation of
26 \$5,000 ($\$0.50/\text{m}^3 \times 10,000 \text{ m}^3$) paid in four equal instalments and a variable compensation of
27 \$20,000 ($\$2/\text{m}^3 \times 10,000 \text{ m}^3$) per day for each day of interruption. If that customer were

1 interrupted 5 days during the winter, its total compensation would be \$105,000, i.e. \$5,000 of
2 fixed compensation and \$100,000 of variable compensation (5 days x \$20,000 = \$100,000).

3 **C. Terms of the interruptible offering**

4 Terms that apply to all interruptible offerings have also been defined and submitted for approval
5 during the consultation with Major Industries Sales customers. They include:

- 6 • Prior notice of entry: A customer wishing to participate in the interruptible offering
7 should notify the distributor before December 1 for entry no earlier than the following
8 November 1.
- 9 • Prior notice of exit: A customer that no longer wishes to participate in the interruptible
10 offering should give three years' prior notice.
- 11 • Penalties for unauthorized withdrawals: A penalty of \$5/m³ would apply when the
12 customer consumed more than its MCV despite an interruption notice.

13 These terms are detailed in section 7.2.1.

**5. ASSESSING THE IMPACT OF THE PLANNED PRELIMINARY
OPTIONS ON SUPPLY COSTS**

14 Gaz Métro estimated the effects of different interruptible options on supply tool costs. These
15 analyses were conducted in order to ensure that the potential savings in terms of supply were
16 sufficient enough to justify the credits that would be offered to interruptible-service customers.

17 To assess the supply impact of the planned interruptible options, the basic demand expected for
18 2018 and produced in the 2016-2019³¹ supply plan have been used. This choice is justified by
19 the fact that in 2018, the supply structure will be moved to Dawn, except for 85,000 GJ of FLTH
20 transportation required under the Agreement.

21 In order to have a supply plan that reflects current interruptible service, however, the following
22 modification was considered in the 2018 plan:

³¹ CT-2016, R-3879-2014, B-0655, Engagement # 1, Gaz Métro-115, Document 12.

1 • The impact of re-engineering interruptible service of 264 10³m³/day (10,000 GJ/day)³² is
2 removed from line 16 of Tableau 3 and replaced by a transportation tool to be contracted,
3 presented in line 17 “Purchase (sale) of tools.” This requested tool is made up by primary
4 transportation between Dawn and GMIT EDA (TCPL-FTSH between Parkway and
5 GMIT EDA and Union Gas-M12 between Dawn and Parkway), justifying the \$2.8 million
6 difference in transportation and load-balancing costs.

7 Additionally, the daily volume for extreme winter is calculated based on the winter of 2014-2015
8 rather than the winter of 2013-2014.

³² R-3879-2014, Gaz Métro-7, Document 8, page 2.1.

1 The table below compares the adjusted 2018 plan to the 2018 plan of CT-2016.³³

Tableau 3 - Plan 2018

	CT-2016 Engagement #1	CT-2016 Ajusté	Variation (2) vs (1)
	(1)	(2)	(3)
Besoins d'approvisionnement (10³m³/jour)			
1 Journée de pointe	36 476	36 476	0
2 Hiver extrême	<u>34 598</u>	<u>35 715</u>	<u>1 116</u>
3 Approvisionnement requis (= maximum)	36 476	36 476	0
Sources d'approvisionnement (10³m³/jour)			
4 FTLH primaire et secondaire	2 243	2 243	0
5 Transport par échange (EMP-GMIT)	24	24	0
6 Transport clients & biogaz	1 058	1 058	0
7 FTSH (Dawn - GMIT EDA)	2 903	2 903	0
8 Transport par échange (Dawn-GMIT EDA)	2 164	2 164	0
9 FTSH (Parkway - GMIT EDA)	13 174	13 174	0
10 STS	5 705	5 705	0
11 PDL	1 203	1 203	0
12 St-Flavien	1 524	1 524	0
13 Usine LSR	5 764	5 764	0
14 Outil de pointe GM GNL	450	450	0
15 Sous-total	36 213	36 213	0
16 Impact de la refonte du service interruptible	264	0	-264
Total appro. avant achat / (vente)	36 477	36 213	-264
17 Achat (vente) d'outils	0	264	264
18 Total approvisionnement	36 477	36 477	0
19 Coûts Transport & Équilibrage (000 \$)	359 880	362 673	2 793

5.1. BASELINE SCENARIO: ALL CUSTOMERS ON CONTINUOUS SERVICE

2 A theoretical supply plan has been constructed as a baseline scenario to assess the impact of
 3 the planned interruptible options on supply costs. This baseline scenario represents a situation
 4 where all customers are subject to continuous service, with no interruptible option possible. It is
 5 the scenario that the planned interruptible options are compared to.

³³ CT-2016, R-3879-2014, B-0655, Engagement # 1, Gaz Métro-115, Document 12.

1 This baseline supply plan, in which all customers are soon to be on continuous service, has been
2 constructed from the adjusted 2018 plan, with the following changes:

- 3 • Demand before interruption from interruptible service customers has been entirely
4 transferred to continuous service.

- 5 • Continuous demand during peak days for all customers has been assessed using
6 the method described in exhibit R3879-2014, B-444, Gaz Métro-103, Document 4.
7 Unlike the usual approach, which only takes into account data from continuous
8 service customers, the regression is applied to data from all customers. The
9 observed volumes of interruptible service customers are considered for days
10 without interruptions. However, for days during which there has been an
11 interruption, the volumes that the customers would have consumed had they not
12 been interrupted are unknown. First, these missing volumes have been estimated
13 for each customer using the methodology presented in Appendix 2. The volumes
14 thereby estimated were then compared to the consumed volumes of make-up gas for
15 offsetting an interruption, if applicable. The greater of the two was chosen to estimate
16 the withdrawals that the customer would have made if it had not been interrupted.

17 The assessment of supply needs, the sources of supply for meeting the needs, and the cost of
18 the transportation and load-balancing of the baseline plan considering all customers on
19 continuous service are presented in the following table:

Tableau 4
Plan de référence « Tous les clients au service continu »

	CT-2016 Ajusté (1)	Tous les clients continus (2)	Variation (2) vs (1) (3)
Besoins d'approvisionnement (10³m³/jour)			
1	36 476	39 075	2 599
2	<u>35 715</u>	<u>36 826</u>	<u>1 111</u>
3	36 476	39 075	2 599
Sources d'approvisionnement (10³m³/jour)			
4	36 213	36 213	0
5	264	2 862	2 598
6	36 477	39 075	2 598
7	362 673	390 181	27 508

1 Treating all customers as though they were on continuous service leads to an increase in
2 continuous demand on peak days and an increase in needs for addressing extreme winter
3 resulting from the greater erosion of supply in franchise. The supply need is 39,075 103m³/day,
4 an increase of 2,599 103m³/day compared to the “adjusted CT-2016” plan. To meet this need,
5 2,862 103m³ of transportation tools will have to be purchased. This requested tool is made up by
6 primary transportation between Dawn and GMIT EDA (TCPL-FTSH between Parkway and
7 GMIT EDA and Union Gas-M12 between Dawn and Parkway).

8 The results also indicate that transferring interruptible customers to continuous service generates
9 additional transportation and load-balancing costs of \$27.5 million, which is 7.6% more than the
10 current situation. In other words, the presence of interruptible customers in the current service
11 makes it possible to lower the transportation and load-balancing costs for 2018 by \$27.5 million.

5.2. COMBINED SEASONAL AND PEAK INTERRUPTIBLE SERVICES

12 In the baseline plan that treats all customers as being on continuous service, the additional supply
13 needs have been met through purchases of transportation tools on an annual basis. In order to
14 maximize the use of the available tools and to set up tools that make it possible to meet
15 low-occurrence needs, the purchases of transportation tools beyond extreme winter needs may

1 be reduced in return for a peak interruptible offering. Thus, the difference between the needs of
2 peak days and those of extreme winter represents the potential daily volume for peak interruptible
3 service. Above that volume, tools would be required in order to meet extreme winter needs. As
4 peak day needs are 39,075 10³m³/day and extreme winter needs are 36,826 10³m³/day, the
5 potential daily volume for a peak interruptible offering would be about 2,249 10³m³.

6 Furthermore, in order to maximize the use of all supply tools, purchases of transportation tools above
7 the extreme winter needs may be reduced in return for unlimited and limited seasonal interruptible
8 options, in addition to the peak interruptible option. In such a case, the volumes for seasonal offerings
9 have impacts on the peak day and extreme winter needs at the same time. The potential volumes for
10 the different interruptible offerings therefore cannot be estimated in advance.

11 Thus, in order to assess the impact on the supply plan's costs of introducing limited and unlimited
12 peak and seasonal interruptible options, Gaz Métro determined, by trial and error, a possible
13 combination of interruptible volumes for the three offerings in a way that maximizes the use of the
14 supply tools. This combination of volumes makes it possible to generate a balance between peak
15 day needs and extreme winter needs.

16 To achieve this, the following assumptions have been retained:

- 17 • Among customers currently on interruptible and continuous services, customers have
18 been identified by the Major Industries Sales team that may be interested in a peak
19 interruptible offering. Those customers must possess a reliable alternative energy
20 source or be able to partially or totally cease production for five consecutive days.
21 Interruption volumes are also estimated for those customers. In order to establish a
22 combination of interruptible daily volumes, customers have been randomly selected
23 from among the customers potentially interested in the peak offering.
- 24 • All customers currently on Category A interruptible service are considered to be on
25 the unlimited seasonal interruptible service (80 days), except for those chosen for the
26 peak interruptible service.
- 27 • All customers currently on Category B interruptible service are considered to be on
28 the limited seasonal interruptible service (20 days), except for those chosen for the
29 peak interruptible service.

- 1 • To perform the simulation according to plan, peak interruptible service interruptions
2 are considered after the use of the LSR plant. The interruptions of unlimited and
3 limited seasonal services remain applicable before the use of the LSR plant, which is
4 not used to meet the demand of those services if the maximum number of days of
5 interruption has not been met

6 The following table gives a combination of interruptible daily volumes for each of the interruptible
7 options, making it possible to maximize the use of the supply tools.

Tableau 5
Combinaison de volumes aux services interruptibles

	10 ³ m ³ /jour (1)	GJ/jour (2)	Proportion (3)
1 Service saisonnier illimité	447	16 948	15%
2 Service saisonnier limité	513	19 429	17%
3 Service de pointe	2 060	78 046	68%
4 Total	3 020	114 423	100%

8 The interruptible daily volume on the peak service is 2,060 10³m³/day. It makes up almost the
9 entire gap between peak day needs and extreme winter needs, estimated at 2,249 10³m³/day in
10 the baseline plan (all customers treated as continuous) In total, the interruptible daily volumes are
11 equal to 3,020 10³m³/day for the three options together.

12 The assessment of needs and sources of supply as well as the transportation and load-balancing
13 costs under this combination of volumes with unlimited and limited seasonal services and with
14 peak service is presented in the following table.

Tableau 6
Plan 2018 selon la combinaison retenue de volumes interruptibles

	Tous les clients continus	Interruptibles saisonniers et pointe	Variation (2) vs (1)	
	(1)	(2)	(3)	
Besoins d'approvisionnement (10³m³/jour)				
1	Journée de pointe	39 075	36 386	-2 689
2	Hiver extrême	<u>36 826</u>	<u>36 332</u>	<u>-494</u>
3	Approvisionnement requis (= maximum)	39 075	36 386	-2 689
Sources d'approvisionnement (10³m³/jour)				
4	Total appro. avant achat / (vente)	36 213	36 213	0
5	Achat (vente) d'outils	2 862	174	-2 687
6	Total approvisionnement	39 075	36 388	-2 687
7	Coûts Transport & Équilibrage (000 \$)	390 181	361 748	-28 433

1 Under this interruptible volume scenario, the difference between the peak day needs and extreme
2 winter needs is only 54 10³m³/day (36,386 – 36,332 10³m³/day). This relative load-balancing
3 situation enables a structure that optimizes the use of all supply tools.

4 The interruptible service volumes of 3,020 10³m³/day make it possible to reduce the supply needs
5 by 2,689 10³m³/day, generating a reduction in transportation and load-balancing costs of
6 \$28.4 million compared to the baseline plan in which all customers are assumed to be on
7 continuous service. This cost assessment does not include the increase in the operating costs of
8 the LSR plant caused by greater vaporization resulting from the reduction in transportation
9 capacity, and consequently, an increase in liquefaction.

10 To complete the analysis, a comparison of the supply plans in a cold winter and extreme winter
11 context has also been conducted. In all cases, the decrease in transportation capacity leads to
12 greater erosion of storage at the LSR plant and PDL storage. Appendix 4 presents certain
13 statistics related to the use of the LSR plant and the PDL storage site.

14 Appendix 5 presents the interruptions resulting from the supply structure, considering customers
15 on the seasonal and peak interruptible service. The maximum of 20 days of interruption on the

1 limited seasonal interruptible service is observed both in cold and extreme winter situations. Peak
2 interruptible service interruptions are observed only in extreme winter situations. These
3 interruptions are triggered from the moment when the inventory at the LSR plant is no longer
4 sufficient to serve customers on that service. In that situation, the peak interruptible service is not
5 used to meet peak demand, as peak-day climate conditions are not observed during extreme
6 winter. Rather, it is used to meet the need to get through extreme winter.

