

**RE - ENGINEERING OF
INTERRUPTIBLE SERVICE**

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IMPORTANT

1 **Énergir points out that the text in original exhibit B-0134, Gaz Métro-5, Document 2 filed in**
 2 **April 2016 remains unchanged in this exhibit, with the exception of a few paragraphs that**
 3 **have been removed or changed. Given the relative stability of the interruptible customer**
 4 **base since 2016, Énergir believes that the conclusions drawn from the survey, particularly**
 5 **with respect to the conditions of the interruptible options selected and proposed, are still**
 6 **valid today.**

7 **In its new version, Énergir no longer refers to the items listed below, although incidental**
 8 **to the evaluation of the interruptible service as a whole, because they have changed since**
 9 **the filing of the original exhibit:**

- 10 - **FTLH capacity requirement of 85 TJ/day ended;¹**
- 11 - **Withdrawal of seasonal make-up gas service;²**
- 12 - **Elimination of the 2% flexibility margin included in the subscribed volume;²**
- 13 - **Elimination of the Emergency Service Premium.²**

14 **In addition, since this phase has been delayed until the consultant report was received**
 15 **from Elenchus, the transitory measures in section 11 have also been reviewed.**

16 Although Énergir did not provide an update in the substantive demonstration contained in original
 17 exhibit B-0134, Gaz Métro-5, Document 2, it ensured that savings on supply costs would still
 18 result from the introduction of the new interruptible service based on the cost of updated
 19 alternative tools. Indeed, to quantify the value of the interruptible service, the tool can be
 20 considered a replacement for an annual or seasonal tool that would have been acquired to meet
 21 peak demand. For example, if the peak interruptible service³ is considered to replace a
 22 Parkway-EDA FTSH (TCPL-FTSH between Parkway and ÉNIR EDA Enbridge Gas-M12)
 23 transportation capacity for the entire year, the savings associated with the new interruptible
 24 service is estimated at \$14.7 million:

¹ Contract expires on 2020-12-31, D-2018-182.

² Amendments approved in the 2017 Rate Case (R-3970-2016) in decision D-2016-156 (para 353).

³ Given that the customer is mainly interested in the peak interruptible option (see Table 7 in Section 7.3), the estimated savings take into account that 100% of interruptible volumes come from this option (and 0% of interruptible volumes come from the unlimited seasonal option).

1 Savings = Daily Interruptible Volume (DIV) * 365 * [FTSH Parkway-EDA Rate + M12 Rate]
2 = 1,586 10³m³/day⁴ * 365 days * [0.02094¢/m³⁵ + 0.00452¢/m³⁶] = \$14.7M.

3 Net of the fixed cost of \$0.4 million⁷ to be paid to targeted customers, the savings amount to
4 \$14.3 million. The estimated savings remain significant, although this amount is lower than the
5 amount originally filed.⁸ The difference is primarily due to the change in FTSH transportation
6 capacity pricing from one year to the next.

INTRODUCTION

7 The environment in which the gas market operates has undergone changes since the
8 early 2000s, which have compelled Énergir, L.P. (Énergir) to revise its ways of doing business,
9 particularly with regard to rates.

10 First, the relocation of the supply structure to Dawn led to new questioning of the
11 cost functionalization methods and a revision to the rate structures for supply,
12 transportation, and load-balancing services (these items are covered in exhibit R-3867-2013,
13 Gaz Métro-5, Document 1). The relocation also led to an extension of transportation
14 agreement durations, thereby increasing the risks of stranded costs if demand were
15 to decline.

16 Next, a sizeable number of customers reduced their interruptible volumes in
17 recent years in favour of continuous service. This trend intensified after winter
18 2013-2014, which, as a result of the very cold weather, saw many days of
19 interruptions for Rate D₅ customers. The migration of interruptible service customers
20 to continuous service has increased the transportation capacity needs. This has
21 been compounded by the effect of many customers returning to the distributor's
22 transportation service. In 2013, 179 customers owned their own transportation, for a

⁴ Section 7.3, Table 7, l.4, col.1.

⁵ R-4119-2020, B-0113, Énergir-H, Document 1, Appendix 7, p.2, l.6, col.6.

⁶ R-4119-2020, B-0113, Énergir-H, Document 1, Appendix 7, p.2, l.9, col.6.

⁷ DVI of 1,586 10³m³/day X fixed credit of \$0.25/m³.

⁸ Sections 7.3 and 9.

1 total of 1,952 x 10³m³/day. In 2015, this figure had fallen to 13 customers, a total of
2 252 x 10³m³/day.

3 Finally, for the 2014⁹ and 2015¹⁰ Rate Cases, Énergir proposed improvements
4 to the forecasting method for ongoing demand on peak days, which led to an
5 increase in that demand.¹¹ In order to meet this additional expected demand, Énergir
6 is expected to contract additional transportation capacity in the short term on the secondary
7 market and/or from TransCanada Pipelines Ltd (TCPL), if available. In the medium and long term,
8 Énergir is expected to ask TCPL to build new capacity.

9 The increase in transportation needs, combined with the extension of agreement durations,
10 opened the way for new options to be analyzed. Thus, in decision D-2014-201, the Régie de
11 l'énergie (Régie) emphasized the low recurrence of peak winter days and invited Énergir
12 to assess alternative solutions to purchasing transportation capacity in order to meet the increase
13 in
14 ongoing demand:

15 "[142] In its decision D-2013-179, the Régie states:

16 [...]

17 [46] The Régie believes that it is important for the Distributor to study alternative solutions in
18 due course in order to meet low-recurrence needs rather than commit without conducting the
19 analyses normally required for a 15-year period.

20 [47] The Hearing has brought up three solutions that could meet low-recurrence peak needs,
21 which are:

- 22 - amending the service conditions so that MUGI customers are interrupted in order to
23 ensure service to continuous-service customers as needed;
24 - creating a new class of interruptible service for unusual interruptions;
25 - increasing vaporization capacity at the LSR plant." [translation]

26 The amendment of service conditions for make-up gas to avoid an interruption (MUGI)
27 were handled in the 2014 Rate Case.¹² Creating a new interruptible class
28 and increasing vaporization capacity in the LSR plant were covered by evidence presented in the

⁹ R-3837-2013, B-0054, Gaz Métro-2, Document 1, section 9.1.2.

¹⁰ R-3879-2014, B-0017, Gaz Métro-4, Document 1, section 2.

¹¹ In decision D-2014-201, the Régie approved the new methodology for calculating ongoing demand on peak days. It also asked Énergir 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.

¹² R-3837-2013, B-0448, Gaz Métro-2, Document 60.

1 2015 Rate Case.¹³ In response to that evidence, the Régie has asked Énergir
2 to revise its interruptible offering by proposing enhancements to interruptible service
3 categories A and B, and by examining the possibility of introducing a "super interruptible"
4 category for Rate D₄ customers.

5 *"[208] The Régie holds that the Distributor must continue its analysis aimed at setting up an*
6 *interruptible category intended for Rate D4 customers (super-interruptible category). The*
7 *Distributor must consider, as proposed by the UC, the fact that these customers might not possess*
8 *alternative energy sources.*

9 [...]

10 *[211] Furthermore, given that the migrations recently observed in interruptible service time for*
11 *continuous service, the Régie is of the opinion that it is important to revise the interruptible service*
12 *categories A and B currently in effect. The Régie believes that such efforts must be concurrent with*
13 *the examination of the super-interruptible category's feasibility.*

14 *[212] The Régie has asked the Distributor to revise interruptible service categories A and B and to*
15 *investigate the possibility of adding a super-interruptible category. It therefore asks the Distributor*
16 *to promptly submit a proposal to that effect.*"¹⁴ [translation]

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

- 20 - consideration of "Option consommateurs" (OC) proposals in order to eliminate the
21 presence of free-rider interruptible customers (D-2012-158);
- 22 - minimizing the impact of interruptible customer migrations to continuous service on
23 continuous service customers (D-2014-201);
- 24 - functionalizing income for unauthorized withdrawals and tax ceilings caps between
25 different services (D-2015-125).

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

¹³ R-3879-2014, B-0047, Gaz Métro-6, Document 1.

¹⁴ D-2014-201.

1. DEVELOPMENT OF THE INTERRUPTIBLE SERVICE

1.1. BACKGROUND

1 The first interruptible service with its own separate rate was set up in 1977.¹⁵
2 At the time, the only goal of interruptible service was to ensure “sound management
3 of supply and an optimal average unit cost.”¹⁶ Given that the transportation contracted
4 by Énergir from its supplier reflected the peak winter needs of its continuous
5 service customers, a surplus for interruptible sales was available in summer
6 months, and to a lesser extent, in the spring and fall. When the distributor
7 contracted volumes from its supplier in excess of the peak, the availability of
8 the interruptible service would be extended to be year-round. Interruptible service
9 was therefore considered a tool for optimizing supply costs.

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

14 Gradual changes were thereafter made in order to limit the drawbacks of interruptions
15 and thereby make the interruptible offering more attractive and competitive.
16 Énergir attempted to halt the gradual erosion of the customer base as they moved to competitive
17 energy sources. Different categories were therefore added to the rate over time.¹⁷

1.2. HOW INTERRUPTIBLE SERVICE CURRENTLY WORKS

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

¹⁵ Order G-166 of the Régie de l’électricité et du gaz.

¹⁶ R-2997-84, GMI-21, Document 1, page 4.

¹⁷ 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 Customers can opt to join category A of interruptible service, in which the maximum
2 number of interruption days is higher, or category B, in which interruption days are limited to 20
3 or 30, depending on the level. The maximum number of interruption days in category A is
4 determined annually and is conveyed to customers in the *Conditions of Service and Tariff* (CST)
5 (article 15.4.6).

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

1.2.1. DISTRIBUTION SERVICE

9 Interruptible customers are subject to distribution service D₅. All of the rate
10 rules surrounding this service are detailed in article 15.4 of the CST. Generally
11 speaking, the unit price is the result of the following:

i) The unit rate for the volume withdrawn

12 The distribution rate for interruptible service does not contain a fixed portion, only
13 a variable component which is the unit rate for the volume withdrawn. This rate
14 is set based on the projected average daily volume, then billed based on the
15 monthly volumes consumed.

ii) Discounts

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

- 18 ▪ A discount is obtained for contracts lasting longer than 12 months. This
19 discount may be up to 40% for a five-year contract.
- 20 ▪ A discount is also obtained for any consumption agreement (called
21 a minimum annual obligation or MAO) greater than 60% of the projected
22 volume and may represent an additional 30% discount for a commitment of
23 85% or more.

iii) Prohibited withdrawals

24 During the period from November to March, an interruptible customer to whom Énergir
25 has asked to cease withdrawals but which still consumes despite the interruption

1 notice is liable for a penalty of 50 ¢/m³ at the distribution rate, and at the greatest
2 between the market price and fuel oil price No. 6 at the time of withdrawal.

iv) Combined rates

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

1.2.2. LOAD-BALANCING SERVICE

9 The current load-balancing rate is based on the following consumption parameters:
10 A (annual average daily consumption), W (winter average daily consumption), and
11 P (peak daily consumption).

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

$$13 \quad \text{Balancing price} = \frac{\text{Peak rate} \times (P - W) + \text{Space rate} \times (W - A)}{\text{Annual volume}}$$

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

$$17 \quad A_m = A \times \frac{\# \text{ days from } 1^{\text{st}} \text{ October to } 30 \text{ September} - \mathbf{MaxD}}{\# \text{ days from } 1^{\text{st}} \text{ October to } 30 \text{ September} - \mathbf{ActualD}}$$

$$18 \quad W_m = W \times \frac{\# \text{ days from } 1^{\text{st}} \text{ November to } 31 \text{ March} - \mathbf{MaxD}}{\# \text{ days from } 1^{\text{st}} \text{ November to } 31 \text{ March} - \mathbf{ActualD}}$$

$$19 \quad P_m = P \times \max\left(\frac{74 - \mathbf{MaxD}}{74}, 0\right)$$

20 Where **MaxD** = Maximum number of days of interruption planned for year *t*

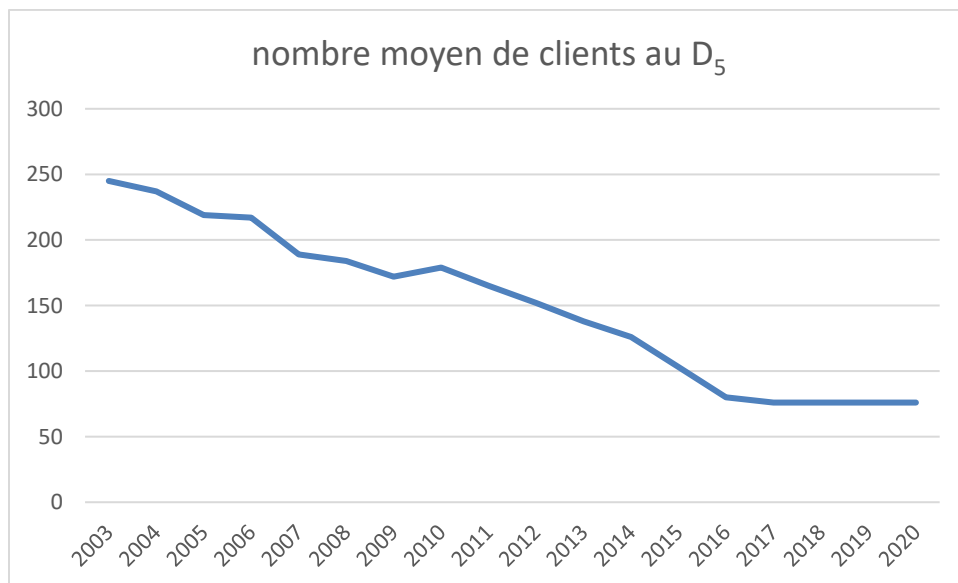
21 **ActualD** = Number of actual days of interruption in year *t-1*.

