

SAR

Langlois Gaudreau

S.E.N.C. A V O C A T S

Tour Scotia
1002, rue Sherbrooke Ouest
28^e étage
Montréal (Québec)
Canada H3A 3L6
Téléphone (514) 842-9512
Télécopieur (514) 845-6573
www.langloisgaudreau.com

Montréal, le 21 septembre 1998

Me Véronique Dubois
Secrétaire
Régie de l'énergie
Tour de la Bourse
800, Place Victoria
Montréal (Québec) H4Z 1A2

Par messenger

OBJET : Option Consommateurs et Fédération nationale des associations de
consommateurs du Québec (FNACQ)
Re : Cause tarifaire SCGM 1999
V/dossier : R-3397-98
N/dossier : 68068-003

Chère Me Dubois,

Veuillez trouver sous pli, tel que convenu, quinze (15) exemplaires de la version corrigée de la preuve que déposaient Option Consommateurs et la FNACQ à la Régie de l'énergie le 18 septembre dernier dans le cadre du dossier mentionné en rubrique.

Espérant le tout à votre convenance et vous remerciant encore une fois de votre aimable collaboration, veuillez recevoir, chère Me Dubois, l'expression de nos sentiments les meilleurs.

LANGLOIS GAUDREAU, s.e.n.c.


Sylvie Catherine Tremblay pour
BENOÎT PEPIN (NON RELUE)
BP/sct

P.j.
c.c. : Me Jocelyn B. Allard
Tous les intervenants

Société en Commandite Gaz Métropolitain

before the Québec Régie de l'énergie

Cause tarifaire 1999
R-3397-98

Evidence of
Mark Drazen
Lynn Pearson

On behalf of
Option Consommateurs

Fédération Nationale des Associations de
Consommateurs du Québec

Project 981127
August, 1998

Société en Commandite Gaz Métropolitain

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Société en Commandite Gaz Métropolitain

Cause tarifaire 1999, R-3397-98

Evidence of Mark Drazen

Part I

Introduction

Introduction

This evidence is submitted on behalf of Option Consommateurs and the Fédération Nationale des Associations de Consommateurs du Québec (FNACQ).

The subjects covered in this evidence are:

- the proposed “new regulatory framework” (SCGM-15);
- temperature normalization (SCGM-4);
- cash working capital (SCGM-13); and
- residential market development (SCGM-3).

In addition to analyzing the specific proposals of Société en Commandite Gaz Métropolitain (SCGM), this evidence also discusses some general principles for ratemaking, particularly those related to alternate modes of regulation. SCGM sees itself as operating in a competitive market. Throughout North America, utilities are viewing themselves more in competitive terms rather than monopolistic terms. A large part of this involves alternate approaches to regulation. For example, “incentive regulation” is, by its very nature, a step away from traditional cost of service regulation. Therefore, we must evaluate the analysis of costs in terms of the overall results and incentives that are expected. More specifically, incentive regulation creates a different risk/reward profile than traditional regulation. This means that we must evaluate components of the ratemaking process, such as return on equity and temperature normalization, in terms of how they affect the risk/reward exposure of the utility.

Overview of Evidence

Part II is a discussion of incentive regulation in general. This provides a background for the evaluation of SCGM's proposal.

Part III is an analysis of SCGM's proposal. The conclusion is that the "performance incentive mechanism" proposal is too heavily weighted in favour of the owners relative to customers. We recommend not accepting SCGM's proposal in this case. Instead, the Régie should direct SCGM to negotiate an incentive regulation proposal with its customers. The goal should be incentives for SCGM to reduce rates relative to the expected results of current traditional cost of service regulation.

Part IV is a discussion of cash working capital. SCGM's calculation overstates the necessary working capital because it omits a significant source of working capital, which is the funds collected for interest payments and preferred dividends. These reduce the cash working capital requirement. Also included is a discussion of the treatment of return on equity in the cash working capital calculation.

Part V concerns the proposed change in volume and revenue normalization for temperature. From a purely technical point of view, the proposal does not necessarily correct the "imprecisions" that SCGM claims exist in the current methodology. More important, it does not appear to improve the fairness of the ratemaking process. The effect would be to increase in SCGM's income. Given that inadequate income has not been a problem in the past, there does not appear to be any need for a "solution". However, if the change is made, that should be recognized as reducing SCGM's risk exposure, which, in turn, affects the cost of capital.

Part VI deals with SCGM's proposed residential market development plan. SCGM claims that this will improve the stability of sales. If true, that reduces the overall risk of the Company. SCGM says it is concerned about the competitive position of gas in the residential market. If the increased share of the residential market is worth pursuing, SCGM should find a way to do so in a way that does not increase rates for other customers.

Part II

Incentive Regulation—General

Introduction

This section provides an overview and analysis of “incentive regulation” in general terms, as the background for the analysis of SCGM’s proposal and recommended changes.

Regulation is necessary in markets where competition is not robust enough to control market power. Traditional cost of service regulation served this purpose well and has been used particularly in North America to control the prices in regulated markets as the markets developed. However, there is a general tendency to view all markets as increasingly competitive and in that environment, traditional regulation falls short.

Conventional cost of service regulation is familiar territory, but there is increasing frustration with the process and evidence that the results are quite variable—sometimes good, often mediocre and occasionally quite bad. Incentive regulation holds promise for better results, but only if the expectations are reasonable and the method intelligently designed. A poorly designed incentive regulation plan can be worse for customers than conventional cost of service regulation.

In this section, we shall discuss the goals of incentive regulation and provide a critique of possible methods. The evidence of Dr. Morin (SCGM-15, Doc. 2.3) and Dr. Rabeau (SCGM-15, Doc. 3) provides some overview of incentive regulation (IR) methods. This section will not repeat their points, but complement them and, where appropriate, comment on them.

Goals

The basic goal of “incentive regulation” is to produce (1) lower rates and (2) higher returns than can be achieved under conventional cost of service regulation. In more abstract terms, the intent is to align better the interests of consumers and owners by creating a more market-like environment. For example, the Incentive Toll agreement between users and Interprovincial Pipe Line (IPL) signed in 1995 and approved the National Energy Board (Order TO-1-95) stated:

*It is intended that the incentive based toll methodology contemplated by these Principles of the Settlement will better align the interests of IPL and its tollpayers by providing a framework which encourages cost reductions and the **minimization of tolls for service, relative to the tolls that would have existed under a cost of service approach, and simultaneously permits IPL an opportunity to increase profitability.** Moreover, the proposal is intended to encourage maximization of*

throughput on the IPL System, reduce burdens associated with traditional cost of service regulation, and provide a long-term basis for efficient and effective toll regulation of IPL. (Incentive Toll Principles of Settlement, emphasis added)

In 1992, the U.S. Federal Energy Regulatory Commission (FERC) said:

*Now, the Commission is interested in providing alternatives to traditional cost-of-service regulation for companies with market power, especially alternatives that encourage productive efficiency, **result in lower rates to consumers** and provide utilities the opportunity to earn higher returns.*

* * *

*It must be emphasized that incentive regulation is an alternative to cost-of-service regulation for utilities in non-competitive markets. The goals are to **lower costs, reduce administrative burdens and improve pricing and services.***

* * *

Incentive regulation is an alternative to traditional cost-of-service regulation that gives greater emphasis to productive efficiency in non-competitive markets. (Federal Energy Regulatory Commission, Notice of Proposed Policy Statement on Incentive Regulation, Docket No. PL92-1-000, March 13, 1992, emphasis added)

In 1993, the U.S. Federal Communications Commission (FCC) commented:

*With this Report, we conclude our review of AT&T's performance during the first four years of price cap regulation. This review largely confirms our expectations for price caps: that it represents an improvement over rate of return regulation, **combining lower rates with effective incentives for improved efficiency and innovative services.** (Federal Communications Commission, Price Cap Performance Review for AT&T, FCC Docket No. 92-134, July 23, 1993, emphasis added)*

In a competitive marketplace, price is dictated by overall supply and demand, not by any one supplier. This means that *costs are driven by prices*, not the other way around, as is usual in conventional regulation. This, in turn, creates incentives for management to improve the overall efficiency and reduce costs, without having regulators or customers get involved in the details of how that is done.

Incentive regulation is used to introduce the discipline that the market exerts on suppliers, in those markets where competition is deemed unworkable for structural and other reasons. An incentive regulation program that is well designed should refocus suppliers' effort on efficiency and cost minimization in the market rather than the regulatory arena.

A collateral benefit of "incentive regulation" is that it reduces the regulatory burden. This reduction in regulatory activity is not an end in itself. Rather, it is a consequence of the fact that a "result-oriented" approach to price setting has been adopted.

Creating the Right Incentives

“Incentive regulation” is really an umbrella term for a number of different ways of determining the cost of service and/or setting rates, all of which differ in some way from traditional cost of service regulation. Some variants include “price cap regulation” (PCR) and “performance-based regulation” (PBR). “Incentive regulation” is an ambiguous term for the simple reason that *all* regulation creates incentives. The incentives created by current cost of service regulation are not aligned with the changes in markets—increased competition and the resulting need for cost savings through improved productivity and efficiency. Traditional cost of service regulation does not provide strong incentives to minimize costs. Instead, the incentive is to *justify* to the regulator the amounts that have been spent.

How, then, can better incentives be provided? “Performance-based regulation” is too narrow, because it means that specific areas of performance will be measured, which will then somehow affect the prices paid (or perhaps just the owner’s profit). Moreover, as SCGM’s Witnesses Bessette and Noël observe, the utility may then focus on maximizing specific aspects of performance, rather than maximizing the total results (SCGM-15, Doc. 1, Page 15). SCGM considered and rejected using “price cap regulation”. However, as discussed at length below, its interpretation of “price cap regulation” was overly restrictive.

SCGM did not include revenue caps in its discussion of alternative incentive regulation options.

En ce qui concerne le «revenue cap», ou plafonnement des revenus, ce mécanisme présente de sérieuses lacunes, au point où certains auteurs sont convaincus que la situation serait meilleure sans réglementation. Nous n’avons donc pas retenu cette méthode comme une alternative valable. (SCGM-15, Doc. 1.6(b))

We agree that revenue caps will not create better incentives than traditional cost of service regulation and, therefore, exclude them from our discussion as well.

For this reason, we sometimes use the term “price/quality regulation” (PQR). This signifies that the goal we are seeking is to enable purchasers to focus on the *outputs* of the firm—price¹ and quality—not the inputs (rate base, return on equity, etc.).

¹One might observe that “price regulation” is also somewhat ambiguous, because regulators have always regulated prices. The reality, though, is that the regulators have determined the costs and the prices have been the result of that determination.

"Tight" vs. "Loose" Cost of Service Regulation

The traditional regulatory approach for price setting is to determine (1) the cost of service (which comprises many separate items), and (2) the volume of service (Mcf or 10^3m^3). Total cost divided by total volume produces the unit price. In traditional regulation, this is done every year or two in a hearing to examine all parts of the cost and volume forecast. This can be called "tight" cost of service regulation, in that rates are set so as to be as close as possible to the actual cost of service, with the condition that the cost of service must be prudently incurred. This requires a close scrutiny of all the utility's costs.

Incentive regulation is normally still based on cost of service, but the linkage between rates and cost is loosened. Indeed, incentive regulation works precisely because rates are allowed to diverge from cost. The potential for reducing costs faster than rates provides the proper incentive for a utility to become more efficient. On the other hand, the risk that costs will exceed rates is the risk that the utility bears in exchange for the potential reward. Therefore, we not only allow rates to diverge from costs, we encourage that result as a way of creating a risk/reward potential for the utility. IR can thus be called "loose" cost of service regulation.

Concerns About Traditional Regulation

Dr. Morin comments that:

First, traditional RORR [rate of return regulation] has served utilities well historically in raising record amounts of capital and in generating fair and reasonable returns. Second, traditional RORR does provide some assurance that investors will earn a fair and reasonable rate of return despite regulatory lag. (SCGM-15, Doc. 2.3, Page 8)

These statements are true when the environment is stable. However, the last several years have provided several examples where traditional regulation has served neither investors nor customers well, as conditions change. In the U.S., several electric companies experienced (or flirted with) bankruptcy: Public Service of New Hampshire, Arizona Public Service, Tucson Electric Power and Niagara Mohawk Power Company. Customer dissatisfaction with the results has also been increasing. Part of the problem is that regulatory control over the results of decisionmaking do not guarantee that good decisions will be made. However, in the absence of inherent incentives (such as a competitive market) that is exactly what regulators and customers must try to do in the regulatory process.

Furthermore, the nature of utilities and the regulatory process makes accommodation to rapid change quite difficult. That is why traditional regulation has seemed to work well in stable environments, but much less well in a changing environment.

SCGM has been regulated in a slightly different way than most other utilities. There has been a regulatory review every year. If, at the end of the year, SCGM's costs were lower than forecast, half of the overcollection was returned to customers. Most other utilities do not have annual reviews; rates are fixed for an indefinite period. If the utility overearns (or underearns), no adjustment is made. In recent years, this has led to a situation where many gas utilities have been content to keep their existing rates in place without any increase.

Micro and Macro IR Methods

Conventional cost of service regulation reviews each and every input to the price—that is, all of the investments and expenses (on a line-by-line basis) and the associated management decisions. "Micro" forms of IR continue this, but relax the linkage between price and actual cost, by applying less exacting review and/or adjustment to certain cost components. Such methods still rely on cost of service calculations, albeit modified; they continue the "micro management" of the firm, but not down to the same level of detail.² For example, the total labour cost included in the cost of service calculation might be adjusted by an inflation index, rather than being set equal to the actual amount. If actual labour cost is less than this indexed amount, the owner keeps the saving. (SCGM's proposal falls in this category.)

A "macro" method, on the other hand, focuses directly on the rates. Each year, rates are adjusted by a pre-determined formula without having to review all the firm's costs. This is more like a competitive market, where market conditions set prices and an individual firm is a price-taker, with the obligation (and freedom) to maximize the efficiency of overall operations. If actual costs are less than the formula-determined rates, the owner keeps the saving. Customers do not particularly care how the Company meets the price and quality standards imposed by the market; that is the concern and responsibility of management.³

"Micro" Method—Indexed Cost Component

A small step toward creating incentives is to use a formula for one or more components of the total cost of service, rather than trying to establish them by detailed regulatory review. In the example above, the total labour costs included in the cost of service (COS) is adjusted by an inflation index. In order that customers receive some benefit from this approach, the amount of labour cost included in the calculation is reduced by a pre-set productivity offset, called an "X factor". The incentive is for the firm to reduce its labour cost because it can then keep the difference between the assumed amount and the actual

²This is what Dr. Morin calls "Modified Rate of Return" Regulation (SCGM-15, Doc. 2.3, Page 9).