7 Gaz Métro wanted to assess the potential impact of the interruptible options on the gas supply
8 plan. With potential savings of more than \$28 million before the offerings pay out, relative to
9 a baseline scenario where no customers are on interruptible service, Gaz Métro believes that it
10 would be beneficial for all customers to offer interruptible service made up of a seasonal category
11 and a peak category. With these findings in hand, meetings with customers could then begin.

6. CONSULTATION WITH MAJOR INDUSTRIES SALES CUSTOMERS

6.1. DESCRIPTION OF THE CONSULTATION PROCESS

12 The creation of the interruptible option was done in the context of a consultation process among
13 Major Industries Sales customers.

14 Customers who are members of the Association des consommateurs industriels de gaz (“ACIG”)
15 were first invited to a meeting in June 2015. During that meeting, the outlines of a potential new
16 interruptible option were presented, followed by an informal discussion on the draft that was being
17 developed. In total, eight customers, plus a representative of ACIG, took part in the meeting.

18 Major Industries Sales customers were then consulted during the month of September. Meetings
19 took place in Montréal, Boucherville, Laval, Québec, and Sherbrooke. All large customers,
20 including customers currently on a continuous service rate, were invited. Overall, 154 customers
21 were invited to these meetings, and 63 of them took part. All customers that participated in the
22 meetings had previously received a custom simulator that presented the results of the calculation
23 of their VPI parameter. Those customers could thereby determine the value of the DVI that would
24 be assigned to them when they set their required continuous service volume (MCV). Customers
25 could also determine the value of the credits that they would receive under each possible
26 interruptible option. At the end of each consultation, the customers were invited to share their

1 comments with Gaz Métro about the different terms of the options submitted for approval through
2 an interest form. The interest form and simulator are presented in Appendix 6. In total,
3 52 customers sent Gaz Métro a completed interest form. Of those customers, 26 were classified
4 as being in the institutional sector, 11 in manufacturing industry, and 15 in heavy industry. More
5 than half the respondents (65%) are subject to the interruptible rate or have a combined rate.

6.2. PRIMARY RESULTS OF THE CONSULTATION

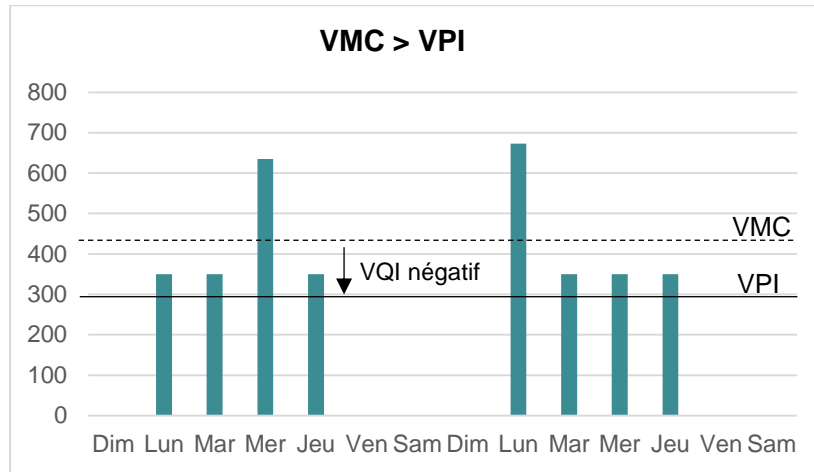
6 The section below summarizes the results of the consultation with Major Industries Sales
7 customers that was held this fall.

6.2.1. MCV AND DVI

8 Customers were first invited to determine the portion of their consumption that they could
9 not interrupt (MCV). Eight customers (15%) set an MCV equal to the VPI sent to them by
10 Gaz Métro. This means that they do not plan to make any volume available for interruption.
11 Eighteen customers (35%) believed that they do not need an MCV, which means that they
12 might, during a day of interruption, make all of the volume they would normally consume
13 available. Among the other 26 customers (50%), the DVI represented an average of 25%
14 of their peak estimated by VPI.

15 Among customers that had set their MCV at a level equivalent to the VPI, some even reported
16 a continuous need greater than the average volume of the interruption period (VPI) identified
17 by Gaz Métro. In fact, those customers have a non-uniform profile marked by occasionally
18 higher natural gas consumption. They end up with a negative DVI.

Figure 5



1 Based on the offers presented, these customers would have no incentive to limit their peak
 2 anymore. They asked Gaz Métro to analyze the possibility of recognizing the fact that they
 3 are ready to limit their consumption during days of interruption. The analysis on this subject
 4 is presented in section 7.4.

6.2.2. PREFERENCES AMONG THE INTERRUPTIBLE OFFERINGS

5 The customers were then asked to indicate their preferences among the interruptible
 6 offerings, ranking the five choices from first to last.

7 The peak interruptible options were by far the most popular among customers expressing
 8 a preference. Thirty seven out of 52 customers, or 71% of the respondents, selected one
 9 of the two peak interruptible options as their first choice. The vast majority of customers,
 10 i.e. 33, believe that the peak offering - Option 4, which gives 100% variable compensation
 11 at \$4.00/m³, was the most attractive. Customers said they enjoyed it for its appealing
 12 overall compensation and its fewer days of interruption. However, some customers said
 13 that they would rather have fixed compensation in order to bear the cost of maintaining
 14 their alternative source equipment. Nonetheless, other customers said that fixed
 15 compensation would not be a significant factor in their decision.

16 The peak offering - Option 5 is the second most popular option. It was preferred by
 17 5 customers as their first choice and 27 as their second. On the other hand, though suitable

1 for some, the variable compensation was occasionally deemed too low, particularly when
2 compared with the Peak offering - Option 4. The fixed compensation elicited various
3 comments. Some found it to be appropriate, while others considered it too low.

4 The seasonal offerings did not draw much interest. Only four customers chose the
5 unlimited seasonal offering - Option 2, which offers a fixed compensation of \$2.00/m³ and
6 variable compensation of \$0.25/m³, as their first choice. Four customers also chose the
7 unlimited seasonal option 2 as their second choice.

8 With respect to the seasonal offering, several mentioned that they did not select it,
9 because the compensation would not cover the cost of the alternative source, or because
10 that offering did not ensure sufficient profitability. As a result, several customers
11 commented that the fixed or variable compensation should be higher. Another major pitfall
12 seemed to be the number of days of interruption. The customers were of the opinion that
13 a maximum of 80 days of interruption could lead to very difficult situations, economic
14 losses, and a great degree of uncertainty. Six customers then mentioned that the seasonal
15 offerings were too risky for the user and that the risk transfer was not acceptable for their
16 company.

17 The 20-day limited seasonal offering was not the first or second choice of any customer.
18 Although customers found the number of days of interruption to be fair, the compensation
19 did not seem to meet their profitability criteria.

20 Several customers also expressed interest in combining a seasonal offering with a peak
21 offering. Those customers would have considered participating in both types of options,
22 which they considered to be complementary.

23 Finally, 11 out of 52 respondents did not express any preference. Different reasons were
24 stated by the customers who did not express an interest in any particular option. Some
25 customers noted that the compensation was unable to equal the cost of an alternative
26 energy source. Others had goals of reducing their greenhouse gas emissions, which did
27 not enable them to make use of an alternative energy source. Furthermore, some
28 customers said that they simply could not interrupt service.

6.2.3. NOTICE OF EXIT

1 During the meeting with ACIG members in June 2015, some customers pointed out that the
2 three-year notice of exit that Gaz Métro planned to impose (see section 7.2.1) was difficult to
3 satisfy given the changing world in which industrial companies operate. Those customers said
4 that they had to work in fairly tight time frames and could not give so much advance notice.

5 In order to continue discussions on this topic, Gaz Métro stated, during the subsequent
6 consultation in September, that more flexibility in this clause would reduce the value of the
7 interruptible offering. For that reason, Gaz Métro asked customers if they were ready to
8 give up as much as 75% of their annual overall compensation for the option to migrate
9 away from interruptible service after just one year. Only seven customers answered this
10 question in the affirmative, while 26 said that they could not give up that compensation
11 and 19 did not answer the question.

6.2.4. UNAUTHORIZED WITHDRAWALS

12 Customers were also invited to express their opinions about the various terms of the
13 interruptible offering. The proposed price of \$5/m³ for unauthorized withdrawal penalties
14 (see section 7.2.1) is one of the factors that generated the most reactions. Customers
15 found the penalty for unauthorized withdrawals to be very or too high. Some participants
16 mentioned relying on the ability to make unauthorized withdrawals as a last resort when
17 MUGI is not available. In particular, one customer asked whether the load-balancing credit
18 would still be granted if unauthorized withdrawals were made.

19 Several stated that unauthorized withdrawals could be essential in an emergency. Some
20 customers observed that a single day of unauthorized withdrawals could cancel out an
21 entire season of savings from the interruptible offering.

22 These comments demonstrate that the price of the penalties is prohibitive for customers,
23 which is essentially the intended goal.

6.2.5. FEARS AND RISKS

24 Some customers, with an irregular consumption profile and a low load factor, are sensitive to
25 the contractual conditions of new interruptible offerings. Customers subject to rate D₅, which

1 have a low LF, said that they were worried about the end of interruptible service as we know
2 it, because they would probably experience rate increases from continuous service.

3 Several major customers use the interruptible rate as a rate optimization tool, meaning
4 that they seek to reduce the annual bill by offering certain volumes for interruption. Those
5 customers are not always disposed or even able to interrupt their consumption. The recent
6 difficulties in purchasing MUGI combined with the increase in the price of unauthorized
7 withdrawals as an alternative to interruption caused them to worry that higher bills could,
8 in their view, decrease the profitability of the interruptible offering.

9 Some customers have suggested that the value of the credit should be determined, not
10 based on the transportation alternative for Gaz Métro, but rather based on the price of
11 alternative energy for the customer, i.e. based on the cost of fuel oil.

12 Customers asked how frequently the granted credits would be updated. Some also
13 suggested that the value of the granted credits could vary based on the importance of the
14 volumes made available.

7. INTERRUPTIBLE OPTIONS CHOSEN

7.1. GAZ MÉTRO'S REFLECTIONS ON THE RESULTS OF THE CONSULTATION

15 The broad participation of Major Industries Sales customers demonstrates that interruptible
16 service is a matter of interest for them. On the other hand, the options presented to the customer
17 base were well-received.

18 As mentioned in section 6.2.2, the majority of customers believed that the interruptible offerings
19 which contained few days of interruption and potentially higher compensation were the most
20 attractive. Based on the results of the consultation, those offerings would enable Gaz Métro to
21 preserve a high interruptible potential at a cost below FTSH transportation.

22 The peak interruptible offering - Option 4 was welcome by almost everyone, except for some
23 customers who need a fixed credit. That offering, which combines few days of interruption and
24 potentially high variable compensation, should therefore be offered to customers. In order to
25 increase its appeal, and not have too many offers in the *Conditions of Service and Tariff*,

1 Gaz Métro proposes to add a small fixed compensation to this option. However, the need for this
2 type of offering may be limited, as described in section 5.2, and Gaz Métro plans to restrict the
3 quantities offered for that service.

4 Although the seasonal option generated less interest from customers, Gaz Métro believes that
5 such an offering should be preserved. Despite the other options presented, there are several
6 customers for whom this offer remains interesting. Additionally, in the event that the peak
7 interruptible offering reaches its limit, Gaz Métro believes that at least one interruptible offering
8 should be available. Due to having more days of interruption, this offering is still useful to
9 Gaz Métro in order to reduce its supply needs in winter.

10 Finally, Gaz Métro believes that a service must also be developed for customers who do not
11 qualify for interruptible services based on the calculation of DVI. The fact that those customers
12 nevertheless set a MCV would enable the distributor to ensure that they do not consume during
13 the coldest days and would limit the quantity of supply tools to be purchased. However, during
14 days when Gaz Métro has surplus tools, for example, during mild periods in winter, those
15 customers' consumption above their MCV would make it possible to optimize the distributor's
16 transportation costs. Therefore, the customers could contribute to optimize the use of the
17 purchased tools. Such an offering could also satisfy customers who do not want to or cannot
18 commit for three years.

19 With respect to other comments made by customers during the consultation, Gaz Métro took them
20 into consideration when choosing the final options as well as when creating a new service. However,
21 Gaz Métro believes that its offerings should not be altered with respect to the following requests:

- 22 - Lowering the cost of unauthorized withdrawals: Not only should the cost of unauthorized
23 withdrawals be prohibitive, it should also be higher than the maximum variable
24 compensation offered. For example, Gaz Métro may have to interrupt a peak-option
25 customer to offset another customer's unauthorized withdrawal. Gaz Métro has therefore
26 chosen to retain the \$5/m³ cost for prohibited transportation withdrawals.
- 27 - Compensation based on alternative energy: Gaz Métro is planning to purchase its supply tools
28 in advance. The alternative cost for Gaz Métro is therefore not the customer's alternative
29 energy cost, but rather that of the transportation tool to be contracted in the long term.

- 1 - Updating the granted credits: Gaz Métro plans to update the granted credits in the event
2 that the cost of the alternative tool were to significantly change.
- 3 - Combining interruptible services: Gaz Métro intends to study the possibility of offering
4 a combination of the different interruptible offerings to customers, but this analysis has not
5 yet been done. However, this possibility has no impact on the type of options and services
6 chosen and proposed in this evidence.