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

1.3. STATUS OF THE SITUATION

3 As mentioned in the introduction, significant erosion in the number of customers who
4 opt for interruptible service has been observed over the past eighteen years. There were 245
5 interruptible service customers in 2003¹⁸ while there were 76 customers on interruptible service
6 in 2020¹⁹.

Figure 1

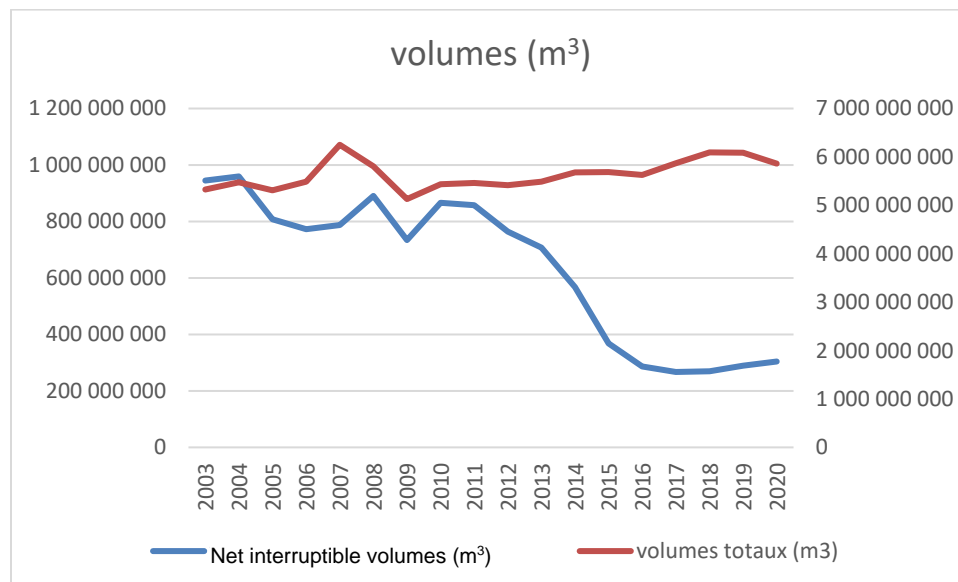


7 The volumes withdrawn by interruptible customers followed the same general downward trend. This
8 decline in the relative size of the interruptible customer base, both in terms of the number of customers
9 and the volumes withdrawn, has nonetheless occurred against the backdrop of overall growth.

¹⁸ R-3521-2003, SCGM6, Document 1, page1.

¹⁹ R-4136-2020, Énergir-9, Document 1, page 1.

Figure 2



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

7 The following table shows the change in net interruptions²⁰ in recent years. It should be
 8 noted that for the years 2010-2011 and 2011-2012, MUGI volumes were greater than
 9 the gross interruption volumes. This is due to the fact that the gross interruptions represent
 10 an assumed projection of what might be consumed by customers if they were not
 11 interrupted, while the MUGI volumes corresponded to their actual consumption.

²⁰ Net interruptions are equal to gross interruptions minus the MUGI and unauthorized withdrawal volumes.

Table 1
Net interruptions per year

	Gross interruptions (10 ⁶ m ³)	MUGI (10 ⁶ m ³)	Unauthorized withdrawals (10 ⁶ m ³)	Net interruptions (10 ⁶ m ³)
	(1)	(2)	(3)	(4) = (1) – (2) – (3)
2019-20	4	4	0	0
2018-19	20	17	0	2
2017-18	19	18	0	1
2016-17	15	15	0	0
2015-16	8	4	0	4
2014-15	56	29	1	26
2013-14	120	46	2	74
2012-13	85	66	1	18
2011-12	38	40	0	-2
2010-11	36	37	1	-2

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

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

5 This observation with respect to the drawbacks of interruptions has been corroborated
6 by the results of a survey among Major Industries Sales customers in July 2013, which
7 aimed to poll its perception under the current CST²¹ This enabled the gathering of
8 information about the interruptible rate. Based on the results observed, customers
9 chose the interruptible rate mainly to:

- 10 - benefit from the better price it would get in order to avoid needing to set a high subscribed
11 volume for continuous service to meet peak demand; and

²¹ 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 - ensure a minimum volume under continuous, and benefit from the better conditions of
2 interruptible service for the remaining volume required.

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

5 Half of the customers consulted said that they would migrate to the D₄ rate if make-up gas to
6 offset interruptions was no longer available. Three out of ten customers said that they would
7 remain on interruptible service because they were able to use an alternative energy source.

8 Two out of ten customers would remain on the interruptible rate but said that they would need to
9 make changes to their equipment in order to enable the use of an alternative energy source.

10 Through its new interruptible natural gas offering, Énergir hopes to retain on interruptible service
11 those customers who are able to use another source of energy or suspend their operations
12 during the interruption.

2. THE GOALS OF THE INTERRUPTIBLE OFFERING

13 During the 1991 generic case relating solely to interruptible service, Énergir noted the
14 close 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.”²² [translation]

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

16 - It makes it possible to lower demand during peak winter days relative to a situation where
17 all customers are consuming on a continuous basis. This reduces the need for supply
18 tools in order to meet the demand.

19 - It makes it possible to use up the natural gas surpluses observed during the
20 warmer months, when demand is lower. Generally speaking, the transportation
21 contracted from Énergir suppliers ensures constant delivery of natural gas

²² R-3200-91, GMi-1, Document 1, page 4.

1 year-round. Furthermore, as customer demand is subject to seasonal
2 fluctuations, there are surplus volumes during summer months. The use
3 of these surpluses by interruptible customers makes it possible to minimize
4 stranded costs related to surplus transportation contracted to meet demand
5 during cold months.

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

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

20 Therefore, Énergir aims to refocus interruptible service on its core mandate, which is
21 to optimize supply costs. The distributor is proposing an interruptible offering intended
22 for the following three goals:

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

3. COST CAUSATION

1 In section 2.1.4 of exhibit Gaz Métro-5, Document 1 of this case, Énergir explains that
2 it is possible to lower the total costs of supply by replacing annual transportation
3 tools with lower-cost seasonal tools.

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

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

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

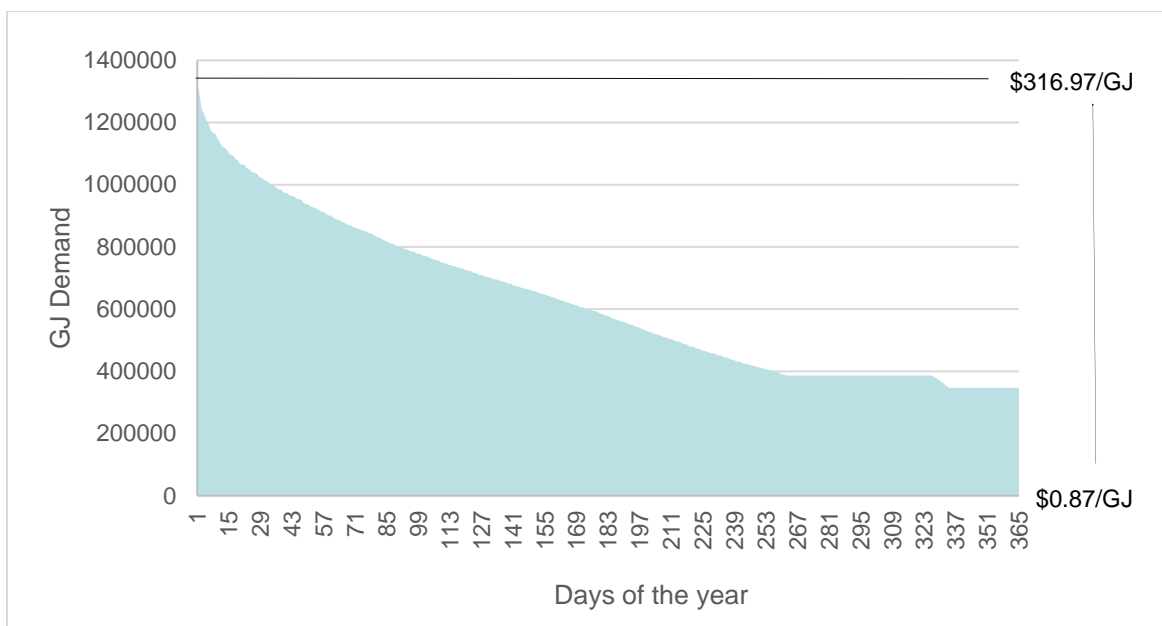
3.1. TRANSPORTATION COST TOOLS

25 In order to be able to compare the cost of the annual transportation tools with the cost of
26 the replacement tool (i.e. the cost of the interruptible offering), the peak per-unit cost

1 of each tool is calculated. The peak unit cost corresponds to the supply cost of the
2 last unit delivered during the peak day.

3 For example, to supply the highest demand of the year, shown in Figure 3,²³ let us
4 assume that Énergir only contracts transportation capacity on the Dawn-EDA
5 segment on an annual basis, at a cost of \$26.41/GJ/month.²⁴ As the tool's cost is
6 entirely fixed, this tool will cost \$316.97/GJ in total (\$26.41/GJ/month x 12 months).

Figure 3



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

²³ The graph is ordered from the highest-consumption day to the lowest-consumption day.

²⁴ Amended TCPL rates as of January 29, 2016: \$24.96083/month (FT Toll) + \$1.45344/month (Abandonment Surcharge).

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

Table 2

Section	FT Toll (\$/GJ/month)	Abandonment surcharge (\$/GJ/month)	Coupling (\$/GJ/month)	Total – peak day (\$/GJ)	Total – peak day (\$/ 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

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

3.2. COST OF THE INTERRUPTIBLE OFFERING

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

8
$$\text{Total cost of the interruptible offering (\$)} / \text{Transportation tool discount (GJ or m}^3\text{)}.$$

9 The cost of the interruptible offering currently in place, i.e. the compensation currently
 10 paid to interruptible service customers, may be estimated by comparing the
 11 distribution and load-balancing revenues that were generated by the interruptible
 12 service customers in a given year to what would have been generated if they had been
 13 on the continuous service rate, all other things being equal. The difference between the
 14 revenue with the interruptible offering and without it represents the cost arising from the fact
 15 that a preferential rate was offered to the interruptible service's customers. Naturally, the rates in force
 16 would be different if all of the customers had had continuous service. However, the exercise
 17 helps estimate an order of magnitude. Énergir estimated the total cost of the interruptible offering
 18 to be about \$19.8 million for the year 2014/2015.²⁵

²⁵ The analysis performed to determine this difference is given in Appendix 1.

1 Moreover, in the 2014-2015 supply plan, the daily interruption volume is estimated to be
2 $1.56 \times 10^6 \text{m}^3$, or 59,200 GJ/day.²⁶

3 The peak unit cost for 2015 may therefore be estimated to be about $\$12.67/\text{m}^3$
4 ($\$19.8 \text{ million}/1.56 \times 10^6 \text{m}^3$).

5 For 2016, the interruptible offering's cost was much less than the Empress – GMIT EDA
6 transportation cost that would have been required to make up the missing volumes if the
7 interruptible customers had been subject to continuous service ($\$12.67/\text{m}^3$ vs $\$30.27/\text{m}^3$).
8 In that sense, the current offering was advantageous for interruptible customers as well as
9 for all continuous service customers, when the benchmark of the supply structure
10 was Empress. In fact, Énergir continuous service customers received capacity
11 freed up by interruptions for a lower cost than that of the additional FTLH transportation
12 capacity between Empress and GMIT-EDA that would have been required in the
13 absence of interruptible volumes. However, after completely moving the supply
14 structure to Dawn, the benchmark alternative will be Dawn – Parkway – GMIT EDA,
15 whose cost is lower ($\$10.53/\text{m}^3$ vs. $\$30.27/\text{m}^3$).²⁷

16 Énergir aims to develop an interruptible option that is cost-competitive with the transportation and
17 load-balancing tools that would need to be contracted in the absence of interruptible volume.
18 In that sense, the cost of the interruptible offering for Énergir should not exceed the cost
19 of $\$10.53/\text{m}^3$. If the interruptible offering's cost were to be greater than the corresponding
20 transportation cost, it would then be advantageous to contract additional transportation
21 capability rather than offer an interruptible option.

²⁶ The daily interruption volume is estimated by dividing the interruptible winter volume of $236 \times 10^6 \text{m}^3$ (R-3879-2014, B-0283, Gaz Métro-7, Document 6, column 1, line 2) by the number of winter days (151).