³Dr. Morin calls this "Price Cap" or "Social Contract" regulation (SCGM-15, Doc. 2.3, Page 9).

amount. Using the Retail Price Index (RPI) as the measure of inflation, the labour cost component included in the total cost of service would simply be the base year labour cost plus the “RPI - X” increase:

Indexed Cost Component

$$\text{Labour cost in COS in year } n+1 = (\text{Labour cost in year } n) \times (1 + [\text{RPI} - X])$$

One problem with this is that it ignores the potential for fundamental restructuring of the utility’s operations. Many utilities have been able to reduce the size of the work force, even though sales and customers were increasing. It is difficult to capture this effect in a productivity offset, because the utility undergoes a “step change” from the pattern established in previous years. Moreover, even if a utility can reduce its work force by, say, 5% in one year, it cannot keep up that pace of improvement indefinitely. A second problem is the interchangeability of different factors of production. For example, labour expense for meter reading can be reduced by additional capital invested in automated meter reading technology. On a global basis, this shift will save money, but customers could see higher rates if they are forced to pay for the additional investment while not receiving an appropriate share of the labour cost savings.

“Micro” Method—Performance-Based Equity Return

The required return on equity for a utility is often determined to be within a certain range. For example, Dr. Morin shows that the risk premium resulting from various methods is 4.2%-5.1%, implying a possible range in the recommended return of 0.9%. Where within this range is the appropriate number? The simplest approach is to take the mid point. A “performance-based” approach is to deviate from the mid point, up or down, depending on whether the Company has achieved certain performance criteria. A Company that has done exceptionally well receives a return on equity at the high end of the range. The Company that has done poorly receives a return at the low end of the range.

We agree with the observations of the SCGM witnesses that this can result in an overly narrow focus. However, this approach has the benefit of defining the variation in equity return that can result from above-standard or substandard performance. In contrast, methods that focus on a cost component, particularly if it is a large component, can expose the utility to wider swings in return on equity.

“Macro” Method—Indexed Rates

The usual form of “macro” incentive regulation is an indexed rate. This uses the same “RPI - X” type of formula discussed above, but with the adjustment applied to rates. Thus, the rate adjustment looks like this:

Inflation-Indexed Rate Adjustment

$$\text{Rate increase in year } n+1 = (\text{Rate in year } n) \times (\text{RPI} - X\%)$$

The simplest version of this is a “price freeze”, under which rates are fixed for a period of several years. In this case, the productivity offset is assumed to be equal to the rate of inflation.

Price Caps

Such formula-based rate adjustments are often coupled with flexibility for the utility to charge rates lower than the allowed level. In this case, the indexed prices are not necessarily the ones that are charged, but ceilings (“caps”) on allowable rates.⁴

Strictly speaking, the “price cap” idea refers to flexibility. Because price cap flexibility is usually coupled with indexed rates, we shall refer to the combination as “Price Cap” regulation. An advantage of price cap regulation is that the discounts granted by the utility in order to attract or retain business do not increase rates to other customers.

In this respect, SCGM has taken an unnecessarily narrow approach to defining price cap regulation. The Company states:

Par exemple, l'indexation du tarif attendu s'apparente à l'indexation des tarifs observés dans un plafonnement des prix, à la différence que dans notre proposition, le tarif indexé n'est pas automatiquement le tarif appliqué. (SCGM-15, Doc. 1.7(b))

The term “price cap” seems clear, but SCGM has misinterpreted it by assuming that the price cap is automatically the price charged.

Price Cap Refinements

Price cap regulation involves a balancing of interests and expectations. The utility naturally fears that rates will not be adequate to recover its costs. (See, for example, the concern that the utility would have to adopt “draconian” measures in the testimony of witnesses Bessette and Noël, SCGM-15, Doc. 1, Page 14). Customers, for their part, worry that the utility will earn excessive returns and that customers will not receive enough benefit. Our experience is that utilities tend to be extremely conservative in assessing potential gains, whereas customers suffer from a lack of information.

⁴We recognize that the *Loi sur la Régie de l'énergie* provides that SCGM can only charge the tariffs fixed by the Régie or the government. This does not preclude price flexibility. Most likely, it means that SCGM would have to request the Régie authority to charge rates below the price capped amounts.

In order to address these concerns, price cap plans can include additional features designed to prevent large mismatches between cost of service and rates. These include:

- periodic rebasing; and
- return sharing.

There is an interplay among the features, particularly the “X factor” and the return sharing. As explained below, this is why negotiations are often useful—or even required—to obtain a plan satisfactory to all parties.

Periodic Rebasing

The price cap adjustment formula is normally set for a certain period, such as five years. At the end of the period, the parties would look at *rebas*ing the rate, to reflect actual cost of service at that time. Rebas

ing gives owners the chance to increase prices if they have not been able to reduce costs to the extent expected, while it gives customers the chance to share in cost savings that were larger than forecast. The rules for rebasing have to be specified in advance. One component that is very important is that all sides will be required to play by the rules. If utilities are concerned that customers may be able to “claw back” all the profit between rebasing, the incentive to cut costs will be diminished.

Return Sharing

A five-year formula approach may cause some uneasiness, particularly when this is being done for the first time. Consumers are dealing with this process at an information disadvantage, because the utility knows far more about its operations than do the consumers—regulatory proceedings notwithstanding. A component of many PCR plans is a *return sharing mechanism*, whereby the owner's returns above a certain level are shared with customers. For example, if the price cap formula is built on a return on equity of 10.5%, the agreement might be that customers get 70% of any equity return above 10.5% up to 12.5%, and 40% of any return above 12.5%. These numbers are chosen to illustrate a form of *progressive* return sharing. This means that customers get the larger share (i.e., greater than 50%) of any excess return in the first block (i.e., above 10.5% up to 12.5%). Owners get the larger share (60%) of any increased return above the first block (i.e., above 12.5%). A progressive sharing mechanism is intended to give customers the larger share of any excess return in the first block because these increased profits are easier for the owner to achieve. Giving the owner the larger share of any additional returns beyond this point will give the owner an added incentive to increase its efficiency in order to achieve a higher level of return.

There is an important trade-off between the aggressiveness of the price adjustment formula and the need for a return sharing mechanism. If the formula is set so as to give customers sizable up-front benefits (e.g., a productivity offset of 5%, which will most

likely reduce rates each year), customers may be comfortable with the idea that the utility may keep the entire return above the targeted level. On the other hand, to the extent that the price adjustment formula embodies more modest expectations, customers will want a larger share of any extra (greater than forecast) profit.

Negotiating a Proposal

Implementation of PCR plans has, in many cases, depended upon negotiations. This is because PCR involves determining a risk/reward relationship that is acceptable to all parties. Incentive regulation agreements for Interprovincial Pipe Line, Nova Gas Transmission and TransCanada PipeLines were developed through negotiation. It is unusual that SCGM has presented an incentive regulation proposal without first meeting with the stakeholder groups to get their feedback. SCGM failed to consult residential and other customer groups for their views during the development of its incentive regulation proposal (SCGM-15, Doc. 1.5(b)). The consent of customers, residential and industrial, can be an important building block in the "social contract" that SCGM is seeking.

To summarize, the main elements of a typical PCR approach are:

- a formula method of adjusting prices annually;
- a reasonable period between detailed cost of service reviews;
- a rate of return sharing mechanism; and
- flexibility to set rates below the cap.

Summary of Incentive Regulation Principles

- The goals are to produce rates lower than under conventional regulation, and returns higher than under conventional regulation.
- The expectation is that charges are *generally* based on cost of service, with a process and definition that creates more incentives for reducing the cost.
- This relies on the profit motive to encourage owners to create efficiency savings.
- Efficiency gains are fairly shared between owners and customers.
- Once established, this form of regulation should be simpler and less time consuming than repeated traditional cost of service regulatory hearings.
- The process must begin with reasonable and clearly-stated expectations and criteria for evaluation.

Part III

SCGM Proposal

Introduction

SCGM has proposed changes that it terms an “incentive mechanism”. In this section, we analyze the proposal. The conclusion is that SCGM’s proposal seems to offer little benefit to customers, especially relative to the benefit to shareholders.

Goals

SCGM has described the goals of the new framework to be:

1. *Correspondre au contexte du marché;*
2. *Simplifier et assouplir le processus d’établissement des tarifs;*
3. *Produire des tarifs justes et raisonnables;*
4. *Permettre de réaliser un rendement raisonnable;*
5. *Encourager l’amélioration de la performance globale en responsabilisant la Société;*
6. *Favoriser l’introduction de mesures de contrôle de coûts qui ont un impact à moyen et long termes. (SCGM-15, Doc. 1, Page 11)*

These are all worthwhile goals, but notably absent is an explicit statement that a primary goal should be *tolls that are lower than under conventional cost of service regulation*.

Components

SCGM’s new regulatory framework has two main components:

- (1) an “incentive mechanism” for improving performance; and
- (2) a formula basis for determining return on equity.

SCGM’s Performance Incentive Proposal

The performance incentive mechanism is designed to reward the Company for keeping the increases in its “base operating costs” (defined as all operating costs other than upstream supply, transportation, storage at source and return on equity) to less than the rate of inflation. This mechanism is based on an annual comparison of two cost levels—the *expected cost of service (coût de service attendu)* and the *required cost of service (coût de service requis)*. The *expected cost* is a hypothetical amount calculated by assuming that a defined portion of the Company’s total cost increases at the rate of inflation. The

required cost is the forecast cost for the next year calculated in conventional cost of service terms. To the extent that the *required cost* is lower than the *expected cost*, the Company is given two-thirds of the difference. That is, rates are set thus:

$$\text{Allowed revenue} = \text{Required cost} + \frac{2}{3} \text{ of } (\text{Expected cost} - \text{Required cost})$$

If, however, the *required cost* exceeds the *expected cost*, then the Company is allowed to charge the higher *required cost*. In short, the Company always charges at least the forecast cost of service (based on traditional COS regulation) for the coming year. To the extent that inflation might have pushed the rates even higher, the Company is rewarded with two-thirds of the hypothetical "saving".

SCGM's stated intent is to repay any increase in excess of the expected tariff before it is allowed to benefit from an increased return in subsequent years.

. . . SCGM devra attendre de «rembourser» l'augmentation excédant les tarifs attendus avant de pouvoir bénéficier à nouveau d'une bonification du rendement.
(SCGM-15, Doc. 1.7(d))

This is not a benefit to customers. Note that the restriction on incentive payments is only prospective. The above-inflation increase would not be offset by any of the previous bonuses received by shareholders.

Analysis of SCGM's Proposed Performance Incentive Mechanism

In contrast to most other plans, SCGM's proposed "incentive" mechanism is a one-way street. It provides potential for additional reward to the utility, but no risk. As described above, under SCGM's proposal, the revenue requirement is never lower than the required cost of service (based on traditional regulation) and may well be higher. SCGM's explanation for this is:

De plus, nous croyons qu'un incitatif à la performance ne devrait pas comporter de volet punitif. En effet, il suffit que l'incitatif mis en place soit suffisamment attrayant pour amener la Société à adopter le comportement souhaité. La coercition ne fait que favoriser l'évitement du risque plutôt que d'encourager la recherche de solutions novatrices. (SCGM-15, Doc. 1, Page 6)

SCGM apparently sees the potential for additional risk (i.e., loss of income) as a punishment. This is a failure to recognize the risk/reward trade-off in all IR mechanisms. Under SCGM's current incentive mechanism, the Company already receives 50% of any excess earnings. The proposed IR method does not represent an improvement over the existing method for customers. It would simply increase SCGM's profits without any additional risk.

In what sense, then, does this mechanism benefit customers? SCGM's explanation is:

Le mécanisme de rendement incitatif proposé repose sur le principe que le client s'attend à ce que la progression du coût de service du distributeur, et donc des tarifs, qu'il exige, ne soit pas supérieure à l'inflation, c'est-à-dire que le distributeur soit amené à introduire des baisses tarifaires en termes réels. (SCGM-15, Doc. 1, Page 16)

This is the gist of the problem. There is no reason why customers should expect gas distribution rates to go up faster than or even at the rate of inflation. Many other gas companies have had no increases at all for several years. SCGM's proposal does not provide for a reduction relative to actual cost of service to customers. This is despite the level of past investment and the maturity of the development of the franchise which is such that rates should be expected to decline without any additional effort from SCGM, but simply as a result of amortization of past expenditures.

In order to evaluate the effectiveness of an incentive regulation program, we need to know what would be expected to happen if the program is not implemented. However, SCGM has declined to provide information on its forecast cost of service. Although certain cost components may increase from year to year at a rate similar to inflation (labour, for example), others may increase at a much lower rate, remain level or even decrease. For example, the net plant investment shows a very small increase, because increases in the gross book value are largely offset by increases in the accumulated depreciation:

Change in Net Investment

	Beginning of Year 98-Oct-01 <u>(\$M)</u>	End of Year 99-Sep-30 <u>(\$M)</u>	<u>Change</u>
Gross investment	\$2,084.5	\$2,156.8	\$72.3
Accumulated depreciation	<u>(637.6)</u>	<u>(701.2)</u>	<u>(63.6)</u>
Net investment	\$1,446.9	\$1,455.6	\$ 8.7 = +0.6%

When sales growth is taken into account, a small increase in total cost may translate into a small decrease in cost per unit (i.e., the basis for the rate). There is no reason to expect this to change. SCGM's increase in gross investment over the last eight years is 25.2%, however, the increase in rate base per unit sold is only 6.7% for the same period (SCGM-12, Doc. 1.1(b)).

Rate Base Per Unit Sold

<u>Year</u>	<u>Rate Base</u>		<u>Volume</u> <u>(Bcf)</u>	<u>Unit Cost</u>		<u>Inflation*</u>
	<u>Amount</u> <u>(\$M)</u>	<u>Increase</u> <u>%</u>		<u>\$/Mcf</u>	<u>Increase</u> <u>%</u>	
1990	\$1,108.7		188.6	\$5.879		5.6%
1991	1,152.8	4.0%	185.1	6.228	5.9%	1.5
1992	1,164.7	1.0%	192.2	6.060	(2.7%)	1.8
1993	1,177.9	1.1%	196.1	6.007	(0.9%)	0.2
1994	1,128.9	(4.2%)	192.2	5.874	(2.2%)	2.2
1995	1,318.2	16.8%	205.5	6.415	9.2%	1.6
1996	1,340.1	1.7%	211.1	6.348	(1.0%)	1.6
1997	1,352.2	0.9%	219.8	6.152	(3.1%)	1.8%
1998	\$1,388.3	2.7%	221.4	\$6.271	1.9%	
Increase from 1990 to 1998		25.2%			6.7%	17.4%

*From SCGM-15, Doc. 1.32, Page 1 (1998 is projected).