7.2. DESCRIPTION OF THE OPTIONS CHOSEN

7 Based on the cost analysis of the supply tools that constitute alternatives to interruptible volumes
8 and based on the interest shown by customers for the various options, two interruptible offerings
9 were selected by Gaz Métro.

10 On the one hand, the peak offering is attractive to customers, who prefer it over all the other
11 options submitted for evaluation. The customers consulted believe that the compensation offered
12 based on a variable credit is sufficient, but some additionally require a fixed portion to offset the
13 investments needed to set up and maintain equipment that would enable the use of a second
14 source of energy. Gaz Métro proposes to offer an interruptible option with a load-balancing credit
15 that is mostly variable, combined with a fixed credit to meet the customers' needs.

16 Also, although the unlimited seasonal options generated little interest in the current context,
17 Gaz Métro believes that maintaining such an option is necessary in the long term.

18 Gaz Métro believes that the interest shown by customers for a peak or seasonal interruptible
19 option would make it possible to free up about 60,000 GJ per day of interruption, 96% of it from
20 the peak option, as shown in Tableau 7.

21 The proposed interruptible options are described as follows:

22 Peak interruptible option:

- 23 - A variable credit of \$4/m³ for every m³ interrupted would apply to the DVI.
24 - A fixed credit of \$0.25/m³ would apply to the DVI annually.
25 - The distributor would be able to interrupt the customer for a maximum of 5 days. The days
26 of interruption could be consecutive.

- 1 - The quantities available could be limited. Gaz Métro would select customers with the
- 2 largest DVI.
- 3 - The fixed credit would be applied to the customer in four payments: December, January,
- 4 February, and March.

5 Unlimited seasonal interruptible option

- 6 - A variable credit of \$0.25/m³ for every m³ interrupted would apply to the DVI.
- 7 - A fixed credit of \$2/m³ would apply to the DVI annually.
- 8 - The fixed credit would be applied to the customer in four payments: December, January,
- 9 February, and March.
- 10 - The distributor would be able to interrupt the customer based on the supply needs and
- 11 would set the maximum number of days needed each year, during the rate case.

7.2.1. TERMS APPLICABLE TO INTERRUPTIBLE OFFERINGS

12 The following terms, which would apply to all of the planned interruptible options, were

13 also presented during the customer consultations.

14 **Access threshold:** In order to sign up for interruptible service, the customer should be

15 able to provide a daily interruptible volume (DVI) of at least 10,000 m³ per day. This access

16 threshold would be necessary to enable an effective discounting of the peak tools.

17 Furthermore, most customers who showed interest during the consultation exercise would

18 meet this threshold. Additionally, the customers could sign up for interruptible service

19 regardless of their distribution rate.

20 **Notice of exit:** In order to exit from interruptible service, the customer should provide at

21 least three years' notice, before March 1. The customer may then exit the service on

22 November 1 of the third year.

23 This three-year notice is necessary, because the interruptible offering is calibrated to

24 replace the FTSH transportation tools. As the FTSH transportation add-on time is three

25 years, this notice period must be required from the customer. Otherwise, Gaz Métro might

26 find itself in a situation where transportation tools at potentially a higher cost than FTSH

27 transportation would need to be purchased, which eliminates the advantages for the

28 distributor of offering the interruptible rate.

1 Gaz Métro could, however, allow customers to withdraw sooner than the three-year period
2 if the daily interruptible volume (DVI) is no longer required for Gaz Métro or if the DVI could
3 be compensated by the DVI of another customer.

4 **Notice of entry:** To be able to benefit from the interruptible service, the customer should
5 request such service before December 1 of each year for an entry into force at the earliest
6 on November 1 of the following year. Access to the interruptible option will be subject to
7 approval by Gaz Métro, which would take its supply needs into account. In the event that
8 available quantities are limited, Gaz Métro will select the customers with the largest DVI.

9 Gaz Métro believes that this time period is necessary to have access to surplus
10 transportation capacity, which would be made available to continuous service customers,
11 and to be able to take into account the interruptible volumes when establishing its supply
12 plan for the following year.

13 **Notice of interruption:** Current conditions surrounding the interruption notices would be
14 maintained. When an interruption notice is received, the customer should reduce its
15 natural gas withdrawals to the maximum continuous service volume (MCV), at the date
16 and time indicated on the notice of interruption.

17 **Interruption order:** Unlike the current offering, the distributor could interrupt the customer
18 based on supply needs, without a predetermined order. Under the offering currently in
19 place (article 15.4.6 of the *Conditions of Service and Tariff*), Gaz Métro must grant service
20 priority to interruptible customers in ascending order of tiers, and to the extent possible,
21 within each tier, in descending order of price. However, in order to follow the cost logic,
22 Gaz Métro believes that it would be preferable for the interrupted customers to be selected
23 based on the volumes required.

24 **Transportation service:** Customers should use Gaz Métro's transportation service as
25 they do currently.

26 **MUGI accessibility:** The provisions for make-up gas delivery to offset an interruption
27 (MUGI) would be the same as they are currently. However, because they would be no
28 prerequisites regarding the customer's distribution rate in order to sign up for the
29 interruptible offering (currently, customers must be subject to the distribution service D₅ in

1 order to access make-up gas), then the applicable distribution rate for MUGI would be that
2 in force on the regular contract. For example, a customer on rate D₄ opting for the
3 interruptible offering, could use the MUGI during an interruption for the portion of its
4 volumes that would be interrupted. The volume consumed in MUGI would then be billed
5 in distribution at the D₄ rate.

6 **Penalties for unauthorized withdrawals:** A penalty of \$5/m³ (\$130/GJ) would apply for
7 every m³ withdrawn above the MCV established by the customer despite receiving a notice
8 of interruption. This penalty on unauthorized withdrawals was set to dissuade interruptible
9 customers, so that unauthorized withdrawals are not considered an alternative to
10 interruption. The amount of \$5/m³ is slightly above the maximum market price observed in
11 the past, during cold periods, to deliver natural gas in franchise. By setting the cost of
12 unauthorized withdrawals to that price, Gaz Métro would give itself the means to cover the
13 costs of transporting gas in franchise at all times, even if customers did not interrupt
14 themselves. Gaz Métro believes that the interruptible offering should only be of interest to
15 customers who are able to limit natural gas service to the level specified by the MCV. In
16 the event a customer fails to comply with the interruption notice issued by the distributor,
17 Gaz Métro could proceed with a physical interruption at the service address, as currently
18 planned. The rules regarding notices of interruption would be the same as those currently
19 in force.

20 **Revising the calculation parameters:** Gaz Métro proposes to grant participating
21 customers the option to revise their MCVs upward when adding a charge, provided that
22 the DVI resulting from the new MCV would be greater than or equal to the previous DVI.
23 Additionally, when the customer's planned VPI over the next three years would be less
24 than the initial MCV, Gaz Métro would set the VPI to the value of the MCV.

25 **Gaz Métro is asking the Régie to approve the proposed interruptible offerings (Peak**
26 **Interruptible Option and Unlimited Seasonal Interruptible Option) as well as their**
27 **applicable terms described in section 7.2.**

7.3. IMPACT OF THE SELECTED OPTIONS ON THE SUPPLY PLAN

- 1 The following table gives a simulation of the daily volumes for the unlimited seasonal interruptible
- 2 and peak services following the customer consultation.

Tableau 7
Volumes aux services interruptibles –
Scénario après la consultation de la clientèle

	10 ³ m ³ /jour (1)	GJ/jour (2)	Proportion (3)
1 Service saisonnier illimité	60	2 292	4%
2 Service saisonnier limité			0%
3 Service de pointe	1 526	57 812	96%
4 Total	1 586	60 104	100%

- 3 The assessment of needs, the supply sources, and the transportation and load-balancing costs
- 4 after consulting the customers are presented in the following table.

Tableau 8
Plan d’approvisionnement -
Scénario après la consultation de la clientèle

	Tous les clients continus (1)	Scénario après consultation (2)	Variation (2) vs (1) (3)
Besoins d'approvisionnement (10³m³/jour)			
1 Journée de pointe	39 075	37 064	-2 011
2 Hiver extrême	<u>36 826</u>	<u>37 016</u>	<u>190</u>
3 Approvisionnement requis (= maximum)	39 075	37 064	-2 011
Sources d'approvisionnement (10³m³/jour)			
4 Total appro. avant achat / (vente)	36 213	36 213	0
5 Achat (vente) d'outils	2 862	850	-2 011
6 Total approvisionnement	39 075	37 064	-2 011
7 Coûts Transport & Équilibrage (000 \$)	390 181	368 930	-21 251

1 **Compared to the plan where all customers are assumed to be on continuous service, the**
2 **supply needs are 2,011 10³m³/day lower, saving \$21.3 million on transportation and**
3 **load-balancing costs.** Note that this cost assessment does not include the increase in the
4 operating costs of the LSR plant caused by greater vaporization resulting from the reduction in
5 transportation capacity, and consequently, an increase in liquefaction. Additionally, those costs
6 do not include the compensation to be paid to interruptible service customers.

7 To complete the analysis, a comparison of the supply plans in a cold winter and extreme winter
8 context has also been conducted. In all cases, the decrease in transportation capacity leads to
9 greater erosion of storage at the LSR plant and PDL storage. Appendix 7 presents certain
10 statistics related to the use of the LSR plant and the PDL storage site.

11 Appendix 8 presents the interruptions resulting from the supply structure following the customer
12 consultation. The results show that peak interruptible service interruptions are only observed in
13 extreme winter situations. These interruptions are triggered from the moment when the inventory
14 at the LSR plant is no longer sufficient to serve customers on that service. Similarly to the plan of
15 the scenario assessed in section 5.2, peak interruptible service is solicited to meet the need to
16 get through extreme winter.

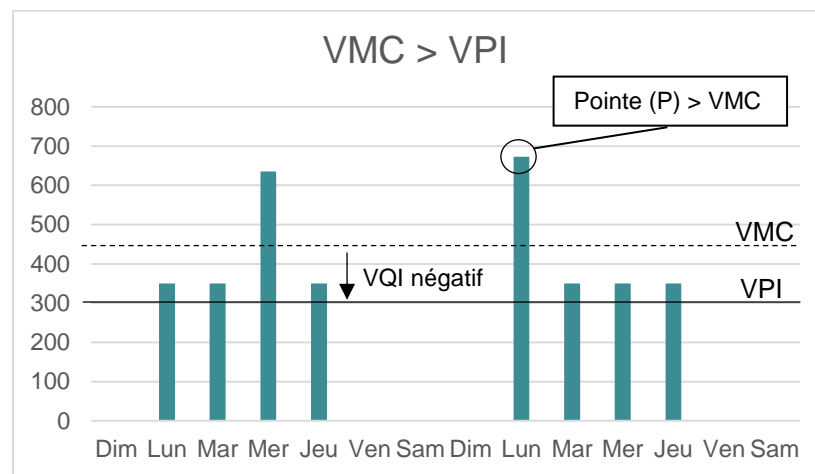
7.4. NEW SERVICE: RATE OPTIMIZATION

17 The interruptible options enable Gaz Métro to reduce the demand during winter. However, the
18 options offered are of little or no value when the interruptible volumes are low. The interruptible
19 option access threshold has therefore been set at 10,000 m³/day. This means that customers with
20 a DVI below that threshold could not opt for one of the interruptible options.

21 However, although these customers have a DVI below 10,000 m³/day, their consumption may
22 sometimes exceed their MCV. When the excess occurs on a peak day, this may increase demand,
23 and create additional costs that will be borne by the whole customer base. Otherwise, when the
24 excess occurs on a warmer day and Gaz Métro has surplus capacity, the excess makes it possible
25 to better optimize the supply tools, to the benefit of all customers.

26 Figure 6 shows how a customer that cannot provide sufficient interruptible volumes can
27 nonetheless have high peaks:

Figure 6



1 In order to handle this situation, Gaz Métro propose to set up a rate *optimization* service for
 2 load-balancing. A customer that joins this service would have to enter a maximum peak (Pmax)
 3 in its contract for the winter rate period (December 1 to the last day of February).³⁴ The customer
 4 would not be able to exceed its Pmax during that period, unless it has obtained authorization from
 5 the distributor. Should the customer exceed its Pmax or the limit authorized by the distributor, it
 6 would be subject to penalties for unauthorized withdrawal by an interruptible customer. In return,
 7 Gaz Métro would use the lower of the Pmax and the customer's actual peak (P) when calculating
 8 the load-balancing price rather than simply the actual peak (P).

9 Such an approach would enable the distributor to avoid incurring costs for the rate optimization
 10 service customer on cold days. On the other hand, the distributor would be able to use up its
 11 surpluses during the month of December to February by allowing customers to exceed their Pmax
 12 (without affecting their rate peak). The terms regarding the authorization of such breaches have
 13 not yet been defined, and must be the object of a subsequent evidence to be submitted in the
 14 next case following the decision by the Régie.

15 No credit will be granted to customers of this service. However, the fact that the peak used in
 16 calculating the customer's load-balancing price is no more than its maximum peak (Pmax) may
 17 enable it to reduce its costs.

³⁴See exhibit Gaz Métro-5, Document 3 for the definition of the peak period.