²⁷ See Table 2.

4. PRELIMINARY OPTIONS CONSIDERED

4.1. RECOGNIZING INTERRUPTIBLE IN LOAD-BALANCING

1 Énergir proposes that the contribution of interruptible customers be recognized and compensated
2 only in the load-balancing service rather than in both the distribution and load-balancing services.
3 Two main motives are behind this proposal.

4 First, Énergir believes that there is a causal link between the interruptible and the load-balancing
5 service, as the interruptible offering makes it possible to reduce transportation purchases for load-
6 balancing purposes. In fact, the interruptible customers do not consume in peak periods, which
7 lowers the total peak need that would otherwise require the purchasing of transportation tools.

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

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

22 *"We should add, regarding the present subject, that an interruptible D rate would only exist if*
23 *specifically required to manage the use of the distribution capacity of the distributor's network. As*
24 *there are currently no restrictions on the use of distribution pipelines, the separate distribution rates*
25 *are being introduced without any interruptible distribution rate. Separate distribution rate D₅ is*
26 *therefore the same for all interruptible customers irrespective of their number of days of interruption,*

1 *and we shall later see how it may be possible to arrive at a single distribution rate that is valid both*
2 *for continuous customers and interruptible customers.”²⁸ [translation]*

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

8 Secondly, Énergir is of the opinion that recognizing the interruptible option in the
9 load-balancing service makes it possible to move closer to a cost logic. At present,
10 signing up for interruptible service is compensated by a preferential rate for distribution service,
11 among other things. That preferential rate is applied, regardless of the number of days of
12 interruption during a given year. Thus, the cost paid out by Énergir for the interruptible offering
13 has no connection to the volumes interrupted, but rather to the volumes consumed. The cost of
14 the interruptible offering is entirely fixed, and is borne whether or not there is any interruption in
15 service. This formula, which gives the same compensation to interruptible customers, whether or
16 not there have been interruptions during a year, is aimed at attempting to limit the inconvenience
17 of interruptions rather than offering interruptible capacity. In fact, the interruptible service
18 customers are ensured their special rate, hence they have more incentive to try to avoid
19 interruptions by drawing on MUGI or even by agreeing to pay penalties for unauthorized
20 withdrawals.

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

²⁸ R-3443-2000, SCGM-2, Document 1, page 70.

4.1.1. BASICS OF THE APPROACH

1 The approach proposed by Énergir is partially inspired by a method that was submitted
2 by *Approvisionnement Montréal, Santé et Services Sociaux* (AMSSS) in case
3 R-3323-95 on the matter of allocating transportation and load-balancing costs. In that
4 case, the AMSSS proposed that interruptible customers be compensated by a credit
5 calculated based on the cost avoided by the distributor as a result of
6 serving the continuous-service customers using the capacity released by the
7 interruptions. From this perspective, the interruptible volumes are considered a
8 source of supply that makes it possible to limit the costs of supply tools. The
9 possibility of interruption therefore makes it possible for the distributor to avoid the
10 costs of the supply tools that would be required in the absence of interruptible volume
11 for serving customers.

12 *"GMI relies on its ability to curtail service to its interruptible customers to meet the loads of*
13 *its firm customers on peak days and, in recent years, over the winter season. The ability to*
14 *curtail service to these customers allows GMI to contract for less storage capacity and*
15 *seasonal transportation service. Hence, the costs to serve the firm customers is reduced.*
16 *These costs saving arise as a direct result of the curtailable nature of the interruptible*
17 *customers' load and are properly allocated to the interruptible customers."*²⁹

18 Using this approach, the value of the costs avoided is totally or partially passed on to
19 interruptible customers in the form of a credit. The AMSSS's proposal in this case was
20 viewed favourably by the Régie, which had retained the idea of offering a credit based on
21 the costs avoided.³⁰

22 The approach proposed by Énergir is also inspired by the interruptible option offered by
23 Hydro Québec Distribution (HQD) to its main customers of the L rate since 2003 and
24 renewed twice since. The following excerpt drawn from HQD's initial evidence
25 briefly describes the spirit of its interruptible option. A more detailed description of
26 HQD's interruptible electricity option is presented in case R-3518-2003.³¹

27 *"Hydro-Québec Distribution proposes that effective December 1, 2003, an interruptible*
28 *electricity option be offered to its large-power customers. To participate, customers must*

²⁹ R-3323-95, Evidence of Sharon L. Chown on behalf of Approvisionnement-Montréal and Nova Gas Clearinghouse Limited.

³⁰ D-97-47, page 21.

³¹ R-3518-2003, HQD-1, Document 1

1 *commit to making their power interruptible for the entire baseline year. In return, those*
2 *customers get a minimum credit when the Distributor exercises the option.*³² [translation]

3 This option had been proposed following the request from the Régie that Hydro-Québec
4 consider using an interruptible option “*to increase its flexibility in managing unforeseen*
5 *load peaks and energy needs.*”³³

6 The approach adopted by Énergir also has similarities with the interruptible service in
7 place at the distributors Enbridge and Gazifère, which offer a credit for interruption
8 applied to average daily volumes.³⁴

9 In short, Énergir proposes to recognize the interruptible offering for load-balancing by
10 itself, along with the elimination of the interruptible rate for distribution service (D₅).

4.2. VALUE OF THE INTERRUPTIBLE OFFERING

11 Currently, the recognition of the interruptible offering in load-balancing is done by
12 modifying parameters A, W, and P when calculating the price, as described in
13 section 1.2.2. Énergir proposes to no longer modify the calculation parameters, but rather to add
14 a new component to the load-balancing rate, making it possible to compensate the
15 interruptible volumes by means of credits. At that point, it will be important to determine, for
16 starters, the value of the compensation that may be offered. It must be high enough to
17 attract customers to the interruptible offering, but must also make it possible to reduce the total
18 supply costs, as indicated in section 3.

19 Thus, in order to ensure a decline in supply costs, the credits offered must be calibrated
20 from the comparison tools. In this evidence, the alternative that will be considered at
21 interruptible volumes is purchasing FTSH transportation capacities (Dawn-Parkway-Eda
22 segment). The financial compensation offered to participating customers therefore
23 may not exceed Énergir’s opportunity cost, or in this case, the cost of FTSH capacity.

³² R-3518-2003, HQD-1, Document 1, page 11.

³³ D-2002-169, page 50.

³⁴ Enbridge (rate 145 and 170) and Gazifère Rate 9.

4.2.1. COMPENSATED INTERRUPTIBLE VOLUME

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

9 For the compensated interruptible volumes to approach the FTSH transportation volumes
10 that they help to avoid, Énergir needed to consider the following:

- 11 • A steadily-consuming customer makes it possible to ensure a stable interruptible
12 volume all winter long, while a variable-consumption customer will be able to
13 offer greater or smaller quantities each day.
- 14 • Demand is higher during weekdays (Monday-Thursday) than on weekends
15 (Friday-Sunday) or on holidays.
- 16 • Interruptible service may be necessary outside of the peak period:
17 Several days of interruption may be required; interruption days in extreme
18 winter may occur at the end of winter at much less cold temperatures
19 than at the peak while still requiring the same interruptible volume as a peak
20 day.

21 In order to take all of these factors in account, Énergir proposes to calculate the
22 compensated interruptible volume based on the formula:

1
$$DVI_i = VPI_i - MCV_i$$

2 where DVI_i = Daily interruptible volume of customer i

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

4 MCV_i = Maximum continuous service volume of customer i.

5 The average volume of the interruption period (VPI) is an estimate of what the customer's
6 daily consumption would have been without the interruption. The VPI would be determined
7 at the time the customer signed up for the interruptible offering based on the average
8 volumes withdrawn during the previous year's winter days,³⁵ unless major changes are
9 planned in the customer's consumption. The calculation would only take into account the
10 volumes consumed during working days from Monday to Thursday. The period from
11 December 1 to February 28 would be used for estimating the VPI in order to model the
12 new proposed period to determine the customer's peak,³⁶ even though service might
13 sometimes be interrupted outside of that period.³⁷

14 The maximum continuous service volume (MCV) corresponds to the maximum
15 daily withdrawal that the customer agrees not to exceed during an interruption day. It is in
16 fact the minimum continuous volume required by the customer, i.e. the daily
17 level of consumption that must be maintained even during an interruption day. During
18 interruption days, the customer cannot consume more than that volume threshold,
19 or else it will be forced to pay a penalty. The MCV would be set by the customer
20 at the time it signs up for the interruptible options and for a period corresponding to the
21 duration of the interruptible contract. All customers who choose the interruptible option
22 would need to have equipment that can read volumes daily, as is the case for the
23 customers of the current interruptible service.

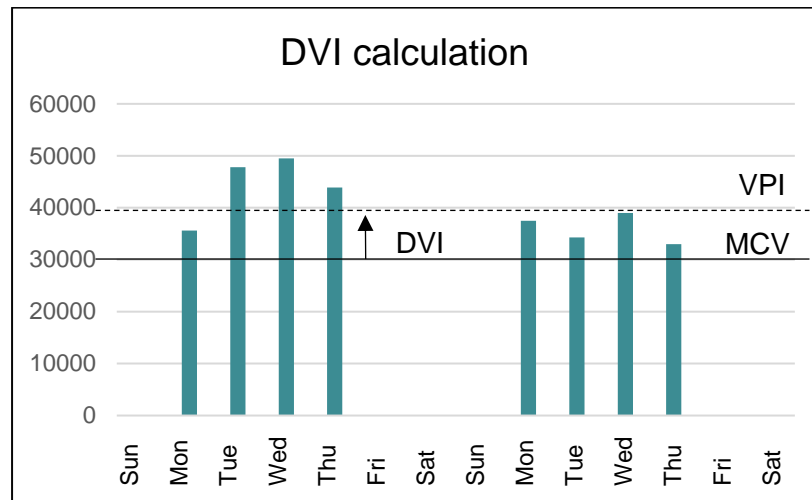
24 The following graphic illustrates the method for calculating the volumes made available
25 during an interruption or DVI.

³⁵ The details of how VPI is determined are presented in Appendix 2.

³⁶ The proposed period for determining the peak is detailed in exhibit Gaz Métro-5, Document 12, section 2.3.4.

³⁷ The majority of interruptions are expected to occur between December and February. On the other hand, Énergir could interrupt customers in November, March, or even during other months of the year for operational reasons.

Figure 4



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

4.3. DESCRIPTION OF THE CONSIDERED PRELIMINARY OPTIONS

4 In the fall of 2015, Énergir conducted a consultation exercise with its Major Industries Sales
 5 customers. Five interruptible options were presented to customers at that time in order
 6 to test their popularity. Énergir's goal was to gather comments from its customers and their
 7 preferences with respect to the different offering profiles, and to set the final parameters of its
 8 interruptible option. The purpose of this approach was to ensure the interruptible option
 9 put in place would be one that customers would appreciate, and which would meet Énergir's
 10 profitability needs. The results of the consultation are presented in section 6.

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

- 1 - the administration of interruptible volumes is demanding; the credit granted for
2 interruptible volumes must take into account the greater operational complexity that
3 their management requires;
- 4 - the interruption reduces the transportation revenues generated by the interruptible
5 customer as well as the potential to resell surplus;
- 6 - Énergir aims to give all customers the benefit of the avoided cost resulting from the
7 presence of interruptible volumes. The distributor is seeking to reduce the cost of its
8 supply tools using the interruptible offering.

9 Consequently, Énergir estimates that the maximum credit granted should be about
10 \$7.50/m³, representing nearly 75% the cost of the alternative. The interruptible options were
11 calibrated so as to not exceed that credit in order to measure the customers' interest.³⁸

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

A. Seasonal options

Unlimited seasonal interruptible service – Option 1

- 15 - This option has been planned as a replacement for category A of the current interruptible
16 service.
- 17 - A **fixed credit** of \$6/m³ would apply to the DVI annually.
- 18 - The fixed credit would be applied to the customer in four payments: December, January,
19 February, and March.
- 20 - The distributor would be able to interrupt the customer based on the supply needs and
21 would set the maximum number of days needed each year, during the rate case.

22 For example, a customer with a DVI of 10,000 m³/day would have a fixed compensation of
23 \$60,000 (\$6/m³ x 10,000 m³) paid in four equal instalments. This compensation would remain the
24 same, regardless of the actual number of interruption days.

³⁸ The way the credits have been determined for each option is detailed in Appendix 3.

Unlimited seasonal interruptible service – Option 2

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

11 For example, a customer with a DVI of 10,000 m³/day would have a fixed compensation
12 of \$20,000 ($\$2/\text{m}^3 \times 10,000 \text{ m}^3$) paid in four equal instalments and a variable compensation
13 of \$2,500 ($\$0.25/\text{m}^3 \times 10,000 \text{ m}^3$) per day for each day of interruption. If that customer
14 were interrupted 20 days during the winter, its total compensation would be \$70,000,
15 i.e. \$20,000 of fixed compensation and \$50,000 of variable compensation
16 (20 days x \$2,500 = \$50,000).

Limited seasonal interruptible service – Option 3

- 17 - This option has been planned as a replacement for category B of the current interruptible
18 service.
- 19 - A **fixed credit** of \$1.50/m³ 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 maximum number of days of interruption will be set at 20.