One reason is that the distribution network has capacity to add more load:

En pratique, il est rare que ces études concluent à la nécessité de renforcer le réseau ce qui nous permet de conclure que le réseau de distribution actuel dispose de la capacité nécessaire pour y ajouter de nouveaux clients. (SCGM-15, Doc. 1.24, emphasis added)

This means that the Company can increase sales volume without a concomitant increase in cost, resulting in declining costs per unit of sales.

SCGM claims that its proposal will provide an incentive to make changes that have medium-term and long-term benefits:

En effet, ce dernier vise à encourager davantage SCGM à prendre des actions à long terme pour améliorer sa performance. Une période de trois ans serait insuffisante parce qu'elle ne lui permettrait pas de récolter les bénéfices de ces efforts. (SCGM-15, Doc. 1.7(i))

However, there is no guarantee and little evidence that such benefits will be forthcoming. Whereas customers might receive a benefit in the long-term, SCGM receives a bonus right away. In 1999 SCGM's proposal would result in a rate increase of almost \$2 million over and above what it would be under the existing regulation (SCGM-15, Doc. 1, Page 30).

SCGM's Proposed Sharing Ratio

SCGM's proposal includes a sharing ratio:

SCGM Proposed Sharing Ratios

	<u>Owners</u>	<u>Customers</u>
Beginning of Year "Savings"	2/3	1/3
End of Year		
Excess returns	1/3	2/3
Undercollections	1/3	2/3

According to the Company, the rationale was to create symmetric beginning-of-year and end-of-year treatment. However, the problem with this mechanism gets back to the central problem of SCGM's performance incentive proposal as a whole. The so-called "beginning-of-year savings" are illusory—they are not measured relative to existing cost of service or existing rates. Rather, the "saving" is relative to a hypothetical level of cost. SCGM is simply creating the possibility of a "savings" and awarding itself $\frac{2}{3}$ of that savings in the form of an increased return for the year.

Reversing the ratio and giving $\frac{1}{3}$ to owners and $\frac{2}{3}$ to customers at the beginning of the year would be an improvement over the Company's proposal, but it would not be an improvement over the current regulatory mechanism.⁵ Giving the Company any share in "savings" that are not measured relative to actual cost of service or rates is without merit. What's more, SCGM's right to its $\frac{2}{3}$ share of this "savings" realized in 1998-1999 is dependent on meeting performance standards for the 12 months preceding August, 1998, during which time, obviously, this incentive proposal was not in place. Therefore, SCGM is requesting \$1.939 million for achieving its existing level of performance (i.e., no new "effort", let alone result, is required for this reward).

Dr. Morin's Evaluation of SCGM's Proposal

Dr. Morin's evidence includes an evaluation of SCGM's performance incentive mechanism. He says that there are compelling reasons to seek improvements to status quo regulation:

- (1) to provide superior incentives to cut costs and operate efficiently,*
- (2) to pursue greater product and service innovation,*
- (3) to be more responsive to competitive market pressures,*

⁵Under the current mechanism, customers keep 50% of any year-end overcollections. Customers do not share in undercollections.

(4) *to streamline the regulatory process and reduce the direct costs of regulation, and*

(5) *to eliminate the lack of symmetry under the current regime.* (SCGM-15, Doc. 2, Page 15)

According to Dr. Morin:

The Company has proposed an innovative regulatory framework which provides these improvements. (SCGM-15, Doc. 2, Page 15)

We disagree. First, although the formula return on equity (ROE) mechanism should streamline the regulatory process, the Company's proposed performance incentive mechanism will not reduce and, in fact, may increase the need for regulatory activity. Second, the formula ROE should reduce the size and complexity of rate cases, but the proposed performance incentive mechanism will have just the opposite effect. Third, it is not clear that SCGM's performance incentive mechanism will provide the Company with any incentive to operate more efficiently than under traditional cost of service regulation. Finally, the program is not likely to provide "tangible benefits" to all parties involved. It is quite likely to provide increased profit to SCGM, but much less likely to reduce rates for customers.

Dr. Morin states that the Company's proposal eliminates the "lack of symmetry under the current regime" (SCGM-15, Doc. 2, Page 15). However, there is significant asymmetry problem in the traditional regulatory environment that disadvantages customers. This is the difference in the amount and quality of information about the Company's operations and plans that is available to customers compared to what is available to the Company. SCGM's incentive proposal does nothing to redress this imbalance. Dr. Morin states, "... the benefits of improved performance are shared with customers" (SCGM-15, Doc. 2, Page 18). Even if SCGM's performance incentive mechanism motivates the Company to improve performance compared to traditional cost of service regulation, there is little or no benefit to customers. The "benefit" is only relative to a hypothetical "expected" cost of service (i.e., cost of service indexed to the rate of inflation). SCGM states that its proposed mechanism will provide rate reductions to customers at the beginning of the year (SCGM-15, Doc. 1, Page 26). But what is the reduction being measured against? There is no reduction at the beginning of the year relative to the actual cost of service or existing rates. Instead, there is an increase of \$1.939 million.

Finally, Dr. Morin states:

For regulators, regulatory risk is attenuated and the direct costs of regulation are reduced. (SCGM-15, Doc. 2, Page 18)

We definitely agree with the first part. The regulatory risk (for SCGM) is lessened with the performance incentive mechanism as proposed. To the extent that regulatory risk is lessened, this should be reflected in a lower risk premium in SCGM's ROE. However, it is difficult to see how the direct cost of regulation will be reduced. The mechanism still

requires annual cost of service reviews (to set the *coût requis*) and customers will still have an interest in the required cost of service being as low as possible. Thus, there would seem to be no benefits in terms of reduced regulatory activity.

SCGM's Interpretation of Price Cap Regulation

SCGM says that it considered price cap regulation. Witnesses Bessette and Noël comment that price cap regulation provides a simple structure and great flexibility for the distributor. The problems that they see are three-fold:

- (1) difficulty in determining the formula, particularly the productivity index;
- (2) a lack of sharing of cost savings with customers (other than the productivity index) between rebasing periods, leading to a concern that customers will perceive the utility returns as excessive; and
- (3) concern regarding the utility's financial integrity.

Dans ce genre de réglementation, le distributeur jouit aussi généralement d'une plus grande latitude dans la détermination des tarifs; par contre, sa mise en place est complexe, notamment en ce qui concerne le choix du facteur de productivité.

De plus, le fait que l'organisme de réglementation n'examine plus les coûts du distributeur durant toute la durée du programme peut être mal perçu par les consommateurs, l'organisme de réglementation pouvant être vu comme ne jouant plus pleinement son rôle.

Par ailleurs, l'absence de partage des bénéfices avec les consommateurs (au-delà du facteur de productivité) cause aussi problème et peut être source de frustration pour les clients lorsque ce bénéfice est trop important. Le plafonnement peut alors devenir difficilement acceptable socialement. Ce phénomène (absence de partage de bénéfices considérables) est d'ailleurs susceptible d'engendrer d'autres problèmes à l'échéance du programme: soit une transition rapide vers un plafonnement encore plus exigeant, soit un retour au mode traditionnel de réglementation par les coûts.

Le plafonnement des prix pourrait également s'avérer très désavantageux pour le distributeur, s'il advenait que la progression réelle des coûts dépassait le taux d'indexation utilisé pour plafonner les tarifs. L'entreprise se trouverait alors dans une situation intenable puisque son intégrité financière serait menacée; elle devrait poser des gestes draconiens afin de demeurer solvable et préserver ses cotes de crédit, faute de quoi elle verrait son coût de capital augmenter et ainsi s'installer un cercle vicieux, dont les clients feraient éventuellement les frais. (SCGM-15, Doc. 1, Pages 14-15)

They are certainly correct that the choice of the productivity offset is difficult. It is not impossible, though. There is an implicit productivity factor built in to any index

mechanism. If it is omitted, that really means it has been set to zero. In practice, regulators and stakeholders have often found that the initial productivity offsets were set too low. British Gas has been regulated by a price cap formula based on RPI - X since 1987. The productivity offset was originally set at 2%. It was increased to 5% in 1992. British Telecom's price cap formula was initially set at RPI - 3% in 1984. The productivity factor was increased to 4.5% in 1989, 6.5% in 1991 and 7.5% in 1992.

When utilities are able to achieve cost savings much greater than expected, their returns can go very high. This concern is addressed by a return sharing mechanism. It should be designed to retain the incentives for the Company to improve performance, and provide ongoing sharing of any extra profit with customers between rebasings.

The concern about the Company's financial integrity being jeopardized seems excessive. As shown on SCGM-15, Doc. 1.3(a), the Company has achieved or exceeded its authorized return in seven of the last eight years. Total overcollection for that period was \$14.9 million. The likelihood of drastic changes in SCGM's costs relative to inflation is remote. A safety net feature similar to that proposed by Dr. Morin could be used with a price cap proposal as well, i.e., returns below a given level could trigger a rate case.

Summary and Recommendations

To summarize, a basic and significant difference between SCGM's proposal and other IR plans lies in the basis for comparison. Other plans seek to produce *rates lower than would result from conventional cost of service regulation*. SCGM's plan, on the other hand, seeks to produce *rates lower than if they increased at the rate of inflation*. Given that there is no reason to expect rates to increase at the rate of inflation—or at all, for that matter—the benefit to customers is questionable. SCGM's performance incentive proposal provides very little, if any, additional incentive to reduce costs and/or be more productive than traditional cost of service regulation. SCGM states:

Le fait que le Coût de service requis dépasse celui attendu ne constitue pas un fardeau pour les clients; ce n'est que le reflet du contexte qui prévaut dans une année donnée. La situation n'est aucunement différente de ce qu'elle est présentement, sous le régime de réglementation par les coûts. (SCGM-15, Doc. 1.22, emphasis added)

SCGM wants to be rewarded for good intentions (at the beginning of the year), regardless of what the actual results turn out to be. Rewards should be for results, not effort. What's more, if SCGM wants the potential for additional reward, it must also accept the potential for additional risk.

SCGM states that the formula return on equity mechanism and the performance incentive proposal are linked and cannot be separated.

La formule et le régime incitatif proposés sont donc intimement liés et ne peuvent être dissociés. (SCGM-15, Doc. 1.5(a))

This is not necessary. As noted above, there are other jurisdictions where a formula return on equity approach has been used by itself. Similarly, a price cap method can be used without a formula ROE method. (In fact, since the price cap method adjusts the rates, the ROE becomes a result of the process instead of an input—just as in a competitive market.)

Dr. Morin noted that:

The Régie has expressed its desire to streamline the regulatory process, particularly with regard to the determination of a fair and reasonable return on common equity (ROE). (SCGM-15, Doc. 2, Page 3)

The Régie could adopt a formula-based return on equity mechanism and reject SCGM's performance incentive proposal. SCGM acknowledges that the existing incentive mechanism remains a viable option:

Soulignons par ailleurs que, malgré le fait qu'il existe une lacune quant au moyen retenu pour l'établissement du taux de rendement sur l'avoir, le mode de réglementation existant, dont le mécanisme incitatif en vigueur, demeure une option viable. En effet, le mode de réglementation n'a pas été un obstacle au développement du gaz naturel au Québec, bien au contraire. Quant au mécanisme incitatif en place, rien n'indique qu'il ne pourrait pas satisfaire aux exigences de la nouvelle Loi en matière d'encouragement à l'amélioration de la performance. (SCGM-15, Doc. 1, Pages 11-12)

For this year, the Régie should maintain the status quo and continue using cost of service regulation. This will enable the regulator to evaluate the effect of the formula-based return on equity by itself, since that would be the only significant change. At minimum, it should reduce the regulatory burden, which SCGM's performance incentive proposal will not.

With respect to an incentive mechanism, SCGM should begin meeting with stakeholders to discuss incentive regulation alternatives. The various alternatives should be evaluated vis-a-vis clearly stated expectations and criteria for success (goals). The goal is efficiency gains that are fairly shared between owners and customers. Rates should be lower than under traditional cost of service regulation and returns should be higher than under traditional cost of service regulation. SCGM can then submit an incentive regulation proposal to the Régie based on the outcome of these negotiations.

Part IV

Cash Working Capital

Description of SCGM Calculation

SCGM has calculated a cash working capital (CWC) requirement of \$8,646,000 (SCGM-13, Doc. 2, Page 1). The calculation is based on a lead/lag approach, wherein each type of cost gives rise to a working capital requirement proportional to the lag in time from when the expense is incurred to when the corresponding revenue is received from customers. In simplified form, the calculation looks like this:

Cash Working Capital Per SCGM-13, Doc. 2				
<u>Category</u>	<u>Annual Cost (000) (1)</u>	<u>Lag Days (2)</u>	<u>Net Lag Days 38.48-(2) (3)</u>	<u>CWC (1)x(3)/365 (000) (4)</u>
<u>Lead/lag component</u>				
Revenue		38.48		
Transportation, storage and supply expense	\$789,652	35.83	2.65	\$5,733
Operation and maintenance expense	104,353	15.11	23.37	6,681
Property taxes and Régie charges	<u>24,343</u>	(49.48)	87.96	<u>5,866</u>
Subtotal	\$918,348			\$18,280
Taxes on usage	174,876	68.31	(29.83)	(14,290)
Taxes on expenses	62,806	(1.11)	39.59	<u>6,813</u>
<u>Average balance component</u>				10,803
Reserve for bad debt				<u>(2,158)</u>
Total cash working capital				\$8,646

As shown on the first line, revenues are received on average 38.48 days after service is rendered. This can be called the *revenue lag*.⁶ Operations and maintenance expenses have an average lag of 15.11 days. Therefore, the *net lag* in time between when operation and maintenance expenses are incurred and when the corresponding revenue is received from customers is 23.37 days (= 38.48 - 15.11). The lag on upstream expenses is small, because SCGM pays its bills to upstream suppliers very close to the time when it receives the revenues from customers. Property taxes and charges of the Régie are paid in advance, creating a negative expense lag—and, therefore, a large net lag.