7.4.1. COMPETITOR MAKE-UP GAS

1 Gaz Métro also proposes that customers opting for the rate optimization service by setting
2 their maximum peak be eligible for competitor make-up gas (CMUG). Thus, in the event
3 that a customer would like to consume more than its Pmax during the winter period but
4 Gaz Métro denied its excess request, it may consume CMUG.

5 It should be noted that Gaz Métro is proposing to eliminate the seasonal make-up gas
6 service. The subject will be covered in the 2017 Rate Case.

7 **Gaz Métro is asking the Régie to approve the creation of a new rate optimization service**
8 **and allow the customers of that new service access to CMUG.**

8. DECISION FOLLOW-UPS

9 In addition to revising categories A and B of the current interruptible service and reviewing a new
10 peak service offering, the Régie has also made other follow-up requests in recent years. The
11 section that follows will give the analyses performed to answer those requests.

- 12 - Consideration of "Option consommateurs" (OC) proposals in order to eliminate the
13 presence of *free-rider* interruptible customers. (Section 8.1).
- 14 - Minimizing the impact of interruptible customer migrations to continuous service on
15 continuous service customers. (Section 8.2).
- 16 - Including the 2% flexibility in the subscribed volume. (Section 8.3).
- 17 - Functionalizing income for unauthorized withdrawals and caps between different services.
18 (Section 8.4).

8.1. CONSIDERING THE "OPTION CONSOMMATEURS" PROPOSALS

19 In the 2013 Rate Case, Gaz Métro proposed changes to the *Conditions of Service and Tariff* in
20 order to firm up the conditions of interruptible service. Among the changes proposed by Gaz Métro
21 and adopted by the Régie de l'énergie in decision D-2012-158, the penalty for unauthorized
22 withdrawals was increased taking the price of fuel oil No. 6 delivered in Montréal into account.

1 Option consommateurs was of the opinion that the increase proposed by Gaz Métro was not
2 severe enough. In fact, the proposed penalty was not sufficient, according to the proposer, to limit
3 the behaviour of free-rider interruptible customers who plan to use natural gas despite interruption
4 notices. Option consommateurs proposed different possible terms that could be applied to the bill
5 of the interruptible service customers, in the event of unauthorized withdrawals.

6 *"[100] OC proposes to make the rules surrounding interruptions even more prohibitive than what*
7 *Gaz Métro has proposed, and suggests that the measures that will be put in place draw inspiration*
8 *from the terms enacted by the Ontario distributor Enbridge. In particular, the proposer suggests*
9 *that the Régie considers adding the following penalties, in addition to those proposed by Gaz Métro:*

- 10 • *that interruptible customers which perform unauthorized withdrawals lose their*
11 *status as interruptible customers;*
- 12 • *that interruptible customers which perform unauthorized withdrawals lose the rate*
13 *discount granted in winter;*
- 14 • *that the penalties be particularly high for customers that perform more than one*
15 *unauthorized withdrawal per year;*
- 16 • *that the interruptible rate be accessible only to customers that can demonstrate the*
17 *ability to accept interruption when they receive an interruption notice [reference to*
18 *exhibit C-OC-0010, page 18].*

19 *[101] Alternatively, the proposer asks that the inclusion of these penalties be considered in the*
20 *context of a more comprehensive revision of the interruptible rate and discussed in a work*
21 *session.*"³⁵

22 The Régie shared the opinion of Option consommateur, and asked Gaz Métro to follow up in the
23 Rate Vision case:

24 *"[120] The Régie believes that it is important that the interruptible rate come with rate conditions*
25 *and terms that make it possible to ensure this equity across all customer categories. It believes that*
26 *OC's proposals could help solve this rate equity challenge. [...]*

27 *[121] Consequently, the Régie asks Gaz Métro to take OC's proposals into account, including the*
28 *request regarding the assurance that the customer has the ability to interrupt, when presenting its*
29 *rate vision.*"³⁶

30 Gaz Métro has considered Option consommateurs' proposals in creating the interruptible
31 offerings. The proposed terms, combined with the current measures, are sufficient to limit the risk
32 of free-rider customers, particularly the proposal of a very high penalty of \$5/m³ for prohibited
33 withdrawals and the current measure that enables physical interruption of customers.

³⁵ Decision D-2012-158, p 26.

³⁶ D-2012-158, p 31.

1 **Gaz Métro asks the Régie to take note of the follow-up regarding the Option**
2 **consommateurs proposals.**

**8.2. MINIMIZING THE IMPACT OF MIGRATING FROM INTERRUPTIBLE
SERVICE TO CONTINUOUS SERVICE ON CONTINUOUS SERVICE
CUSTOMERS**

3 As mentioned in section 1, many customers have migrated from interruptible service to continuous
4 service in recent years. In decision D-2014-201 relating to case R-3879-2014, the Régie asked
5 Gaz Métro to investigate the possibility of revising the *Conditions of Service and Tariff* to minimize the
6 impact of interruptible customers migrating to continuous service mid-contract on other customers:

7 *“[202] For these reasons, the Régie asks the Distributor to investigate the possibility of reviewing*
8 *the Conditions of Service and Tariff to minimize the impact of these migrations on continuous*
9 *service customers. The Distributor must investigate this option and submit a proposal to the Régie*
10 *in phase 3 of this case.”³⁷*

11 In phase 3 of Rate Case R-3879-2014, Gaz Métro proposed to reform the interruptible service to
12 review the provisions for returning to continuous service.³⁸ The Régie noted the postponement in
13 decision D-2015-181.

14 Interruptible customers’ migrations may have medium- and long-term impacts on transportation
15 prices, as well as short-term impacts.

16 1. Medium- and long-term impacts

17 With customers migrating from interruptible service to continuous service, the required
18 transportation capacity increases to serve the winter demand. Additionally, in the event that
19 those customers return to interruptible service in the medium term, Gaz Métro could face
20 unused transportation costs, which are borne by all customers.

21 2. Short-term impacts:

22 Migrations may force the acquisition of additional transportation capacity on the secondary
23 market that are more expensive than if they had been contracted in the primary market.

³⁷ D-2014-201, p 53.

³⁸ R-3879-2014, B-0512, Gaz Métro – 112, Document 1, p.16.

1 Gaz Métro estimates that the entry and exit rules it is proposing in its new interruptible offering
2 help mitigate these risks.

3 In order to mitigate the **medium- and long-term risks**, Gaz Métro proposes that a customer
4 wishing to begin interruptible service be unable to do so unless the customer's interruptible
5 volume makes it possible to optimize the supply tools. If the supply tools in the distributor's
6 possession are already sufficient to meet the continuous demand without any additional
7 interruptions being necessary, access to interruptible service will not be authorized. The notice of
8 entry is therefore set at December 1 for entry at the earliest on the following November 1, in order
9 for Gaz Métro to be able to assess its "interruptible" need at the time that its supply plan is
10 established. If multiple customers were to express their desire to migrate to interruptible service,
11 the "first come, first serve" rule would apply.

12 In order to mitigate the **short-term risks**, Gaz Métro proposes that a customer wishing to exit
13 interruptible service to return to continuous service be unable to do so unless Gaz Métro
14 possesses the necessary transportation capacity to meet the customer's demand, or unless the
15 customer's interruptible volume can be replaced by another customer wishing to transfer its
16 consumption to interruptible service, in whole or part. As previously indicated, Gaz Métro
17 therefore proposes setting a notice of exit for the three-year interruptible service (before March 1
18 of the first year for an entry into force on November 1 of the fourth year). A customer wishing to
19 leave the interruptible service before the end of the notice period may only do so if:

- 20 • another customer expresses its desire for additional interruptible capacity; or
- 21 • Gaz Métro has surplus transportation capacity or can acquire such capacity on the
22 primary market.

23 Thus, Gaz Métro believes it is not necessary to add additional rules to those already proposed in
24 the new interruptible offering with respect to the migration of customers between interruptible and
25 continuous services.

26 **Gaz Métro asks the Régie to take note of the follow-up relating to the migration of**
27 **customers between interruptible and continuous services.**

8.3. INCLUDING THE 2% FLEXIBILITY IN THE CONTINUOUS PORTION OF COMBINED-RATE CUSTOMERS

1 A customer may combine the continuous and interruptible services with the distribution service.
2 Once this is done, the customer gets a beneficial unit rate above its subscribed volume, but must
3 limit its consumption during interruption days. In order to enable the customer to withdraw all of
4 its subscribed volume without being penalized for slight excesses, a 2% flexibility is currently
5 granted (article 15.4.2.6 of the *Conditions of Service and Tariff*).

6 In decision D-2014-201, the Régie asked Gaz Métro to assess the possibility of amending the
7 *Conditions of Service and Tariff* in order to include the 2% flexibility offered to combine-rate
8 customers within the subscribed volume:

9 *“[66] Thus, the Régie deems it desirable and fairer, from a rate perspective, that the Conditions of*
10 *Service and Tariff be amended to include this flexibility in the customer’s subscribed volume.*
11 *Consequently, the Régie asks the Distributor to investigate this possibility and submit a proposal*
12 *to that effect in phase 3 of this rate case.”*³⁹

13 In phase 3 of Rate Case R-3879-2014, Gaz Métro proposed considering the costs associated
14 with the flexibility to be part of the overall value of the new interruptible service offering, either by
15 including the margin in the subscribed volume, or by reducing the interruptible service’s
16 recognition in load-balancing.⁴⁰ The Régie took note of Gaz Métro’s response to the follow-up
17 previously requested in decision D-2015-181.

18 Given Gaz Métro’s proposal presented in section 7 regarding the compensation of interruptible
19 service customers, Gaz Métro may either grant 2% flexibility above the MCV and reduce the
20 overall compensation paid through fixed and variable factors, or grant customers no flexibility.

21 The analyses submitted in case R-3879-2014 and case R-3951-2015 illustrate that few customers
22 are using the flexibility and remain within it. In the first case, Gaz Métro observed 348 occurrences
23 of customer-interruption in the winter of 2013-2014 and in only 2% of those cases did customers
24 use the flexibility of the subscribed volume while remaining within it.⁴¹ In the second case,
25 Gaz Métro observed 1418 occurrences of customer-interruption in the winter of 2014-2015 and

³⁹ D-2014-201, p 22.

⁴⁰ R-3879-2014, B-0512, Gaz Métro – 112, Document 1, p.12.

⁴¹ For a description of the sample, refer to exhibit R-3879-2014, B-0512, Gaz Métro – 112, Document 2, pp. 7-8.

1 in only 11% of those cases did customers use the flexibility of the subscribed volume while
2 remaining within it.⁴²

3 These analyses show that if maintaining the flexibility is recommended, customers will have to pay for
4 100% of their additional capacity, while the usage rate was only 11% in the winter of 2014-2015. Forcing
5 all customers to pay for flexibility when some do not even need it is therefore unfair. Customers wishing
6 to protect against the possibility of unauthorized withdrawals therefore need only increase the
7 continuous portion of their consumption (their MCV), which will not be more expensive than receiving
8 compensation that is reduced outright. This is why Gaz Métro proposes to abolish flexibility for
9 interruptible customers that wish to keep some of their consumption on continuous service.

10 **Gaz Métro asks the Régie to approve the abolishment of the 2% flexibility for interruptible**
11 **customers who keep a portion of their consumption on continuous service.**

8.4. FUNCTIONALIZING INCOME FOR UNAUTHORIZED WITHDRAWALS AND CAPS

12 In decision D-2015-125, the Régie asked Gaz Métro to review the functionalization of income
13 from penalties for unauthorized withdrawals and peak caps, as well as service premiums.

14 *"[107] In response to a question from the Régie regarding the functionalization of income from*
15 *penalties for unauthorized withdrawals, peak caps, and service premiums, the Distributor mentions*
16 *that these three factors were developed in the distribution rate for rate reasons and that the income*
17 *resulting from them is totally attributable to distribution except for the portion of unauthorized*
18 *withdrawals related to the price of natural gas, which is functionalized in the supply service."*

19 *"[110] The Régie is of the opinion that the analysis required to handle the functionalization of this*
20 *income is very complex. **Consequently, it asks that these factors be investigated in the case***
21 ***relating to rate vision, namely case R-3867-2013 Phase 2.** The Distributor should take into*
22 *account, during its consideration, the functionalization of this income between components of the*
23 *Distributor's different services, both in rate cases and in annual reports."*

24 For Gaz Métro's continuous service customers, the analysis of cost causation presented in exhibit
25 Gaz Métro5, document 1, has demonstrated that the supply plan makes it possible to fully
26 address the peak needs and potential extreme winter demand. Supply costs therefore include,

⁴² For a description of the sample, refer to exhibit R-3951-2015, B-0043, Gaz Métro – 16, Document 3, pp. 2-3.

1 once rates have been determined, all costs in order to meet all the needs of continuous service
2 customers based on the peak demand forecast or extreme winter forecast.

