GENERAL RATES

RATE MAKING

Contents

1 HISTORY OF THE GENERAL RATES

1.1 Rate L

Rate L is for large capacity customers with a minimum invoiced capacity of 5 000 kW or more. It is expressed in terms of low voltage. Thus, credits for supply to medium or high voltage customers are granted in order not to pass onto higher voltage customers the costs of the low voltage network. These credits are treated in more detail in Hqd-1, Document 4.

Before 1975, the large power customers were governed by individual contracts. It is in1975 that Rate L first makes its appearance in rate regulations, with a rate structure made up of four blocks relating to capacity and two blocks to energy.

The minimum capacity to be invoiced with Rate L corresponded then to the highest of a guaranteed percentage of at least 75% of the maximum capacity demand of the last twelve months or of the contractual capacity (equal to or higher than 5000 kW). The automatic mechanism for fixing the minimum capacity to invoice ("ratchet") was gradually replaced by the concept of a capacity subscription starting in 1976 and was completely eliminated by 1980. Despite its apparent rigidity, the contractual demand is a more flexible mechanism for customers than the "ratchet" since it makes it possible for the customer to decrease their minimum invoiced capacity 12 months after the last variation. Generally, the lowest capacity demand occurs in the summer period when customers usually elect to perform the maintenance of their equipments.

Between 1977 and 1981, the tendency was reduce the number of capacity blocks of Rate L and to add energy blocks: during this period, the number of capacity blocks went from four to two and the number of

energy blocks from two to four, the first new block of energy (introduced in 1978) covered the first 120 hours of capacity usage.

Additionally, measures aimed at ensuring the management of capacity demand during the winter period were introduced, in particular credits for reducing capacity demand in 1978 and the addition of a premium for exceptional increases in capacity demand in 1979.

In 1982, Rate L is simplified to one block for capacity and three blocks for energy. This structure remains relatively stable until 1989.

A revision to Rate L was undertaken in 1990 leading to major changes to the rate structure. The elimination of the declining price scale for energy allows for a simplification of the rate and the introduction of a clear price signal in favor of energy efficiency. It is implemented over three years to lead to an appreciable increase in the credits for supply as well as a gradual reduction in the decreasing scale related to capacity demand.

Since 1992, rate L includes a capacity premium and only one energy block. A premium for exceeding capacity applies when the maximum capacity demand of the customer during the winter period exceeds 110% of their subscribed capacity. Rate L as at April 1st, 2004 is presented in Table 1. whereas the historical structures of Rate L since 1975 are presented in Appendix 1.

TABLE 1
Rate L as at April 1st, 2004

Capacity Premium	11.40 $/kW
Price of energy	2.53 ¢/kWh
Premium for Exceeding Subscribed Capacity (during the winter period)	
Daily	6.66 $/kW
Monthly limit	19.98 $/kW

1.2 Rate M

Rate M 1 is meant for medium capacity customers whose invoiced capacity is at least 100 kW but less than 5 000 kW. Similar to Rate L, it is expressed as low voltage, which implies that customers supplied at a higher voltage are entitled to a supply credit for supply in medium or high voltage [1].

The structure of Rate M is simplified from 1975 to 1990 owing to a reduction of the number of energy blocks. From five blocks between 1975 and 1977, it is reduced to four in 1978, then further reduced to three between 1979 to 1991.

The mechanism for the invoicing of capacity is modified in 1979 and becomes from then on distinguished from that of Rate G, for which the minimum capacity to be invoiced is the maximum of 75% of the maximum capacity demand during the winter period and the contractual capacity. From then on, the minimum capacity to be invoiced with Rate M becomes the contractual capacity. However, if the capacity demand exceeds 133 1/3% of the contractual capacity in winter, the

1. The Distributor intends to modify in the next version of its *Electricity Rates* the term "reduction for supply for medium or high voltage" to "supply credits for medium or high voltage ". For the purposes of simplification, the term "supply credit" is also used in this document.

customer must pay a premium for the extra power. To avoid this extra premium, the customer can thereafter increase its contractual capacity. This mechanism constitutes an incentive for the customer to better manage its capacity demand in winter and better reflects the costs of service of electricity during this period of the year.

In order to ensure a certain continuity between Rates M and L, the structure of Rate M is revised at the time of the reform of Rate L, initiated in 1990. As for Rate L, this reform aims to simplify the rate and clarify the price signal to favor energy efficiency. First, the increase in the premium for the capacity demand of rate L generated a similar increase for that of rate M, compensated by a large reduction in the price of energy for the first 120 first hours. The reform of rate M, which begins in 1992, is spread out over two years and leads to the current structure which comprises only two energy blocks.

Table 2 presents rate M as of April 1st, 2004. The history of the structures of Rate M since 1975 is presented in Appendix 2.

TABLE 2
Rate M as of April 1st, 2004

Capacity Premium	12.48 $/kW
Price of energy	
For the first 210.000 kWh	3.89 ¢/kWh
For the balance of energy	2.53 ¢/kWh
Premium for Exceeding Subscribed Capacity (during the winter period)	13.35 $/kW

1.3 Rate G

Rate G is meant for small capacity customers whose minimum invoiced capacity is less than 100 kW. Just as with Rates L and M, it is expressed in term of low voltage, which implies that the customers supplied with higher voltage are entitled to a credit for supply at medium or high voltage.

From 1975 to 1977, Rate G included a subscription fee, four blocks of energy and one capacity premium. In 1978, the structure of this Rate is simplified in order to bring about its current form which includes two blocks of energy with prices following a decreasing scale.

The minimum invoiced capacity is established by a mechanism automatically fixing the capacity ("ratchet") whose threshold raises to 75% of the highest winter capacity demand during the previous twelve consecutive month period ending at the end of the current period. The "ratchet" determines the minimum capacity to be invoiced for the current period of consumption. As of 1982, a premium for exceeding capacity can be applied to capacity demand during winter that exceeds 133 1/3% of the minimum invoiced capacity in force to prevent it from not being increased. The mechanism for establishing the minimum invoiced capacity in force proves, however, rather complex to manage and unsatisfactory for the customers.

The mechanism for invoicing capacity associated with Rate G is simplified in 1996: the premium for exceeding capacity demand is removed and the threshold of the "ratchet" is reduced from 75% to 65% of the maximum capacity demand during the whole of the winter period.

Efforts to harmonize the threshold for invoicing capacity are initiated starting in 1975 in order to bring down to 50 kW over the longer term. Thus, the minimum threshold for invoicing capacity with Rate G is increased gradually to reach 35 kW in 1982 and 40 kW in 1996.

Rate G as of April 1st 2004 is presented in Table 3 below and its history since 1975 is presented in Appendix 3.

TABLE 3
Rate G as of April 1st, 2004

Subscription fee	12.18 $
Capacity premium applicable to Capacity exceeding 40 kW	 14.19 $/kW
Price of energy For the first 700 kWh For the balance of energy	 7.74 ¢/kWh 3.90 ¢/kWh

1.4 Winter premium for short duration subscriptions

Subscriptions for basic rates are generally annual subscriptions that is to say, for a minimum duration of twelve consecutive months. A subscription of short duration is defined as a subscription for a period less than 12 consecutive months and relates to mainly seasonal or ad hoc activities (for example, construction sites).

A customer who has a seasonal load characterized by a winter peak and whose capacity demand decreases in summer is restricted at Rate M as well as Rate G to a minimum invoiced capacity. In this manner, he assumes the costs of capacity that are incurred by Hydro-Quebec Distribution in order to serve him during the peak period (winter). However, as this mechanism only applies when the subscription is active, an increase of the capacity premium during the winter period is necessary in order to compensate for the unrecovered revenues for the periods of the year when the customer is inactive.
The level of the premium is currently 4.92 $/kW for the invoiced capacity.

In addition to the increase of the capacity premium of 4.92 $/kW, a short duration subscription to Rate G has imposed on it a subscription fee surcharge of $12.18 on the subscription fee and to the minimum amount to be invoiced. These two increases are introduced in order to recover the subscription costs which cannot be recovered during the months when the subscription is inactive.

2 DESCRIPTION OF GENERAL RATES CUSTOMERS

2.1 Rate L

For the period September 1st, 2002 to August 31, 2003, 226 subscriptions were identified for the purposes of analyzing Rate L. The annual consumption totaled 41 760 GWh, for an annual revenue of $1.732 M. Table 4 presents a summary of Rate L customers.

TABLE 4

DESCRIPTION of RATE L CUSTOMERS – 2002-2003

	Subscriptions	Yearly Consumption (GWh)	Annual Revenue (M$)
Commercial	35	1 759	83
Industrial	149	34 618	1 403
Institutional	26	1 383	66
Municipal Networks	16	3 999	180
Total	**226**	**41 760**	**1 732**

[2] The distribution of the subscriptions by level of supply voltage is presented in the document related to supply credits for medium or high voltage (Hqd-1. Document 4).