23 For example, a customer with a DVI of 10,000 m³/day would have a fixed compensation of
24 \$15,000 ($\$1.50/\text{m}^3 \times 10,000 \text{ m}^3$) paid in four equal instalments. This compensation would
25 remain the same, regardless of the actual number of interruption days.

B. Peak options

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

Peak interruptible offer – Option 4

- 3 - A **variable credit** of \$4/m³ for every m³ interrupted would apply to the DVI.
- 4 - The distributor would be able to interrupt the customer for a maximum of five days. The
5 days of interruption could be consecutive.
- 6 - The quantities available may be limited. Énergir would select customers with the
7 largest DVI.

8 For example, a customer with a DVI of 10,000 m³/day would have \$40,000 compensation for one
9 day of interruption (1 day x 10,000 m³/day x \$4/m³), which would only be paid if an interruption
10 actually took place.

Peak interruptible offer – Option 5

- 11 - **Fixed and variable** interruption credits will be given to the customer.
- 12 - The variable credit will be given for each m³ interrupted during the year and applied to the
13 DVI. The variable credit will be \$2/m³.
- 14 - A fixed credit of \$0.50/m³ would apply to the DVI annually.
- 15 - The fixed credit will be applied to the customer in four payments: December, January,
16 February, and March.
- 17 - The distributor will be able to interrupt the customer for a maximum of 5 days. The days
18 of interruption may be consecutive.
- 19 - The quantities available may be limited. Énergir would select customers with the
20 largest DVI.

21 For example, a customer with a DVI of 10,000 m³/day would have a fixed compensation of \$5,000
22 (\$0.50/m³ x 10,000 m³) paid in four equal instalments and a variable compensation of
23 \$20,000 (\$2/m³ x 10,000 m³) per day for each day of interruption. If that customer were
24 interrupted 5 days during the winter, its total compensation would be \$105,000, i.e.

1 \$5,000 of fixed compensation and \$100,000 of variable compensation (5 days x \$20,000
2 = \$100,000).

C. Terms of the interruptible offering

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

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

12 These terms are detailed in section 7.2.1.

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

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

17 To assess the supply impact of the planned interruptible options, the basic
18 demand expected for 2018 and produced in the 2016-2019³⁹ supply plan have
19 been used. This choice is justified by the fact that in 2018, the supply structure will be
20 moved to Dawn, except for 85,000 GJ of FLTH transportation required under the
21 Agreement.⁴⁰

³⁹ 2016 Rate case, R-3879-2014, B-0655, Engagement # 1, Gaz Métro-115, Document 12.

⁴⁰ Note that these capacities no longer need to be maintained, effective January 1, 2021.

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

- 3 - The impact of redesigning interruptible service of 264 10³m³/day (10,000 GJ/day)⁴¹ is
4 replaced by a transportation tool to be contracted, presented in the “Purchase (sale) of
5 tools” line in Table 4. This requested tool is made up by primary transportation between
6 Dawn and GMIT EDA (TCPL-FTSH between Parkway and GMIT EDA and
7 Union Gas-M12 between Dawn and Parkway), justifying the \$2.8 million difference in
8 transportation and load-balancing costs.

9 Additionally, the daily volume for extreme winter is calculated based on the winter of
10 2014-2015 rather than the winter of 2013-2014.

11 The table below compares the adjusted 2018 plan to the 2018 plan of 2016 Rate case:⁴²

⁴² 2016 rate case, R-3879-2014, B-0655, Engagement # 1, Gaz Métro-115, Document 12, p. 3.

Table 3 – 2018 Supply Plan

	RC-2016 Engagement 1 (1)	RC-2016 Adjusted (2)	Variation (2) vs. (1) (3)
Supply needs (10³m³/day)			
Peak day	36,476	36,476	0
Extreme winter	34,598	35,715	1,116
Supply required (= maximum)	36,476	36,476	0
Supply sources (10³m³/day)			
Primary and secondary FTLH	2,243	2,243	0
Transport by exchange (EMP-GMIT)	24	24	0
Customer and biogas transport	1,058	1,058	0
FTLH (Dawn – GMIT EDA)	2,903	2,903	0
Transport by exchange (Dawn – GMIT EDA)	2,164	2,164	0
FTSH (Parkway – GMIT EDA)	13,174	13,174	0
STS	5,705	5,705	0
PDL	1,203	1,203	0
Saint-Flavien	1,524	1,524	0
LSR Plant	5,764	5,764	0
GM LNG state-of-the-art tool	450	450	0
Subtotal	36,213	36,213	0
Impact of re-engineering interruptible service	264	0	-264
Total supply before purchase/(sale)	36,477	36,213	-264
Purchase (sale) of tools	0	264	264
Total supply	36,477	36,477	0
Transportation and load-balancing costs (\$000)	359,880	362,673	2,793

5.1. BASELINE SCENARIO: ALL CUSTOMERS ON CONTINUOUS SERVICE

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

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 R-3879-2014, B-444, Gaz Métro-103, Document 4.
7 Unlike the usual approach, which only takes into account
8 data from continuous service customers, the regression is applied to
9 data from all customers. The observed volumes of interruptible service
10 customers are considered for days without interruptions. However, for days
11 during which there has been an interruption, the volumes that the customers
12 would have consumed had they not been interrupted are unknown. First, these missing
13 volumes have been estimated for each customer using the methodology presented in
14 Appendix 2. The volumes thereby estimated were then compared to the consumed
15 volumes of make-up gas for offsetting an interruption, if applicable. The greater of the two
16 was chosen to estimate the withdrawals that the customer would have made if it had not
17 been interrupted.

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

Table 4
Baseline supply plan: “all customers on ongoing service”

	RC-2016 Engagement 1 (1)	All customers treated as continuous (2)	Variation (2) vs. (1) (3)
Supply needs (10³m³/day)			
Peak day	36,476	39,075	2,599
Extreme winter	35,715	36,826	1,111
Supply required (= maximum)	36,476	39,075	2,599
Supply sources (10³m³/day)			
Total supply before purchase/(sale)	36,213	36,213	0
Purchase (sale) of tools	264	2,862	2,598
Total supply	36,477	39,075	2,598
Transportation and load-balancing costs (\$000)	362,673	390,181	27,508

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

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

5.2. COMBINED SEASONAL AND PEAK INTERRUPTIBLE SERVICES

14 In the baseline plan that treats all customers as being on continuous service, the additional
15 supply needs have been met through purchases of transportation tools on an annual

1 basis. In order to maximize the use of the available tools and to set up tools that
2 make it possible to meet low-occurrence needs, the purchases of transportation tools
3 beyond extreme winter needs may be reduced in return for a peak interruptible
4 offering. Thus, the difference between the needs of peak days and those of extreme
5 winter represents the potential daily volume for peak interruptible service. Above that
6 volume, tools would be required in order to meet extreme winter needs. As peak
7 day needs are 39,075 10³m³/day and extreme winter needs are 36,826 10³m³/day,
8 the potential daily volume for a peak interruptible offering would be about
9 2,249 10³m³.

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

16 Thus, in order to assess the impact on the supply plan's costs of introducing limited and
17 unlimited peak and seasonal interruptible options, Énergir determined, by trial and
18 error, a possible combination of interruptible volumes for the three offerings in a way
19 that maximizes the use of the supply tools. This combination of volumes makes it possible to
20 generate a balance between peak day needs and extreme winter needs. To achieve this, the
21 following assumptions have been retained:

- 22 - Among customers currently on interruptible and continuous services, customers
23 have been identified by the Major Industries Sales team that may be
24 interested in a peak interruptible offering. Those customers must possess
25 a reliable alternative energy source or be able to partially or totally cease
26 production for five consecutive days. Interruption volumes are also
27 estimated for those customers. In order to establish a combination of
28 interruptible daily volumes, customers have been randomly selected from
29 among the customers potentially interested in the peak offering.

- 1 - All customers currently on Category A interruptible service are considered to be on the
 2 unlimited seasonal interruptible service (80 days), except for those chosen for the peak
 3 interruptible service.
- 4 - All customers currently on Category B interruptible service are considered to be on the
 5 20-day limited seasonal interruptible service, except for those chosen for the peak
 6 interruptible service.
- 7 - To perform the simulation according to plan, peak interruptible service interruptions
 8 are considered after the use of the LSR plant. The interruptions of unlimited
 9 and limited seasonal services remain applicable before the use of the LSR plant,
 10 which is not used to meet the demand of those services if the maximum number
 11 of days of interruption has not been met.

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

Table 5
Combination of volumes to interruptible services

		10 ³ m ³ /day (1)	GJ/day (2)	Proportion (3)
1	Unlimited seasonal service	447	16,948	15
2	Limited seasonal service	513	19,429	17%
3	Peak service	2,060	78,046	68%
4	Total	3,020	114,423	100%

14 The interruptible daily volume on the peak service is 2,060 10³m³/day. It makes up
 15 almost the entire gap between peak day needs and extreme winter needs, estimated at
 16 2,249 10³m³/day in the baseline plan (all customers treated as continuous) In total,
 17 the interruptible daily volumes are equal to 3,020 10³m³/day for the three options together.

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

Table 6
2018 Supply Plan
based on the selected combination of interruptible volumes

	All customers treated as continuous (1)	Seasonal and peak interruptible (2)	Variation (2) vs. (1) (3)
Supply needs (10³m³/day)			
Peak day	39,075	36,386	-2,689
Extreme winter	36,826	36,332	-494
Supply required (= maximum)	39,075	36,386	-2,689
Supply sources (10³m³/day)			
Total supply before purchase/(sale)	36,213	36,213	0
Purchase (sale) of tools	2,862	174	-2,687
Total supply	39,075	36,388	-2,687
Transportation and load-balancing costs (\$000)	390,181	361,748	-28,433

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

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

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

1 Appendix 5 presents the interruptions resulting from the supply structure, considering
2 customers on the seasonal and peak interruptible service. The maximum of 20 days
3 of interruption on the limited seasonal interruptible service is observed both in cold
4 and extreme winter situations. Peak interruptible service interruptions are observed
5 only in extreme winter situations. These interruptions are triggered from the moment when the
6 inventory at the LSR plant is no longer sufficient to serve customers on that service. In that
7 situation, the peak interruptible service is not used to meet peak demand, as peak-day climate
8 conditions are not observed during extreme winter. Rather, it is used to meet the need to get
9 through extreme winter.

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

6. CONSULTATION WITH MAJOR INDUSTRIES SALES CUSTOMERS

6.1. DESCRIPTION OF THE CONSULTATION PROCESS

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

18 Customers who are members of the Industrial Gas Users Association (IGUA) were first invited to
19 a meeting in June 2015. During that meeting, the outlines of a
20 potential new interruptible option were presented, followed by an informal discussion
21 on the draft that was being developed. In total, eight customers, plus a representative
22 of IGUA, took part in the meeting.

23 Major Industries Sales customers were then consulted during the month of September. Meetings
24 took place in Montréal, Boucherville, Laval, Québec, and Sherbrooke. All large customers,
25 including customers currently on a continuous service rate, were invited. Overall, 154 customers
26 were invited to these meetings, and 63 of them took part. All customers that participated in the

1 meetings had previously received a custom simulator that presented the results of
2 the calculation of their VPI parameter. Those customers could thereby determine the
3 value of the DVI that would be assigned to them when they set their required continuous
4 service volume (MCV). Customers could also determine the value of the credits that
5 they would receive under each possible interruptible option. At the end of each
6 consultation, the customers were invited to share their comments with Énergir about the different
7 terms of the options submitted for approval through an interest form. The interest form and
8 simulator are presented in Appendix 6. In total, 52 customers sent Énergir a completed interest
9 form. Of those customers, 26 were classified as being in the institutional sector, 11 in
10 manufacturing industry, and 15 in heavy industry. More than half the respondents (65%) are
11 subject to the interruptible rate or have a combined rate.

6.2. PRIMARY RESULTS OF THE CONSULTATION

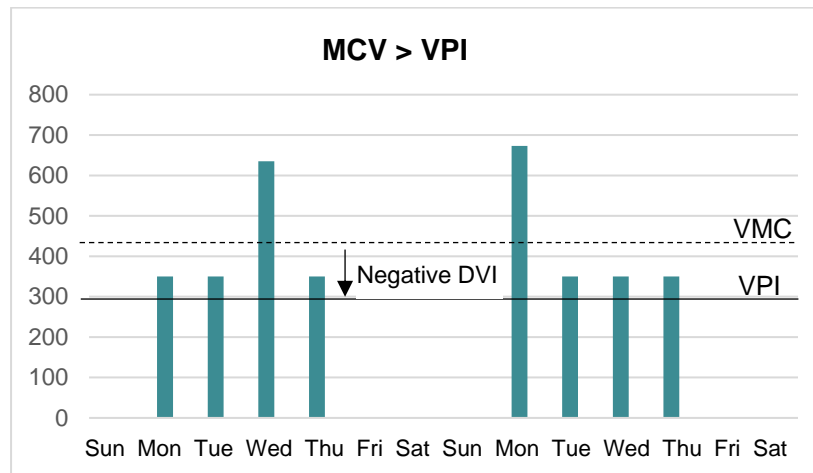
12 The section below summarizes the results of the consultation with Major Industries Sales
13 customers that was held this fall.