3 The penalties for caps (article 15.3.2.5) and unauthorized withdrawals (15.3.2.6) set out in
4 distribution rates D₃ and D₄ have no causal link to the supply costs. These are rate concepts
5 related to the distribution service. Primarily, these rate factors offset the fact that the distribution
6 rate recovers the costs based on the volumes consumed and not based on the capacity required
7 by the customer. **Penalty income for caps and unauthorized withdrawals in distribution are
8 therefore intended to recover distribution-related capacity costs which are not included in the
9 customer's subscribed volume (for example, when the customer has a profile with a LF less
10 than 100%). This income must therefore be functionalized in the distribution service.**

11 When it comes to supply costs, the notion of unauthorized withdrawals may be useful when the
12 customers utilize capacity that had not been included in the supply plan. These unauthorized
13 withdrawals are specifically related to interruptible service. However, the notion of unauthorized
14 withdrawals here is different from the notion of unauthorized withdrawals in the distribution
15 service. Unauthorized withdrawals in terms of supply relate to the use of natural gas transportation
16 tools outside Québec, while unauthorized withdrawals in distribution relate to the ability to meet
17 needs within Gaz Métro's franchise.

18 In the supply plan, tools are deemed necessary to ensure the secure supplying of the continuous
19 service customers. Currently, no supply tool is being purchased in advance for category
20 A interruptible customers and for the 20 or 30 days of interruption of category B customers. During
21 high-demand days, customers who experience service interruptions cannot consume above their
22 continuous service portion or particular deliveries; if they do, this may force the distributor to
23 purchase additional tools at a very high cost. Unauthorized withdrawal clauses specific to supply
24 costs for these customers are required and set out in the interruptible service (D₅) if a customer
25 does not comply with the notice of interruption. Similarly, based on the proposed interruptible
26 offering, no supply tool is to be purchased in advance for consumption above customers' MCV.
27 Should the notice of interruption not be complied with, a penalty of \$5/m³ of unauthorized
28 withdrawals will apply. **These penalties, both in the current interruptible offering and in the
29 proposed offering, billed above the regular rate, should be functionalized in the
30 load-balancing service because they make it possible to offset the costs incurred, if
31 applicable, by the distributor in its supply tools.**

1 With respect to service premiums, Gaz Métro proposes to eliminate this service. The subject will
2 be covered in the 2017 Rate Case.

3 **Gaz Métro asks the Régie to take note of the follow-up regarding the functionalizing of**
4 **penalty income for unauthorized withdrawals and for peak caps related to continuous**
5 **service and asks the Régie to allow only income applicable to unauthorized withdrawals**
6 **of interruptible services to be functionalized in the load-balancing service.**

9. RATE IMPACT

7 Rather than offer rate reductions in distribution and load-balancing, Gaz Métro proposes to offer
8 credits to customers who agree to, in whole or in part, interrupt their consumption. Based on the
9 offerings chosen, those credits increase depending on the volume actually interrupted by applying
10 the variable portion. The cost to Gaz Métro is therefore lower in warm or normal winters, but may
11 exceed the savings if the maximum number of days per option were used.

12 According to the calculations in section 7.3, the selected options make it possible to reduce the
13 cost of the supply tools by \$21.3 million relative to supplying all customers with continuous service.
14 The cost of the credits offered must be less than the cost reductions generated by the new
15 interruptible offering in the supply plan. In addition to assessing the impact on supply costs of the
16 proposed interruptible offerings in warm, normal, cold, and extreme winter scenarios, Gaz Métro
17 considered a potential maximum cost scenario (“max”). The maximum cost scenario is a scenario
18 where Gaz Métro would need to request all potential interruption days for interruptible services.
19 Given the maximum number of days for each of the service options and the DVIs considered in
20 the analyses following the consultation, it would be impossible for the cost of the interruptible
21 offerings to exceed the maximum-cost scenario. Tableau 9 details the costs of the options chosen
22 for five different scenarios, including the maximum potential cost scenario.⁴³

⁴³ Assumptions used: Five days of interruptions for the peak interruptible option, 90 days of interruptions for the unlimited seasonal interruptible option.

Tableau 9
Coût des options interruptibles retenues

Estimation des VQI		VQI (10 ³ m ³ /jour)				
1	Option saisonnière illimitée	141				
2	Option de pointe	1 661				
3	Total	1 802				
Volumes Interrompus		Chaud	Normal	Froid	Extrême	Max
		(10 ³ m ³)	(10 ³ m ³)	(10 ³ m ³)	(10 ³ m ³)	(10 ³ m ³)
4	Option saisonnière illimitée	0	1 054	3 633	3 873	12 727
5	Option de pointe	0	0	0	2 846	8 304
6	Total	0	1 054	3 633	6 720	21 030
Coûts		Chaud	Normal	Froid	Extrême	Max
		(000 \$)	(000 \$)	(000 \$)	(000 \$)	(000 \$)
7	Option saisonnière illimitée	283	546	1 191	1 251	3 465
8	Option de pointe	415	415	415	11 799	33 630
9	Total	698	962	1 606	13 050	37 094

1 The credits offered are in fact less than the \$21.3 million in savings estimated in supply plan in
 2 the supply scenarios assessed, from a warm winter to an extreme winter. However, if all of the
 3 interruption days were necessary, as shown in the “max” scenario, then the cost would
 4 substantially exceed the savings. In that case, the costs would exceed the savings by about 75%.

5 These results demonstrate the appeal of the selected options, both for customers and for
 6 Gaz Métro. When the customers are rarely interrupted, they are given little compensation. All
 7 customers, including customers that offer interruptible volume, then benefit from rate discounts in
 8 the load-balancing service because the actual cost of the tools (including the costs of the
 9 interruptible offering) is lower. When the customers are more interrupted, they receive very high
 10 credits, which offset their quality of service loss. At this time, in the evaluated extreme winter
 11 scenario, interruptible customers receive 60% of the total savings.

12 Based on a normal winter, in the evaluated scenarios, the customers gain significant savings. To
 13 illustrate the impact of the credits, Gaz Métro has included the load-balancing income proposed
 14 in section 8.3 of exhibit Gaz Métro5, Document 1, and added the costs of normal winter credits:

Tableau 10

Tarif	Revenu É avant crédits ¹ (selon CU) (000 \$)	Revenu É après crédits (selon CU) (000 \$)	Écart (000 \$)	Écart (%)
	(1)	(2)	(3)=(2)-(1)	(4)
D ₁ (<75km ³ /an)	51 402	51 774	372	0,72
D ₁ 75k+	32 788	33 026	238	0,73
D _{1RT}	11 090	11 170	80	0,72
D ₃	1 831	1 845	14	0,75
D ₄	20 640	20 790	150	0,73
D ₅	14 363	14 467	104	0,73
Total	132 115	133 072	958	0,73

¹Source: Gaz Métro-5, Document 1, Table 22, Column 5.

1 As the profiles (the customers' LF) do not change, but the costs increase, those costs are
 2 allocated proportionally between the various rates. It should be noted that the difference between
 3 the total amount of \$958K from Tableau 10 (column 3) and the total amount of \$962K from
 4 Tableau 9 (normal scenario) is due to the use of three decimal places when calculating rates
 5 including the cost of credits.

6 Next, the rate optimization option (section 7.4) will have an impact by limiting some customers'
 7 peaks. As this option has been offered in response to comments collected during the consultation,
 8 customers did not have the chance to take positions on it, unlike the other options. However,
 9 because this option makes it possible to meet the needs of a particular type of customer, namely
 10 the kind whose DVI is close to its MCV, Gaz Métro has evaluated large consumers that may be
 11 interested in such rate optimization. In all, five large customers were identified, for which
 12 Gaz Métro estimated a maximum peak. Those customers all currently have some of their
 13 consumption subject to rate D₅.

14 A new LF has been set for these customers based on the maximum peak (Pmax), which affects
 15 the distribution of the load-balancing costs. First, Tableau 11 demonstrates the impact of setting
 16 a Pmax for those customers during the winter:

Tableau 11

Tarif	CU avant optimisation (%)	CU après optimisation (%)	Écart (%)
	(1)	(2)	(3)
D ₁ (<75km ³ /an)	29,6	29,6	0,0
D ₁ 75k+	32,2	32,2	0,0
D _{1RT}	41,5	41,5	0,0
D ₃	66,8	66,8	0,0
D ₄	69,1	69,1	0,0
D ₅	33,9	39,8	6,0
Total	43,6	44,3	0,6

- 1 By improving the overall LF, the load-balancing rate for recovering the same total amount from
 2 customers must be increased. Tableau 12 shows the income recovered for each rate based on
 3 those new LFs.

Tableau 12

Tarif	Revenus É avant optimisation ¹ (selon CU) (000 \$)	Revenus É après optimisation (selon CU) (000 \$)	Écart (000 \$)	Écart (%)
	(1)	(2)	(3) (2)-(1)	(4)
D ₁ (<75km ³ /an)	51 774	53 084	1 310	2,53
D ₁ 75k+	33 026	33 861	836	2,53
D _{1RT}	11 170	11 453	283	2,53
D ₃	1 845	1 891	47	2,53
D ₄	20 790	21 316	526	2,53
D ₅	14 467	11 467	-3 001	-20,74
Total	133 072	133 072	0	0,00

¹Source: Tableau 10, column 2.

- 4 The rate optimization option enables customers who use it to limit their peak used when
 5 calculating load-balancing, which improves their LF and reduces their costs. The benefit of this
 6 offering comes from the fact that Gaz Métro will not contract tools to serve consumption above
 7 Pmax, and that the distributor may authorize excesses of Pmax on days when it finds itself with
 8 a surplus of tools. This will generate surplus transportation and distribution income without

- 1 increasing supply costs. The distributor's overall LF will consequently be increased, which at
 2 year's end will reduce the load-balancing costs allocated to customers.
- 3 Additionally, despite these rate optimizations, the load-balancing costs recovered from customers
 4 currently subject to rate D₅ would be greater than what is recovered with current rates:

Tableau 13

Tarif	Revenus É proposés (000\$)	Revenus É CT 2015 (000\$)	Écart (000\$)
	(1)	(2)	(3)
D ₁ (<75km ³ /an)	53 168	55 611	-2 442
D ₁ 75k+	33 922	37 761	-3 839
D _{1RT}	11 483	12 772	-1 289
D ₃	1 906	1 852	54
D ₄	21 496	19 346	2 150
D ₅	11 495	2 416	9 079
Total	133 471	129 758	3 713

- 5 Despite the interruptible customers having a much higher basic rate based on Gaz Métro's
 6 proposals relative to that of the 2015 Rate Case, the potential credits that this customer base
 7 could receive if all of the interruption days were to come about might end up exceeding the rate
 8 increase for that customer base.

10. CHANGES REQUIRED TO THE CONDITIONS OF SERVICE AND TARIFF

- 9 In order to reflect the current document's proposals, several changes would be made to the *Conditions*
 10 *of Service and Tariff*. Those changes are presented in the sequential order of the articles.

- 11 First, in the supply service, article 11.3 regarding the make-up gas service would be amended to
 12 take into account the new proposed application rules.

13 11.3.1 Application

- 14 *Pour tout client, admissible au service de distribution D₅ - interruptible ou or eligible for the rate*
 15 *optimization service, qui désire acheter ponctuellement du distributeur ou fournir ponctuellement*
 16 *lui-même au distributeur du gaz naturel qu'il retire à ses installations, en autant que le volume*

1 minimal de la période contractuelle de gaz d'appoint, enregistré en un seul point de mesurage,
2 divisé par le nombre de jours de la période contractuelle soit d'au moins 3 200 m³/jour.

3 Le client peut utiliser le service de gaz d'appoint pour les usages suivants :

4 1^o service « gaz d'appoint concurrence » pour retirer davantage de gaz naturel temporairement ;

5 2^o service « gaz d'appoint saisonnier » pour réduire le nombre de jours d'interruption prévu
6 à son palier ; sur invitation du distributeur, ce service peut provenir du service interruptible
7 rendu à un client qui le remet en disponibilité ;

8 3^o service « gaz d'appoint pour éviter une interruption ».

9 11.3.2 Tarif

10 Le client qui utilise le service de gaz d'appoint du distributeur se voit facturer, le cas échéant, le
11 prix de la fourniture de gaz naturel fourni ponctuellement pour le desservir, et ce pour la quantité
12 de gaz d'appoint livrée pour ses besoins.

13 Le client qui fournit son propre gaz naturel, avec ou sans transfert de propriété, est assujetti aux
14 dispositions de l'article 11.2.2.

15 Le client qui utilise le service de gaz d'appoint se voit facturer, le cas échéant, le prix du transport
16 fourni ponctuellement par le distributeur pour le desservir.

17 Le client qui utilise le service de « gaz d'appoint concurrence » se voit facturer le prix de
18 l'équilibrage fourni ponctuellement par le distributeur pour le desservir. It is also billed the
19 distribution price corresponding to the difference between the overall price agreed in the contract
20 and the price of the services provided to serve it.

21 Le client qui utilise le service de « gaz d'appoint saisonnier » est assujetti au chapitre
22 « Équilibrage ».

23 Le client qui utilise le service de « gaz d'appoint pour éviter une interruption » ne se voit pas
24 facturer l'équilibrage, mais il se voit facturer le prix de distribution de l'article 15 auquel il est
25 assujetti.

26 ~~Le client qui utilise le service de gaz d'appoint est assujetti aux articles de l'article 15.4~~
27 ~~à l'exception de l'article 15.4.1 qui est remplacé par l'article 11.3.1.~~

28 29 11.3.3.1 Volume journalier contractuel (VJC) (avec ou sans transfert de propriété)

30 Le VJC en service de gaz d'appoint est égal au volume quotidien moyen estimé de la
31 période correspondante aux livraisons de gaz d'appoint.