2.2 Rate M

For the period from September 1st, 2002 to August 31, 2003, 11 059 subscriptions were included for the analysis of Rate M, for a consumption of 23 502 GWh and a total revenue of $1 493 M. A subscriber to Rate M consumes on average 2 GWh but more than 87% of these customers never consume in the second energy block. More than half of the customers of Rate M are made up of commercial customers (54%), but Rate M also includes industrial (28%) and institutional (18%) customers in relatively large proportion. The residential and agricultural customers account for only a small portion.[3]

Table 5 provides an overview of the distribution of subscriptions, the consumption and revenues for Rate M by industry segment over the 12 month period from September 1st, 2002 to August 31, 2003.

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[3] Mainly apartment buildings and agricultural customers not eligible to Rate D.

TABLE 5

DESCRIPTION of RATE M CUSTOMERS – 2002-2003

	Subscriptions	Yearly Consumption (GWh)	Annual Revenue (M$)
Agricultural	23	22	2
Commercial	5 966	10 558	672
Industrialist	3 040	9 066	568
Institutional	1 998	3 785	247
Residential	32	71	4
Total	11 059	23 502	1 493

[1] Including the 35 short duration subscriptions for Rate M, consuming 14 GWh and generating $1 M$ of revenue

2.3 Rate G

Rate G is comprised of nearly 250 000 subscriptions, but the reference data for the year 2002-2003 retains only 228 838 of them because of the relative instability of these subscriptions[4]. These subscriptions represent a total revenue of $915 M and a consumption of 11 452 GWh. This Rate is primarily addressed to commercial type customers whom represent 88% of subscriptions, but also institutional customers (8%) and industrial customers (3%). The agricultural and residential customers are only represented marginally.

[4] In effect, they are in their great majority small commercial locations whose activity is more unstable and less foreseeable than that of the companies with Rates M and L or of the domestic customers. It is common for this type of location to remain unoccupied for long periods after closing. If necessary, these subscriptions become inactive in the invoicing system or give place to incomplete profiles of consumption, which cannot be retained for the purposes of analysis.

Average consumption for a subscriber with Rate G was of approximately 50 MWh for the period observed.

The Rate structure of Rate G makes it possible to divide the customers into two groups with quite different characteristics: the customers who pay the capacity premiums (having an invoiced capacity of more than 40 kW) and the customers who do not pay this premium. Table 6 presents, for the period from September 1st, 2002 to August 31, 2003 the distribution of the subscriptions, the consumed kilowatt-hours and the revenues by customers type, indicating the number of customers who are invoiced for capacity.

TABLE 6

DESCRIPTION of RATE G[1] CUSTOMERS – 2002-2003

	Subscriptions		Yearly Consumption (GWh)		Annual Revenue (M$)	
	Total	Those that are invoiced for capacity	Total	Those that are invoiced for capacity	Total	Those that are invoiced for capacity
Agricultural	316	53	19	11	2	1
Commercial	202 271	19 909	9 768	4 142	778	320
Industrialist	7 431	1 570	519	317	43	26
Institutional	18 322	3 473	1 113	696	89	55
Residential	498	69	32	16	2	1
Total	228 838	25 074	11 452	5 182	915	404

[1] Including the 3.108 short duration subscriptions of Rate G, consuming 32 GWh and generating 3 M$ of revenue

In spite of their low number, the customers invoiced for capacity have a significant Impact on the total level of consumption and revenues. Indeed, they represent 11% of the subscriptions, yet they do not generate no less than 44%

of the revenues; with a consumption of 5 182 GWh, which represents 45% of the overall consumption. The average consumption of the customers invoiced for capacity is 207 MWh for the period observed, which is nearly seven times greater than the average consumption of a customer who is not invoiced for capacity (31 MWh).

3 FRAMEWOK FOR THE ANALYSIS OF THE GENERAL RATES

The Distributor presents in this section the principles which could guide the analysis of the structures of the basic rates.

3.1 Reflecting the Cost Structure

The fixed components (capacity premium and subscription fee) and variables components (price of energy) of the rates reflect to the customers the impact of their energy consumption behavior on the costs of the Distributor. It is thus of primary importance that these components reflect the structure of the costs of services.

With this intention, and as indicated within the general framework of analysis, the Distributor would invoice the costs associated with the electricity supply via the energy component

Moreover, a distribution of the electricity supply costs to capacity and energy at the same time is not suitable since it would generate a weak energy price signal compared to the prices of the alternative sources of energy, thus giving one a poor price signal in support of energy efficiency. For example, a distribution capacity/energy of the electricity supply cost would result in a price for energy at Rate L of 2.16 ¢/kWh, which would encourage the customers to use electricity

instead of fuels and would also cause a significant increase in the capacity portion to the structure of the grouped rate [5].

As for the costs of transmission and distribution, the approach consists of allocating them to capacity since these costs are a function of the presence of the customers of each rate category during peak demand. And when they are significant, the costs of the services to the customers, including measuring (SALC) are recovered by the fixed fee.

The required revenues by category of consumers make it possible to judge the proportion of capacity/energy costs which should ideally comprise the general rates G, M and L (see table 7). However, the reflection of the cost structures must also make it possible to achieve other goals which are useful from a rate making perspective.

TABLE 7

REQUIRED REVENUE FROM the BASIC RATES
YEAR 2004 ($M)

	Supply (energy)	Transmission (capacity)	DSALC (capacity)	Total	Proportion Capacity/Energy
Rate G	355	199	236 [1]	790	44/56 [2]
Rate M	697	327	217	1.241	44/56
Rate L	1.202	431	70	1.702	30/70

1 For Rate G, the SALC costs (including measuring) are recovered via the subscription fees whereas the costs of distribution are recovered via the capacity premium and the price of the first energy block since certain customers are not invoiced for capacity.
2 Considering only the customers invoiced for capacity.

[5] The proportion of capacity/energy of Rate L went from 39/61 on April 1st, 2004 to 48/52.

3.2 Ensuring Rate Continuity

There is continuity between Rates when they encourage customers to choose naturally the rate which corresponds to their capacity demand in kilowatts. In order to to ensure this continuity, it is necessary that the price of the energy for Rate L is equivalent to the price of the second block of Rate M and that the price of the first block for Rate M is equivalent to the price of energy of the second block of Rate G; thus, the prices of energy should be adjusted so that this continuity is respected. A significant modification to this continuity would cause a transfer of customers between rate categories.

Table 8 illustrates the constraints of rate continuity:

TABLE 8

STRUCTURES of the BASIC RATES as at APRIL 1st, 2004

	Rate G	Rate M	Rate L
Minimum capacity to be invoiced	0 to 100 kW	100 to 5 000 kW	5.000 kW and more
Fixed fee/month	12.18		
Capacity premium ($/kW)		$12.48	$11.40
In excess of 40 kW	14.19		
First block (¢/kWh)			
First 11 700 kWh	7.74		
first 210 000 kWh		3.89	
Balance of kWh			2.53
Second block (¢/kWh)	3.90	2.53	

3.3 Providing Price Signals Favoring Energy Efficiency

Within the volume of heritage electricity, the average cost of electricity supply of the Distributor is 2.79 ¢/kWh but this average cost will increase with

The new supply requirements, of which the cost is estimated at 6.5 ¢/kWh, as they will be added to the heritage volume.

A price signal favoring energy efficiency should use the long-term marginal costs in the determination of the near-term development of the components of the general rates. As a matter of fact, invoicing the costs of electricity supply as energy allows precise reflection of longer-term marginal costs of supply in the most elastic component of the rate, i.e. that to which the customer has the most control.

4 UNDERLYING STRUCTURES OF THE GENERAL RATES FOR THE REFERENCE REVENUES

The reference revenues correspond to the revenues simulated from the structure as of April 1st 2004 of the general rates and the consumption data for each customer available for the period between September 1, 2002 to August 30, 2003. This reference index makes it possible to establish scenarios of rate structures with constant revenues on which the analyses can be made.

The respect of the three orientations mentioned in the framework for the analysis of the general rates allows to build a basic scenario and to compare it with the structure as of April, 1 2004. While the current structures are presented in table 9, the structures arising from the basic scenario are presented in table 10. The comparison of these two rate structures makes it possible to illustrate which components should carry the rate increases and thus to evaluate the impact of these changes on the customers if this framework of analysis were to be retained.

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[6] Decision relating to the study of the avoided costs of electricity (D-2002-96/R-3519-2003).