6.2.1. MCV AND DVI

14 Customers were first invited to determine the portion of their consumption that they
15 could not interrupt (MCV). Eight customers (15%) set an MCV equal to the VPI sent to
16 them by Énergir. This means that they do not plan to make any volume available for
17 interruption. Eighteen (18) customers (35%) believed that they do not need an MCV, which
18 means that they might, during a day of interruption, make all of the volume they would
19 normally consume available. Among the other 26 customers (50%), the DVI represented
20 an average of 25% of their peak estimated by VPI.

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

Figure 5



1 Based on the offers presented, these customers would have no incentive to limit their peak
 2 anymore. They asked Énergir 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
 8 expressing a preference. Thirty seven out of 52 customers, or 71% of the
 9 respondents, selected one of the two peak interruptible options as their first choice.
 10 The vast majority of customers, i.e. 33, believe that the peak offering - Option 4, which
 11 gives 100% variable compensation at \$4.00/m³, was the most attractive. Customers
 12 said they enjoyed it for its appealing overall compensation and its fewer days of
 13 interruption. However, some customers said that they would rather have fixed
 14 compensation in order to bear the cost of maintaining their alternative source equipment.
 15 Nonetheless, other customers said that fixed compensation would not be a significant
 16 factor in their decision.

1 The peak offering – Option 5 is the second most popular option. It was preferred
2 by 5 customers as their first choice and 27 as their second. On the other hand,
3 though suitable for some, the variable compensation was occasionally deemed
4 too low, particularly when compared with the Peak offering – Option 4. The fixed
5 compensation elicited various comments. Some found it to be appropriate, while others
6 considered it too low.

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

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

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

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

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

1 energy source. Furthermore, some customers said that they simply could not
2 interrupt service.

6.2.3. NOTICE OF EXIT

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

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

6.2.4. UNAUTHORIZED WITHDRAWALS

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

23 A couple of them stated that unauthorized withdrawals could be essential in an
24 emergency. Some customers observed that a single day of unauthorized withdrawals
25 could cancel out an entire season of savings from the interruptible offering.

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

6.2.5. FEARS AND RISKS

3 Some customers, with an irregular consumption profile and a low load factor,
4 are sensitive to the contractual conditions of new interruptible offerings. Customers
5 subject to rate D₅, which have a low LF, said that they were worried about the
6 end of interruptible service as we know it, because they would probably
7 experience rate increases from continuous service.

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

14 Some customers have suggested that the value of the credit should be determined, not
15 based on the transportation alternative for Énergir, but rather based on the price of
16 alternative energy for the customer, i.e. based on the cost of fuel oil.

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

7. INTERRUPTIBLE OPTIONS CHOSEN

7.1. ÉNERGIR'S REFLECTIONS ON THE RESULTS OF THE CONSULTATION

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

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

5 The peak interruptible offering – Option 4 – was welcome by almost everyone, except for some
6 customers who need a fixed credit. That offering, which combines few days of interruption
7 and potentially high variable compensation, should therefore be offered to customers.
8 In order to increase its appeal, and not have too many offers in the CST, Énergir proposes
9 to add a small fixed compensation to this option. However, the need for this type of
10 offering may be limited, as described in section 5.2, and Énergir plans to restrict the
11 quantities offered for that service.

12 Although the seasonal option generated less interest from customers, Énergir believes
13 that such an offering should be preserved. Despite the other options presented, there
14 are several customers for whom this offer remains interesting. Additionally, in the event that the
15 peak interruptible offering reaches its limit, Énergir believes that at least one interruptible offering
16 should be available. Due to having more days of interruption, this offering is still useful
17 to Énergir in order to reduce its supply needs in winter.

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

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

- 1 - Lowering the cost of unauthorized withdrawals: Not only should the cost of unauthorized
2 withdrawals be prohibitive, it should also be higher than the maximum variable
3 compensation offered. For example, Énergir may have to interrupt a peak-option customer
4 to offset another customer's unauthorized withdrawal. Énergir has therefore chosen to
5 retain the \$5/m³ cost for prohibited transportation withdrawals.
- 6 - Compensation based on alternative energy: Énergir is planning to purchase its supply
7 tools in advance. The alternative cost for Énergir is therefore not the customer's alternative
8 energy cost, but rather that of the transportation tool to be contracted in the long term.
- 9 - Updating the granted credits: Énergir plans to update the granted credits in the event that
10 the cost of the alternative tool is to significantly change.
- 11 - Combining interruptible services: Énergir intends to study the possibility of offering
12 a combination of the different interruptible offerings to customers, but this analysis has not
13 yet been done. However, this possibility has no impact on the type of options and services
14 chosen and proposed in this evidence.

7.2. DESCRIPTION OF THE OPTIONS CHOSEN

15 Based on the cost analysis of the supply tools that constitute alternatives to interruptible
16 volumes and based on the interest shown by customers for the various options,
17 two interruptible offerings were selected by Énergir.

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

25 Also, although the unlimited seasonal options generated little interest in the current context,
26 Énergir believes that maintaining such an option is necessary in the long term.

27 Énergir believes that the interest shown by customers for a peak or seasonal interruptible option
28 would make it possible to free up about 60,000 GJ per day of interruption, 96% of it

1 from the peak option, as shown in Table 7. The proposed interruptible options are described as
2 follows:

Peak interruptible option

- 3 - A variable credit of \$4/m³ for every m³ interrupted would apply to the DVI.
- 4 - A fixed credit of \$0.25/m³ would apply to the DVI annually.
- 5 - The distributor would be able to interrupt the customer for a maximum of 5 days. The days
6 of interruption could be consecutive.
- 7 - The quantities available could be limited. Énergir would select customers with
8 the largest DVI.
- 9 - The fixed credit would be applied to the customer in four payments: December, January,
10 February, and March.

Unlimited seasonal interruptible option

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

7.2.1. TERMS APPLICABLE TO INTERRUPTIBLE OFFERINGS

18 The following terms, which would apply to all of the planned interruptible options, were
19 also presented during the customer consultations.

20 **Access threshold:** In order to sign up for interruptible service, the customer should be
21 able to provide a daily interruptible volume (DVI) of at least 10,000 m³ per day. This access
22 threshold would be necessary to enable an effective discounting of the peak tools.
23 Furthermore, most customers who showed interest during the consultation exercise would
24 meet this threshold. Additionally, the customers could sign up for interruptible service
25 regardless of their distribution rate.

1 **Notice of exit:** In order to exit from interruptible service, the customer should provide at
2 least three years' notice, before March 1. The customer may then exit the service on
3 November 1 of the third year.

4 This three-year notice is necessary, because the interruptible offering is calibrated to
5 replace the FTSH transportation tools. As the FTSH transportation add-on time is three
6 years, this notice period must be required from the customer. Otherwise, Énergir might
7 find itself in a situation where transportation tools at potentially a higher cost than FTSH
8 transportation would need to be purchased, which eliminates the advantages for the
9 distributor of offering the interruptible rate.

10 Énergir could, however, allow customers to withdraw sooner than the three-year period if
11 the daily interruptible volume (DVI) is no longer required for Énergir or if the DVI could be
12 compensated by the DVI of another customer.

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

19 Énergir believes that this time period is necessary to have access to surplus transportation
20 capacity, which would be made available to continuous service customers, and to
21 be able to take into account the interruptible volumes when establishing its
22 supply plan for the following year.

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

27 **Interruption order:** Unlike the current offering, the distributor could interrupt the
28 customer based on supply needs, without a predetermined order. Under the offering
29 currently in place (article 15.4.6 of the CST), Énergir must grant service

1 priority to interruptible customers in ascending order of tiers, and to the extent
2 possible, within each tier, in descending order of price. However, in order to follow
3 the cost logic, Énergir believes that it would be preferable for the interrupted
4 customers to be selected based on the volumes required.

5 **Transportation service:** Customers should use Énergir's transportation service as they
6 do currently.

7 **MUGI accessibility:** The provisions for make-up gas delivery to offset an
8 interruption (MUGI) would be the same as they are currently. However,
9 because they would be no prerequisites regarding the customer's distribution rate
10 in order to sign up for the interruptible offering (currently, customers must be subject
11 to the distribution service D₅ in order to access make-up gas), then the applicable
12 distribution rate for MUGI would be that in force on the regular contract. For example, a
13 customer on rate D₄ opting for the interruptible offering, could use the MUGI during
14 an interruption for the portion of its volumes that would be interrupted. The volume
15 consumed in MUGI would then be billed in distribution at the D₄ rate.

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

1 **Revising the calculation parameters:** Énergir proposes to grant participating customers
 2 the option to revise their MCVs upward when adding a charge, provided that the DVI
 3 resulting from the new MCV would be greater than or equal to the previous DVI.
 4 Additionally, when the customer's planned VPI over the next three years would be less
 5 than the initial MCV, Énergir would set the VPI to the value of the MCV.

7.3. IMPACT OF THE SELECTED OPTIONS ON THE SUPPLY PLAN

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

Table 7
Volumes to interruptible services –
Scenario after consulting with customers

		10³m³/day <i>(1)</i>	GJ/day <i>(2)</i>	Proportion <i>(3)</i>
1	Unlimited seasonal service	60	2,292	4%
2	Limited seasonal service			0%
3	Peak service	1,526	57,812	96%
4	Total	1,586	60,104	100%

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

Table 8
Supply Plan –
Scenario after consulting with customers

	RC-2016 Engagement 1 (1)	All customers treated as continuous (2)	Variation (2) vs. (1) (3)
Supply needs (10³m³/day)			
Peak day	39,075	37,064	-2,011
Extreme winter	36,826	37,016	190
Supply required (= maximum)	39,075	37,064	-2,011
Supply sources (10³m³/day)			
Total supply before purchase/(sale)	36,213	36,213	0
Purchase (sale) of tools	2,862	850	-2,011
Total supply	39,075	37,064	-2,011
Transportation and load-balancing costs (\$000)	390,181	368,930	-21,251

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

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

13 Appendix 8 presents the interruptions resulting from the supply structure following
 14 the customer consultation. The results show that peak interruptible service
 15 interruptions are only observed in extreme winter situations. These interruptions
 16 are triggered from the moment when the inventory at the LSR plant is no longer sufficient

1 to serve customers on that service. Similarly to the plan of the scenario assessed in section 5.2,
2 peak interruptible service is solicited to meet the need to get through extreme winter.

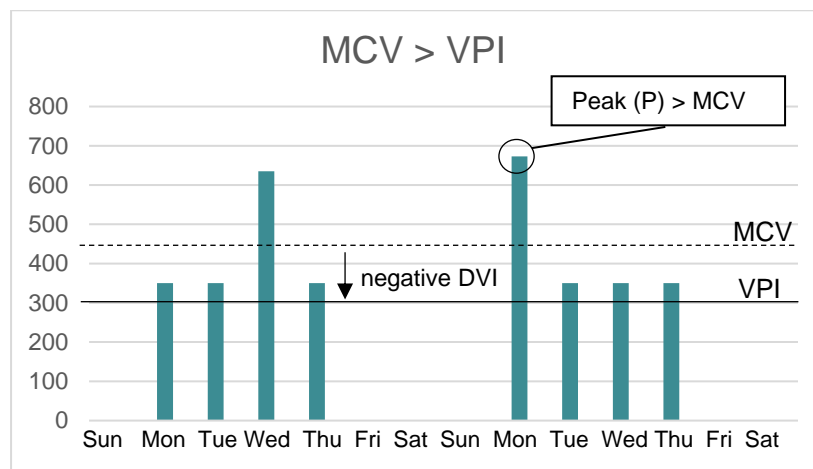
7.4. NEW SERVICE: RATE OPTIMIZATION

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

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

13 **Erreur ! Source du renvoi introuvable.** shows how a customer that cannot provide sufficient i
14 nterruptible volumes
15 can nonetheless have high peaks:

Figure 6



16 In order to handle this situation, Énergir propose to set up a rate *optimization* service for
17 load-balancing. A customer that joins this service would have to enter a maximum peak
18

1 (Pmax) in its contract for the winter rate period (December 1 to the last day of February).⁴³
2 The customer would not be able to exceed its Pmax during that period, unless it has obtained
3 authorization from the distributor. Should the customer exceed its Pmax or the limit authorized by
4 the distributor, it would be subject to penalties for unauthorized withdrawal by an interruptible
5 customer. In return, Énergir would use the lower of the Pmax and the customer's actual peak (P)
6 when calculating the load-balancing price rather than simply the actual peak (P).

7 Such an approach would enable the distributor to avoid incurring costs for the rate optimization
8 service customer on cold days. On the other hand, the distributor would be able
9 to use up its surpluses during the month of December to February by allowing customers to
10 exceed their Pmax (without affecting their rate peak). The terms regarding the authorization of
11 such breaches have not yet been defined, and must be the object of a subsequent evidence to
12 be submitted in the next case following the decision by the Régie. The specific terms and
13 conditions for this new service will be developed based on the decision to be rendered by the
14 Régie on the new interruptible service as a whole, the interest of customers who qualify for it, as
15 well as the availability of supply tools on the secondary market, again with a view to optimizing
16 supply costs.