32 Le client en service de « gaz d'appoint pour éviter une interruption » doit s'engager à livrer
33 au distributeur, au cours de la journée prévue d'interruption, un VJC égal à sa
34 consommation de la même journée. Si la consommation de la journée prévue d'interruption
35 diffère du VJC convenu, le volume journalier contractuel (VJC) du client sera égal à sa
36 consommation de la journée prévue d'interruption.

37 Lors d'une journée d'interruption, le client en service de « gaz d'appoint concurrence » doit
38 s'engager à livrer au distributeur, au cours de cette journée, un VJC égal à sa consommation
39 de la même journée. Si la consommation de la journée prévue d'interruption diffère du VJC
40 convenu, le VJC du client sera égal à sa consommation de la journée prévue d'interruption.

41 The customer with rate optimization service and with "competitor make-up gas" service
42 must agree to deliver to the distributor for all days during the period from December 1 to
43 February 28, a DCV equal to its consumption exceeding its maximum peak volume. If daily

1 consumption differs from the agreed DCV, the customer's DCV will be equal to the surplus
2 of its maximum peak volume.

3 Les dispositions relatives aux révisions des VJC en service de gaz d'appoint sont
4 identiques à celles des services de fourniture de gaz naturel avec ou sans transfert de
5 propriété.

6 **11.3.3.5 Interruptions**

7 Customers with "competitor make-up gas" service are the first to receive notice during an
8 interruption day.

9 Customers with make-up gas service must limit their withdrawals to the volume that they
10 committed to deliver (DCV) during the interruption day.

11 In the load-balancing service, article 13.1.3.2 would be abolished given that the parameters used
12 when calculating the load-balancing price would thereafter be the same for all customers.
13 Additionally, articles 13.2 and 13.3 would be added in order to take into account the new
14 interruptible offering as well as the rate optimization service. Note that the current article 13.2
15 would be moved to 13.4.

16 **13.2 Interruptible service**

17 **13.2.1 Application**

18 For any customer that wishes to purchase from the distributor the load-balancing used for
19 the daily management of natural gas that it withdraws at its facilities.

20 A customer whose interruptible daily volume recorded at a single measuring point is at least
21 10,000 m³/day may commit to one of the following options:

- 22 1. "Peak interruptible option" in order to offer a maximum of five interruption days each year;
23 2. "Seasonal interruptible option" in order to offer a maximum of XX interruption days of
24 each year.

25 To be eligible for this service, the customer must use the distributor's transportation service.

26 **13.2.2 Rate**

27 For each m³ of volume withdrawn, the base price of the load-balancing service is defined in
28 article 13.1.2.2.

29 For customers committed to a "peak interruptible option" and "seasonal interruptible option"
30 interruptible service contract, credits are applied. Those credits are based on the daily
31 interruptible volume.

32 **13.2.2.1 Credit – "peak interruptible option"**

33 For every m³ of daily interruptible volume:

- 34 - the fixed credit applied to the customer each year is \$0.25/m³;
35 - for each day of interruption, the variable credit applied daily is \$4,000/m³.

1 **13.2.2.2 Credit – “seasonal interruptible option”**

2 For every m³ of daily interruptible volume:

- 3 - the fixed credit applied to the customer each year is \$2,000/m³;
4 - for each day of interruption, the variable credit applied daily is \$0.250/m³.

5 **13.2.2.3 Unauthorized withdrawals**

6 Any withdrawal of natural gas above the maximum continuous service volume
7 despite receipt of a notice of interruption is subject to a penalty of \$5,000/m³.

8 When, during a day of interruption, the customer performs unauthorized withdrawals,
9 the variable credit is not applied for that day.

10 The daily volumes of natural gas withdrawn pursuant to “make-up gas to avoid in
11 interruption” or “competitor make-up gas” contracts up to 102% of the actual delivery
12 of the make-up gas during the day of interruption are not subject to the \$5,000 \$/m³
13 penalty. The terms for calculating the delivery service are set based on article
14 11.2.3.3.1.

15 **13.2.3 Calculating parameters**

16 The parameters of an interruptible service contract are calculated as follows:

17 **13.2.3.1 Average volume of the interruption period**

18 The average volume of the interruption period is an agreed daily volume that
19 represents the customer's average consumption for the period from December 1 to
20 the following February 28.

21 A significant change in the customer's consumption profile may lead to the revision
22 of the average volume of the interruption period by the distributor.

23 **13.2.3.2 Maximum continuous service volume**

24 The maximum continuous service volume is the daily maximum withdrawal that the
25 customer agrees not to exceed when it receives notice of interruption. The maximum
26 continuous service volume is set by the customer when it signs an interruptible
27 service contract.

28 The maximum continuous service volume cannot be less than the average volume
29 of the interruption period.

30 If a significant change to the customer's consumption profile leads to the revision of
31 the average volume parameter of the interruption period, the average continuous
32 service volume will be revised in order to maintain the daily interruptible volume.

33 **13.2.3.3 Daily interruptible volume**

34 The daily interruptible volume corresponds to the difference between the average
35 volume of the interruption period and the maximum continuous service volume.

1 **13.2.4 Conditions and terms**

2 **13.2.4.1 Notice of entry**

3 A customer that wishes to:

- 4 - benefit from interruptible service; or
5 - modify its maximum continuous service volume so as to increase the daily
6 interruptible volume;

7 must inform the distributor of this in writing before December 1 in order for it to enter
8 into effect as early as the following November 1.

9 Notwithstanding whether or not the customer gives the prior notice required by this
10 article, the customer may not access the interruptible service or modify its maximum
11 continuous service volume unless the distributor agrees.

12 **13.2.4.2 Notice of exit**

13 A customer that wishes to:

- 14 - no longer benefit from interruptible service; or
15 - modify its maximum continuous service volume so as to reduce the daily
16 interruptible volume;

17 must inform the distributor of this in writing before March 1, and at least 36 months
18 before the start of the interruption period.

19 Notwithstanding the foregoing paragraph, the customer may exit an interruptible service
20 contract or modify its maximum continuous service volume if the distributor agrees.

21 **13.2.4.3 Interruptions**

22 1. The customer must, until further notice, cease or, as the case may be, reduce its
23 natural gas withdrawals to the extent determined by the distributor, on the date and
24 time indicated on the distributor's notice of interruption. The distributor must give such
25 notice of interruption at least two hours before the start of the interruption.

26 2. If the customer fails to heed the notice of interruption issued by the distributor,
27 the distributor may interrupt service to the address without needing to give further
28 warning to the customer.

29 3. Every year, the distributor must send all of its interruptible customers a copy of
30 its interruption policy; a copy of that policy is also available to any other customer
31 that requests it.

32 **13.3 Rate optimization service**

33 **13.3.1 Application**

34 For any customer that wishes to purchase or distribute load-balancing use for the routine
35 management of natural gas that it withdraws at its facilities.

36 For any customer that wishes to set a maximum peak volume in advance and for which
37 1/365th of the projected volume of the contractual period on the rate optimization service,
38 recorded at a single point of measurement, is at least 3,200 m³/day.

39 To be eligible for this service, the customer must use the distributor's transportation service.

1 **13.3.2 Rate**

2 For every m³ of volume withdrawn, the base price of the load-balancing service defined in
3 article 13.1.2.2 is calculated using the parameter P equal to the maximum peak volume.

4 **13.3.2.1 Unauthorized withdrawals**

5 Any withdrawal of natural gas above the maximum peak volume without the
6 distributor's prior authorization is subject to a penalty of \$5,000/m³.

7 The daily volumes of natural gas withdrawn pursuant to "make-up gas to avoid in
8 interruption" or "competitor make-up gas" contracts up to 102% of the actual delivery
9 of the make-up gas during the day of interruption are not subject to the \$5,000 \$/m³
10 penalty. The terms for calculating the delivery service are set based on article
11 11.2.3.3.1.

12 **13.3.3 Parameters**

13 **13.3.3.1 Maximum peak volume**

14 The maximum peak volume is the maximum daily withdrawal that the customer
15 agrees to not exceed for the period from December 1 to the last day of February.
16 The maximum peak volume is set by the customer at the time it joins the rate
17 optimization service.

18 **13.3.4 Conditions and terms**

19 (...)

20 Article 13.3.4 should be improved in order to specify the conditions and terms regarding the rate
21 optimization service. As mentioned in section 7.4, these terms have not yet been defined, and must be
22 described in subsequent evidence to be submitted in the next case following the decision by the Régie.

23 Finally, subject to the transitional measures presented in section 11, article 15.4 regarding the
24 distribution service D₅ would be deleted.

25 **Gaz Métro asks the Régie to approve the changes to articles 11.3.1, 11.3.2, 11.3.3.1, the**
26 **addition of articles 11.3.3.5, 13.2 and 13.3, and the deletion of article 15.4 in the**
27 **Conditions of Service and Tariff.**

11. TRANSITIONAL MEASURES

28 Gaz Métro proposes to end rate D₅ and replace it with the new interruptible offering in the
29 load-balancing service. If the Régie approves the new interruptible offering in the load-balancing
30 service and wants it to enter into effect immediately (therefore before it has made a decision

1 regarding the revision to the distribution rate structure that will be studied in phase 4), Gaz Métro
2 proposes that the following transitional measures be applied:

3 - Rate D₅ would be maintained until the distribution rates are revised, in such a way that it
4 coexists, for a certain time, with the new interruptible offering in the load-balancing service.
5 In this way, certain customers may continue to enjoy the contractual rebates that rate D₅
6 affords them, for which they signed a contract, until the new distribution measures come into
7 effect.

8 - However, once the new interruptible offering is in effect, only customers that were subject to rate
9 D₅ as of May 1, 2016, may remain on that rate. The other customers would be transferred to
10 another distribution rate at the time the new interruptible offering of the load-balancing service
11 comes into effect. This transitional measure would make it possible to prevent customers from
12 immediately migrating to rate D₅ in order to benefit from the temporary situation.

13 - Articles 15.4.3.2 and 15.4.6 of the *Conditions of Service and Tariff*, related respectively to
14 the billing of deficient volumes and interruptions, would be abolished at the time when the
15 new interruptible offering in load-balancing comes into effect.

16 - For load-balancing, no transitional measures are planned.

17 **If the Régie wants for the new interruptible offering of the load-balancing service to come**
18 **into effect before it decides on the revision of the distribution rate structure in phase 4,**
19 **Gaz Métro would then ask the Régie to approve the enactment of the transitional**
20 **measures described in this section.**

12. CONCLUSION

21 Gaz Métro has completely reviewed the interruptible offering. Changes have been made to
22 refocus the offering on its initial justification, which is to optimize supply costs.

23 The analysis was produced on the premise that all customers would begin with continuous
24 service. The fact that some customers agree to interrupt their natural gas consumption during
25 colder periods may be considered an alternative to purchasing tools in peak periods for

1 continuous service customers. However, this has a cost in that the interruptible customer base
2 wants to be compensated for the volumes made available during the interruption. Gaz Métro has
3 therefore sought to balance its offering so that the compensation paid in exchange for interrupting
4 volume is sufficient to attract customers, while also being less than the cost of other supply tools
5 that would be contracted in the absence of interruptible volume.

6 Two interruptible options were therefore developed: The peak interruptible option and the
7 seasonal interruptible option. They would be considered in the load-balancing service. The
8 distribution service, for its own part, would no longer offer an interruptible rate.

9 Gaz Métro has also developed a rate optimization service enabling customers without access to
10 peak and seasonal interruptible options to optimize their load-balancing rates.

11 Gaz Métro asks the Régie to:

- 12 – approve the recognition of the interruptible offering for load-balancing only, as well as the
13 elimination of the interruptible rate for distribution service (D₅);
- 14 – approve the method for calculating daily volumes interruptible (DVI), based on the
15 difference between the estimated volume of the interruption period (VPI) and the maximum
16 continuous service value (MCV);
- 17 – approve the proposed interruptible offerings (Peak Interruptible Option and Unlimited
18 Seasonal Interruptible Option) as well as their applicable terms;
- 19 – approve the creation of a new rate optimization service and allow the customers of that
20 new service access to CMUG;
- 21 – take note of the follow-up regarding the proposals by Option consommateurs;
- 22 – take note of the follow-up relating to the migration of customers between interruptible and
23 continuous services;
- 24 – approve the abolishment of the 2% flexibility for interruptible customers who keep a portion
25 of their consumption on continuous service;

- 1 – take note of the follow-up regarding the functionalizing of penalty income for unauthorized
2 withdrawals and for peak caps related to continuous service, and allow only income
3 applicable to unauthorized withdrawals of interruptible services to be functionalized in the
4 load-balancing service;
- 5 – approve the changes made to articles 11.3.1, 11.3.2, 11.3.3.1, the abolishment of article 15.4,
6 as well as the addition of articles 11.3.3.5, 13.2, and 13.3 in the *Conditions of Service and Tariff*;
- 7 – approve the enactment of transitional measures if the Régie wants for the new interruptible
8 offering of the load-balancing service to enter into effect before deciding on the revision of
9 the distribution rate structure in phase 4.

APPENDIX 1: THE COST OF THE CURRENT OFFERING

1 The following tables present the distribution and load-balancing revenue from interruptible
 2 customers, by rate D₅ tier, as set out in the 2015 Rate Case. Gaz Métro expected to generate
 3 \$11.5 million of revenue in the distribution service and \$2.4 million in the load-balancing service
 4 through its sales to interruptible service customers. Overall, for these two services, the anticipated
 5 revenue from interruptible service customers would be nearly \$14 million.