TABLE 9

STRUCTURES of the GENERAL RATES and the REFERENCE REVENUES as at APRIL 1st, 2004

Components	Rate L		Rate M			Rate G		
	Price	$M		Price	$M		Price	$M
Subscription[1] fee/month							12.18	36
Energy ($/kWh)								
1st block	2.53	1 057	210 000ers	3.89	567	11 700ers	7.74	705
2nd block				2.53	226		3.90	91
Capacity[2]	11.40	672		12.48	690	>40kW	14.19	83
Exceeding capacity								
Daily premium	6.66	1						
Monthly premium	19.98	3		13.35	10			
Total Revenue		1.732			1 493			915
Proportion of capacity/energy		39/61		47/53			48/52[3]	

1 Including the customers invoiced for the minimum amount.
2 The current revenues take into account the application credits for supply to medium and high voltage
3 Considers only the customers invoiced for capacity.

TABLE 10

BASIC STRUCTURES of the GENERAL RATES at the REFERENCE REVENUES

Components	Rate L		Rate M			Rate G		
	Price	$M		Price	$M		Price	$M
Subscription [1] fee/month							12.18	36
Energy ($/kWh)								
1st block	2.66	1.111	210 000ers	4.09	597	11 700ers	7.77	708
2nd block				2.66	237		4.09	96
Capacity[2] ($/kW)	10.65	618		11.74	650	>40 kW	12.88	75
Exceeding capacity								
Daily premium	6.22	1						
Monthly premium	18.66	3		12.56	10			
Total Revenue		1 732			1 493			915
Proportion of capacity/energy		36/64		44/56			44/56[3.]	

1 Including the customers invoiced for the minimum amount.
2 The current revenues take into account the application credits for supply to medium and high voltage
3 Only considering the customers invoiced for capacity.

5 POSSIBLE EVOLUTION OF THE COMPONENTS OF THE GENERAL RATES

5.1 Evolution of the proportion capacity/energy

As tables 9 and 10 indicate, the proportions capacity/energy of the structures as of April, 1 2004 would be very close to those of the base structures. This negligible variation could justify, in order to ensure continuity and stability of the rates, not bringing any adjustment to the general rate structures.

Nevertheless, the increase in the share of the costs of electricity supply in the future relative to those of transmission and the distribution should give rise to a modification of the cost structure and justify a revision of the basic rate structure The increase in the proportion of the costs of electricity supply would then be translated by a progressive increase in the share of energy for all of the rates.

Moreover, as illustrated in table 11, the ratios representing the share of capacity in the invoice to small, medium and large capacity customers of Hydro-Quebec Distribution, are often lower than that of other North-American distributors.

A modification of rate structures that would concentrate on increasing the energy component, that is the most elastic part of the customer invoice, would leave the Customers with the possibility of decreasing the impact of Rate increases on their invoice. Additionally, this would make it possible to soften the constraint that represent capacity in the case of decreases in consumption.

TABLE 11
RATIO OF The CAPACITY IN The INVOICE
CUSTOMERS OF SMALL, MEDIUM AND LARGE CAPACITY

Cities	40 kW and F.U. 35%	500 kW, F.U. 56%	2 500 kW, F.U. 65% and 25 Kv	5 000 kW, F.U. 65% and 25 Kv	50 000 kW, F.U. 85% and 120 Kv
Canadian cities					
Montreal, Qc	**2%**	**45%**	**47%**	**47%**	**37%**
Charlottetown, EP	20%	26%	23%	37%	31%
Edmonton, AB *	1%	4%	2%	10%	3%
Halifax, NS	29%	22%	28%	27%	22%
Moncton, NB	20%	26%	23%	39%	31%
Ottawa, ONE	1%	21%	21%	25%	16%
Regina, SK	2%	39%	30%	28%	11%
St. John' S, NF	35%	28%	24%	23%	26%
Toronto, ONE	2%	24%	19%	18%	14%
Vancouver, BC	3%	27%	28%	29%	23%
Winnipeg, MB	3%	52%	46%	44%	33%
American cities					
Boston, MA	35%	34%	28%	28%	23%
Chicago, IT	51%	42%	43%	43%	23%
Detroit, SEMI	1%	36%	52%	52%	44%
Houston, TX	15%	28%	27%	18%	4%
Miami, FL	37%	32%	31%	31%	25%
Nashville, TN	1%	39%	40%	41%	48%
New York, NY	36%	26%	22%	22%	18%
Portland cement, GOLD	15%	26%	20%	19%	14%
San Francisco, CA *	11%	17%	7%	7%	5%
Seattle, WA *	0%	4%	1%	1%	1%
Average	**18%**	**27%**	**24%**	**25%**	**19%**
Average (excluding the cities which are < than 10%)	27%	29%	29%	29%	24%
Canadian average	12%	26%	24%	28%	21%
Canadian average without HQ	13%	25%	22%	27%	19%
American average	22%	27%	24%	24%	18%

* Open markets: the small proportion of the capacity in the invoice is explained by a Rate for generation and transmission on a time basis.

Increases in the price of energy would make it possible to ensure a better reflection of long-term marginal costs since the marginal cost of the supply will go from 2.79 ¢/kWh with 6.5 ¢/kWh because of the growth in sales beyond the threshold of Heritage electricity. An increase in the energy component

thus transmits a price signal more coherent with marginal costs, which supports a more efficient use of the resources.

5.2 Premium for short-term winter subscriptions

For the short-term subscriptions to rates G and M, the increase in the capacity premium during the winter period should follow the variation of the capacity premium of the corresponding regular rate. By adjusting the increase in this way, the price signal associated with the use of the capacity in winter would remain the same for all the customers having short-duration subscriptions.
As for increases of the subscription fees and the minimum amount to be invoiced to the applicable subscriptions of short duration to rate G, they should evolve in the same proportions as the subscription fee for the regular Rate G.

6 OTHER MODIFICATIONS ANALYZED

6.1 Rate M

The mechanism of the contractual capacity is sometimes poorly understood and complex to manage for customers of medium capacity. Group discussions were undertaken to determine customer concerns and to discuss possible simplifications of the mechanism for invoicing capacity.

6.2 Rate G

A reform of the threshold for invoicing capacity was started in 1996. This reform aimed at gradually increasing the threshold for invoicing the capacity from 35 to 50 kW. This would be equivalent to not invoicing the capacity of the

customers for whom the electric connection is equal to or lower than 200 amps. This reform also aimed to harmonize the threshold for invoicing with that of the domestic rates and to simplify the rates for small customers for whom invoicing of capacity is a complex concept and difficult to manage.

The passage to a threshold for invoicing capacity at 50 kW could be carried out in two stages. At the time of the first stage, the threshold for invoicing capacity would go to 45 kW. As illustrated in table 12, the threshold of the first energy block would also be raised to 13 200 kWh in order to recover the costs of transmission and distribution previously recovered by the capacity premium, and to respect the median invoiced utilization of the category which increases to 41%. In the second stage, the threshold for invoicing capacity would be fixed at 50 kW and the threshold of the first block would be adjusted in accordance. Given the terms of this reform, nearly 7 000 additional small customers would no longer be invoiced for capacity.

TABLE 12
INCREASE of the INVOICING THRESHOLD FROM 40 To 45 kW

	Rate as of April, 1 2004	Rate to 45 kW
Subscription Fee	12.18 $/month	12.18 $/month
Capacity Premium	14.19 $/kW	14.24 $/kW
applicable in excess of	40 kW	45 kW
Price of energy		
threshold of the 1st block	11 700 kWh	13 200 kWh
price of the 1st block	7.74 ¢/kWh	7.77 ¢/kWh
price of the 2nd block	3.90 ¢/kWh	3.91 ¢/kWh

The continuation of the reform to the threshold for invoicing capacity would be done with constant revenues for Hydro-Quebec Distribution. It would have, however,

variable impacts on the customers. Table 13 presents the impact which arises from the passage of the threshold for invoicing capacity from 40 to 45 kW [7].

TABLE 13

IMPACT of the PASSAGE of the THRESHOLD FOR INVOICING FROM 40 TO 45 KW

Levels of variation of the annual invoice (%)	*Distribution of customers (%)*
Less than -4 (minimum: -40)	1.5
From -4 to -0.5	4.0
From -0.5 to 0.5	88.8
From 0.5 to 4	4.9
4 and more (maximum: 6)	0.9
Total	100.0

7 RATE G-9

7.1 History of Rate

Rate G-9 is meant for customers of small and medium capacity for whom the level of capacity usage is low (for example, smelters or ski resorts' ski lifts).

Until 1976, its structure is made up of a price for capacity and three decreasing energy price blocks, charged according to the number of hours of use. In 1976, the third energy block was removed. This rate is meant for customers with low utilization rates (less than 20% according to the rate structure in force at that time). In 1981, the second energy block is removed and rate G-9 took its current form starting in 1982.

[7] See also the examples of monthly invoices presented at appendix 7.