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

7.4.1. COMPETITOR MAKE-UP GAS

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

⁴³ See exhibit Gaz Métro-5, Document 12 (section 2.3.4) for the definition of the peak period.

8. DECISION FOLLOW-UPS

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

- 5 - Consideration of OC proposals in order to eliminate the presence of *free-rider* interruptible
6 customers. (Section 8.1).
- 7 - Minimizing the impact of interruptible customer migrations to continuous service
8 on continuous service customers. (Section 8.2).
- 9 - Functionalizing income for unauthorized withdrawals and caps between
10 different services. (Section 8.3).

8.1. CONSIDERING THE “OPTION CONSOMMATEURS” PROPOSALS

11 In the 2013 Rate Case, Énergir proposed changes to the CST in order to firm up
12 the conditions of interruptible service. Among the changes proposed by Énergir and adopted
13 by the Régie de l'énergie in decision D-2012-158, the penalty for unauthorized withdrawals
14 was increased taking the price of fuel oil No. 6 delivered in Montréal into account.

15 OC was of the opinion that the increase proposed by Énergir was not severe enough. In fact, the
16 proposed penalty was not sufficient, according to the proposer, to limit the behaviour of
17 free-rider interruptible customers who plan to use natural gas despite interruption notices.
18 OC proposed different possible terms that could be applied to the bill of the interruptible
19 service customers, in the event of unauthorized withdrawals.

20 *“[100] OC proposes to make the rules surrounding interruptions even more prohibitive than what
21 [Énergir] has proposed, and suggests that the measures that will be put in place draw inspiration
22 from the terms enacted by the Ontario distributor Enbridge. In particular, the proposer suggests
23 that the Régie considers adding the following penalties, in addition to those proposed by [Énergir]:*

- 24 • *that interruptible customers which perform unauthorized withdrawals lose their
25 status as interruptible customers;*
- 26 • *that interruptible customers which perform unauthorized withdrawals lose the rate
27 discount granted in winter;*
- 28 • *that the penalties be particularly high for customers that perform more than one
29 unauthorized withdrawal per year;*

- 1 • *that the interruptible rate be accessible only to customers that can demonstrate the*
 2 *ability to accept interruption when they receive an interruption notice [reference to*
 3 *exhibit C-OC-0010, page 18].*

4 *[101] Alternatively, the proposer asks that the inclusion of these penalties be considered in the*
 5 *context of a more comprehensive revision of the interruptible rate and discussed in a work*
 6 *session.”⁴⁴ [translation]*

7 The Régie shared the opinion of OC, and asked Énergir to follow up in the Rate
 8 Vision case:

9 *“[120] The Régie believes that it is important that the interruptible rate come*
 10 *with rate conditions and terms that make it possible to ensure this equity across all*
 11 *customer categories. It believes that OC’s proposals could help solve this rate equity challenge.*
 12 *[...]*

13 *[121] Consequently, the Régie asks [Énergir] to take OC’s proposals into account, including*
 14 *the request regarding the assurance that the customer has the ability to interrupt, when*
 15 *presenting its rate vision.”⁴⁵ [translation]*

16 Énergir has considered OC’s proposals in creating the interruptible offerings. The proposed
 17 terms, combined with the current measures, are sufficient to limit the risk of free-rider
 18 customers, particularly the proposal of a very high penalty of \$5/m³ for prohibited
 19 withdrawals and the current measure that enables physical interruption of customers.

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

20 As mentioned in section 1, many customers have migrated from interruptible service
 21 to continuous service in recent years. In decision D-2014-201 relating to case
 22 R-3879-2014, the Régie asked Énergir to investigate the possibility of revising the CST
 23 to minimize the impact of interruptible customers migrating to continuous service
 24 mid-contract on other customers:

25 *“[202] For these reasons, the Régie asks the Distributor to investigate the possibility of reviewing*
 26 *the Conditions of Service and Tariff to minimize the impact of these migrations on continuous*
 27 *service customers. The Distributor must investigate this option and submit a proposal to the Régie*
 28 *in phase 3 of this case.”⁴⁶ [translation]*

⁴⁴ Decision D-2012-158, p 26.

⁴⁵ D-2012-158, p 31.

⁴⁶ D-2014-201, p 53.

1 In phase 3 of Rate Case R-3879-2014, Énergir proposed to reform the interruptible service
2 to review the provisions for returning to continuous service.⁴⁷ The Régie noted the
3 postponement in decision D-2015-181.

4 Interruptible customers' migrations may have medium- and long-term impacts on
5 transportation prices, as well as short-term impacts.

6 1. Medium- and long-term impacts

7 With customers migrating from interruptible service to continuous service, the required
8 transportation capacity increases to serve the winter demand. Additionally, in the event
9 that those customers return to interruptible service in the medium term, Énergir could
10 face unused transportation costs, which are borne by all customers.

11 2. Short-term impacts:

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

15 Énergir estimates that the entry and exit rules it is proposing in its new interruptible offering
16 help mitigate these risks.

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

26 In order to mitigate the short-term risks, Énergir proposes that a customer wishing to exit
27 interruptible service to return to continuous service be unable to do so unless Énergir possesses
28 the necessary transportation capacity to meet the customer's demand, or unless the customer's

⁴⁷ R-3879-2014, B-0512, Gaz Métro-112, Document 2, p.16.

1 interruptible volume can be replaced by another customer wishing to transfer its consumption
2 to interruptible service, in whole or part. As previously indicated, Énergir therefore proposes
3 setting a notice of exit for the three-year interruptible service (before March 1 of the first
4 year for an entry into force on November 1 of the fourth year). A customer wishing to
5 leave the interruptible service before the end of the notice period may only do so if:

- 6 - another customer expresses its desire for additional interruptible capacity; or
- 7 - Énergir has surplus transportation capacity or can acquire such capacity on the
8 primary market.

9 Thus, Énergir believes it is not necessary to add additional rules to those already proposed
10 in the new interruptible offering with respect to the migration of customers between
11 interruptible and continuous services.

8.3. FUNCTIONALIZING INCOME FOR UNAUTHORIZED WITHDRAWALS AND CAPS

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

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

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

26 For Énergir's continuous service customers, the analysis of cost causation presented in
27 exhibit Gaz Métro-5, Document 12, has demonstrated that the supply plan makes it
28 possible to fully address the peak needs and potential extreme winter demand. Supply
29 costs therefore include, once rates have been determined, all costs in order to meet
30

1 all the needs of continuous service customers based on the peak demand forecast
2 or extreme winter forecast.

3 The penalties for caps (article 15.3.2.5) and unauthorized withdrawals (article 15.3.2.6) set
4 out in distribution rates D_3 and D_4 have no causal link to the supply costs. These are
5 rate concepts related to the distribution service. Primarily, these rate factors offset
6 the fact that the distribution rate recovers the costs based on the volumes consumed
7 and not based on the capacity required by the customer. Penalty income for
8 caps and unauthorized withdrawals in distribution are therefore intended to recover
9 distribution-related capacity costs which are not included in the customer's subscribed volume
10 (for example, when the customer has a profile with a LF less than 100%). This income must
11 therefore be functionalized in the distribution service.

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

19 In the supply plan, tools are deemed necessary to ensure the secure
20 supplying of the continuous service customers. Currently, no supply tool is
21 being purchased in advance for category A interruptible customers and for the
22 20 or 30 days of interruption of category B customers. During high-demand days, customers
23 who experience service interruptions cannot consume above their continuous service
24 portion or particular deliveries; if they do, this may force the distributor to purchase
25 additional tools at a very high cost. Unauthorized withdrawal clauses specific to supply
26 costs for these customers are required and set out in the interruptible service (D_5) if
27 a customer does not comply with the notice of interruption. Similarly, based on the proposed
28 interruptible offering, no supply tool is to be purchased in advance for consumption above
29 customers' MCV. Should the notice of interruption not be complied with, a penalty of $\$5/m^3$
30 of unauthorized withdrawals will apply. These penalties, both in the current interruptible offering
31 and in the proposed offering, billed above the regular rate, should be functionalized in the

1 load-balancing service because they make it possible to offset the costs incurred, if applicable,
2 by the distributor in its supply tools.

9. RATE IMPACT

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

8 According to the calculations in section 7.3, the selected options make it possible to reduce the
9 cost of the supply tools by \$21.3 million relative to supplying all customers with continuous service.
10 The cost of the credits offered must be less than the cost reductions generated by the new
11 interruptible offering in the supply plan. In addition to assessing the impact on supply
12 costs of the proposed interruptible offerings in warm, normal, cold, and extreme
13 winter scenarios, Énergir considered a potential maximum cost scenario (“max”). The
14 maximum cost scenario is a scenario where Énergir would need to request all potential
15 interruption days for interruptible services. Given the maximum number of days for
16 each of the service options and the DVIs considered in the analyses following the consultation,
17 it would be impossible for the cost of the interruptible offerings to exceed the
18 maximum-cost scenario. Table 9 details the costs of the options chosen for five different
19 scenarios, including the maximum potential cost scenario.⁴⁸

⁴⁸ Assumptions used: Five days of interruptions for the peak interruptible option, 90 days of interruptions for the unlimited seasonal interruptible option.

Table 9
Cost of interruptible options chosen

DVI estimate	DVI (10³m³/day)				
Unlimited seasonal option	141				
Peak options	1,661				
Total	1,802				
Interrupted volumes	Hot (10³m³)	Normal (10³m³)	Cold (10³m³)	Extreme (10³m³)	Max. (10³m³)
Unlimited seasonal option	0	1,054	3,633	3,873	12,727
Peak options	0	0	0	2,846	8,304
Total	0	1,054	3,633	6,720	21,030
Costs	Hot (\$000)	Normal (\$000)	Cold (\$000)	Extreme (\$000)	Max. (\$000)
Unlimited seasonal option	283	546	1,191	1,251	3,465
Peak option	415	415	415	11,799	33,630
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
 2 in the supply scenarios assessed, from a warm winter to an extreme winter.
 3 However, if all of the interruption days were necessary, as shown in the “max” scenario,
 4 then the cost would substantially exceed the savings. In that case, the costs would
 5 exceed the savings by about 75%.

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

13 Based on a normal winter, in the evaluated scenarios, the customers gain significant
 14 savings. To illustrate the impact of the credits, Énergir has included the load-balancing

1 income proposed in section 8.3 of exhibit Gaz Métro-5, Document 1, and added the costs of normal
2 winter credits:

Table 10

Rate	LB revenue before credits ¹ (based on LF) (\$000)	LB revenue after credits (based on LF) (\$000)	Differential (\$000)	Differential (%)
	(1)	(2)	(3) = (2) - (1)	(4)
D₁ (<75 Km³/year)	51,402	51,774	372	0.72
D₁ (≥75 Km³/year)	32,788	33,026	238	0.73
D_{1RT}	11,090	11,170	80	0.72
D₃	1,831	1,845	14	0.75
D₄	20,640	20,790	150	0.73
D₅	14,363	14,467	104	0.73
Total	132,115	133,072	958	0.73

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

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

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

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

Table 11

Rate	LF before optimization (%)	LF after optimization (%)	Differential (%)
	(1)	(2)	(3)
D₁ (<75 Km³/year)	29.6	29.6	0.0
D₁ (≥75 Km³/year)	32.2	32.2	0.0
D_{1RT}	41.5	41.5	0.0
D₃	66.8	66.8	0.0
D₄	69.1	69.1	0.0
D₅	33.9	39.8	6.0
Total	43.6	44.3	0.6

- 4 By improving the overall LF, the load-balancing rate for recovering the same total amount from
 5 customers must be increased. Table 12 shows the income recovered for each rate based on
 6 those new LFs.

Table 12

Rate	LB revenue before optimization ¹ (based on LF) (\$000)	LB revenue after optimization (based on LF) (\$000)	Differential (\$000)	Differential (%)
	(1)	(2)	(3) = (2)-(1)	(4)
D₁ (<75 Km³/year)	51,774	53,084	1,310	2.53
D₁ (≥75 Km³/year)	33,026	33,861	836	2.53
D_{1RT}	11,170	11,453	283	2.53
D₃	1,845	1,891	47	2.53
D₄	20,790	21,316	526	2.53
D₅	14,467	11,467	-3,001	-20.74
Total	133,072	133,072	0	0.00

¹Source: Table 10, column 2.

1 The rate optimization option enables customers who use it to limit their peak used
 2 when calculating load-balancing, which improves their LF and reduces their costs. The benefit
 3 of this offering comes from the fact that Énergir will not contract tools to serve consumption
 4 above P_{max}, and that the distributor may authorize excesses of P_{max} on days
 5 when it finds itself with a surplus of tools. This will generate surplus transportation
 6 and distribution income without increasing supply costs. The distributor's
 7 overall LF will consequently be increased, which at year's end will reduce the load-balancing
 8 costs allocated to customers.