**Expected distribution and load-balancing revenue
 Interruptible service customers (2014/2015)**

Tarif interruptible	Revenus Distribution (000\$)	Revenus Équilibrage (000\$)	Total (000\$)
	(1)	(2)	(3) = (1)+(2)
D _{5.5} VA	2 722	319	3 042
D _{5.5} VB	1 455	621	2 076
D _{5.6} VA	1 267	(230)	1 037
D _{5.6} VB	1 989	870	2 859
D _{5.7} VA	1 466	135	1 601
D _{5.7} VB	902	162	1 063
D _{5.8} VA	299	535	834
D _{5.8} VB	40	157	197
D _{5.9} VA	1 283	(153)	1 130
D _{5.9} VB	0	0	0
Total D₅	11 583	2 416 \$	13 840

Source: R-3879-2014, B-707, Gaz Metro23, document 8, page 1.

6 If interruptible service customers had been subject to a continuous service rate during the year
 7 2014/2015 rather than their D₅ rate, the revenues generated by those customers for the same
 8 volumes would have been higher. It is difficult to determine precisely what rate each interruptible
 9 service customer would have been subject to and what volume would have been withdrawn for
 10 each one of them. Additionally, because the required distribution revenue target would be the
 11 same, a different rate schedule would have been generated, probably lower for all rates. However,
 12 applying reasonable assumptions helps to obtain an approximation of the revenue that would
 13 have been generated if the interruptible customers had been subject to a continuous service rate

1 and to give an estimate of the cost of the current interruptible offering. The data used for
 2 simulations is drawn from forecasts presented in the 2014/2015 Rate Case.

Volumes and revenues expected for 2014/2015

Tarif interruptible	Volumes prévus (10 ³ m ³)	Revenus Distribution (000\$)	Revenus Équilibrage (000\$)	Revenu moyen Distribution (\$/m ³)	Revenu moyen Équilibrage (\$/m ³)
	(1)	(2)	(3)	(4)=(2)/(1)	(5)=(3)/(1)
Total D₁	2 512 213	461 277	106 143	0,18	0,04
Total D₃	205 764	14 857	1 852	0,07	0,01
D _{4.6}	234 792	11 005	2 415	0,05	0,01
D _{4.7}	629 696	21 824	6 080	0,03	0,01
D _{4.8}	696 947	19 355	6 791	0,03	0,01
D _{4.9}	439 982	8 091	896	0,02	0,00
D _{4.10}	573 556	16 452	3 163	0,03	0,01
Total D₄	2 574 973	76 727	19 346	0,03	0,01
D _{5.5} VA	76 925	2 722	319	0,04	0,00
D _{5.5} VB	40 220	1 455	621	0,04	0,02
D _{5.6} VA	44 296	1 267	(230)	0,03	-0,01
D _{5.6} VB	62 916	1 989	870	0,03	0,01
D _{5.7} VA	65 285	1 466	135	0,02	0,00
D _{5.7} VB	34 454	902	162	0,03	0,00
D _{5.8} VA	16 755	299	535	0,02	0,03
D _{5.8} VB	1 155	40	157	0,03	0,07
D _{5.9} VA	85 872	1 283	(153)	0,01	0,00
D _{5.9} VB	0	0	0		
Total D₅	427 878	11 424	2 416	0,03	0,01

Source: Data from R-3879-2014, B-0707, Gaz Métro-23, Document 8, page 1

Note: The volumes expected for interruptible service customers are before interruptions.

3 The evaluation of the cost of the interruptible offering comes from applying the average levels of
 4 rates D₃, D₄, and D₁ to the expected volumes of the interruptible customers (before interruption)
 5 at the time of the 2015 Rate Case. The revenues were estimated with the assumption that 15%
 6 of the interruptible service volumes would be subject to rate D₁, while 85% of them would be
 7 subject to rates D₃ or D₄ if the customers of that service had been unable to benefit from the
 8 preferential interruptible rate. In fact, given that the criteria that enable access to rates D₃ and D₄

- 1 cannot be met by some of the current interruptible service customers, a number of them would
 2 be on rate D₁ if they had to migrate to continuous service.⁴⁴
- 3 The following table gives the estimated distribution revenues that interruptible service customers
 4 would have generated if they had been subject to a continuous service rate.

Simulation of distribution revenue after full migration of customers from interruptible service to continuous service (estimated based on 2014/2015 data)

Tarif interruptible	Volumes prévus (10 ⁹ m ³)	Revenus Distribution D ₁ (000\$)	Revenus Distribution D ₃ , D ₄ (000\$)	Total (\$)
	(1)	(2)	(3)	(4)=(2)+(3)
D _{5.5} VA	76 925	2 119	4 721	6 840
D _{5.5} VB	40 220	1 108	2 468	3 576
D _{5.6} VA	44 296	1 220	1 765	2 985
D _{5.6} VB	62 916	1 733	2 507	4 239
D _{5.7} VA	65 285	1 798	1 923	3 721
D _{5.7} VB	34 454	949	1 015	1 964
D _{5.8} VA	16 755	461	396	857
D _{5.8} VB	1 155	32	27	59
D _{5.9} VA	85 872	2 365	1 342	3 707
D _{5.9} VB	0	0	0	
Total D₅	427 878	11 785	16 164	27 949

Note: The expected volumes are those before interruptions

- 5 An estimate of the load-balancing revenues is obtained using the same approach. The following
 6 table shows its results.

⁴⁴ The estimate of the current interruptible offering's cost also relies on the assumption that customers in tier 5.5 would be subject to rate D₃, while customers on rates D_{5.6} to D_{5.9} would be subject to the corresponding tiers of rate D₄

**Simulation of the load-balancing revenue after full migration of customers
from interruptible service to continuous service
(estimated based on data from 2014/2015)**

Tarif interruptible	Revenu d'équilibre D ₁ (000\$)	Revenu d'équilibre D ₃ , D ₄ (000\$)	Total (000\$)
	(1)	(2)	(3)=(1)+(2)
D _{5.5} VA	488	588	1 076
D _{5.5} VB	255	308	563
D _{5.6} VA	281	387	668
D _{5.6} VB	399	550	949
D _{5.7} VA	414	536	950
D _{5.7} VB	218	283	501
D _{5.8} VA	106	139	245
D _{5.8} VB	7	10	17
D _{5.9} VA	544	149	693
D _{5.9} VB	0	0	0
Total D₅	2 712	2 949	5 661

From R3879-2014, B-0707, Gaz Metro 23, document 8, page 1

- 1 This simulation makes it possible to compare the revenue that would have been generated by
- 2 interruptible service customers if they had been subject to a continuous service rate during the
- 3 year 2014-2015 to the revenue that was expected for those customers. The difference
- 4 corresponds to the cost of the current interruptible offering and is reproduced in the following
- 5 table.

Cost of the current interruptible service

Tarif interruptible	Revenus D et É provenant du service interruptible (000\$)	Revenu D et É sans service interruptible (000\$)	Écart (000\$)
	(1)	(2)	(3)=(2)-(1)
D _{5.5} VA	3 042	7 916	4 874
D _{5.5} VB	2 076	4 139	2 063
D _{5.6} VA	1 037	3 653	2 616
D _{5.6} VB	2 859	5 188	2 330
D _{5.7} VA	1 601	4 671	3 070
D _{5.7} VB	1 063	2 465	1 402
D _{5.8} VA	834	1 102	268
D _{5.8} VB	197	76	-121
D _{5.9} VA	1 130	4 400	3 270
D _{5.9} VB	0	0	0
Total D₅	13 840	33 610	19 770

- 1 Thus, the cost of the interruptible service, as presently formulated, is estimated to be about \$19.8 million.

APPENDIX 2: RECONSTITUTING VOLUMES FOR CALCULATING VPI

1 One technical difficulty related to the VPI calculation arises from the fact that Gaz Métro does not
 2 always have all historical data from the winter of year (t-1). For example, the volumes that would
 3 have been withdrawn for the interruption days of the interruptible service customers or in
 4 combined rates in year (t-1) are unknown because there was no withdrawal during those days.
 5 However, the days when service was interrupted are cold days during which those customers
 6 would, in all likelihood, have consumed a relatively high volume. The fact that these volumes
 7 corresponding to cold days in year (t-1) are not included when calculating the average to apply to
 8 the year (t) means that the VPI is underestimated, and consequently, so is the DVI, which is the
 9 basis of the compensation offered.

10 Gaz Métro has remedied this difficulty by first reconstructing the volumes that would have been
 11 consumed for each of the days of interruption by linear regression:

$$12 \quad C_{j(t-1)} = \beta_0 + \beta_1 \times \text{Température}_{j(t-1)}$$

13 *where $C_{j(t-1)}$ = Estimation du volume retiré au cours de la journée j de l'année (t-1)*

14 *Température_{j(t-1)} = Température observée au cours de la journée j de l'année t-1*

15 *β_0 = Constante*

16 *β_1 = Coefficient de régression*

17 The average VPI is then calculated by including the reconstructed volumes for the days during
 18 which there was an interruption in service in year (t-1). This approach has the benefit of correcting
 19 the bias that arises from the lack of data for days of interruption in year (t-1). However, it has the
 20 disadvantage that the coefficient β_1 estimated by linear regression is not statistically significant
 21 for all customers. In fact, for some customers whose volumes are not highly correlated with
 22 temperature, the null hypothesis cannot be ruled out when applying the Student test.⁴⁵ In such
 23 cases, the volumes that would have been consumed during days of interruption cannot be

⁴⁵ The Student test, or *t* test, is a series of parametric hypothesis tests where the calculated statistics follow a Student distribution law when the NULL is true. The Student test may be used to test the nullity of a coefficient in the context of a linear regression.

1 reconstructed by the proposed approach. For those customers, only days without interruption are
2 retained for calculating the average.

3 This approach was tested for 98 interruptible service customers using volumes withdrawn during
4 the year 2014-2015. The volumes that would have been withdrawn during days of interruption
5 could not be reconstructed for 27 of those customers.

APPENDIX 3: DETERMINING THE CREDITS IN EACH OFFERING FOR THE CONSULTATION

1 Before consulting Major Industries Sales customers, Gaz Métro had to determine what credits could
2 be offered for each interruptible option. In this exercise, Gaz Métro considered the following criteria:

- 3 - The maximum value of the average credit offered annually may not exceed \$7.50/m³, or
4 about 75% of the cost of the replaced tool, the combined transportation of SH Parkway
5 (from TCPL) and M12 (from Union Gas);
- 6 - The maximum variable credit offered must be less than the unauthorized withdrawal penalties;
- 7 - The value of the credits offered must be modulated based on the quality of service
8 (therefore the interruptible service with the greatest potential for interruption must have
9 the highest credit in \$/m³);
- 10 - The variable credit portion must be favoured in offerings relative to the fixed credit portion.

11 Gaz Métro first calibrated, in advance of consulting the customers, the unlimited seasonal
12 interruptible service option, which is similar to the current interruptible option of category "A."
13 Given that this option has the highest occurrence of interruption, the credit offered may reach the
14 maximum anticipated average credit value of \$7.50/m³.

15 Gaz Métro then developed two price offerings for this unlimited seasonal interruptible service in
16 order to gauge customers' interest in a fixed and variable credit structure:

- 17 - Based on an average of 22 days of interruption per year (using historical customer
18 interruption), and setting the variable credit to \$0.25/m³, Gaz Métro determined that a fixed
19 credit of \$2/m³ could be combined with the variable credit without exceeding the limit of
20 \$7.50/m³ (\$2/m³ fixed + \$0.25/m³ x 22 days).
- 21 - In order to encourage a variable-compensation structure, Gaz Métro felt it reasonable to
22 reduce the average credit offered by 20% when the credit offered is completely fixed,
23 which gives a fixed credit of \$6.00/m³ (\$7.50/m³ x 80%).

24 For the limited seasonal interruptible service option, which is similar to the current interruptible
25 offering of category "B", Gaz Métro had to assume that the maximum number of days of
26 interruption was less than that of the unlimited seasonal service option. In the unlimited seasonal
27 interruptible service offering, the maximum number of days may vary each year. In the past, for

1 some tiers, the maximum number of days for category A of interruptible service even exceeded
2 80 days. As the maximum number of days of interruption in limited seasonal interruptible service
3 is only 20 days, the credit offered should not exceed 25% of the unlimited seasonal interruptible
4 service credit. Using this relative valuation of 25%, only one fixed-credit offering would be suitable
5 for anticipating an interest on the part of customers. The fixed credit offered for the consultation
6 was therefore set at \$1.50/m³ ($\$6/\text{m}^3 \times 25\%$).

7 Finally, Gaz Métro used the same approach for the very-low-occurrence interruptible peak service
8 option. This option was based on significant variable credits. Because these customers are not
9 expected to be interrupted in most years, the variable credit may be very high. However, the
10 variable credit also may not exceed the unauthorized withdrawal penalty for interruptible
11 customers. Based on a penalty of \$5/m³ for unauthorized withdrawals by interruptible customers,
12 a maximum credit of \$4/m³ seemed reasonable (i.e. 80% of the penalty). Gaz Métro could
13 therefore offset a customer's failure to accept interruption by interrupting a peak interruptible
14 service customer without all of the customer base being penalized.