In 1993, following the reform of Rate M, Rate G-9 is evaluated in order to satisfy a greater number of customers with low utilization rate: from now on, rate G-9 is addressed to the customers having a utilization rate lower than 30%. Moreover, the customer with rate G-9 must pay a minimum monthly invoice amount which corresponds to the subscription fee of Rate G as of April, 1 2004, This fee amounts to $12.18.
In addition, Rate G-9 also contains, just like Rate M and Rate G, provisions allowing a customer of short duration to subscribe to this Rate. In this case, in addition to the minimum monthly invoice amount which is raised by 12.18 $, the monthly capacity premium is raised to $4.92 $/kW during the winter period . This increase makes it possible to compensate for the fact that the minimum capacity to be invoiced does not apply for the periods of the year when the customer is not present.

The structure of Rate G-9 as of April, 1 2004 is presented at table 14 whereas the history of Rate components is presented in appendix 4.

TABLE 14
RATE G-9 AS OF APRIL 1, 2004

Monthly capacity premium	3.66 $/kW
Price of energy	8.01 ¢/kWh
Subscription of short duration increase of the capacity premium in winter period	4.92 $/kW

7.2 Description of the Customers

Table 15 presents the principal invoicing data for Rate G-9, for the period going from September 1, 2002 to August 31, 2003. For the

purposes of the analysis, the Distributor retains a little more than 3 500 subscriptions consuming nearly 1 TWh and generating revenues of $103 M.

TABLE 15
DESCRIPTION OF The CUSTOMERS of RATE G-9 - 2002-2003

	Subscriptions	Consumption (GWh)	Revenues (M$)
Regular	3.414	954	99
Short duration	177	28	3
Total	3.591	982	103

7.3 Framework of analysis of Rate G-9

7.3.1 Overview of the practices of other distributors

Few distributors in North America offer a distinct Rate to their customers characterized by a short use of capacity to invoice. North-American Distributors generally treat this customers by use of a decreasing price structure per subsequent block in the basic rates (Wright Rate). This structure makes it possible to take into account the low level of capacity use by the customers by combining a lower capacity premium, a higher price tier block for a certain number of hours of use of capacity or for the first kilowatt-hours of consumption. However, this type of rate making burdens the structure of the basic rate and dilutes the price signal.

Hydro-Quebec offered before this form of rate making to its customers. It was abolished after the period of consolidation of the basic rates between 1975 to 1989. At the end of this phase of consolidation, Rate G-9 was preserved as a Rate for small and medium capacity customers with low utilization rate,

while Rate H was reserved for the large capacity customers. These two rates thus took their current form in 1982.

The approach preferred by Hydro-Quebec Distribution is to meet the different needs of the customers by introducing optional Rates rather than making the more general-purpose basic rates more versatile. The principal advantage of this approach resides in a simplification of the structure of the basic rates where the majority of large customers are found. The promotion and the application of these rates are then facilitated. This approach is also found in Europe, particularly at Electricity of France, where rates for various levels of capacity usage are offered, such as short, average and long uses.

By offering a specific Rate for short operating ratios, Hydro-Quebec Distribution distinguishes itself from other distributors in North America. For instance, the presence of more than 3 500 subscriptions to this option shows its relevance and the fact that it meets a real need.

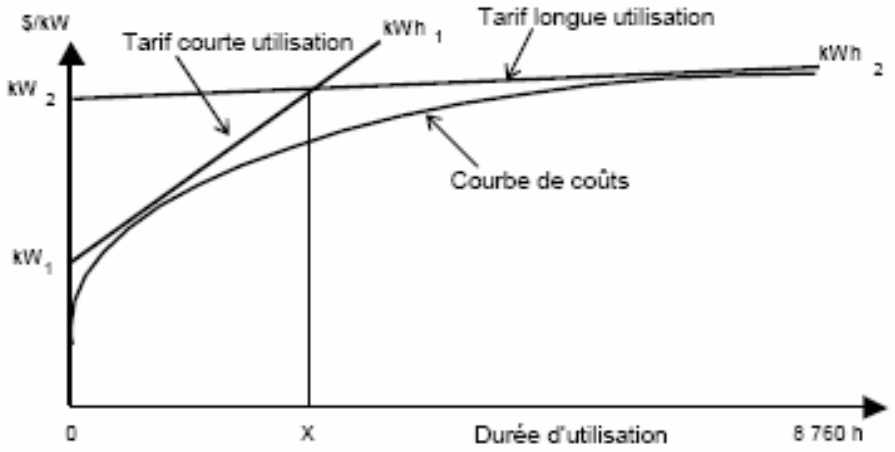
7.3.2 Establishment of the Rate Components

The study of the current structure of Rate G-9 should take into account continuity with the general rates, that is the Rates G, M and L. Rate continuity of Rate G-9 with the other general rates results in the fact that the customers see an advantage to pass from the basic rate to rate G-9 when their factor of usage is lower than 30%. Thus, the capacity expenses are decreased relative to the applicable general rate whereas the prices of energy are increased in order to recover in energy the difference between the capacity premium of the regular rate and that of rate for low utilization rate.
Graph 1 provides an illustration of this. The Rate G-9 was conceived starting from rate M. Rate G-9 can be represented around the cost curve of the consumer category by the line 1 " Short use Rate " while Rate M is

represented by the line 2 "Long use Rate". The two lines allow a better reflection of the trend of the unit cost per kW (capacity and energy combined) according to the number of hours of use of the capacity. The unitary cost thus increases more quickly in the case of a short use Rate. This is why the customer has an advantage to move to the long use Rate at some level "X" of use of the capacity.

FIGURE 1

COÛT D'UN KW EN FONCTION DE LA DURÉE D'UTILISATION



The capacity premium of Rate G-9 is established at a level which makes it possible to cover partly or entirely the costs of distribution. This choice is made while considering the portion of fixed costs that the Distributor wants to see assumed by the customer to reduce the variable portion. Historically, the level of the capacity premium with Rate G-9 was around 30% of the capacity premium of Rate M. At this level, the premium makes it possible to cover all the required revenues for customer service as well as part of the required revenues associated with the portion of distribution network for Rate M. The remainder of the costs of distribution and transmission is recovered in the price of energy. Thus, as the customer consumes, he can assume the costs of the network which were incurred to meet its needs.

According to the calculation presented in table 16, the price of the energy of Rate G-9 is established so as to recover the share of capacity costs of which are not recovered by the capacity premium of 3.66 $/kW. The difference of 8.82 $/kW between the capacity premium of Rate M (12.48 $/kW) and Rate G-9 (3.66 $/kW) is expressed in ¢/kWh (4.08 ¢/kWh) by considering an utilization rate of 30% which represents the desired limit between low utilization ratio rate and the regular rate. This difference expressed in energy (4.08 ¢/kWh) is added to price of the first tier of energy of rate M (3.89 ¢/kWh), which gives an average price of the energy of 7.97 ¢/kWh.

TABLE 16
ORIGIN OF The G-9 RATE

Rate components	Rate M	Rate G-9
Capacity premium ($/kW)	12.48	3.66
Residual premium ($/kW)		8.82
Component expressed capacity		
in energy with 30% of FU (¢/kWh)		
Energy (¢/kWh)		
1st block	3.89	7.97 [1]
2nd block	2.53	

[1] Sum of the capacity component expressed in energy and price of the 1st energy block.

These results show that Rate G-9 as of April, 1 2004 is well calibrated with Rate M by taking account of the chosen limit of 30%. Indeed, the price of 7.97 ¢/kWh is almost identical to the price of the energy of 8.01 ¢/kWh of Rate G-9 as of April 1, 2004.

In this respect, it is interesting to note that the point of intersection between Rate G and Rate G-9 makes it so that a customer whose capacity is nearly 55 kW has An invoice identical to Rate G and Rate G-9 for very low utilization rates. With the rate G in force as of April 1, 2004, a customer pays the capacity

premium only for the consumption in excess of 40 kW at a price of 14.19 $/kW while the price of capacity for rate G-9 of 3.66 $/kW is applied to all the kilowatts used.

In brief, the current Rate G-9 does not require any adjustment compared to Rate M. It allows to answer the expectations for a tariff for low utilization rates as well as ensures a transition to rates G and L.

7.3.3 Possible evolution of rate components for Rate G-9

Where Rate M to see its capacity premium increase a little less quickly than its energy components, it would be necessary to change the premium associated with Rate G-9 at the same rate in order to preserve the point of intersection between these two Rates. The price of energy should then be adjusted to make it possible to recover the required revenues associated the Rate G-9. The evolution of the capacity premium and the energy price for Rate G-9 remaining very related to the evolution of rates G and M, rate continuity between these rates would be thus maintained.

The same increase of the capacity premium in winter period for the customers of short duration of rates M and G-9 could also be preserved. In this way, the price signal associated with the use of the capacity in the winter would remain the same for this category of customers.

In addition, the minimum monthly amount of the invoice could be increased as a function of the average increases granted to rate G-9.