9 Additionally, despite these rate optimizations, the load-balancing costs recovered from
 10 customers currently subject to rate D₅ would be greater than what is recovered with current
 11 rates:

Table 13

Rate	Proposed LB revenue (\$000)	RC-2015 LB revenue (\$000)	Differential (\$000)
	(1)	(2)	(3)
D ₁ (<75 Km ³ /year)	53,084	55,611	-2,442
D ₁ (≥75 Km ³ /year)	33,861	37,761	-3,839
D _{1RT}	11,453	12,772	-1,289
D ₃	1,891	1,852	54
D ₄	21,316	19,346	2,150
D ₅	11,467	2,416	9,079
Total	133,072	129,758	3,713

1 Despite the interruptible customers having a much higher basic rate based on Énergir's
 2 proposals relative to that of the 2015 Rate Case, the potential credits that this customer
 3 base could receive if all of the interruption days were to come about might end up exceeding
 4 the rate increase for that customer base.

10. CHANGES REQUIRED TO THE CONDITIONS OF SERVICE AND TARIFF

5 In order to reflect the current document's proposals, several changes would be made to the CST.
 6 Those changes are presented in the sequential order of the articles.

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

9 11.3.1 APPLICATION

10 *For any customer that qualifies for ~~distribution~~interruptible service or eligible for the rate*
 11 *optimization service, ~~D₅-Interruptible~~ and that wishes to purchase from or supply to the distributor,*
 12 *from time to time, the natural gas it withdraws at its facilities, provided the minimum volume of*
 13 *make-up gas withdrawn during the contract period, at a single metering point, divided by the*
 14 *number of days in the contract period is 3,200 m³/day.*

1 A customer may use the make-up gas service for the following uses:

2 1° "Competitive Make-up Gas" service to temporarily withdraw a greater volume
3 of gas;

4 2° "Make-up Gas to Avoid an Interruption" service.

5 **11.3.2 RATE**

6 A customer who uses the distributor's "Make-up Gas" service is billed, as applicable, the price of
7 the supply of natural gas supplied from time to time to serve it for the quantity of make-up gas
8 delivered for its needs.

9 A customer who supplies its own natural gas, with or without transfer of ownership, is subject to
10 the provisions of Article 11.2.2.

11 A customer who uses the make-up gas service is billed, as applicable, the price of the transportation
12 provided from time to time by the distributor to serve it.

13 A customer who uses the "Competitive Make-up Gas" service is billed the price of load balancing
14 provided from time to time by the distributor to serve it. It is also billed the distribution price
15 corresponding to the difference between the overall price agreed in the contract and the price of
16 the services provided to serve it.

17 A customer who uses the "Make-up Gas to Avoid an Interruption" service is not billed for the load
18 balancing, but they will be billed for the Article 15 distribution price to which they are subject.

19 ~~A customer who uses the make-up gas service is subject to the provisions of Article 15.4, with the~~
20 ~~exception of Article 15.4.1 which is replaced by Article 11.3.1.~~

21 **11.3.3 TERMS AND CONDITIONS**

22 **11.3.3.1 Daily Contract Volume (DCV) (with or without transfer of ownership)**

23 The DCV for the make-up gas service is equal to the estimated average daily volume for the
24 period of the make-up gas deliveries.

25 A customer using the "Make-up Gas to Avoid an Interruption" service must agree to
26 deliver to, or contract from the distributor, on the scheduled interruption day, a DCV
27 equal to its load for that same day. If the consumption for the scheduled interruption
28 day is different than the agreed DCV, the customer's DCV will be equal to its load
29 on the scheduled interruption day.

30 On a scheduled interruption day, the customer using the "Competitive Make-up Gas" who
31 wishes to withdraw volumes of natural gas exceeding the agreed upon DCV for this
32 service must agree to deliver to, or contract from the distributor, during that day, an
33 additional DCV equal to its excess load. The provisions related to the excess
34 portion of consumption are identical to those governing the "Make-up Gas to
35 Avoid an Interruption" service.

36 The customer with rate optimization service and with "competitor make-up gas" service must
37 agree to deliver to the distributor for all days during the period from December 1 to February
38 28, a DCV equal to its consumption exceeding its maximum peak volume. If daily consumption

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

3 The provisions governing adjustments to make-up gas service DCVs are identical to
4 those governing natural gas supply service with or without transfer of ownership.

5 **11.3.3.5 Interruptions**

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

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

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

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

17 **13.2 Interruptible service**

18 **13.2.1 Application**

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

21 A customer whose interruptible daily volume recorded at a single measuring point is at least
22 10,000 m³/day may commit to one of the following options:

23 1. “Peak interruptible option” in order to offer a firm maximum of five interruption days
24 each year that may be consecutive;

25 2. “Seasonal interruptible option” in order to offer a firm maximum of XX interruption days
26 of each year.

27 To be eligible for this service, the customer must use the distributor’s transportation service.

28 **13.2.2 Rate**

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

31 For customers committed to a “peak interruptible option” and “seasonal interruptible option”
32 interruptible service contract, credits are applied. Those credits are based on the daily
33 interruptible volume.

13.2.2.1 Credit – “peak interruptible option”

For every m³ of daily interruptible volume:

- the fixed credit applied to the customer each year is \$0.25/m³ and will be returned in four payments: December, January, February, and March;
- for each day of interruption, the variable credit applied daily is \$4,000/m³.

The credits may be periodically adjusted subject to approval by the Régie de l'énergie.

13.2.2.2 Credit – “seasonal interruptible option”

For every m³ of daily interruptible volume:

- the fixed credit applied to the customer each year is \$2,000/ m³ and will be returned in four payments: December, January, February, and March;
- for each day of interruption, the variable credit applied daily is \$0.250/m³.

The credits may be periodically adjusted subject to approval by the Régie de l'énergie.

13.2.2.3 Unauthorized withdrawals

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

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

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

13.2.3 Calculating parameters

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

13.2.3.1 Average volume of the interruption period

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

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

13.2.3.2 Maximum continuous service volume

The maximum continuous service volume is the daily maximum withdrawal that the customer agrees not to exceed when it receives notice of interruption. The

1 maximum continuous service volume is set by the customer when it signs an interruptible
2 service contract.

3 The maximum continuous service volume cannot be less than the average volume of
4 the interruption period.

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

8 **13.2.3.3 Daily interruptible volume**

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

11 **13.2.4 Terms and conditions**

12 **13.2.4.1 Notice of entry**

13 A customer that wishes to:

- 14 - benefit from interruptible service; or
- 15 - modify its maximum continuous service volume so as to increase the daily
16 interruptible volume;

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

19 Notwithstanding whether or not the customer gives the prior notice required by this article,
20 the customer may not access the interruptible service or modify its maximum continuous
21 service volume unless the distributor agrees. Acceptance by the distributor depends on its
22 supply needs.

23 **13.2.4.2 Notice of exit**

24 A customer that wishes to:

- 25 - no longer benefit from interruptible service; or
- 26 - modify its maximum continuous service volume so as to reduce the
27 daily interruptible volume;

28 must inform the distributor of this in writing before March 1, and at least 36 months before
29 November 1.

30 Notwithstanding the foregoing paragraph, the customer may exit an interruptible
31 service contract or modify its maximum continuous service volume if the distributor
32 agrees. Acceptance by the distributor depends on its supply needs.

33 **13.2.4.3 Interruptions**

- 34 1. The customer must, until further notice, cease or, as the case may be, reduce its
35 natural gas withdrawals to the extent determined by the distributor, on the date
36 and time indicated on the distributor's notice of interruption. The distributor must

1 give such notice of interruption at least two hours before the start of the
2 interruption.

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

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

9 **13.3 Rate optimization service**

10 **13.3.1 Application**

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

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

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

17 **13.3.2 Rate**

18 For every m³ of volume withdrawn, the base price of the load-balancing service defined in
19 article 13.1.2.2 is calculated using the parameter P equal to the minimum between:

- 20 - the maximum daily load from November 1, XXXX to March 31, XXX, and;
- 21 - the maximum peak volume as defined under Article 13.3.3.1.

22 **13.3.2.1 Unauthorized withdrawals**

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

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

29 **13.3.3 Parameters**

30 **13.3.3.1 Maximum peak volume**

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

34 **13.3.4 Terms and conditions**

35 [...]

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

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

11. TRANSITIONAL MEASURES

7 Énergir proposes to end rate D₅ and replace it with the new interruptible offering in the
8 load-balancing service. If the Régie approves the new interruptible offering in the load-balancing
9 service and wants it to enter into effect immediately (therefore before it has made a decision
10 regarding the revision to the distribution rate structure that will be studied in phase 4),
11 Énergir proposes that the following transitional measures be applied:

- 12 - Rate D₅ would be maintained until the distribution rates are revised, in such a way that
13 it coexists, for a certain time, with the new interruptible offering in the load-balancing
14 service. In this way, certain customers may continue to enjoy the contractual rebates
15 that rate D₅ affords them, for which they signed a contract, until the new
16 distribution measures come into effect.
- 17 • However, once the new interruptible offering is in effect, only customers signed up
18 for rate D₅ as at November 30, 2020, could remain on that rate until their
19 contract expires. The other customers would be obliged to transfer to another
20 distribution rate when the new interruptible offering of the load-balancing
21 service comes into effect (their eligibility for the new interruptible offer could
22 be evaluated at the same time). This transitional measure would make it
23 possible to prevent customers from immediately migrating to rate D₅ in order
24 to benefit from the temporary situation. To be fair, it would also be necessary
25 to may terminate contract D₅ extensions concluded after November 30, 2020.
26 Consequently, Énergir proposes adding this transitional provision to the CST:

1 **“18.2.4 Expiry and extensions of interruptible distribution service contracts (D₅)**

2 This article will be applied following a decision rendered by the Régie de l'énergie regarding
3 phase 2B of file R-3867-2013 approving a new interruptible offering to come into effect.

4 Customers who have an interruptible distribution service contract (D₅) prior to November 30,
5 2020 will qualify for the terms and conditions of the interruptible rate until termination of
6 the contract.

7 Customers who have entered into or extended their interruptible distribution service
8 contract (D₅) after November 30, 2020 will be required to transfer their contract to another
9 distribution service for which they are eligible [...].”

- 10 - Articles 15.4.3.2 and 15.4.6 of the CST, related respectively to the billing of
11 deficient volumes and interruptions, would be abolished at the time when the new
12 interruptible offering in load-balancing comes into effect.
- 13 - For load-balancing, no transitional measures are planned.

12. CONCLUSION

14 Énergir has completely reviewed the interruptible offering. Changes have been
15 made to refocus the offering on its initial justification, which is to optimize supply
16 costs.

17 The analysis was produced on the premise that all customers would begin with continuous
18 service. The fact that some customers agree to interrupt their natural gas consumption
19 during colder periods may be considered an alternative to purchasing tools in
20 peak periods for continuous service customers. However, this has a cost in that the
21 interruptible customer base wants to be compensated for the volumes made available
22 during the interruption. Énergir has therefore sought to balance its offering
23 so that the compensation paid in exchange for interrupting volume is sufficient
24 to attract customers, while also being less than the cost of other supply tools
25 that would be contracted in the absence of interruptible volume.

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

4 Énergir has also developed a rate optimization service enabling customers without
5 access to peak and seasonal interruptible options to optimize their load-balancing
6 rates.

7 **Énergir asks the Régie to:**

- 8 • **approve recognition of the interruptible offering under load-balancing service only,**
9 **as well as the elimination of the interruptible rate for distribution service (D₅);**
- 10 • **approve the method for calculating daily interruptible volumes (DIVs), based on the**
11 **difference between the estimated volume of the interruption period (VPI) and the**
12 **maximum continuous service value (MCV), as described in Section 4.2.1;**
- 13 • **approve the new interruptible service (peak interruptible option and unlimited**
14 **seasonal interruptible option) and the applicable terms and conditions, as**
15 **described in Section 7.2;**
- 16 • **approve the creation of a new rate optimization service and allow the customers of**
17 **that new service access to CMUG, as described in Section 7.4;**
- 18 • **acknowledge and express satisfaction with the follow-up concerning the Option**
19 **consommateurs proposals presented in Section 8.1;**
- 20 • **acknowledge and express satisfaction with the follow-up on customer migration**
21 **between the interruptible and continuous services presented in Section 8.2;**
- 22 • **acknowledge and express satisfaction with the follow-up on the functionalization**
23 **of penalty revenues for unauthorized withdrawals and for peak shaving related to**
24 **continuous service presented in Section 8.3, and allow revenues that apply to**
25 **unauthorized withdrawals of interruptible services to be functionalized in the load-**
26 **balancing service;**

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- **approve the amendments to articles 11.3.1, 11.3.2, 11.3.3.1, the addition of articles 11.3.3.5, 13.2 and 13.3 and the deletion of article 15.4 in the CST as set out in Section 10;**
 - **approve the implementation of transitional measures described in Section 11, if the Régie wants the new interruptible offering of load-balancing service to enter into effect before deciding on the revision of the distribution rate structure in phase 4:**
 - **authorize the termination of D₅ contracts entered into or extended after November 30, 2020 before their expiry date (i.e. when the new interruptible service comes into effect);**
 - **[...];**
 - **approve the addition of a transitional provision to section 18 of the CST.**

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. Énergir 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)

Interruptible rate	Distribution revenue (\$000)	Load-balancing revenue (\$000)	Total (\$000)
	(1)	(2)	(3) = (1) – (2)
D_{5.5} Cat. A	2,722	319	3,042
D_{5.5} Cat. B	1,455	621	2,076
D_{5.6} Cat. A	1,267	(230)	1,037
D_{5.6} Cat. B	1,989	870	2,859
D_{5.7} Cat. A	1,466	135	1,601
D_{5.7} Cat. B	902	162	1,063
D_{5.8} Cat. A	299	535	834
D_{5.8} Cat. B	40	157	197
D_{5.9} Cat. A	1,283	(153)	1,130
D_{5.9} Cat. B	0	0	0
Total D₅	11,583	\$2,416	13,840

Source: R-3879-2014, B-0707, Gaz Métro-23, 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

1 each one of them. Additionally, because the required distribution revenue target would be the
 2 same, a different rate schedule would have been generated, probably lower for all rates. However,
 3 applying reasonable assumptions helps to obtain an approximation of the revenue that would
 4 have been generated if the interruptible customers had been subject to a continuous service rate
 5 and to give an estimate of the cost of the current interruptible offering. The data used for
 6 simulations is drawn from forecasts presented in the 2014/2015 Rate case.