15 Because some customers have equipment to maintain in order for them to offer Gaz Métro
16 interruptible capacity, a second very-low-occurrence peak interruptible service offering was
17 designed for the consultation with customers, with a low fixed credit of \$0.50/m³. To offset this
18 guaranteed compensation base in this second very-low-occurrence peak interruptible service
19 offering, Gaz Métro reduced the variable credit by 50% so as to establish it to \$2/m³ ($\$4/\text{m}^3 \times 50\%$).

20 Therefore, for the consultation, all of the offerings took into account not only the occurrence of
21 interruptions when determining the credit, but also the maximum credit that may be granted.

APPENDIX 4: Usage statistics of the LSR plant and the PDL storage site - 2018 plan based on the selected combined interruptible volumes

	Tous les clients continus			Interruptibles saisonniers et pointe			
	Normal	Froid	Extrême	Normal	Froid	Extrême	
	10 ⁹ m ³ (1)	10 ⁹ m ³ (2)	10 ⁹ m ³ (3)	10 ⁹ m ³ (4)	10 ⁹ m ³ (5)	10 ⁹ m ³ (6)	
Utilisation de l'usine LSR							
1	Décembre	0	3 517	0	2 304	15 737	2 220
2	Janvier	0	1 296	6 651	1 351	12 889	38 180
3	Février	0	0	0	0	1 563	164
4	Mars	0	0	0	0	0	0
5	Retrait Total	0	4 813	6 651	3 655	32 522	40 564
6	# de jours de retrait	0	5	7	4	18	19
7	Retrait Max	0	1 313	1 557	1 232	3 794	4 600
Niveau d'inventaire LSR - DAQ							
8	2017-11-30	50 481	50 481	50 481	50 481	50 481	50 481
9	2017-12-31	49 662	49 662	49 662	49 662	47 330	49 662
10	2018-01-31	48 844	45 327	48 844	46 540	31 756	46 625
11	2018-02-28	48 105	43 292	41 455	44 450	23 036	8 033
12	2018-03-31	47 287	42 474	40 637	43 632	29 816	15 885
13	Inventaire minimum	47 287	42 474	40 637	43 632	18 524	8 033
14	Date	31-mars	31-mars	31-mars	31-mars	13-févr	28-févr
15	Utilisation de PDL	1 376	9 139	10 850	15 196	28 603	29 683

APPENDIX 5: Interruptions – Plan 2018 based on the selected combination of interruptible volumes

		Interruptibles saisonniers et pointe		
		Normal (1)	Froid (2)	Extrême (3)
Nombre prévu de jours d'interruption				
Service saisonnier illimité				
1	Palier 1	11	41	45
2	Palier 2	13	41	48
Service saisonnier limité				
3	Palier 1	10	20	20
4	Palier 2	10	20	20
Service de pointe				
5	Palier 1	0	0	2
6	Palier 2	0	0	2
7	Palier 3	0	0	2
8	Palier 4	0	0	2
9	Palier 5	0	0	2
Volumes interrompus (10³m³)				
10	Service saisonnier illimité	6 336	20 096	23 790
11	Service saisonnier limité	6 366	13 411	13 459
12	Service de pointe	0	0	4 612
13	Total	12 702	33 507	41 861

APPENDIX 6: SIMULATOR AND INTEREST FORM PRESENTED DURING THE CUSTOMER CONSULTATION

DONNÉES CLIENT						
Nom du client	CLIENT ABC					
Volume de période d'interruptions (VPI)	50 000	m ³ /jour	Paramètre calculé à partir de votre profil de consommation			
Volume maximum en service continu (VMC)	40 000	m ³ /jour	Consommation que vous désirez conserver au service continu			
Volume quotidien interruptible (VQI)	10 000	m ³ /jour	Différence entre le VPI et le VMC; soit le volume sur lequel vous serez rémunéré			

OFFRES INTERRUPTIBLES						
Modalités des offres interruptibles :						
- Prévais de sortie de 3 ans (pour exception, voir présentation)						
- 5 offres non cumulables						
- Tout m ³ de volume consommé au-delà du volume maximum au service continu lors d'un avis d'interruption est assujéti à une pénalité de 5,00 \$/m ³						
Calculateur de la rémunération selon les offres du service interruptible						
	Nombre de jours d'interruptions	Prime fixe (\$/m ³ de VQI) (\$/GJ)	Prime variable (\$/m ³ de VQI/jour) (\$/GJ/jour)	Valeur minimale (0 interruption) (\$/an)	Valeur en fonction du nombre d'interruptions	
					Historique 7 dernières années (moyenne projetée)	Nombre de jours
OFFRES SAISONNIÈRES				0 interruption		
1	Saisonnaire illimitée Option 1 maximum fixé annuellement	de 3 à 56 (22 jours)	6,00 158,35	0,00	60 000,00	ne varie pas en fonction du nombre de jours d'interruption
2	Saisonnaire illimitée Option 2 maximum fixé annuellement	de 3 à 56 (22 jours)	2,00 52,78	0,25 6,60	20 000,00	22 75 000,00
3	Saisonnaire limitée maximum 20 jours	de 3 à 20 (4 jours)	1,50 39,59	0,00	15 000,00	ne varie pas en fonction du nombre de jours d'interruption
OFFRES DE POINTE						
4	Pointe Option 1 maximum 5 jours*	de 0 à 3** (Moins de 1 jour)	0,00 0,00	4,00 105,57	0,00	1 40 000,00
5	Pointe Option 2 maximum 5 jours*	de 0 à 3** (Moins de 1 jour)	0,50 13,20	2,00 52,78	5 000,00	1 25 000,00
*Possibilité de journées consécutives.						
**Aucun historique pour cette nouvelle offre interruptible, dépend de l'occurrence de la pointe au cours d'un hiver.						

PRÉFÉRENCES			
Veuillez nous indiquer vos préférences parmi les offres interruptibles.			
Choix 1		Volume maximum en service continu (VMC) (m ³ /jour)	Volume quotidien interruptible (VQI) (m ³ /jour)
Si l'offre de service interruptible sélectionnée au premier choix n'est pas disponible,			
Choix 2			
Si l'offre de service interruptible sélectionnée au second choix n'est pas disponible,			
Choix 3			
Si l'offre de service interruptible sélectionnée au troisième choix n'est pas disponible,			
Choix 4			
Si l'offre de service interruptible sélectionnée au quatrième choix n'est pas disponible,			
Choix 5			

QUESTIONS ADDITIONNELLES

Durée de contrat

Pour Gaz Métro, la valeur d'un engagement au service interruptible est considérablement réduite s'il n'est pas d'une durée de trois ans. Seriez-vous prêt à renoncer jusqu'à 75 % de la rémunération annuelle globale pour avoir l'option de migrer hors du service interruptible après une année seulement? (uniquement pour les offres saisonnières – offres #1, #2 et #3)

NON

Interruptible de pointe

Gaz Métro peut difficilement estimer la demande pour l'offre de pointe du service interruptible. Les offres testées dans ce questionnaire sont basées sur une rémunération plafond. Sachant que les quantités requises par Gaz Métro pour l'offre de pointe du service interruptible sont limitées, seriez-vous intéressé par un processus d'appel d'offres pour déterminer la prime fixe? (uniquement pour les offres de pointe – offres #4 et #5)

OUI

COMMENTAIRES

Veillez nous faire part de vos commentaires par rapport aux éléments suivants pour les offres de service interruptibles.

Rémunération globale

Saisonnière illimitée Option 1	
Saisonnière illimitée Option 2	
Saisonnière limitée (20 jours)	
Pointe Option 1	
Pointe Option 2	

Portion fixe

Saisonnière illimitée Option 1	
Saisonnière illimitée Option 2	
Saisonnière limitée (20 jours)	
Pointe Option 1	
Pointe Option 2	

Portion variable

Saisonnière illimitée Option 1	
Saisonnière illimitée Option 2	
Saisonnière limitée (20 jours)	
Pointe Option 1	
Pointe Option 2	

Nombre de jours d'interruption maximum

Saisonnière illimitée Option 1	
Saisonnière illimitée Option 2	
Saisonnière limitée (20 jours)	
Pointe Option 1	
Pointe Option 2	

Modalités générales des offres du service interruptible (engagement 3 ans, prix des pénalités de retraits interdits)

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Pendant combien de jours consécutifs votre établissement peut-il ne pas avoir accès au gaz naturel au-delà du VMC?

--

GUIDE DU FORMULAIRE D'INTÉRÊT

Définitions

1. "Volume de période d'interruptions" (VPI)

Le "volume de la période d'interruptions" ou VPI est la consommation quotidienne moyenne d'un client en période où il peut y avoir des interruptions. Comme la consommation quotidienne de pointe de Gaz Métro survient toujours de décembre à mars, les jours de cette période ont été considérés. Pour plus de détails, veuillez vous référer à la présentation.

2. "Volume maximum en service continu" (VMC)

Le "volume maximum en service continu" ou VMC est le volume maximum qu'un client peut consommer en journée d'interruption ou, alternativement, le volume minimal auquel le client doit avoir accès lors des journées d'interruption. Le VMC ne peut excéder le VPI. Pour plus de détails, veuillez vous référer à la présentation.

3. "Volume quotidien interruptible" (VQI)

Le "volume quotidien interruptible" ou VQI est un paramètre basé sur la consommation du client en période d'interruption et sur le volume qu'il doit minimalement conserver au service continu. Plus précisément, en soustrayant le VMC du VPI, on obtient le VQI. C'est sur la base du VQI que le client est rémunéré. Pour plus de détails, veuillez vous référer à la présentation.

4. Prime fixe

La prime fixe est une rémunération en \$/m³ de VQI que le client reçoit indépendamment du nombre de jours d'interruption dans l'année.

5. Prime variable

La prime variable est une rémunération en \$/m³ de VQI/jour que le client reçoit en journée d'interruption.

Méthodologie

1. Calcul de la rémunération annuelle

$$(\text{VQI} \times \text{Prime fixe}) + (\text{VQI} \times \text{Prime Variable} \times \text{Jours d'interruption})$$

Utilisation du simulateur

1. Saisie du VMC

Le paramètre de choix pour ce simulateur est le VMC qui est défini à la section Définitions. Si la totalité de votre consommation peut être interrompue, vous avez donc un VMC égal à 0. Si vous ne pouvez interrompre aucun volume, votre VMC est donc égal à votre volume de période d'interruptions (VPI).

2. Test de sensibilité de la rémunération au nombre de jours d'interruption dans l'hiver

Vous pouvez faire varier le nombre de jours d'interruption qui détermine la rémunération annuelle lorsqu'applicable. De cette manière, vous pourrez évaluer votre rémunération pour les différentes offres proposées.

3. Préférences

Après avoir analysé les cinq propositions d'offre du service interruptible, nous vous invitons à nous partager vos préférences. Pour les différentes offres, nous vous invitons également à quantifier le VQI en déterminant votre VMC.

4. Questions additionnelles

Gaz Métro souhaite également connaître votre intérêt sur deux paramètres spécifiques des offres de service interruptible proposées : la réduction de la rémunération pour un préavis de migration inférieur à 3 ans et l'intérêt à prendre part un processus d'appel d'offre dans le cas des offres de pointe.

5. Commentaires

Pour chacune des offres, nous vous invitons à nous faire part de vos commentaires. Nous vous suggérons quelques sujets listés.

APPENDIX 7: Usage statistics of the LSR plant and the PDL storage site - Scenario after consulting with customers

	Tous les clients continus			Scénario après consultation		
	Normal 10 ³ m ³ (1)	Froid 10 ³ m ³ (2)	Extrême 10 ³ m ³ (3)	Normal 10 ³ m ³ (4)	Froid 10 ³ m ³ (5)	Extrême 10 ³ m ³ (6)
Utilisation de l'usine LSR						
1	0	3 517	0	2 912	18 112	2 999
2	0	1 296	6 651	1 863	11 403	37 268
3	0	0	0	0	915	0
4	0	0	0	0	0	0
5	0	4 813	6 651	4 775	33 331	40 266
6	0	5	7	6	19	22
7	0	1 313	1 557	1 523	3 833	4 295
Niveau d'inventaire LSR - DAQ						
8	50 481	50 481	50 481	50 481	50 481	50 481
9	49 662	49 662	49 662	49 662	46 760	49 662
10	48 844	45 327	48 844	45 932	28 987	45 846
11	48 105	43 292	41 455	43 330	22 350	7 936
12	47 287	42 474	40 637	42 512	30 127	15 933
13	47 287	42 474	40 637	42 512	18 331	7 936
14	31-mars	31-mars	31-mars	31-mars	13-févr	28-févr
15	1 376	9 139	10 850	10 675	24 553	26 515

APPENDIX 8: Interruptions – Scenario after consulting with customers

		Scénario après consultation		
		Normal (1)	Froid (2)	Extrême (3)
Nombre prévu de jours d'interruption				
Service saisonnier illimité				
1	Palier 1	10	34	36
2	Palier 2	0	0	0
Service de pointe				
3	Palier 1	0	0	1
4	Palier 2	0	0	1
5	Palier 3	0	0	2
6	Palier 4	0	0	2
7	Palier 5	0	0	2
Volumes interrompus (10³m³)				
8	Service saisonnier illimité	1 054	3 633	3 873
9	Service de pointe	0	0	2 846
10	Total	1 054	3 633	6 720