On the other hand, the effect of usage taxes (GST and PST) is a *negative* component of cash working capital. This is because usage taxes are collected from customers before they are paid to the governments (details are given in SCGM-13, Doc. 4, Page 1).

Other CWC Offsets

As with the usage taxes, interest and preferred dividend payments provide offsets to the CWC requirement.

For bonds with semi-annual payments, on average the expense is incurred with a lag of one-quarter of a year, or 91.25 days. The Company collects revenues in order to pay the interest cost throughout the year, which on average is before it must actually pay the interest. Accordingly, this represents a source of working capital or a negative CWC requirement. The same holds for preferred stock. Dividend payments are made quarterly, so the average lag on preferred stock is 1/4 of the year, or 45.62 days. Including the interest payments and preferred stock dividends creates this adjusted cash working capital requirement:

Effect of Debt and Preferred Stock on CWC

<u>Category</u>	<u>Annual Cost (000) (1)</u>	<u>Lag Days (2)</u>	<u>Net Lag Days 38.48-(2) (3)</u>	<u>CWC (1)x(3)/365 (000) (4)</u>
SCGM calculation				\$8,646
Interest expense	\$54,983	91.25	(52.77)	(7,949)
Preferred dividends	5,934	45.62	(7.14)	<u>(116)</u>
Total				(\$8,165)
Adjusted calculation				\$481

Source: Interest from SCGM-14, Doc. 5, Page 1; Preferred dividends from SCGM-14, Doc. 7, Page 1.

⁶Terminology respecting lead/lag studies is not always consistent. Sometimes, “lead” is used to refer to the revenue side and “lag” to the expense side. (This is what SCGM does.) In other cases, “lead” refers to the receipt of revenues *in advance* of providing the service.

Precedents

SCGM's explanation for not including these effects is:

Les intérêts ne sont pas considérés dans le calcul du fonds de roulement réglementaire parce qu'ils ne sont pas des dépenses d'opération de la Société.
(SCGM-12, Doc. 6.1, Page 1)

To the contrary, this treatment of debt and preferred stock has many longstanding precedents. The situation for SCGM in this respect is no different from that of other utilities, which do (or have been directed to) include the effects in their cash working capital calculations. Some clear statements are:

Federal Energy Regulatory Commission

The second working capital issue concerns whether an interest expense lag should be included as a component of the overall lead-lag study. Staff argued that Trunkline LNG's tariff permits it to collect interest expense from its customers before it actually pays the expense. Staff argued at hearing, and the judge agreed, that the Commission's regulations at section 154.63(f), Statement E [footnote omitted] permit the inclusion of an interest expense lag in a lead-lag study. The judge rejected Trunkline LNG's argument that interest should be excluded because it is not specifically mentioned in the regulations. (Trunkline LNG Company, 1988, 98PUR4th 148, 165)

Maine Public Utilities Commission

Cash that is collected to pay these costs (accrued interest on long-term debt and preferred stock dividends) is available to the Company between the time of collection and the time of payment. If this is not considered as an adjustment to working capital ratepayers may be charged twice, once the funds are provided through rates and again when the rate of return is collected and those funds for costs paid is arrears. (Maine Public Service Company, 1981, 44PUR4th 104,188)

Massachusetts Department of Public Utilities

Regarding whether the cash working capital study was performed correctly, the Company revised its cash working capital study to include the lags associated with interest expense and preferred dividend payments. The Department finds that including the lags associated with interest expense and preferred dividend payments is consistent with Department precedent and is appropriate. (Massachusetts Electric Company, 1995, 164PUR4th 393,404)

Missouri Public Service Commission

Staff and GSA [General Services Administration] assert, however, that the net expense lag associated with the payment of accrued interest is an appropriate offset. Because the funds are ratepayer supplied, the obligation to pay interest on debt is known and certain as to the time and quantity and the amount is precollected from the ratepayer for the purpose of passing it on to the bondholder. While in possession of the Company these ratepayer provided funds are to be a source of cost-free capital which the Company can use in making semi-annual

payments to bondholders. Neither the Company nor the shareholders have the ownership rights in these funds. Rather, they are contractual debts to bondholders.

The Commission continues to agree with this assessment to staff and GSA, and finds that accrued interest on bonds should be used as an offset to cash working capital requirement in this case. (Kansas City Power and Light Company, 1981, 43PUR4th 559,594)

Equity Return

If the financial expenses related to debt and preferred stock are included, what should be done about return on equity? This, too, is collected in the revenues. The question, then, is when the payments are deemed to be made.

If the equity return is paid out as dividends, it could be considered to be similar to preferred stock dividends. This, too, produces a *negative* net lag. This is particularly true for SCGM, which pays out most of its equity income as dividends.

Tout comme pour le rendement autorisé, la politique de distribution des bénéfices doit satisfaire les attentes des investisseurs. À ce jour, les commentaires du public investisseur sont positifs à l'égard de la politique de distribution de la Société qui est de:

- *Distribuer la quasi-totalité des bénéfices; et*
- *Effectuer une distribution en quatre versements trimestriels égaux.*

Le choix de la Société de distribuer la quasi-totalité de ses bénéfices n'affecte pas sa capacité à financer ses activités d'exploitation et d'investissement. (SCGM-14, Doc. 1, Page 13)

A precedent for this is:

Michigan Public Service Commission

When dividends are declared, the Company creates an obligation to pay dividends where no prior obligation existed. The existence of this obligation transforms from a portion of the Company's common equity into a liability thereby requiring a reduction in accrued dividend liability. In that sense dividends are distinguished from other liability of the Company and should be used as a working capital offset. (Michigan Consolidated Gas Company, 67PUR4th 570,575)

SCGM's proposed equity return (including the incentive bonus) is \$58,354,000 (=rate base of \$1,403,747,000 x 38.50% x 10.7975%). Treating this like the preferred dividends gives this result:

<u>Category</u>	<u>Annual Cost (000)</u> (1)	<u>Lag Days</u> (2)	<u>Net Lag Days 38.48-(2)</u> (3)	<u>CWC (1)x(3)/365 (000)</u> (4)
SCGM calculation				\$8,646
Effect of interest and preferred dividends				(8,165)
Equity return	\$58,354	45.62	(7.14)	<u>(\$1,141)</u>
Adjusted calculation				(\$660)

Recommendation

In line with the method used by other utilities and regulators, interest cost and preferred dividend requirements should certainly be included in the working capital requirement. Although the precedents for including equity return are not as numerous, the Régie should consider this aspect as well.

Part V

Volume and Revenue Normalization

SCGM Proposal

SCGM has proposed revisions in its methods of normalizing sales volumes, revenues and expenses for variances between actual and normal weather. For *volume*, SCGM proposes to use a linear regression method in place of the current “base month” approach. For *revenue*, SCGM proposes to use the “curve” approach instead of the current unit rate method. Finally, SCGM proposes to calculate the *cost* of volume variations based on variations in interruptible revenue rather than the cost of transportation and storage.

The first of these is the most important. It is also the one most open to question.

Evaluation of Overall Goal

SCGM claims that these changes increase the precision of the analysis:

Après toutes ces modifications, la précision de la méthode sera grandement améliorée. La section 6 présente les résultats des simulations sur les années financières 1995/96 et 1996/97. On pourra constater dans les résultats de ces exercices que la nouvelle méthode corrige les imprécisions de la méthode actuelle aussi bien lors de la normalisation en volume qu'en revenu. (SCGM-4, Doc. 2, Page 5)

From a purely technical point of view—that is, looking at the calculation methods—the proposed changes might increase the accuracy somewhat, although this has not been proven by SCGM. In fact, as we shall see, SCGM has not shown that all the technical “imprecisions” are significant.

A more basic concern relates to the purpose and effect of normalization. The intent of normalization, within the overall context of regulation, is to give the utility a reasonable opportunity to earn its authorized rate of return. The ultimate purpose of the exercise is not technical perfection from a mathematical point of view, but financial reasonableness and fairness. If the current method produces an overall bias toward under-earning or over-earning, there is reason to change it. If it does not, the case for change is less compelling.

Effect of Proposed Changes

In its evidence (SCGM-4, Doc. 3), the Company has provided the changes in results for fiscal years 1995/96 and 1996/97. SCGM-4, Doc. 2.4 supplements this with the results

for 1993/94 and 1994/95. To evaluate the changes, it is useful to separate the effect of changing the volume estimation method from the effect of changing the unit revenue and cost methods. The results can be summarized thus:

**Effect of Proposed Changes in Normalization Methods
(000)**

<u>Year</u>	<u>Total Effect</u>	<u>Change in Method of Normalizing Volume</u>	<u>Changes in Methods of Calculating Revenues and Costs</u>
1993/94	\$2,198	\$ 274	\$1,924
1994/95	(8,479)	(8,482)	2
1995/96	(814)	(139)	(675)
1996/97	<u>(418)</u>	<u>(512)</u>	<u>96</u>
Total	(\$7,513)	(\$8,859)	\$1,347

The overall effect over the last four years would have been a decrease in total gross margin of \$7.5 million and, therefore, an increase in changes averaging about \$1.9 million (to amortize the shortfall). SCGM says that this is not the intent of the changes:

Votre question suppose que les modifications que nous demandons à la méthode de normalisation ont pour effet d'augmenter le rendement de l'entreprise. Comme il a été mis en preuve, SCGM croit que les modifications proposées influenceront autant les résultats à la baisse qu'à la hausse (voir la réponse à votre question 62 f), SCGM-4, Doc 2.7). (SCGM-4, Doc. 3.1b, Page 33)

However, that is the effect based on the information available.

Analysis of Current "Imprecisions"

As the above chart shows, the increase in revenues comes from the change in the method of normalizing volumes as opposed to the methods for normalizing revenues and associated costs.

Therefore, we must analyze whether the volume normalization approach currently used is so deficient as to justify this change. The first problem identified by SCGM is:

Notamment, les volumes d'été peuvent ne pas être représentatifs du volume de base du reste de l'année, car aucune correction n'est apportée pour tenir compte, entres autres des vacances estivales qui réduisent les volumes consommés. Le volume de base ainsi estimé tend donc à être sous-estimé, ce qui conduit à une plus grande normalisation. (SCGM-4, Doc. 2, Page 8, emphasis added)

But SCGM cannot really say if this has any significant effect:

SCGM n'a pas d'estimation de l'effet volumétrique des vacances sur l'usage des volumes des mois d'été.

Comme il est mentionné en a), SCGM n'a pas de mesure de l'effet volumétrique des vacances. Il n'est donc pas possible de quantifier l'effet sur l'évaluation du volume de base. (SCGM-4, Doc. 2.7, Page 1, emphasis added)

Moreover, whereas the effect of summer vacations may be to underestimate base month usage, SCGM says that cold days in June and September have the opposite effect:

Le volume de base peut également être incorrect à cause de la présence de quelques jours froids dans les mois de juin ou de septembre. Dans ce cas, le volume de base est surestimé. (SCGM-4, Doc. 2, Page 8)

SCGM also identifies rebillings as a factor that can distort base month usage:

Il arrive également que les volumes facturés incluent des corrections pour certains clients. Ces corrections, ou refacturations, sont inscrites dans le mois où elles sont traitées. Si elles surviennent entre les mois de juin et de septembre, ces corrections peuvent affecter l'estimation des volumes de base à la hausse comme à la baisse. (SCGM-4, Doc. 2, Page 8, emphasis added)

Again, though, SCGM has not identified the effect:

Comme SCGM l'a indiqué dans la conclusion de la preuve (SCGM-4, Doc. 2, page 34), selon elle les imprécisions de la méthode actuelle sont aléatoires. Il n'y a donc pas de biais à la hausse ou à la baisse. En prenant en compte l'ensemble des mois de simulation déposés (en incluant donc les deux années supplémentaires présentées au document 2.4 a), pages 3 et 4), le nombre de mois où les écarts sont positifs est de 17 alors qu'il est de 15 pour les écarts négatifs. (SCGM-4, Doc. 2.7, Page 2)

All of this leaves us with the conclusion that the usage data for the summer base months contains several variables, which might possibly influence the calculation of heating volumes (in the remaining months) up or down. However, there is nothing to demonstrate that the effect is material in a way that makes the final result consistently and materially inaccurate.

Analysis of Regression Method

The other part of the picture is SCGM's proposed method of using a linear regression to determine monthly usage. Does this method produce results that are clearly better?

Even a cursory review of the results suggests not. For example, let us look at the base usage figures that result from the linear regression analysis:

Base Usage for Cycle Billing Customers
(m³/degree-day/customer)

<u>Year/Month</u>	<u>East Zone</u>		<u>West Zone</u>	
	<u>Amount</u> <u>(m³/DD/cust)</u>	<u>Relative</u> <u>to Jul-Aug</u>	<u>Amount</u> <u>(m³/DD/cust)</u>	<u>Relative</u> <u>to Jul-Aug</u>
95/10	11.64	0.911	10.11	0.958
95/11	12.10	0.947	9.87	0.936
95/12	12.07	0.945	9.68	0.918
96/01	12.39	0.970	9.88	0.936
96/02	12.57	0.984	9.91	0.939
96/03	12.40	0.971	9.84	0.933
96/04	12.40	0.971	10.04	0.952
96/05	12.92	1.011	10.16	0.963
96/06	12.59	0.986	10.10	0.957
96/07	12.80	1.002	10.52	0.997
96/08	12.75	0.998	10.58	1.003
96/09	14.99	1.173	10.74	1.018
96/10	13.26	1.038	10.24	0.971
96/11	12.98	1.016	10.34	0.980
96/12	13.03	1.020	9.01	0.854
97/01	12.63	0.989	10.77	1.021
97/02	12.91	1.011	10.91	1.034

Source: SCGM-4, Doc. 3.1(b), Pages 3 and 5.

This shows base usage in the absolute amounts (in m³/degree-day/customer) and also expressed relative to the June-July average (when there is no heating usage). Comparison to the average was done to see if there is a consistent pattern of variations. Looking at the absolute usage, one striking aspect is that in the West Zone, base usage in the summer months appears to be higher than in the winter months (compare 96/07-08 with 96/01-02). This seems to contradict SCGM's argument about summer vacations depressing base usage. In fact, if base usage includes water heating, it would be logical that this portion of the load would be higher in the winter (when the water must be heated from a lower starting temperature) than in the summer. Looking at the relative values shows that there is no consistent pattern in the monthly variations.

In summary, the linear regression approach is subject to problems of imprecision as well. Therefore, it would be a mistake to claim for it a significant increase in precision.