8 RATE H

8.1 History of Rate

The Rate H is meant customers of large capacity that have a low utilization rate. Since its introduction, Rate H preserved the same structure: one block of capacity and two blocks of energy (one block, applicable during

weekdays during winter, and the other off peak, applicable outside of weekdays during winter). The access to this rate is widened to include the independent producers which can use it as a means of back-up energy when their usual energy source is temporarily lacking.

Following the decision D-2002-47 of the Régie de l'énergie concerning a request for approval of modifications to the general rates of large capacity – rate H and service rate LD – the service portion for independent producers of rate H is isolated to become rate LD. The wording of rate H is modified in order to remove all the provisions relating to energy support which does not form part of the volume of Heritage electricity. From now on, rate H is meant only for the large capacity customers for which the subscription is characterized by a capacity use invoiced primarily outside of the days of week in winter (for example, grain silos) This rate is thus of a semi-weekly-seasonal application and can apply to all subscriptions whose minimum invoiced capacity is greater than 5,000 kW. As mentioned in the preceding section relating to rate G-9, the approach preferred by Hydro-Quebec Distribution is the introduction of rates distinct from the basic rates in order to better reflect the costs incurred by a category of customers characterized by a particular profile of consumption. Indeed, basic rates made up of a capacity premium associated with one or many energy prices cannot adequately reflect the cost curve according to all the hours of possible use (see figure 1 of section 7.3.2). The structure as at April, 1 2004 of Rate H is presented in table 17 whereas the history of its rate structures is presented in appendix 5.

TABLE 17
TARIF H as of APRIL 1, 2004

Monthly capacity premium	4.53 $/kW
Price of energy	
apart from the days of week in winter	4.05 ¢/kWh
between 6h and 22h days of week in winter	15.35 ¢/kWh

8.2 Description of the customers

For the period going from September 1, 2002 to August 31, 2003, rate H included two subscriptions. Their yearly consumption, amounting to a little over 12 GWh, generates revenues of approximately 1 M$.

8.3 Framework of analysis of Rate H

8.3.1 Establishment of Rate components

Rate H was conceived so as to recover, by the means of a capacity premium of 4.53 $/kW, the necessary revenues of distribution allocated to Rate L and part of the necessary revenues of transmission which are mobilized to respond to demand. Thus after having removed the supply credit of 0.837 $/kW accounting for supply of 25 Kv and 0.1377 $/kW to take account of the readjustment for transmission losses, the residual premium is 3.555 $/kW.

As mentioned in the preceding section on Rate G-9, the residual capacity expenses are recovered via the price of energy. As shown in table 18, the difference between the capacity premium of Rate L (11.40 $/kW) and the preceding Rate H (4.53 $/kW), is added to the price of energy in consideration of a utilization rate of 30%, which represents the desired limit between the rate for low utilization ratio and the regular rate.

The difference of 6.87 $/kW applied to an utilization ratio of 30% over a monthly period of 720 hours results in a price of 3.18 ¢/kWh[8]. It results in an average price of the energy of 5.71 ¢/kWh, when one adds 3.18 ¢/kWh to the price of energy for Rate L of 2.53 ¢/kWh.

As the costs of capacity are associated to the peak period, the distribution of the average price between the peak and off-peak period[9] must take into account the higher cost incurred for capacity during the peak. In 1982, a price of 10.0 ¢/kWh had been adopted. By taking account of the number respective of hours included during the peak and off-peak periods, this peak price implied an allocation of 60% of the costs of capacity during the peak period, and the remainder in the off-peak period.

TABLE 18
ORIGIN of RATE H

Rate component	Rate L	Rate H
Capacity premium ($/kW)	11.40	4.53
Residual premium ($/kW)		6.87
Component expressed capacity in energy with 30% of UR (¢/kWh)		3.18
Energy (¢/kWh)	2.53	5.71
Peak		15.35
Off-peak		4.05

[8] That is to say 6.87/(720 * 0.3)
[9] The duration of the peak period is established according to the operating conditions of the network where the probability of occurrence of the peak is increased, which corresponds to a hourly period between 6h00 and 22h00 during the week days of winter. The peak period is thus made up of 1,296 hours and the off-peak of 7,464 hours. This allocation was thus made so as to give a decisive price signal for the peak period.

This proportion of the peak and off-peak prices has more or less remained the same since 1982 since these prices varied together with the rate increases applicable to the regular rates. Indeed, today, the prices of energy, being 15.35 ¢/kWh and 4.05 ¢/kWh, imply a capacity price of 12.28 ¢/kWh and of 1.45 ¢/kWh respectively for the peak and off-peak periods, which still corresponds to a distribution of 60% of the costs of capacity during peak period (1,296 hours) and the remainder during the off-peak period (7,464 hours)[10].

8.3.2 Possible evolution of Rate components

As rate H is derived from rate L, it should follow the progression of rate L. Thus, if the proportion of energy revenues had to increase more quickly with rate L, rate H should be adjusted in the same proportions. In addition, the distribution of the costs of capacity between the peak and off-peak periods should also be maintained at its current level, which implies that the two prices of energy would be increased in the same proportions.

9 FIXED PRICE RATES FOR GENERAL USE

9.1 History of Rate

The fixed price rates T-1, T-2 and T-3 apply to the subscriptions for general use when the consumption of energy is not measured. Generally, the Distributor recommends the measuring of all the loads connected with the distribution network so as to know with some precision

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[10] The proportion of 60% of the costs of capacity is obtained in the following way: 1 296 hours at a peak * 12.28 ¢/kWh + 7 464 hours excluding the peak * 1.45 ¢/kWh = 159.15 + $108.23 = $267.38. The amount of $159.15 corresponds thus to 60% of the total amount of $267.38.

the consumption of the customer in order to apply the suitable rate. However, in the presence of a very small load, it is the practice in the industry not to measure and to proceed by way of an estimate of consumption (either in energy and/or in capacity). Certain distributors of electricity accept this practice, that is to say, when the cost of the installation of measuring equipment and the changing of the meters is high compared to the value of the load (for example, a telephone boot) or the duration of the subscription (for example, a fair), or when the installation of measuring equipment and the changing of meters are not safe (for example, a billboard on the edge of a motorway) or because of difficulty of access (for example, an antenna on a mountain).

It is for these particular cases that fixed price rates, which belong to the category of rates for small capacity, were conceived based on rate G. For a monthly subscription, a price of 33.57 $/kW is applied to the estimate of capacity to be invoiced, which generally corresponds to the working installed capacity at the point of delivery. This Rate structure ($/kW) avoids the additional step of estimating the consumption (kWh) and provides the customers with a clear and easy to comprehend price signal. It also allows the customers to benefit from energy savings when choosing loads for which the capacity demand is reduced. Taking into account the nature of the loads currently invoiced with fixed price rates, all energy saving result in a reduction of the invoiced capacity and thus by a decrease in the cost to the customer.

The Rates T-1 and T-2 were established based on rate T-3 to correspond respectively with the ninth and the third of this rate.

Table 19 described the structure of fixed price Rates T-1, T-2 and T-3 as of April 1st, 2004 and appendix 6 presents the history of these rates since 1975 and their connection with Rate G from which they are derived.

TABLE 19
TARIFS T-1, T-2 and T-3 as of APRIL 1, 2004

	Minimum	To amount of
T-1 (daily)	3.73 $/kW per day	11.20 $/kW per week
T-2 (weekly)	11.20 $/kW per week	33.57 $/kW per month
T-3 (30 days or more)	33.57 $/kW per month	
Minimum invoice amount	6.72 $/month for single-phase delivered electricity 20.19 $/month for three-phase delivered electricity	

9.2 Description of the customers

For the period going from September 1, 2002 to August 31, 2003, the Distributor Included 22,092 subscriptions with fixed price rates, of which the majority were Rate T-3. The principal usages which are not measured include traffic lights, remote electricity alimentation blocks for cable distributors, phone boots and lighted billboards. The invoiced annual capacity adds up to 21 MW, for revenues of 8.7 M$. Table 20 presents a summary description of the fixed price rate subscriptions.

TABLE 20
DESCRIPTION OF the CUSTOMERS of FIXED PRICE RATES – YEAR 2002-2003

Area of activity	Subscriptions	Total Capacity (kW)	Annual revenues
Cable distributors, TV, Radio	8,122	5,940	2,430
Commercial various	1,487	2,324	890
Telephone companies	5,214	2,807	1,242
Ministries and crown corporations	1,841	2,008	829
Sign companies	277	275	114
Rail companies	855	432	185
Cities, municipalities, parishes	4,244	7373	3,030
Total	**22,040**	**21,159**	**8,720**

9.3 Framework for revision of fixed price rates

The fixed price rates for general use could preserve their current structure
For this purpose, monthly rate T-3 would continue to be gauged with a utilization factor
bordering 60% of the first energy block of Rate G,
corresponding to 430 hours of monthly use of the working installed capacity. In
the future, the application of rate increases should maintain as much as possible
the relation between the monthly rate (T-3) and weekly rate (T-2) and
daily rate (T-1).