Volumes and revenues expected for 2014/2015

Interruptible rate	Expected volumes (10 ³ m ³)	Distribution revenue (\$000)	Load-balancing revenue (\$000)	Average distribution revenue (\$/m ³)	Average load-balancing revenue (\$/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 D₁	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} Cat. A	76,925	2,722	319	0.04	0.00
D_{5.5} Cat. B	40,220	1,455	621	0.04	0.02
D_{5.6} Cat. A	44,296	1,267	(230)	0.03	-0.01
D_{5.6} Cat. B	62,916	1,989	870	0.03	0.01
D_{5.7} Cat. A	65,285	1,466	135	0.02	0.00
D_{5.7} Cat. B	34,454	902	162	0.03	0.00
D_{5.8} Cat. A	16,755	299	535	0.02	0.03
D_{5.8} Cat. B	1,155	40	157	0.03	0.07
D_{5.9} Cat. A	85,872	1,283	(153)	0.01	0.00
D_{5.9} Cat. B	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.

- 1 The evaluation of the cost of the interruptible offering comes from applying the average levels of
 2 rates D₃, D₄, and D₁ to the expected volumes of the interruptible customers (before interruption)
 3 at the time of the 2015 Rate Case. The revenues were estimated with the assumption that 15%
 4 of the interruptible service volumes would be subject to rate D₁, while 85% of them would be
 5 subject to rates D₃ or D₄ if the customers of that service had been unable to benefit from the
 6 preferential interruptible rate. In fact, given that the criteria that enable access to rates D₃ and D₄
 7 cannot be met by some of the current interruptible service customers, a number of them would
 8 be on rate D₁ if they had to migrate to continuous service.⁴⁹
- 9 The following table gives the estimated distribution revenues that interruptible service customers
 10 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)**

Interruptible rate	Expected volumes ¹ (10 ³ m ²)	D ₁ distribution revenue (\$000)	D ₃ , D ₄ distribution revenue (\$000)	Total (\$)
	(1)	(2)	(3)	(4) = (2) + (3)
D_{5.5} Cat. A	76,925	2,119	4,721	6,840
D_{5.5} Cat. B	40,220	1,108	2,468	3,576
D_{5.6} Cat. A	44,296	1,220	1,765	2,985
D_{5.6} Cat. B	62,916	1,733	2,507	4,239
D_{5.7} Cat. A	65,285	1,798	1,923	3,721
D_{5.7} Cat. B	34,454	949	1,015	1,964
D_{5.8} Cat. A	16,755	461	396	857
D_{5.8} Cat. B	1,155	32	27	59
D_{5.9} Cat. A	85,872	2,365	1,342	3,707
D_{5.9} Cat. B	0	0	0	
Total D₅	427,878	11,785	16,164	27,949

¹ The expected volumes are those before interruptions.

⁴⁹ 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

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

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

Interruptible rate	D ₁ load-balancing revenue (\$000)	D ₃ , D ₄ load-balancing revenue (\$000)	Total (\$000)
	(1)	(2)	(3) = (1) + (2)
D_{5.5} Cat. A	488	588	1,076
D_{5.5} Cat. B	255	308	563
D_{5.6} Cat. A	281	387	668
D_{5.6} Cat. B	399	550	949
D_{5.7} Cat. A	414	536	10,950
D_{5.7} Cat. B	218	283	501
D_{5.8} Cat. A	106	139	245
D_{5.8} Cat. B	7	10	17
D_{5.9} Cat. A	544	149	693
D_{5.9} Cat. B	0	0	0
Total D₅	2,712	2,949	5,661

From R-3879-2014, B-0707, Gaz Metro-23, Document 8, page 1

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

Cost of the current interruptible service

Interruptible rate	D and LB revenue from interruptible service (\$000)	D and LB revenue without interruptible service (\$000)	Differential (\$000)
	(1)	(2)	(3) = (2) – (1)
D_{5.5} Cat. A	3,042	7,916	4,874
D_{5.5} Cat. B	2,076	4,139	2,063
D_{5.6} Cat. A	1,037	3,653	2,616
D_{5.6} Cat. B	2,859	5,188	2,330
D_{5.7} Cat. A	1,601	4,671	3,070
D_{5.7} Cat. B	1,063	2,465	1,402
D_{5.8} Cat. A	834	1,102	268
D_{5.8} Cat. B	197	76	-121
D_{5.9} Cat. A	1,130	4,400	3,270
D_{5.9} Cat. B	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
- 2 \$19.8 million.

APPENDIX 2: RECONSTITUTING VOLUMES FOR CALCULATING VPI

1 One technical difficulty related to the VPI calculation arises from the fact that Énergir 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 Énergir 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:

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

13 where $C_{j(t-1)}$ = Estimated volume withdrawn on day d of the year (t-1)

14 $\text{Temperature}_{d(t-1)}$ = Temperature observed on day d of year t-1

15 β_0 = Constant

16 β_1 = Regression coefficient

17 The average VPI is then calculated by including the reconstructed volumes for
 18 the days during which there was an interruption in service in year (t-1). This approach
 19 has the benefit of correcting the bias that arises from the lack of data for days of
 20 interruption in year (t-1). However, it has the disadvantage that the coefficient β_1 estimated
 21 by linear regression is not statistically significant for all customers. In fact, for some
 22 customers whose volumes are not highly correlated with temperature, the null hypothesis
 23 cannot be ruled out when applying the Student test.⁵⁰ In such cases, the volumes that
 24 would have been consumed during days of interruption cannot be reconstructed by the

⁵⁰ 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 proposed approach. For those customers, only days without interruption are retained for
2 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, Énergir had to determine what
2 credits could be offered for each interruptible option. In this exercise, Énergir considered
3 the following criteria:

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

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

17 Énergir then developed two price offerings for this unlimited seasonal interruptible service in order
18 to gauge customers' interest in a fixed and variable credit structure:

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

1 For the limited seasonal interruptible service option, which is similar to the current interruptible
2 offering of category "B", Énergir had to assume that the maximum number of days of interruption
3 was less than that of the unlimited seasonal service option. In the unlimited seasonal interruptible
4 service offering, the maximum number of days may vary each year. In the past, for
5 some tiers, the maximum number of days for category A of interruptible service even exceeded
6 80 days. As the maximum number of days of interruption in limited seasonal interruptible
7 service is only 20 days, the credit offered should not exceed 25% of the unlimited
8 seasonal interruptible service credit. Using this relative valuation of 25%, only one fixed-credit
9 offering would be suitable for anticipating an interest on the part of customers. The fixed credit
10 offered for the consultation was therefore set at \$1.50/m³ (\$6/m³ x 25%).

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

20 Because some customers have equipment to maintain in order for them to offer Énergir
21 interruptible capacity, a second very-low-occurrence peak interruptible service
22 offering was designed for the consultation with customers, with a low fixed credit of
23 \$0.50/m³. To offset this guaranteed compensation base in this second very-low-occurrence
24 peak interruptible service offering, Énergir reduced the variable credit by 50% so as to
25 establish it to \$2/m³ (\$4/m³ x 50%).

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

APPENDIX 4: USAGE STATISTICS OF THE LSR PLANT AND THE PDL STORAGE SITE - 2018 PLAN BASED ON THE SELECTED COMBINED INTERRUPTIBLE VOLUMES

	All continuous customers			Interruptible, seasonal and peak		
	Normal (10 ³ m ³) (1)	Cold (10 ³ m ³) (2)	Extreme (10 ³ m ³) (3)	Normal (10 ³ m ³) (4)	Cold (10 ³ m ³) (5)	Extreme (10 ³ m ³) (6)
Use of the LSR plant						
December	0	3,517	0	2,304	15,737	2,220
January	0	1,296	6,651	1,351	12,889	38,180
February	0	0	0	0	1,563	164
March	0	0	0	0	0	0
Total withdrawal	0	4,813	6,651	3,655	32,522	40,564
No. of days of withdrawal	0	5	7	4	18	19
Max. withdrawal	0	1,313	1,557	1,232	3,794	4,600
LSR inventory level – QDA						
2017-11-30	50,481	50,481	50,481	50,481	50,481	50,481
2017-12-31	49,662	49,662	49,662	49,662	47,330	49,662
2018-01-31	48,844	45,327	48,844	46,540	31,756	46,625
2018-02-28	48,105	43,292	41,455	44,450	23,036	8,033
2018-03-31	47,287	42,274	40,637	43,632	29,816	15,885
Minimum inventory	47,287	42,474	40,637	43,632	18,524	8,033
Date	March 31	March 31	March 31	March 31	Feb. 13	Feb. 28
PDL use	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**

Interruptible, seasonal and peak			
	Normal (1)	Cold (2)	Extreme (3)
EXPECTED NUMBER OF INTERRUPTION DAYS			
Unlimited seasonal service			
Tier 1	11	41	45
Tier 2	13	41	48
Limited seasonal service			
Tier 1	10	20	20
Tier 2	10	20	20
Peak service			
Tier 1	0	0	2
Tier 2	0	0	2
Tier 3	0	0	2
Tier 4	0	0	2
Tier 5	0	0	2
INTERRUPTED VOLUMES (10³M³)			
Unlimited seasonal service	6,336	20,096	23,790
Limited seasonal service	6,366	13,411	13,459
Peak service	0	0	4,612
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 :						
- Préavis 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	(\$/an)
OFFRES SAISONNIÈRES						
1	Saisonnière illimitée Option 1 maximum fixé annuellement	de 3 à 56 (22 jours)	6,00 158,35	0,00 0,00	0 interruption 60 000,00 <i>ne varie pas en fonction du nombre de jours d'interruption</i>	
2	Saisonnière 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	Saisonnière limitée maximum 20 jours	de 3 à 20 (4 jours)	1,50 39,59	0,00 0,00	15 000,00 <i>ne varie pas en fonction du nombre de jours d'interruption</i>	
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)
Si l'offre de service interruptible sélectionnée au premier choix n'est pas disponible,		
Choix 2		Volume quotidien interruptible (VQI) (m ³ /jour)
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)

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

	All continuous customers			Scenario after consulting		
	Normal (10 ³ m ³) (1)	Cold (10 ³ m ³) (2)	Extreme (10 ³ m ³) (3)	Normal (10 ³ m ³) (4)	Cold (10 ³ m ³) (5)	Extreme (10 ³ m ³) (6)
Use of the LSR plant						
December	0	3,517	0	2,912	18,112	2,999
January	0	1,296	6,651	1,863	11,403	37,268
February	0	0	0	0	915	0
March	0	0	0	0	0	0
Total withdrawal	0	4,813	6,651	4,775	33,331	40,266
No. of days of withdrawal	0	5	7	6	19	22
Max. withdrawal	0	1,313	1,557	1,523	3,833	4,295
LSR inventory level – QDA						
2017-11-30	50,481	50,481	50,481	50,481	50,481	50,481
2017-12-31	49,662	49,662	49,662	49,662	46,760	49,662
2018-01-31	48,844	45,327	48,844	45,932	28,987	45,846
2018-02-28	48,105	43,292	41,455	43,330	22,350	7,936
2018-03-31	47,287	42,474	40,637	42,512	30,127	15,933
Minimum inventory	47,287	42,474	40,637	42,512	18,331	7,936
Date	March 3 1	March 3 1	March 31	March 31	Feb. 1 3	Feb. 28
PDL use	1,376	9,139	10,850	10,675	24,553	26,515

APPENDIX 8: INTERRUPTIONS – SCENARIO AFTER CONSULTING WITH CUSTOMERS

	Normal (1)	Cold (2)	Extreme (3)
EXPECTED NUMBER OF INTERRUPTION DAYS			
Unlimited seasonal service			
Tier 1	10	34	36
Tier 2	0	0	0
Peak service			
Tier 1	0	0	1
Tier 2	0	0	1
Tier 3	0	0	2
Tier 4	0	0	2
Tier 5	0	0	2
INTERRUPTED VOLUMES (10³M³)			
Unlimited seasonal service	1,054	3,633	3,873
Peak service	0	0	2,846
Total	1,054	3,633	6,720