Revenue and Cost Calculations

The proposed changes in the method of calculating revenues (the “curve” method) and costs (offset to interruptible sales) have a smaller effect. In fact, making only these changes would appear to produce a small increase to normalization revenues.

On a technical basis, the change in the method of calculating costs seems logical. It also has little effect. As explained by SCGM:

*Comme nous le proposons pour l'avenir, nous avons utilisé le taux unitaire moyen du tarif interruptible pour calculer la contrepartie dans les simulations au lieu de calculer une variation des coûts de transport et d'entreposage. **Ce changement n'a pas un effet important sur les résultats annuels**, car le coût moyen de transport et d'entreposage est près des revenus moyens projetés avec le tarif interruptible dans la cause tarifaire. (SCGM-4, Doc. 2, Page 33, emphasis added)*

Recommendation

The change from the current volume normalization method to linear regression does not appear appropriate at this time. The “imprecisions” that exist in the current method are not demonstrably so great as to require a change. Likewise, the imprecisions that could exist in the linear regression method might be as great.

On the other hand, the change in the method of calculating revenues and costs could be made. It is independent of the method of normalizing the volumes.

Part VI

Residential Market Proposal

Description

SCGM has proposed a new program to increase its share of the residential market. In order to offset the higher initial cost of gas equipment relative to electric, SCGM proposes to provide grants to housing developers. The cost of these grants will be recovered, over time, by a higher tariff to those customers over a five-year period. The immediate effect, however, is to raise the current cost of service.

Analysis

SCGM's proposal exhibits certain contradictions with other parts of its case. First, the Company says that developing the residential market will provide benefits to the utility and to other customers:

Il ne faudrait pas non plus négliger l'impact des clients résidentiels sur la stabilité des revenus de l'entreprise. Aujourd'hui, le marché résidentiel est sous-représenté dans l'ensemble de la clientèle de SCGM alors que le marché industriel est surreprésenté par rapport aux autres distributeurs gaziers. Une plus grande représentation du résidentiel rendra moins vulnérable aux aléas économiques l'ensemble des ventes de la Société.

Il est donc évident que la croissance du secteur résidentiel est au bénéfice de l'ensemble de la clientèle existante tant pour son apport en terme d'impact tarifaire que pour sa contribution à l'amélioration de la stabilité des revenus, et c'est pourquoi nous proposons l'ensemble de ces éléments à la Régie. (SCGM-3, Doc. 3, Page 13, emphasis added)

If this is the case, the added stability should decrease risk and, therefore, decrease the cost of equity.

Next, it would appear that the customers being sought have a lower-than-average cost of attachment:

Dans un premier temps, il est bon de souligner la très grande distinction entre les projets des années 80 et ceux d'aujourd'hui. Dans les années 80 en effet le développement résidentiel reposait essentiellement sur la conversion de résidences existantes donc sur l'extension des réseaux de transport et de distribution dans des zones déjà habitées. Ceci impliquait de passer nos conduites dans des rues existantes avec les coûts souvent plus élevés qui en résultent.

Aujourd'hui, il s'agit d'une part de densification de réseau, c'est-à-dire d'ajouter des branchements aux réseaux existants, donc sans la nécessité de les faire croître, et d'autre part de réaliser des réseaux de distribution dans des zones non encore développées ni construites, mais en terrains vacants, avec des coûts évidemment beaucoup plus faibles qu'en zones déjà développées. (SCGM-3, Doc. 3, Pages 9-10, emphasis added)

Other things being equal, this means that service to the new market should reduce the average tariff. However, it appears that this is more than offset by increased publicity costs and the need to give grants to developers to offset the higher initial cost of equipment to use natural gas as compared with that for electricity:

Une campagne publicitaire beaucoup plus agressive et avec une portée plus imposante pourrait mieux prédisposer la clientèle potentielle à une sollicitation de vente et amener un meilleur taux de conversion chez les consommateurs visés. (SCGM-3, Doc. 3, Pages 4-5)

Actuellement dans le développement résidentiel neuf, une subvention de Gaz Métropolitain est nécessaire pour ramener le coût de l'installation du système de chauffage central au gaz naturel, au même niveau que l'installation de la plinthe électrique. Ceci s'explique par le fait que les consommateurs sont encore plus influencés par les coûts initiaux des équipements que par les coûts d'opération. Il est essentiel pour la période initiale de démarrage de projets «tout gaz» de rendre cette option financièrement intéressante autant pour les promoteurs que pour les clients consommateurs. Nous sommes persuadés qu'au cours des prochaines années, ce support financier s'atténuera et pourra éventuellement disparaître. (SCGM-3, Doc. 3, Page 10, emphasis added)

This creates a similar problem as we have seen with the incentive proposal. The benefit to other customers, if any, will be in the future. In the short term, though, this proposal increases rates. This is at odds with SCGM's observation that it is under continual pressure from competition with other fuel sources:

Toutefois, un autre facteur a fait en sorte que la Société a toujours assuré un contrôle serré de ses coûts et donc ses tarifs. En effet, la situation concurrentielle du gaz naturel au Québec a eu pour effet de restreindre la marge de manoeuvre de la Société. (SCGM-15, Doc. 1, Page 5)

In this case, SCGM should avoid anything that unnecessarily increases tariffs. (This observation also applies to the increase in rates resulting from the incentive mechanism bonus.)

In evaluating this proposal, it is useful to consider how a competitive firm would approach the problem. If, as SCGM seems to indicate, there is an advantage in serving this market, then a competitive firm would absorb the initial costs without expecting other customers to pay higher prices. This is especially true because SCGM views gas heating as being quite competitive with electric heating on a life-cycle basis. Indeed, this is exactly the

kind of medium-term to long-term investment that SCGM says it is proposing to make with its “performance incentive mechanism”.

Recommendation

For the upcoming fiscal year, SCGM should remove the additional operation and maintenance expenses related to the development of the residential market as well as any associated capital costs. Any additional costs incurred to promote usage in this market should only be recovered in the future by SCGM to the extent that SCGM actually realizes the longer-term benefits that the program is said to create.

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Qualifications of Mark Drazen

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I am a graduate of the Massachusetts Institute of Technology, with the degrees of Bachelor of Science in Mathematics, Master of Science in Electrical Engineering, and Electrical Engineer. I have taken courses in accounting at the graduate school of Business Administration at Washington University (St. Louis).

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I have testified in rate proceedings and court cases before federal agencies (the Federal Energy Regulatory Commission, the National Energy Board, the Federal Communications Commission and the Canadian Radio and Telecommunications Commission), in 33 of the United States (Alabama, Alaska, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, Washington, West Virginia, Wisconsin and Wyoming) and in five provinces in Canada (Alberta, British Columbia, Nova Scotia, Ontario and Saskatchewan). This testimony has covered all aspects of utility rate-making and regulation, including revenue requirements, rate base, operating income, valuation, cost of capital, cost of service, rate design, incentive regulation and industry restructuring.

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Drazen Consulting Group (and its predecessor firms, Drazen Associates, Inc. and Drazen-Brubaker & Associates) has provided design and consulting services since 1937. Drazen Consulting Group, Inc. offers economic, strategic planning and regulatory consulting services to clients that include industry, schools, hospitals, utilities and government agencies. For regulatory proceedings, we regularly prepare

1 studies relating to revenue requirements and rate design. We also prepare valuation,
2 forecast and feasibility studies relating to utility service, and assist in the negotiation
3 of contracts for utility service. Our experience encompasses most major utilities
4 throughout North America.

Qualifications of Lynn D. Pearson

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 **A Lynn D. Pearson, 7730 Forsyth Blvd., St. Louis, MO, U.S.A.**

3 **Q PLEASE STATE YOUR OCCUPATION.**

4 **A Drazen Consulting Group, Inc., regulatory and economic consultants.**

5 **Q SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

6 **A In May of 1979, I received a degree of Bachelor of Arts in Economics from George**
7 **Washington University in Washington, D.C. In May of 1988, I graduated with a**
8 **degree of Master of Arts in Economics from St. Louis University in St. Louis, MO.**

9 Prior to joining Drazen Consulting Group, I was employed three years as an
10 associate research assistant for National Economic Research Associates, Inc., in
11 Washington, D.C. My work at NERA was in the Antitrust Department and involved
12 support work in the preparation of testimony and exhibits.

13 I joined the firm in December of 1982. I started as a rate analyst and
14 became a consultant in 1988. I have worked on cases involving the electric, gas,
15 telecommunications and airport industries. This work has included cost of service,
16 rate design, comparative cost studies, power cost forecasting and revenue
17 requirement issues.

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**Reference: CONCERNANT LE TEMOIGNAGE DE MARK DRAZEN
ET LYNN PEARSON POUR OC/FNACQ**

Request 1

Reference: Page 3, Paragraph 2

1. You seem to suggest that the problems with traditional regulation are only with regard to a move toward increasingly competitive environments.
 - (a) Are we then to understand that incentive regulation would be neither needed nor useful if competitive markets were not increasingly being applied?

Response 1

- (a) No. Incentive regulation can be used in markets that are expected to remain regulated in order to increase productivity and cost savings relative to traditional cost of service regulation.

Request 2

Reference: Page 3, Paragraph 5

2. You say that the basic goal of incentive regulation is to produce lower rates and higher achievable returns. To support this affirmation, you quote three sources: (1) a toll agreement for Interprovincial Pipe Line approved by the NEB, (2) a FERC notice of proposed rulemaking and (3) an FCC telecommunications price cap review.
 - (a) In your opinion, in addition to rates, should end-use efficiency also be considered in determining consumers' interests? Please answer specifically for:
 - i) users of energy transmission services
 - ii) users of energy distribution services

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- iii) users of telecommunications services (transmission or distribution)
- (b) If your answer to (a)(ii) is positive, please indicate whether you believe the utility should play a role in maximizing end-use efficiency, or whether this should be left to the customer.
- (c) If you feel that the utility should play a role, please indicate, in your opinion:
 - i) whether and how the specific choice of performance-based rate regulation affects the utility's interest in maximizing customer end-use efficiency.
 - ii) whether it is more appropriate to limit the objectives of PBR to unit costs or to include some measure of end-use efficiency in measuring the utility's performance.
- (d) Are the two basic goals of incentive regulation that you state generic to all IR decisions, or rather proxies for the overall regulatory objectives of many monopoly regulators? In other words, if a regulator's explicit goals are different or greater than simply minimizing unit costs (and ensuring service quality), should the goals of an IR approach reflect those explicit goals?
- (e) Were you made aware of the Régie de l'énergie's enacting legislation prior to writing your testimony? Please state the extent of your understanding of this legislation, in particular the specific mission provided to the Régie.

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Response 2

- (a) The answer is the same for users of energy transmission services, energy distribution services and telecommunications services (transmission or distribution). Consumers' interests vary and are therefore best determined by consumers. Regulation is a proxy for competition in markets where competition is not feasible, for structural or other reasons. In theory, in competitive markets prices should tend toward marginal cost and, therefore, customers should receive appropriate signals as to the most efficient use of resources. To the extent that incentive regulation results in rates that are closer to what they would be in a competitive market, end use efficiency (i.e., consumption decisions) should be equal to or improved relative to traditional COS regulation.
- (b,c) End use efficiency is more likely to be achieved without distortion when consumption decisions are left to the customers who are directly affected by the impact of decisions among all alternatives. A utility's ability to maximize end use efficiency is limited when it supplies only one product out of many alternatives.
- (c) Not applicable.
- (d) In general, the two basic goals of incentive regulation (i.e., to produce lower rates and higher achievable returns) relative to traditional COS regulation are generic to all "macro" incentive regulation proposals. If a regulator has goals other than those embodied in COS regulation, then it would be necessary to determine if the current mode of regulation is achieving those goals.

Since the question does not specify what other goals are being considered in addition to minimizing unit cost and ensuring service quality, we are unable to determine whether either conventional or incentive regulation would be able to achieve those goals.
- (f) Yes. According to this legislation, the Régie is charged with determining "measures and incentives for improved distributor performance and increased satisfaction of consumer needs" (Chapter IV, Section 49.(4)).

And

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In the exercise of its functions, the Régie shall promote the satisfaction of energy needs through sustainable development. To that end, the Régie shall have due regard for economic, social and environmental concerns and for equity both on the individual and collective planes. The Régie shall also foster the conciliation of the public interest, consumer protection and the fair treatment of distributors. (Chapter 11, Section 5)

Request 3

Reference: Page 4, Last Paragraph

3. You suggest that "a collateral benefit of 'incentive regulation' is that it reduces the regulatory burden."
 - (a) In your opinion, does the industry's experience with incentive regulation for energy distribution utilities uphold, reject or leave inconclusive the expected result of reduced regulatory burden?

Response 3

- (a) The experience to date with incentive regulation for energy distribution utilities has been fairly limited. After privatization and restructuring, the electric distribution companies in the United Kingdom were regulated under a price cap approach. The experience to date in the U.K. could be described as inconclusive with respect to reduced regulatory burden. The industry in the U.K. is still undergoing transition. In the telecommunications industry, the move toward greater use of incentive regulation is generally perceived to have reduced the regulatory burden.

Request 4

Reference: Page 5, Paragraph 2

4. You suggest that PBR "is too narrow, because it means that specific areas of performance will be measured."

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- (a) Please provide a source for the notion that "performance based regulation" equates with specific incentives as opposed to a comprehensive approach.

Response 4

We recognize that performance-based regulation is sometimes used in place of the more general term "incentive regulation". In the broadest sense, under PBR, the utility is given an incentive to improve the overall performance of the Company. However, performance must be measured in some fashion. The total costs of the utility can be measured or compared with an index based on other utilities in the same industry (benchmarking). However, quite often a particular area of cost or performance has been tracked under PBR mechanisms and the utility rewarded for good performance in this particular area. The FERC provides a discussion of possible incentive regulation mechanisms grouped in the following categories:

- (1) automatic rate changes;
- (2) performance targets;
- (3) flexible pricing; and
- (4) benefit sharing.