10 STREET LIGHTING RATES

10.1 History of Rate

The street lighting rates are offered to the federal and provincial governments,
to municipalities or to any person duly authorized by the latter and are
made up of two services, general and complete services.
The general service includes the supply of electricity to the installations of the customer
like, in certain cases, the leasing of space on the transmission posts of the network of
the Distributor for the fixing of lamps. The complete service includes
The supply, installation and the maintenance of the lamps as well as the electric
supply.

The street lighting services are introduced as a regulated rate in 1975.
It is however in 1978 that the price invoiced with the general service becomes
equivalent in price to the first energy block of rate G, which is its rate of reference.
When the consumption of energy is not measured, the Distributor estimates it

by multiplying the capacity connected by 345 hours of monthly use, or by 720 hours of monthly use in the case of the tunnels or other installations which require 24 hours of lighting per day.

The price of the complete service corresponds since 1975 to a special fixed rate by type of lamp. In order to support the installation of more efficient lamps by the municipalities, the Distributor carried out from 1992 to 1996 a modification to the price of the complete service in order to fix rates for each type of lamp on a level that reflected more their consumption of energy, rather than only on the basis of the lumens.

Table 21 more precisely describes the rate structure as of April, 1 2004 for street lighting service.

TABLE 21
STREET LIGHTING RATES as at APRIL 1st, 2004

General service	7.74 ¢/kWh
Complete service	
Standardized lamps	Rate by lamp ($)
- sodium vapor high pressure	
3 600 lumens	16.02
5 000 lumens	17.64
8 500 lumens	19.20
14 400 lumens	20.73
22 000 lumens	24.30
- mercury vapor	
10 000 lumens	23.25
20 000 lumens	30.54
Non standardized lamps [11]	
- incandescent with reflectors	
1 000 lumens	25.29
2 500 lumens	29.79
4 000 lumens	34.77
- incandescent with reflectors and diffuser	
2 500 lumens	29.79
4 000 lumens	34.77
6 000 lumens	39.36
- vapor with mercury	
7 000 lumens	20.88
50 000 lumens	62.49

[11] The Rates applicable to the non standardized lamps are maintained only for installations prior to May 1st 1986. However, on August 31, 2003 are no more non-standardized lamps invoiced.

10.2 Description of the customers

For the period going from September 1, 2002 to August 31, 2003, the Distributor Included 5 880 subscriptions for the street lighting rates, for revenues of $44.5 M. Table 22 presents a summary description of these subscriptions.

TABLE 22
DESCRIPTION of the STREET LIGHTING CUSTOMERS – YEAR 2002-2003

	Subscriptions	Annual revenues ($M)	Invoiced consumption (estimated GWh)
General service	5 084	42.3	546
Complete service [1]	796	2.2	6
Total	5 880	44.5	552

[1] Includes only standardized lamps.

With the complete service (only standardized lamps), it is the sodium vapor or high pressure the lamps of 5 000 and 8 500 lumens which are the most often sought by customers. No customer is equipped with lamps of 3 600 lumens.

10.3 Framework for analysis of street lighting rates

Prices of the public street lighting general service and those of the lamps of the complete street lighting service should evolve according to rate of reference which is in accordance to the first block of Rate G.

11 RATES for SECURITY LIGHTING

11.1 History of Rate

Security lighting service includes supply, installation and supply of electricity for security lighting. These lamps are the property of the Distributor and are used for external lighting, except for street lighting.

Table 23 has the structure of applicable rates for security lighting Service as at April, 1 2004.

TABLE 23
SECURITY LIGHTING RATES as at April, 1 2004

	Rate by lamp ($)
With post	
7 000 lumens	32.61
20 000 lumens	42.96
Without post	
7 000 lumens	25.62
20 000 lumens	36.93

11.2 Description of the customers

Between the September 1, 2002 and August 31, 2003, the Distributor had 379 subscriptions of security lighting service, mainly for lighting of parking, lanes or fire exits. The consumption of energy associated with the security lighting service is estimated at 1 GWh, for annual revenues of approximately $250,000.

11.3 Framework for analysis of security lighting rates

Just like street lighting rates, it would be desirable that rates applicable to security lighting continue to follow the evolution of of the first energy block of Rate G.

APPENDIX 1:
HISTORY OF RATE L

RATE L		#163 Jan. 1975 **(1)**	#173 Jan. 1976 **(1)**	#173 Jan. 1977 **(1)**	#205 Jan. 1978	#225 Jan. 1979	#225 Jan. 1980	#225 Jan. 1981	#290 Jan. 1982	#321 Jan. 1983	#346 Feb. 1984	#383 May 1985	#403 May 1986
CAPACITY													
First block	kW	5 000	5 000	5 000	15 000	30 000	30 000	30 000	All	All	All	All	All
	$/kW	19 000	20 750	22 750	4.29	5.01	5.16	5.19	4.65	4.98	3.66	3.75	3.93
Second block	kW	5 000	5 000	5 000	15 000	Balance	Balance	Balance					
	$/kW	3.80	4.15	4.55	4.05	4.71	4.92	5.10					
Third block	kW	10 000	10 000	10 000	Balance								
	$/kW	3.45	3.80	4.20	3.84								
Remainder of capacity	$/kW	3.25	3.60	4.00	3.84	4.71	4.92	5.10					
ENERGY													
All energy													
First 120 hours of use					1.20	1.20	1.50	1.75	2.10	2.25	3.73	3.83	4.04
capacity (First block)													
Second block	kWh	1 000 000	1 000 000	1 000 000	600 000	300 000	300 000	300 000	2 400 000	2 400 000	2 400 000	2 400 000	2 400 000
	¢/kWh	0.50	0.55	0.60	0.75	1.00	1.35	1.65	1.82	1.95	2.06	2.11	2.23
Third block	kWh					2 100 000	2 100 000	2 100 000					
	¢/kWh					0.85	1.20	1.45					
Remainder of energy	¢/kWh	0.42	0.46	0.50	0.60	0.65	0.75	1.00	1.25	1.35	1.42	1.45	1.53
Premium for exceeding (winter)													
					(2)	(2)	(2)	(2)	(3)	(3)	(4)	(4)	(4)
Exceptional call of capacity	$/kW				6.00	7.50	9.00	10.50	15.00	16.05	12.00	12.30	12.96
CREDIT LIMITATION OF CAPACITY (5)	$/kW				24 at 1.05	24 at 1.05	24 at 1.05	24 at 1.05					

(1) For 1975, 1976 and 1977, the price indicated is total.
(2) Applies to the surplus of the authorized capacity, which is limited, according to the engagement of the customer, on a level located between 100% and 133% of the contractual demand.
(3) Applies to the surplus of 100% of the contractual demand.
(4) Applies to the surplus of 110% of the contractual demand.
(5) If the customer commits himself limiting his calls of capacity in winter to 125% or less, of the contractual demand, this credit for limitation of capacity applies.

Evolution of Rate structures - Rate L
1975 to 2004

RATE L		**#429 May 1987**	**#453 May 1988**	**#489 May 1989**	**#499 May 1990**	**#499 May 1991**	**#569 May 1992**	**#586 May 1993**	**#586 May 1994**	**#618 May 1995**	**#642 May 1996**	**#658 May 1997**	**#663 May 1998**	**Jan. 2004**	**April 2004**
CAPACITY															
First block	kW	All	All	All	All	All	All	All	All	All	All	All	All	All	All
	$/kW	4.11	4.26	4.47	6.63	8.67	10.23	10.35	10.47	10.59	10.65	10.80	10.95	11.28	11.40
Second block	kW														
	$/kW														
Third block	kW														
	$/kW														
Remaining capacity	$/kW														
ENERGY															
All energy	¢/kWh						2.21	2.25	2.27	2.31	2.34	2.38	2.42	2.49	2.53
First 120 hours of use	¢/kWh	4.23	4.40	4.57	3.64	2.86									
capacity (First block)															
Second block	kWh	2 400 000	2 400 000	2 400 000	2 400 000	2 400 000									
	¢/kWh	2.33	2.42	2.52	2.45	2.35									
Third block	kWh														
	¢/kWh														
Remainder of energy	¢/kWh	1.60	1.68	1.77	1.93	2.10									
Premium for exceeding (Winter)															
		(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Exceptional call of capacity	$/kW	13.56	14.04	14.67	15.78	16.89	17.46	17.73	17.91	18.24	18.48	18.78	19.14	19.71	19.98
CREDIT LIMITATION OF CAPACITY (5)	$/kW														

(1) For 1975, 1976 and 1977, the price indicated is total.
(2) Applies to the surplus of the authorized capacity, which is limited, according to the engagement of the customer, on a level located between 100% and 133% of the contractual demand.
(3) Applies to the surplus of 100% of the contractual demand.
(4) Applies to the surplus of 110% of the contractual demand.
(5) If the customer commits himself limiting his calls of capacity in winter to 125% or less, of the contractual demand, this credit for limitation of capacity applies.

APPENDIX 2:
HISTORY OF RATE M

RATE M	**Reg..**	**#163 Jan. 1975**	**#173 Jan. 1976**	**#173 Jan. 1977**	**#205 Jan. 1978**	**#225 Jan. 1979**	**#225 Jan. 1980**	**#225 Jan. 1981**	**#290 Jan. 1982**	**#321 Jan. 1983**	**#346 Feb. 1984**	**#383 May 1985**	**#403 May 1986**	**#429 May 1987**
Capacity														
Price of the capacity to be invoiced	$/kW	1.60	1.75	1.90	2.40	2.55	2.91	2.94	3.21	3.45	3.66	3.75	3.93	4.11
ENERGY														
First hours of use	H.	100	100	100	120	120	120	120	120	120	120	120	120	120
capacity (First block)	¢/kWh	2.25	2.45	2.70	2.80	3.30	3.50	3.75	4.30	4.60	4.85	4.98	5.25	5.49
First block	kWh													
	¢/kWh													
Second block	kWh	15 000	15 000	15 000	45 000	66 000	81 000	87 000	87 000	87 000	78 000	78 000	78 000	78 000
	¢/kWh	1.10	1.20	1.30	1.30	1.55	1.90	2.15	2.60	2.80	2.97	3.04	3.21	3.36
Third block	kWh	35 000	35 000	35 000	480 000									
	¢/kWh	0.68	0.75	0.80	0.75									
Fourth block	kWh	800 000	800 000	800 000										
	¢/kWh	0.50	0.55	0.60										
Remainder of energy	¢/kWh	0.42	0.46	0.50	0.65	0.85	1.20	1.45	1.82	1.95	2.06	2.11	2.23	2.33
Premium for exceeding (Winter)														
Exceptional call of capacity	$/kW	2.00	2.00	2.00	3.60	4.50	5.40	6.00	9.00	9.60	7.50	7.68	8.07	8.43

(1) Applies to the surplus of 133% of the contractual demand (133 1/3% since May 1989).

RATE M	**Reg..**	**#453 May 1988**	**# 480 May 1989**	**# 499 May 1990**	**# 499 May 1991**	**# 569 May 1992**	**# 586 May 1993**	**# 586 May 1994**	**# 618 May 1995**	**# 642 May 1996**	**# 658 May 1997**	**# 663 May 1998**	**Jan. 2004**	**April 2004**
Capacity														
Price of the capacity to be invoiced	$/kW	4.26	4.47	6.63	8.67	10.41	11.52	11.61	11.61	11.61	11.79	11.97	12.33	12.48
ENERGY														
First hours of use	H.	120	120	120	120	75								
capacity (First block)	¢/kWh	5.65	5.83	4.88	4.21	3.90								
First block	kWh						240 000	240 000	240 000	210 000	210 000	210 000	210 000	210 0
	¢/kWh						3.45	3.52	3.52	3.60	3.66	3.72	3.83	3.89
Second block	kWh	78 000	78 000	78 000	78 000	150 000								
	¢/kWh	3.50	3.65	3.95	4.19	3.65								
Third block	kWh													
	¢/kWh													
Fourth block	kWh													
	¢/kWh													
Remainder of energy	¢/kWh	2.42	2.52	2.55	2.48	2.41	2.44	2.38	2.38	2.34	2.38	2.42	2.49	2.53
Premium for exceeding (Winter)														
Exceptional call of capacity	$/kW	8.73	(1) 9.09	(1) 9.78	(1) 10.47	(1) 10.83	(1) 11.97	(1) 12.36	(1) 12.36	(1) 12.36	(1) 12.57	(1) 12.78	(1) 13.17	(1) 13.35

(1) Applies to the surplus of 133% of the contractual demand (133 1/3% since May 1989).

APPENDIX 3:
HISTORY OF RATE G

RATE G	**Reg..**	**#163**	**#173**	**#173**	**#205**	**#225**	**#225**	**#225**	**#290**	**#321**	**#346**	**#383**	**#403**
		Jan.	**Jan.**	**Jan.**	**Jan.**	**Jan.**	**Jan.**	**Jan.**	**Jan.**	**Jan.**	**Feb.**	**May**	**May**
		1975	**1976**	**1977**	**1978**	**1979**	**1980**	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**
Subscription FEE													
Subscription Fee/month	$	0.85	1.00	1.00	3.60	4.20	5.10	6.00	6.90	7.35	7.74	7.98	8.40
PRICE OF THE CAPACITY													
For the surplus of xxx kW	kW	20	20	20	25	25	25	25	35	35	35	35	35
Price	$/kW	2.75	3.00	3.30	4.20	4.65	4.83	4.86	5.25	5.61	5.91	6.06	6.39
ENERGY													
First block	kWh	100	100	100	6 000	6 060	6 270	6 420	9 600	9 600	10 260	10 440	10 440
	¢/kWh	3.70	3.70	3.80	3.00	3.40	3.75	3.95	4.50	4.83	4.92	5.01	5.28
Second block	kWh	900	900	900									
	¢/kWh	2.60	2.80	3.00									
Third block	kWh	4 000	4 000	4 000									
	¢/kWh	2.15	2.30	2.50									
Remainder of energy	¢/kWh	1.10	1.20	1.30	1.30	1.55	1.90	2.15	2.60	2.80	2.97	3.04	3.21
Premium for exceeding (Winter)		(1)	(1)	(1)									
Exceptional call of capacity	$/kW	2.00	2.00	2.00	3.60	4.50	5.40	6.00	9.00	9.60	7.50	7.68	8.07

(1) This price is tiny room to 0.68 ¢/kWh in 1975. 0.75 ¢ into 76 and 0.8 ¢ into 77 for the part of the capacity consumption which exceeds at the same time 5 000 kWh and 250 hours of capacity (2) Appliesto the surplus of 133% of the invoiced capacity minimum (133 1/3% since May 1989).

Evolution of Rate structures - Rate G
1975-2004

RATE G	**Reg..**	**#429 May 1987**	**#453 May 1988**	**#480 May 1989**	**#499 May 1990**	**#499 May 1991**	**#569 May 1992**	**#586 May 1993**	**#586 May 1994**	**#618 May 1995**	**#642 May 1996**	**#658 May 1997**	**#663 May 1998**	**Jan. 2004**	**April 2004**
Subscription FEE															
Subscription Fee/month	$	8.79	9.12	9.51	10.20	10.86	11.19	11.28	11.31	11.31	11.31	11.49	11.67	12.03	12.18
PRICE OF THE CAPACITY															
For the surplus of xxx kW	kW	35	35	35	35	35	35	35	35	35	40	40	40	40	40
Price	$/kW	6.69	6.93	7.32	8.25	9.27	10.68	12.18	12.30	12.30	13.17	13.38	13.59	14.01	14.19
ENERGY															
First block	kWh	10 440	10 440	10 440	10 440	10 440	10 440	10 440	10 440	10 440	11 700	11 700	11 700	11 700	11 700
	¢/kWh	5.52	5.72	5.93	6.32	6.71	7.00	7.11	7.18	7.18	7.18	7.29	7.41	7.63	7.74
Second block	kWh														
	¢/kWh														
Third block	kWh														
	¢/kWh														
Remainder of energy	¢/kWh	3.36	3.50	3.65	3.95	4.24	3.85	3.58	3.62	3.62	3.62	3.68	3.74	3.85	3.90
Premium for exceeding (Winter)															
Exceptional call of capacity	$/kW	8.43	8.73	(2) 9.09	(2) 9.78	(2) 10.47	(2) 10.83	(2) 12.33	(2) 13.08	(2) 13.08	(2) 13.08				

(1) This price is tiny room to 0.68 ¢/kWh in 1975. 0.75 ¢ into 76 and 0.8 ¢ into 77 for the part of the capacity consumption which exceeds at the same time 5 000 kWh and 250 hours of the capacity to be invoiced.
(2) Applies to the surplus of 133% of the invoiced capacity minimum (133 1/3% since May 1989).