Our understanding of the term "performance-based regulation" is similar to the FERC's use of performance targets. The FERC describes performance targets in these terms:

The Commission uses performance targets—throughput projections for pipelines and off-system sales and transmission revenues from wholesale electric utilities. This gives incentives to increase service, but only indirectly to cut costs. . . . targets could be set for almost any costs—interest, salaries, operation and maintenance, even taxes. . . . key issues to be addressed are which costs to target and how to set the targets. Therefore, the overall impact of the selected target on the utility's operations must be scrutinized to ensure its neutrality with respect to operations and ultimately rates. (Notice of Proposed Policy Statement on Incentive Regulation, United States of America Federal Energy Regulatory Commission, Docket No. PL92-1-000, March 13, 1992 Page 17)

Request 5

Reference: Page 5, Paragraph 4

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5. You exclude revenue caps from your discussion because you "agree that revenue caps will not create better incentives than traditional cost of service regulation."
- (a) Have you reviewed any revenue caps applied to energy distribution utilities?
 - (b) If so, please describe, for each one you've reviewed:
 - i) the basic approach (i.e. applied overall or on a per-customer basis)
 - ii) the specific problems encountered which lead you to reject this option, and
 - iii) specific remedies (i.e. per-customer approaches, price caps and floors, baskets, etc.) applied or lessons learned thereafter.

Response 5

- (a,b) The 1995 negotiated toll settlement agreement for InterProvincial PipeLine is essentially a revenue cap approach. We have a basic familiarity with revenue cap approaches that have been used in a number of states in the United States, including California, New York, Maine and Washington. The term "revenue cap" can refer to both revenue decoupling and net lost revenue adjustment mechanisms. Advocates argue that revenue caps are similar to price caps, but produce greater energy efficiency incentives. Revenue decoupling methods have frequently been used to encourage utilities to increase their demand-side management (DSM) activities. The problem with revenue decoupling is the essence of the mechanism itself, which breaks the link between utility revenue and sales. This makes the utility indifferent to the fact that reduced sales, for any reason, will result in higher rates. Incentive regulation is generally considered an alternative to traditional cost of service regulation with a goal of providing increased incentives for economic efficiency that will encourage the utility to behave more like a competitive supplier. By breaking the link between revenue and sales, revenue caps create incentives that are very different from those found in competitive markets.

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Request 6

Reference: Page 11, Summary List

6. You state once again that the "goals are to produce lower rates" and higher returns.
- (a) Are these goals generic to all monopoly regulation, or can they vary according to the type of regulated industry (ex.: telecommunications vs. energy transmission vs. energy end-use distribution) and the regulator's specific goals?

Response 6

- (a) The goals of incentive regulation, which we have identified (i.e., to produce lower rates and higher returns) must be measured relative to the results of traditional cost of service regulation. The basic consumer protection goals of traditional utility regulation are: (1) to prevent a monopoly from pricing above cost of service and earning above normal profits over an extended period of time (i.e., rates should be cost-based) and (2) spending more than necessary (i.e., costs must be reasonable). Under traditional cost of service regulation, there is little incentive to reduce costs, because the utility cannot benefit from doing so. In addition, there is not a goal of obtaining higher returns because the utility is limited to an authorized rate of return. Utilities with earned returns that exceed the authorized limit will most likely be required to reduce rates in the future.

Request 7

Reference: Page 19, Paragraph 1

7. You mention that "British Gas has been regulated by a price cap formula based on RPI-X since 1987."
- (a) As far as you know, are most British, Scottish or Northern Irish energy distribution utilities still regulated by a price cap formula?

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- (b) If not, please describe the formula most used and the reasons for it (including the reasons for not or no longer using a pure price cap approach).

Response 7

(a,b) The natural gas industry in Great Britain was privatized in 1986. The operations were broken into two segments: (1) gas supply; and (2) transportation and storage. Price caps were used in the gas supply segment beginning in 1987. A price cap plan for transportation charges similar to that for gas supply began in 1994. As far as we know, there are two price control mechanisms regulating British Gas at this time:

- (1) a transportation and storage price control which caps the price that British Gas can charge users for transporting gas in its pipelines and storing gas; and
- (2) a supply price control which limits the price British Gas can charge domestic consumers.

A pure price cap approach is no longer being used because competition has been allowed into the market. Competition was introduced in the industrial and commercial market in 1996 and was rolled out in three phases. The national roll-out of competition began in Scotland and in Northeast England and the process spread southwards. The whole of the U.K. became open to domestic gas competition after the opening of the final phase in London in 1998.

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Reference: TÉMOIGNAGES DE LA FNACQ

Request 31

Référence: La page couverture fait état d'une preuve de Mark Drazen et de Lynn Pearson alors qu'à la page 1, l'entête fait état d'une preuve de Mark Drazen seulement.

31. Est-ce qu'il s'agit d'une preuve conjointe ou est-ce que chacun des témoins est responsable d'une ou plusieurs sections de la preuve. Dans ce dernier cas, veuillez indiquer le nom du responsable de chacune des sections.

Response 31

Page 1 contains a typographical error. It should mention Ms. Pearson as well. The testimony is compiled jointly, although Ms. Pearson's participation was primarily in the section on incentive regulation.

Request 32

Référence: Page 7: "SCGM has been regulated in a slightly different way than most other utilities. There has been a regulatory review every year. If, at the end of the year, SCGM's costs were lower than forecast, half of the overcollection was returned to customers."

32. 1. Doit-on comprendre de cet extrait que la plupart des autres utilités n'ont pas d'exercice annuel de "fermeture des livres" où il est prévu un remboursement des trop-perçus aux clients?
2. Quel est le pourcentage approximatif de ces utilités (qui n'ont pas un tel exercice annuel de fermeture des livres avec remboursement des trop-perçus) qui utilisent une année témoin projetée?

Response 32

- (1) We are unaware of any other utility that uses a "closing of the books" and refund of overcollection in combination with the traditional cost of service

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regulation. The following excerpt describes general practice of the use of test years in the determination of revenue requirements:

The Company, with the concurrence of the Commission or its Staff, will generally select a 'test year' (frequently the latest 12-month period for which complete data are available). The purposes of such a test year are as follows. In the first place, the Commission Staff must audit the utility's books. For ratemaking purposes, only just and reasonable expenses are allowed; only used and useful property (with certain exceptions) is permitted in the rate base. In the second place, the Commission must have a basis for estimating future revenue requirements. This estimate is one of the most difficult problems in a rate case. A Commission is setting rates for the future, but it has only past experience (expenses, revenues, demand conditions) to use as a guide. . . . to the extent that these relationships are not constant, the actual rate of return earned by a utility may be quite different from the rate allowed by the Commission. (The Regulation of Public Utilities, Charles F. Phillips, Jr., 1985, emphasis added)

- (2) The percentage of utilities that utilize a projected test year is not readily available.

Request 33

Référence: Page 9: "The simplest version of this is a 'price freeze', under which rates are fixed for a period of several years. In this case, the productivity offset is assumed to be equal to the rate of inflation."

33. Dans un tel gel des prix, le distributeur peut-il rencontrer le facteur de productivité en agissant sur l'ensemble de ses coûts ou seulement sur une portion?

Dans l'hypothèse où il ne pourrait agir que sur une portion de ses coûts:

- quels sont-ils?
- quelle est leur importance relative par rapport à l'ensemble des coûts
- lorsque transposé seulement sur les coûts sur lesquels le distributeur peut agir, à quel facteur de productivité l'inflation équivaut-elle?
- par exemple, dans le cas de British Gas relaté à la page 19 de votre témoignage, à quoi équivalent un facteur de productivité de 5%

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lorsque transposé uniquement sur les coûts sur lesquels le distributeur peut agir?

Response 33

A price freeze applies to the entire rate. Under a price freeze, the utility has the ability to achieve the implicit productivity offset however it chooses (cutting costs, increasing productivity). With a price freeze, the implicit assumption is that increases in some costs are offset by decreases in others. For example, increases in unit costs (of labour, for example) might be offset by increased productivity. A net increase in one type of cost might be offset by a net decrease in another type of cost. It is not necessary to identify which costs might be considered to be offset by higher productivity.

During proceedings involving price cap proposals, utilities often argue that there are certain costs (exogenous variables) that are out of their control or too difficult to predict. Among those costs that are sometimes presented as outside control of the utility, we have found:

- the cost of gas;
- changes in tax laws;
- new broad-based government regulations (i.e., higher health care costs).

Those same costs are managed somehow by companies in competitive markets. One of the goals of price cap regimes is to encourage utilities to behave more like companies in competitive markets.

The last part of this question concerns British Gas. The question is not relevant to the statement in our evidence—we have not indicated that British Gas is subject to a price freeze. As we said earlier, there are two price control mechanisms regulating British Gas at this time. To the extent that some of the cost included in the price cap formula are outside of the control of the distributor, the equivalent productivity factor would then be somewhat higher than the 5%.

Request 34

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Référence: Page 11: "SCGM failed to consult residential and other customer groups for their views during the development of its incentive regulation proposal (SCGM-15, Doc. 1.5(b))."

34. Pourriez-vous nommer un groupe de consommateurs qui, dans le passé, aurait manifesté quelque intérêt que ce soit dans les dossiers présentés par SCGM à la Régie et qui aurait pu être consulté avant le dépôt de notre proposition?

Response 34

Association Des Consommateurs Industriels de Gaz (ACIG);
Option Consommateurs;
Fédération Nationale des Associations de Consommateurs du Québec;

and perhaps even
ACEF-Quebec.

Request 35

Référence: Page 11: "Incentive regulation agreements for Interprovincial Pipe Line, Nova Gas Transmission and TransCanada PipeLines were developed through negotiation."

35. 1. Pourriez-vous comparer le nombre de clients de ces entreprises avec celui de SCGM?
2. Pourriez-vous expliquer quelles sont les règles d'approbation des règlements négociés appliquées par les organismes réglementant ces trois entreprises?

Response 35

- (1) Interprovincial PipeLines and NOVA Gas Transmission each have on the order of several hundred customers, which is obviously much less than SCGM. However, the number of intervenors in NGTL's regulatory proceedings is about a dozen, which is comparable to that in this case.

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- (2) A negotiated settlement for NGTL must be approved by the Alberta Energy and Utilities Board. Settlements with IPL and TCPL must be approved by the National Energy Board.

Request 36

Référence: Page 13: "If, however, the *required cost* exceeds the *expected cost*, then the Company is allowed to charge the higher *required cost*. In short, the Company charges always at least the forecast cost of service (based on traditional COS regulation) for the coming year."

36. 1. Est-ce votre interprétation que le coût de service requis qui serait présenté par SCGM dans le nouveau mécanisme incitatif proposé sera identique à ce qu'il aurait été sans mécanisme incitatif, selon un mode de réglementation traditionnel?
2. Si oui, est-ce parce que vous croyez que le mécanisme incitatif proposé n'est pas suffisamment récompensant pour SCGM pour l'inciter à faire mieux que sous un mode traditionnel?

Response 36

- (1) The point being made on Page 13 of our evidence is not that the cost of service required as determined under SCGM's Incentive mechanism will be identical to what it would have been without the incentive mechanism. Rather, the point is that allowing the Company to charge the required cost of service when it exceeds the expected cost reduces the incentive to cut costs. Incentive regulation involves a risk/reward trade-off. It is inappropriate to reward the Company for no improvement relative to its performance under traditional cost of service regulation and if it doesn't take on additional risk.
- (2) The problem is that SCGM has the potential to be compensated, even if it does not improve its performance relative to traditional methods. What's more, there is very little benefit to consumers from the proposed incentive mechanism.

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Request 37

Référence: Page 13: "To the extent that inflation might have pushed the rates even higher, the Company is rewarded with two-thirds of the hypothetical 'savings'."

37. 1. Advenant que le tarif attendu soit majoré en raison d'un taux encore plus élevé, ne pensez-vous pas que les coûts augmenteraient de façon conséquente puisque sujets également à la même poussée inflationniste?

Response 37

It is unlikely that all costs faced by the utility will be subject to the same inflationary pressure. By making this assumption, the incentive to minimize costs is greatly reduced.

Request 38

Référence: Page 14: "This is the gist of the problem. There is no reason why customers should expect gas distribution rates to go up faster than or even at the rate of inflation. Many other gas companies have had no increases at all for several years. SCGM's proposal does not provide for a reduction relative to actual cost of service to customers. This is despite the level of past investment and the maturity of the development of the franchise which is such that rates should be expected to decline without any additional effort from SCGM, but simply as 'a result of amortization of past expenditures'."

38. 1. Veuillez indiquer à quelles entreprises fait référence l'expression "many other gas companies" en indiquant s'il s'agit d'entreprises de transport ou de distribution.
2. Veuillez déposer des statistiques démontrant que, pour l'ensemble des distributeurs canadiens et américains, les tarifs des distributeurs

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ont en dollars constants, diminué au cours des 20 ou 40 dernières années.

3. En faisant les hypothèses suivantes:
 - Réseau de distribution mature, âgé de 40 ans
 - Durée de vie utile des actifs de 40 ans et taux d'amortissement de 2,5% par année
 - En dollars constants, investissements uniformes de 100\$ par année sur les années 1 à 40
 - Taux d'inflation uniforme de 2% par année au cours des années 1 à 40 et de 2% pour les années 41 et suivantes
 - Aucun développement (ajout de nouveaux clients) au cours des années 41 et suivantes
 - Aucun gain de productivité sur la période de l'année 1 à 41
4. Veuillez calculer pour l'année 41, en dollars courants, le coût de remplacement des actifs dont la durée de vie utile est expirée (donc ceux de l'année 1) et qui doivent donc être remplacés au cours de l'année 41 pour continuer à desservir les mêmes clients.
5. Veuillez calculer, toujours selon les mêmes hypothèses, l'augmentation, en dollars courants, de la valeur des actifs qui sera requise au cours de l'année 41, toujours pour continuer à desservir les mêmes clients.
6. Veuillez calculer, toutes autres choses étant égales, le pourcentage d'augmentation dans les coûts de financement qui en résulterait.
7. Veuillez calculer, toujours selon les mêmes hypothèses, l'augmentation, en dollars courants, de la valeur de l'amortissement qui en résultera au cours de l'année 41, toujours pour continuer à desservir les mêmes clients.
8. Veuillez comparer le pourcentage d'augmentation de la dépense d'amortissement qui en résulte avec le taux d'inflation posé en hypothèse.

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9. Quel est l'effet de l'inflation sur la dépense d'amortissement d'un réseau de distribution mature?

Response 38

- (1) We have not done an exhaustive survey of companies that have not had a rate increase for several years. However, our experience in the regulatory arena provides us with the general sense that, in recent years, there have been fewer rate increase proposals. Some examples are Canadian Western Natural Gas, Northwestern Utilities Limited and Laclede Gas Company. More examples will be provided when we finish compiling the information.
- (2) The testimony refers to increases in the last several years, not a period of 20-40 years.
- (3) Question 38(3) is not a question, rather, it is a presentation of a hypothetical situation.
- (4-9) This request is for additional, original work product that is not part of our evidence. Moreover, the calculations requested can be made as easily by SCGM. The calculations are being done and will be provided when available.

Request 39

Référence: Page 16: "The so-called 'beginning-of-year-savings' are illusory (...) Reversing the ratio and giving 1/3 to owners and 2/3 to customers at the beginning of the year would be an improvement over the Company's proposal (...)"

39. En quoi un mode de partage différent pourrait constituer une amélioration si l'économie partagée demeure 'illusoire'?

Response 39

Because the "beginning of the year" savings are illusory, a change in the ratio would not be an improvement. Therefore, we withdraw the following statement:

Reversing the ratio and giving one-third to owners and two-thirds to customers at the beginning of the year would be an improvement over the Company's proposal.

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However, should an alternative incentive regulation proposal be considered, it would be appropriate to give customer two-thirds of the savings.

Request 40

Référence: Page 16: "Giving the Company any share in 'savings' that are not measured relative to actual cost of service or rates is without merit."

40. 1. Veuillez expliquer en quoi l'encadrement proposé ne permet pas d'évaluer les économies par rapport au coût de service attendu?
2. Comment, en pratique, peut-on mesurer des économies à partir d'un coût de service réel qui comprend lui-même ces économies?

Response 40

- (1) The referenced statement does not claim that the proposed framework does not permit evaluation relative to the cost of service attendu, which is based on forecast inflation. Rather, the reference states that the savings are not measured relative to *actual cost of service*.
- (2) Under a price cap regime, rates are initially based on actual cost of service. Rates for a subsequent period (often 3-5 years) are allowed to diverge from cost based on the formula's forecast of inflation and productivity. However, at the end of the period, rates are rebased on actual cost of service at that time. Comparing the rates in effect with the actual cost of service enables measurement of the economies obtained as a result of the incentive mechanism.

Request 41

Référence: Page 17: "There is no reduction at the beginning of the year relative to the actual cost of service or existing rates. Instead, there is an increase of \$1.939 million."

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41. Seriez-vous d'accord avec le principe d'un mécanisme incitatif qui prévoirait un taux de rendement plus ou moins élevé selon les baisses tarifaires présentées par le distributeur.

Response 41

We cannot support an incentive mechanism that increases the return when there is no reduction relative to actual cost of service or rates.

Request 42

Référence: Page 17: "However, it is difficult to see how the direct cost of regulation will be reduced. The mechanism requires annual cost of service reviews (to set de *coût requis*) and customer will still have an interest in the required cost of service being as low as possible."

42. Dans la mesure où SCGM peut conserver les 2/3 de toute réduction du coût de service en deçà de l'inflation, aurait-elle aussi intérêt à ce que le coût de service soit aussi bas que possible?

Response 42

Under SCGM's incentive regulation proposal, the Company is rewarded if it is able to keep its cost of service lower than it would be if it increased at the rate of inflation. However, there is no risk to the Company if it is not able to achieve this reduction. An effective incentive regulation mechanism should involve a risk/reward trade-off. Otherwise, it can appear as though the Company is being rewarded for behaviour it was already achieving under traditional cost of service regulation. Incentive regulation should produce rates lower than they would have been under the traditional method of regulation, not lower than what they would have been if they had increased at the rate of inflation.

Request 43

Référence: Page 16: "They are certainly correct that the choice of the productivity offset is difficult. It is not impossible, though. There

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is an implicit productivity factor built in to any index mechanism. If it is omitted, that really means it has been set to zero. In practice, regulators and stakeholders have often found that the initial productivity offsets were set too low. British Gas has been regulated by a price cap formula based on RPI - X since 1987. The productivity offset was originally set at 2%. It was increased to 5% in 1992. British Telecom's price cap formula was initially set at RPI - 3% in 1984. The productivity factor was increased to 4.5% in 1989, 6.5% in 1991 and 7.5% in 1992."

43. 1. Vous indiquez que l'omission du facteur de productivité signifie qu'il a été fixé à zéro. Si les tarifs du distributeur augmentent moins vite que l'inflation, peut-on considérer que celui-ci réussit de façon générale à obtenir des gains de productivité au moins égaux à ceux enregistrés dans l'ensemble de l'économie?
2. Connaissez-vous des cas où il a fallu modifier le régime de régulation incitative parce qu'un facteur de productivité trop élevé menaçait la stabilité financière de l'entreprise?
3. Est-il exact qu'avant d'être privatisée et assujettie à un régime de plafonnement des prix, British Gas réalisait des rendements sur ses actifs nettement au-dessus de la moyenne des industries de Grande-Bretagne? Que pouvait-on anticiper d'un régime de prix-plafond avec facteur de productivité dans de telles circonstances?
- Le cas de British Telecom (BT):
4. Même si des régime de plafonnement des prix peuvent être appliqués aux marchés des télécommunications et de la distribution du gaz, peut-on comparer les paramètres utilisés et les ajustements de ceux-ci pour le cas des télécommunications à celui du gaz naturel?

Response 43

- (1) Productivity offsets used in price cap regulation formulas normally attempt to measure the difference between the long-term productivity trend of the

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regulated industry and the economy as a whole. Productivity offsets that equal the productivity gains expected by the economy as a whole would not put much pressure on the utility to improve its efficiency.

- (2) No.
- (3) Information with respect to the rate of return of British Gas prior to privatization is beyond the scope of our evidence.
- (4) Yes.

Request 44

Référence: Page 14: "There is no reason why customers should expect gas distribution rates to go up faster than or even at the rate of inflation." Page 19: "The likelihood of drastic changes in SCGM's costs relative to inflation is remote."

44. 1. Sur quelle(s) étude(s) vous basez-vous pour faire cette affirmation?

Response 44

SCGM's costs comprise a large amount of installed facilities and related infrastructure. The cost of facilities from year to year will reflect incremental additions and additional depreciation, so the amount of such costs cannot change dramatically. Upstream costs are for utility systems with similar characteristics. Personnel costs might change more quickly, but it is more likely that such costs will be reduced in relative terms (because of productivity and competitive pressures) than that they will increase. A review of SCGM's actual costs over the last several years provides support for this statement.

Request 45

Référence: Page 19: "Other plans seek to produce rates lower than would result from conventional cost of service regulation."

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45. Comment, en pratique, le coût de service résultant d'une réglementation traditionnelle est-il déterminé dans ces autres modes de réglementation?

Response 45

Obviously, once an alternative mode of regulation is chosen, it is impossible to determine exactly what would have been produced by conventional cost of service regulation. Therefore, the comparison is between the *expected* results of incentive regulation versus traditional regulation. Customers' expectations cannot be determined unilaterally by the utility. That is why implementation requires negotiations—or at least substantive discussions—in order to be successful.

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Request 46

Référence: Page 22: "For bonds with semi-annual payments, on average the expense is incurred with a lag of one-quarter of a year, or 91.25 days."

46. 1. Pourquoi n'avez vous pas considéré le délai de paiement moyen des intérêts sur la dette à court terme?

Response 46

Short-term debt could be included, but not enough information is provided by SCGM in its filing or responses to information requests to determine the impact of this.

Request 47

Référence: Page 23: "(...) this treatment of debt and preferred stock has many longstanding precedents."

47. Veuillez indiquer le nom de tous les distributeurs de gaz naturel canadiens qui accordent le traitement que vous suggérez pour la dette et les actions privilégiées? Veuillez, s'il-vous-plait, déposer les extraits des décisions pertinentes autorisant un tel traitement.

Response 47

We have not done an exhaustive survey of all Canadian distributors. Attached is a list of relevant decisions for several Canadian and U.S. companies.

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Request 48

Référence: Page 23: "If the financial expenses related to debt and preferred stock are included, what should be done about return on equity? This, too, is collected in revenues. The question, then, is when payments are deemed to be made.

If the equity return is paid out as dividends, it could be considered to be similar to preferred stocks dividends."

48. 1. Est-ce que les bénéfices non répartis, entre le moment où ils sont réalisés et le moment où ils sont versés sous forme de dividendes, contribuent au fonds de roulement de l'entreprise?
2. Si le délai dans le paiement de ces bénéfices non répartis sous forme de dividendes est considéré dans l'étude "lead lag", quelle sera la rémunération des actionnaires sur les bénéfices non répartis laissés dans l'entreprise?
3. Serait-il équitable que les actionnaires ne reçoivent aucun rémunération pour le capital investi dans l'entreprise sous forme de bénéfices non répartis, alors que tous les autres bailleurs de fonds sont rémunérés pour le capital investi dans l'entreprise?
4. Veuillez nommer tous les distributeurs canadiens qui utiliseraient la méthode que vous évoquez au sujet du rendement sur l'équité et déposer tous les extraits de décision.

Response 48

- (1,2) If the return on equity is not paid out as dividends, then the Company is either reinvesting it in the business or investing it in some other enterprise. Either of these produces a return to the owner. In this case, the regulator must determine whether the return on equity being allowed to the Company is a *nominal* return or an *effective* return.

To understand the difference, if \$100 is put in a bank account at the beginning of the year and the balance at the end of the year is \$112, then the actual return by the end of the year is \$12 or 12% of the initial investment.

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We can call this an effective return of 12%. However, if a *nominal* 12% return is allowed, but is achieved by a 1% payment each month, the *effective* return is 12.69%, as shown on the attached schedule. (See attached Table 1.)

If the equity return is included in the working capital calculation, the practical effect is to create compounding of the nominal return, thereby giving a higher effective return. It is up to the regulator, then, to determine what effective return on equity should be allowed.

- (3) If the earnings are retained by the Company and reinvested in the business, the return on those earnings comes about by the return on rate base. If shareholders consider that the return on such reinvestment is inadequate, they should request that all the earnings be paid out as dividends and the firm should attract equity capital from new investors.
- (4) In virtually all cases we are aware of, return on equity is excluded from the working capital calculation. The issue does not arise, so the decisions are silent on the matter.

Request 49

Référence: Page 25: "In line with the method used by other utilities and regulators, interest cost and preferred dividend requirements should certainly be included in the working capital requirement. Although the precedents for including equity return are not as numerous, the Régie should consider this aspect as well."

- 49. 1. Existe-t-il un délai dans le recouvrement de la dépense d'amortissement par les actionnaires, c'est-à-dire le délai entre le moment où une immobilisation est mise en service et le moment où la dépense d'amortissement est récupérée des clients?
- 2. Existe-t-il un délai similaire dans le recouvrement des frais reportés?
- 3. Comment les actionnaires sont-ils rémunérés pour les investissements en immobilisations et frais reportés entre le moment où ils sont faits et le moment où la dépense d'amortissement est récupérée des clients?

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4. Veuillez évaluer l'impact qu'aurait ce nouvel élément sur le fonds de roulement.
5. Pourquoi n'avez-vous pas considéré ces éléments dans vos recommandations?

Response 49

(1,2) Yes.

- (3) Shareholders are remunerated by the fact that depreciation expense is effectively spread throughout the year (by averaging of all the months' balances), rather than taken at the beginning of the year.
- (4) An alternative method of treating equity return, in order to eliminate the difference between nominal and effective return, is to treat return on equity as having a delay of one-half year. In this case, it would be appropriate to include depreciation expense with zero lag.
- (5) We could do so. This would further reduce the net working capital requirement.

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Request 50

Référence: Page 32: "In evaluating this proposal, it is useful to consider how a competitive firm would approach the problem. If, as SCGM seems to indicate, there is an advantage in serving this market, then a competitive firm would absorb the initial costs without expecting other customers to pay higher prices."

50. 1. Est-ce qu'une entreprise non réglementée ("competitive firm") redistribue à ses autres clients les bénéfices futurs résultant d'un tel investissement?
2. Est-ce que, selon le mode de réglementation en vigueur, SCGM peut conserver ces bénéfices futurs ou si elle doit les redistribuer à ses autres clients?
3. Si SCGM doit redistribuer ces bénéfices futurs, quel serait l'intérêt pour elle d'absorber les coûts initiaux d'un projet d'investissement sans en conserver les bénéfices futurs?

Response 50

- (1) The question for a competitive firm would not be a "redistribution" of profits, but the manner in which costs are viewed in expectation of such profits. Competitive firms are price takers, so the impact of profitable (or unprofitable) ventures is felt by the shareholders.
- (2) According to conventional, cost of service regulation, prices are driven by costs (as opposed to the other way around in the case of competitive firms). If there are profits for a new venture, these would be reflected in low rates to customers—except that they may be offset by unprofitable ventures. If it is successful, it will be approved and included in rate base. In effect, SCGM wants customers to take the risks related to the residential market development proposal.
- (3) The difference could be in the method of accounting. If the costs of the new project are deferred, rather than being reflected in rates, future profits can be used to amortize the deferral account.

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Request 51

Référence: Page 26: "Préambule: Vous dites que nous n'avons pas fait la preuve que la méthode actuelle est imprécise. En vous référant au document SCGM-4, document 3.

51. 1. Veuillez qualifier la précision de la méthode actuelle pour la normalisation de janvier 1996 pour laquelle la normalisation en volume est un ajout de $2\,069\,10^3\text{ m}^3$ (page 2, colonne 4, ligne 9) alors qu'il a fait plus froid que la normale (les degrés-jours réels et normaux sont respectivement de 742,0 et 735,7 selon SCGM-4, doc. 3, page 4, ligne 5, colonnes 1 et 4).
2. Selon vous, le résultat de la méthode proposée qui est de soustraire $2\,845\,10^3\text{ m}^3$ des résultats avant normalisation est-il plus précis ou moins précis que le résultat de la méthode actuelle?

Response 51

- (1) In this one case, the current method does produce a strange result. However, this is the case where the normal and the actual degree days are very close. Any linear method can produce counterintuitive results when small differences are involved. To take a limiting case, heating usage could be different in two months when heating degree days are equal. This is because actual heating usage is affected by factors other than degree days, such as insulation and wind effects. Given this underlying imprecision in linear methods, the apparent counter-intuitive effect in a month when actual degree days differ from normal by less than 1% does not mean that the given method is less "precise" than another linear method.
- (2) No, for the reason given above.

Request 52

Référence: Page 27, le tableau "Effect of Proposed Changes in Normalization Methods."