APPENDIX 4:
HISTORY OF G-9 RATE

G9 RATE	**Reg..**	**#163 Jan. 1975**	**#173 Jan. 1976**	**#173 Jan. 1977**	**#205 Jan. 1978**	**#225 Jan. 1979**	**#225 Jan. 1980**	**#225 Jan. 1981**	**#290 Jan. 1982**	**#321 Jan. 1983**	**#346 Feb. 1984**	**#383 May 1985**	**#403 May 1986**	**#429 May 1987**
Capacity	$/kW	0.75	0.85	0.95	1.20	1.44	1.56	1.71	1.95	2.10	2.22	2.28	2.40	2.52
Energy (all)								4.60	5.50	5.90	6.10	6.25	6.59	6.88
Blocks of hours of use of the capacity to be invoiced:														
First 100 H	¢/kWh	3.10												
From 100 H with 200 H	¢/kWh	2.70												
First 200 H	¢/kWh		3.60	3.30										
First 300 H	¢/kWh				3.70									
First 360 H	¢/kWh					4.10								
First 510 H	¢/kWh						4.50							
Remainder of consumption	¢/kWh	0.78	0.90	1.10	1.50	2.10	2.80							
Minimal monthly amount	$/kWh	0.75	0.85	0.95	1.20	1.44	1.56	1.71						
single-phase current	$								6.90	7.35	7.74	7.98	8.40	8.79
Polyphase	$								20.70	22.05	23.22	23.94	25.20	26.37

G9 RATE	**Reg..**	**#453 May 1988**	**#480 May 1989**	**#499 May 1990**	**#499 May 1991**	**#569 May 1992**	**#586 May 1993**	**#586 May 1994**	**#618 May 1995**	**#642 May 1996**	**#658 May 1997**	**#663 May 1998**	**Jan. 2004**	**April 2004**
Capacity	$/kW	2.61	2.73	3.06	3.42	3.45	3.36	3.39	3.39	3.45	3.48	3.51	3.60	3.66
Energy		7.14	7.39	7.78	8.20	8.20	7.22	7.30	7.30	7.42	7.54	7.67	7.91	8.01
Blocks of hours of use of the capacity to be invoiced:														
First 100 H	¢/kWh													
From 100 H with 200 H	¢/kWh													
First 200 H	¢/kWh													
First 300 H	¢/kWh													
First 360 H	¢/kWh													
First 510 H	¢/kWh													
Remainder of consumption	¢/kWh													
Minimal monthly amount	$/kWh													
single-phase current	$	9.12	9.51	10.20	10.86	11.19	11.28	11.31	11.31	11.31	11.49	11.67	12.03	12.18
polyphase	$	27.36	28.53	30.60	32.58	33.57	33.84	33.93	33.93	33.93	34.47	35.01	36.09	36.54

APPENDIX 5:
HISTORY OF RATE H

RATE H		**#163 Jan. 1975**	**#173 Jan. 1976**	**#173 Jan. 1977**	**#205 Jan. 1978**	**#225 Jan. 1979**	**#225 Jan. 1980**	**#225 Jan. 1981**	**#290 Jan. 1982**	**#321 Jan. 1983**	**#346 Feb. 1984**	**#383 May 1985**	**#403 May 1986**	**#429 May 1987**
Capacity	$/kW								1.89	2.01	2.10	2.13	2.22	2.31
Energy														
Apart from the days of week in winter (¢/kWh)	¢/kWh								2.30	2.45	2.65	2.70	2.84	2.97
During the days of week in winter (¢/kWh)	¢/kWh								10.00	10.00	10.00	10.00	10.54	11.20

RATE H		**#453 May 1988**	**#480 May 1989**	**#499 May 1990**	**#499 May 1991**	**#569 May 1992**	**#586 May 1993**	**#586 May 1994**	**#618 May 1995**	**#642 May 1996**	**#658 May 1997**	**#663 May 1998**	**Jan. 2004**	**April 2004**
Capacity	$/kW	2.40	2.52	2.94	3.51	4.05	4.11	4.14	4.20	4.23	4.29	4.35	4.47	4.53
Energy														
Apart from the days of week in winter (¢/kWh)	¢/kWh	3.09	3.21	3.21	3.44	3.56	3.61	3.65	3.70	3.75	3.81	3.87	3.99	4.05
During the days of week in winter (¢/kWh)	¢/kWh	11.70	12.18	12.18	13.00	13.50	13.71	13.85	14.06	14.24	14.47	14.70	15.14	15.35

APPENDIX 6:
HISTORY OF FIXED PRICE RATES
FOR GENERAL USE

Year	fixed price rates					Rate G	Point of balance between Rate T-3 and Rate G	
	T-1	T-2	T-3	Minimal amount				
	Daily	Weekly	30 days	Single-phase	Polyphase	1 era tier		
	$/kW	$/kW	$/kW	$	$	¢/kW	Hours/month	Utilization Factor
1975	0.85	2.55	7.65	1.70	5.10	3.70	207	28.7
1976	0.95	2.85	8.55	1.85	5.55	3.70	231	32.1
1977	1.05	3.15	9.45	2.00	6.00	3.80	249	34.5
1978	1.30	3.90	11.70	2.40	7.20	3.00	390	54.2
1979	1.50	4.50	13.50	2.76	8.28	3.40	397	55.1
1980	1.74	5.22	15.66	3.21	9.63	3.75	418	58.0
1981	1.92	5.76	17.28	3.54	10.62	3.95	437	60.8
1982	2.19	6.57	19.71	4.05	12.15	4.50	438	60.8
1983	2.35	7.05	21.15	4.35	13.05	4.83	438	60.8
1984	2.42	7.26	21.78	4.56	13.68	4.92	443	61.5
1985	2.48	7.44	22.32	4.62	13.86	5.01	446	61.9
1986	2.61	7.84	23.46	4.71	14.13	5.28	444	61.7
1987	2.73	8.20	24.54	4.92	14.76	5.52	445	61.7
1988	2.83	8.47	25.41	5.10	15.30	5.72	444	61.7
1989	2.94	8.82	26.46	5.31	15.93	5.93	446	62.0
1990	3.15	9.45	28.35	5.70	17.10	6.32	449	62.3
1991	3.38	10.15	30.45	6.09	18.27	6.71	454	63.0
1992	3.50	10.50	31.50	6.30	18.90	7.00	450	62.5
1993	3.57	10.71	32.13	6.45	19.35	7.11	452	62.8
1994	3.57	10.71	32.13	6.45	19.35	7.18	447	62.2
1995	3.57	10.71	32.13	6.45	19.35	7.18	447	62.2
1996	3.57	10.71	32.13	6.45	19.35	7.18	447	62.2
1997	3.57	10.71	32.13	6.45	19.35	7.29	441	61.2
1998	3.57	10.71	32.13	6.45	19.35	7.41	434	60.2
1999	3.57	10.71	32.13	6.45	19.35	7.41	434	60.2
2000	3.57	10.71	32.13	6.45	19.35	7.41	434	60.2
2001	3.57	10.71	32.13	6.45	19.35	7.41	434	60.2
2002	3.57	10.71	32.13	6.45	19.35	7.41	434	60.2
2003	3.57	10.71	32.13	6.45	19.35	7.41	434	60.2
2004 *	3.73	11.20	33.57	6.72	20.19	7.74	434	60.2

* Rates in force at April, 1 2004

APPENDIX 7:
IMPACT OF THE PASSAGE OF THE THRESHOLD OF INVOICING OF CAPACITY OF 40 kW To 45 kW WITH The RATE G
(EXAMPLES OF MONTHLY INVOICES)

- RATE G: Impact of the passage of the threshold of invoicing of the capacity of 40 kW to 45 kW - (Examples of monthly invoices)

	Rate G current to 40 kW	**Rate G to 45 kW**
Threshold of capacity (kW)	40	45
Energy treshold (kWh)	11 700	13 200
Fee ($/kW)	12.18	12.18
Capacity ($/kW)	14.19	14.24
Energy 1st block	7.74	7.77
Energy 2nd block	3.90	3.91
Invoice minimum	36.54	36.54

	Profile of the customer			**Invoice with Rate G to 40 kW**			**Invoice with Rate G to 45 kW**			
	Factor of use	**Energy**	**Capacity maximum called**	**Energy**	**Capacity**	**Total**	**Energy**	**Capacity**	**Total**	**Variation**
	(%)	**(kWh)**	**(kW)**	**($)**	**($)**	**($)**	**($)**	**($)**	**($)**	**(%)**
Case 1: Customer not invoiced in capacity (called maximum capacity of 40 kW or less)										
• Low consumption (less than 11 700 kWh)	N/D	8 000	-	619	-	631	622	-	634	0.4%
• Strong consumption (more than 13 200 kWh)	N/D	15 000	-	1 034	-	1 046	1 096	-	1 108	5.9%
Case 2: Customer who will not be invoiced any more in capacity (maximum capacity called > 40 kW and ≤ 45 kW)										
• Low utilization ratio	36%	11 000	42	851	28	892	855	-	867	-2.8%
• Strong utilization ratio	50%	15 000	42	1 034	28	1 075	1 096	-	1 108	3.1%
Case 3: Customer invoiced in capacity (maximum capacity called of more than 45 kW)										
• Very weak utilization ratio	1%	300	50	23	142	177	23	71	107	-39.8%
• Weak utilization ratio	31%	11 000	50	851	142	1 005	855	71	938	-6.7%
• Strong utilization ratio	69%	40 000	80	2 009	568	2 589	2 074	498	2 584	-0.2%