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52. 1. Selon vous, l'année 1994/95 a-t-elle été plus chaude ou plus froide que la normale?
2. Selon vous, dans quel sens l'ajustement des revenus avant normalisation de Gaz Métropolitain a-t-il été fait; répondre par une hausse (increase) ou une baisse (decrease)?
4. En vous référant à la pièce SCGM-4, document 2.4 a), page 4 de 6, le montant de 26 434 000 \$ (ligne 33, colonne 9) devrait-il être ajouté ou retranché des revenus avant normalisation de Gaz Métropolitain?
5. Quel serait l'effet sur les revenus après normalisation si l'ajustement de 17 955 000 \$ (ligne 61, colonne 9) proposé par la nouvelle méthode avait été appliqué au lieu de l'ajustement de 26 434 000 \$; répondre en précisant s'il s'agit d'une hausse ou d'une baisse des revenus après normalisation?
6. Le montant de (8 479) de la ligne 1994/95 de votre tableau, a-t-il pour effet d'augmenter ou de diminuer les revenus normalisés de Gaz Métropolitain? Quel est son impact sur le rendement de l'entreprise? Quel est selon vous son impact sur les tarifs?

Response 52

To come

Request 53

Référence: Page 27. **Préambule:** On peut lire dans la phrase suivant le tableau: "The overall effect over the last four years would have been a decrease in total gross margin...". Plus loin on peut lire: "As the above chart shows, the increase in revenues comes from the change in the method of normalizing volumes..."

53. Comment conciliez-vous une baisse de marge brute avec une hausse de revenu?

Response 53

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If the effect of normalization is to determine the revenues that should have been received with normal weather, a reduction in the actual margin results in an increase in charges for the amortization of that amount.

Request 54

Reference: Tableau de la page 29.

54. 1. Les volumes de base ne devraient-ils pas être exprimés en m³/jour/client (m³/Day/customer)?
2. La série de chiffre de la colonne 'Amount' pour la zone Ouest ne devrait-elle pas être la suivante pour les lignes 96/09 à 97/02 : 10.72, 10.50, 10.43, 10.60, 10.13, 10.16?
3. Pourriez-vous déposer un tableau corrigé s'il y a lieu?
4. Pourquoi ne pas avoir utilisé la moyenne des mois de juin à septembre pour fin de comparaison?

Response 54

- (1) Yes.
- (2) Yes.
- (3) See attached.
- (4) Because July and August are the months where there is considered to be negligible heating load.

Request 55

Référence: Preuve de la FNACQ et OC, page 29.

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55. 1. Pourriez-vous qualifier, en termes statistiques, les résultats des régressions qui vous ont été présentés?

Response 55

We did not present an alternate

Response No. 47

Working Capital Cites

1. Massachusetts Electric Company
164 PUR4th 393
2. Connecticut Light and Power Company
100 PUR4th 452
3. Trunkline LNG Company
98 PUR4th 148
4. Maine Public Utilities Commission
44 PUR4th 104
5. Missouri Public Service Commission
Kansas City Power & Light
43 PUR4th 559
6. Interstate Power Company
152 PUR4th 377
7. Pennsylvania PUC v. Duquesne Light
51 PUR4th 198
8. New England Telephone and Telegraph Company
62 PUR4th 503
9. TransAlta Utilities Corp.
Alberta PUB Decision E91093
10. U.S. West Communications
152 PUR4th 446
11. Artesian Water Company
101 PUR4th 451
12. Georgia Power Company
122 PUR4th 211
13. Atlanta Gas Light Company
119 PUR4th 404
14. Illinois Bell Telephone Company
108 PUR4th 89

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15. AT&T Communications of South Central
107 PUR4th 381

16. Conowingo Power Company
87 PUR4th 603

17. Potomac Electric Power Company
124 PUR4th 1

18. Montana Power Company
125 PUR4th 30

19. Virginia Electric and Power Company
111 PUR4th 311

20. Northwestern Utilities Limited
Decision E91044

Response No. 54

Base Usage for Cycle Billing Customers
(m³/degree-day/customer)

<u>Year/Month</u>	<u>East Zone</u>			<u>West</u>	
	<u>Amount</u> <u>(m³/DD/cust)</u>	<u>Relative</u> <u>to Jul-Aug</u> <u>to Jul-Aug</u>	<u>Zone</u>		<u>Relative</u> <u>to Jul-Aug</u> <u>to Jul-Aug</u>
			<u>Amount</u> <u>(m³/DD/cust)</u>	<u>Relative</u> <u>to Jul-Aug</u> <u>to Jul-Aug</u>	
95/10	11.64	0.911	10.11	0.958	
95/11	12.10	0.947	9.87	0.936	
95/12	12.07	0.945	9.68	0.918	
96/01	12.39	0.970	9.88	0.936	
96/02	12.57	0.984	9.91	0.939	
96/03	12.40	0.971	9.84	0.933	
96/04	12.40	0.971	10.04	0.952	
96/05	12.92	1.011	10.16	0.963	
96/06	12.59	0.986	10.10	0.957	
96/07	12.80	1.002	10.52	0.997	
96/08	12.75	0.998	10.58	1.003	
96/09	14.99	1.173	10.72	1.015	
96/10	13.26	1.038	10.50	0.994	
96/11	12.90	1.016	10.43	0.988	
96/12	13.03	1.020	10.60	1.004	
97/01	12.63	0.989	11.13	0.959	
97/02	12.91	1.011	10.16	0.962	

Source: SCGM-4, Doc. 3.1(b), Pages 3 and 5.

Table 1

Effect of Compounding Return

	<u>Principal Beginning of Month</u>	<u>Month's Income at 1%</u>	<u>Principal End of Month</u>
January	\$100.00	\$1.00	\$101.00
February	101.00	1.01	102.01
March	102.01	1.02	103.03
April	103.03	1.03	104.06
May	104.06	1.04	105.10
June	105.10	1.05	106.15
July	106.15	1.06	107.21
August	107.21	1.08*	108.29
September	108.29	1.08	109.37
October	109.37	1.09	110.46
November	110.46	1.11*	111.57
December	\$111.57	\$1.12	\$112.69

*Reflects accumulated effect of fractions of cents.

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Doc 2

Société en Commandite Gaz Métropolitain

Cause tarifaire 1999, R-3397-98

Responses to Information Requests from S. C. Gaz Métropolitain, Inc.

Request 38

Référence: Page 14: "This is the gist of the problem. There is no reason why customers should expect gas distribution rates to go up faster than or even at the rate of inflation. Many other gas companies have had no increases at all for several years. SCGM's proposal does not provide for a reduction relative to actual cost of service to customers. This is despite the level of past investment and the maturity of the development of the franchise which is such that rates should be expected to decline without any additional effort from SCGM, but simply as 'a result of amortization of past expenditures'."

38. 1. Veuillez indiquer à quelles entreprises fait référence l'expression "many other gas companies" en indiquant s'il s'agit d'entreprises de transport ou de distribution.
2. Veuillez déposer des statistiques démontrant que, pour l'ensemble des distributeurs canadiens et américains, les tarifs des distributeurs ont en dollars constants, diminué au cours des 20 ou 40 dernières années.
3. En faisant les hypothèses suivantes:
- Réseau de distribution mature, âgé de 40 ans
 - Durée de vie utile des actifs de 40 ans et taux d'amortissement de 2,5% par année
 - En dollars constants, investissements uniformes de 100\$ par année sur les années 1 à 40
 - Taux d'inflation uniforme de 2% par année au cours des années 1 à 40 et de 2% pour les années 41 et suivantes
 - Aucun développement (ajout de nouveaux clients) au cours des années 41 et suivantes
 - Aucun gain de productivité sur la période de l'année 1 à 41
4. Veuillez calculer pour l'année 41, en dollars courants, le coût de remplacement des actifs dont la durée de vie utile est expirée (donc ceux de l'année 1) et qui doivent donc être remplacés au cours de l'année 41 pour continuer à desservir les mêmes clients.

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5. Veuillez calculer, toujours selon les mêmes hypothèses, l'augmentation, en dollars courants, de la valeur des actifs qui sera requise au cours de l'année 41, toujours pour continuer à desservir les mêmes clients.
6. Veuillez calculer, toutes autres choses étant égales, le pourcentage d'augmentation dans les coûts de financement qui en résulterait.
7. Veuillez calculer, toujours selon les mêmes hypothèses, l'augmentation, en dollars courants, de la valeur de l'amortissement qui en résultera au cours de l'année 41, toujours pour continuer à desservir les mêmes clients.
8. Veuillez comparer le pourcentage d'augmentation de la dépense d'amortissement qui en résulte avec le taux d'inflation posé en hypothèse.
9. Quel est l'effet de l'inflation sur la dépense d'amortissement d'un réseau de distribution mature?

Response 38

- (1) We have not done an exhaustive survey of companies that have not had a rate increase for several years. The statement is based on our experience in the regulatory arena that, in recent years, there have been fewer rate increase proposals and some utilities have reduced rates. Two in Canada are Canadian Western Natural Gas and Northwestern Utilities Limited in Alberta.
- (2) The testimony refers to increases in the last several years, not a period of 20-40 years.
- (3-9) The calculations of the assumptions provided in 38(3), are shown on the attached table.
- (8) Given the assumptions provided in this hypothetical situation, the percentage increase in the depreciation expense is 5%; the rate of inflation provided by the hypothesis is 2%.

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- (9) The effect of inflation on depreciation expense depends on the type of facilities installed. It is impossible to draw a conclusion from the simplistic assumption provided.

Gaz Metro
Response to SCGM Request 38 (4-7)

Assumptions - Request 38 (3)

Distribution network age	40 yrs
Useful asset life - years	40 yrs
Amortization rate	2.5% per yr
Investment	100 \$/yr
Inflation rate	2.0% per yr

Year	Inflation (1)	Incremental Investment (2)	Accumulated Investment (3)	Depreciation Expense (4)	Accumulated Depreciation (5)	Net Investment (6)	Question 4 Replacement Cost (7)	Question 5 Increase in Asset Value (8)	Question 6 % Increase Finance Cost (9)	Question 7 \$ Increase in Accumulated Depreciation (10)	Question 8 % Increase in Depreciation Expense (11)
1	1.000	\$ 100	\$ 100	\$ 3	\$ 3	\$ 98					
2	1.020	102	202	5	8	194					
3	1.040	104	306	8	15	291					
4	1.061	106	412	11	26	386					
5	1.082	108	520	14	40	481					
6	1.104	110	631	17	58	575					
7	1.126	113	743	20	76	667					
8	1.149	115	858	23	99	759					
9	1.172	117	975	27	126	850					
10	1.195	120	1,095	30	158	939					
11	1.219	122	1,217	34	189	1,027					
12	1.243	124	1,341	38	227	1,114					
13	1.268	127	1,468	42	269	1,199					
14	1.294	129	1,597	46	315	1,283					
15	1.319	132	1,729	50	365	1,365					
16	1.346	135	1,864	55	419	1,444					
17	1.373	137	2,001	59	479	1,522					
18	1.400	140	2,141	64	543	1,598					
19	1.428	143	2,284	69	613	1,671					
20	1.457	146	2,430	75	688	1,742					
21	1.486	149	2,578	80	768	1,811					
22	1.516	152	2,730	86	854	1,878					
23	1.546	155	2,884	92	946	1,939					
24	1.577	158	3,042	98	1,044	1,998					
25	1.608	161	3,203	105	1,149	2,054					
26	1.641	164	3,367	111	1,260	2,107					
27	1.673	167	3,534	118	1,378	2,156					
28	1.707	171	3,705	126	1,504	2,201					
29	1.741	174	3,879	133	1,637	2,242					
30	1.776	178	4,057	141	1,779	2,278					
31	1.811	181	4,238	149	1,928	2,310					
32	1.846	185	4,423	158	2,086	2,337					
33	1.885	188	4,611	167	2,253	2,359					
34	1.922	192	4,803	176	2,429	2,375					
35	1.961	196	4,999	186	2,614	2,385					
36	2.000	200	5,199	196	2,810	2,390					
37	2.040	204	5,403	206	3,016	2,388					
38	2.081	208	5,611	217	3,233	2,379					
39	2.122	212	5,824	228	3,461	2,363					
40	2.185	216	6,040	240	3,701	2,340					
41	2.208	221	\$6,161	252	3,606	2,555	\$ 221	\$ 215	6.2%	\$ (94)	5.1%
							Col. 1, Year 41	Col. 6 Year 41 minus Year 40	Col. 6 Year 41 divided by Year 40	Col. 5 Year 41 minus Year 40	Col. 4 Year 41 divided by Year 40

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Responses to Information Requests from S. C. Gaz Métropolitain, Inc.

Request 52

Référence: Page 27, le tableau "Effect of Proposed Changes in Normalization Methods."

52. 1. Selon vous, l'année 1994/95 a-t-elle été plus chaude ou plus froide que la normale?
2. Selon vous, dans quel sens l'ajustement des revenus avant normalisation de Gaz Métropolitain a-t-il été fait; répondre par une hausse (increase) ou une baisse (decrease)?
2. En vous référant à la pièce SCGM-4, document 2.4 a), page 4 de 6, le montant de 26 434 000 \$ (ligne 33, colonne 9) devrait-il être ajouté ou retranché des revenus avant normalisation de Gaz Métropolitain?
3. Quel serait l'effet sur les revenus après normalisation si l'ajustement de 17 955 000 \$ (ligne 61, colonne 9) proposé par la nouvelle méthode avait été appliqué au lieu de l'ajustement de 26 434 000 \$; répondre en précisant s'il s'agit d'une hausse ou d'une baisse des revenus après normalisation?
4. Le montant de (8 479) de la ligne 1994/95 de votre tableau, a-t-il pour effet d'augmenter ou de diminuer les revenus normalisés de Gaz Métropolitain? Quel est son impact sur le rendement de l'entreprise? Quel est selon vous son impact sur les tarifs?

Response 52

- (1) According to SCGM-4, Document 2.4, 1994/95 was warmer than average.
- (2-4) The adjustment in revenues is the "normalization". We do not understand what is meant by an adjustment "before normalization".
- (5) The affect of normalization depends on how the numbers are used. SCGM-4, Document 2, Page 4 states:

L'entreprise se demandait alors si une révision était nécessaire pour permettre d'amortir le solde du compte régulateur qui atteignit un montant à recevoir de plus de 20 000 000\$.

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If the difference between normal and actual is amortized by recovery through rates, a warmer-than-normal year will increase rates in the future; a colder-than-normal year will decrease them. On the other hand, if the normalization procedure is used only for retrospective evaluation of the financial results for the purpose of closing the books, then there is no amortization and no effect on future rates.