

C A N A D A

RÉGIE DE L'ÉNERGIE

PROVINCE DE QUÉBEC
DISTRICT DE MONTRÉAL

N° : R-3397-98

SOCIÉTÉ EN COMMANDITE GAZ
MÉTROPOLITAIN

requérante

et

L'ASSOCIATION DES CONSOMMATEURS
INDUSTRIELS DE GAZ (CI-APRÈS "ACIG")

intervenante

RÉPONSES DE M. HUGH W. JOHNSON AUX QUESTIONS
#1 ET #2 DE LA RÉGIE DE L'ÉNERGIE
#6 ET #7 DU GRAME/UDD
ET #1 À #4 DU RNCREQ

Montréal, le 13 octobre 1998

ACIG-1, doc. 2

October 13, 1998

No de dossier: R-3398-98

Demande de clarification de la Regie concernant la preuve de l'ACIG

Page 1

Reference:

Témoignage de Hugh Johnson, ACIG-1, document 1. page 15 et l'annexe 3

Demande:

1. Veuillez ventiler le poste "other transportation and storage" de 19 629 000 \$ apparaissant à la ligne 7 de l'annexe 3.

Response:

1. The amount is a net number to reflect all items other than those shown on lines 2 - 6. It did not appear that the total cost of transportation and storage of 302,793 (SCGM-5-Document 8 Page 2 of 2) reflected the 9,837 adjustment(SCGM-2-Document 8 Page 1 of 2). Unfortunately the total transportation storage was entered into the spreadsheet as 302,783 rather than 302,793. The 292,946 should be 292,956 (302,793[SCGM-5 DOC 8 Page 2 of 2 Line 25] less 9,837 [SCGM-2 DOC 8 Page 1 of 1 Line 46]). Therefore the correct amount should have been 19,639 rather than 19,629.

Demande:

2. Veuillez ventiler le compte "other transportation and storage" de 29 466 000 \$ apparaissant à la ligne 21 de l'annexe 3.

Response:

2. See 1. above.
The amount of 29,466 shown on Line 21 is the total of the amount shown on Line 7 plus 9,837. In order to agree to the Expected Service Cost based on the actual storage and transportation costs of 302,793 it was necessary to add the 9,837 to the amount calculated on Line 7. It should be noted that if the amount of 9,837 had been excluded from Line 4, the base operating costs would not have been close to the approved 1998 budget for operating costs of 99,997. It was recognized that there was a small difference which could not be easily ascertained between the 99,391 and the 99,997. In order to achieve SCGM's required revenue of 707,608, it was necessary to use the 302,793 for transportation and storage. The 29, 466 million should have been 29,476 and is comprised of all items of storage and transportation not reflected on lines 18 to 20.

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Page 2

Reference:

Témoignage de Hugh Johnson, ACIG-1, document 1. page 12

Préambule:

Shortcoming of SCGM Mechanism

Demande:

3. Pourriez-vous élaborer, à l'aide d'exemples, un mécanisme qui intégrerait une réduction explicite des coûts à cause des gains de productivité (cost for productivity improvements) et/ou qui tiendrait compte d'un dividende de productivité en faveur de la clientèle (...consumer productivity dividend).

3 Answer will follow.

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Page 1

6. Request:

Dans le document R-3397-98, ACIG-1, Doc. 1, p.6, l'ACIG affirme: "The Régie could adopt a formulistic method of determining rate of return on common equity such as that discussed by Dr. Waters, without an incentive scheme. The National Energy Board approved a formalistic approach to determining return on common equity before incentive schemes were adopted, as did the British Columbia Utilities Commission and the Manitoba Public Utilities Board." Est-ce que vous considérez que l'absence de clareté de SCGM sur une politique de développement durable et sur le respect des engagements gouvernementaux en matière d'environnement pourrait être un autre argument en faveur de votre position sur la questions du mécanisme incitatif, position par laquelle vous semblez rejeter clairement la proposition de la Société en commandite Gaz métropolitain concernant le système incitatif que la SCGM propose pour "mesurer et rémunérer une plus grande performance du distributeur au niveau de ses activités"? (SCGM, 3397-98, Requête, p. 3)

Response:

I understand the question to be whether the absence of a clear policy on sustainable development is another reason for my position with respect to incentive mechanism.

The issue of sustainable development and other environmental matters was not a factor in my rejection of SCGM's desire to tie the incentive mechanism to a formulistic approach for return on common equity. Since a formulistic approach to calculate the return on common equity could be adopted whether or not there were clear policies with respect to sustainable development and the environment.

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7 Request:

Vous présentez, en annexe 4 du document R-3397-98, ACIG-1, doc. 1, une décision de la British Columbia Utilities Commission (1997). Ce document présente (à partir de la page 5) un mécanisme incitatif de gestion de la demande "designed to encourage BC Gas to pursue cost effective demand side management resources." (British Columbia Utilities Commission, 1997, p. 5). Pensez-vous que cet incitatif serait applicable dans le contexte québécois? Quels en seraient les avantages et les inconvénients? Quelle est la position de votre organisme concernant le rôle que cet incitatif (ou tout autre incitatif similaire) pourrait jouer dans le cadre d'une intensification des efforts en efficacité énergétique?

Response:

7. I understand the question to be whether the formulas in the incentive mechanism designed for BC Gas could be applicable in context of Quebec, and whether there would be advantages or disadvantages and what the position of ACIG would be to such an incentive.

My purpose for including Appendix 4 and particular the document from the British Columbia Utilities Commission was not because it included measures with respect to demand side management. Rather, it was presented to provide an indication of a decision and incentive deal which was agreed to by a broad range of stakeholders, including the Association for the Advancement of Sustainable Energy Policy.

If UDD or other organizations within Quebec wanted the issue of demand side management and sustainable development to be included in the incentive mechanism, then it would be incumbent upon them to raise the issue and provide reasons and methodology, in the appropriate negotiation sessions with the stakeholders.

I am unaware whether ACIG has a policy as to whether demand side management and or sustainable development should be included in an incentive mechanism.

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1. Ref :p4 L1-7:
Your text discusses the importance of distinguishing between increased sales within the utility's control (i.e, obtaining new customers) and those outside the utility's control (i.e. industry expansions).

Request

- a. Are you aware of specific PBR approaches that can be used to make such a distinction? Please specify.

Response

- a. I am not aware of any specific PBR approaches that can be used to make such a distinction. However, I note that the TransCanada agreement dealt with discretionary revenue (Article 15). This article did not deal with the issue per se, it did have specific decisions dealing with various types of revenue.

2. Ref: p5 L26-27 and p. 6 L 1-3:
You make particular mention of the BC Gas 1997 case.

a. **Request**

Do you generally approve of the results of the BC Gas case, in particular the general PBR approach adopted?

a. **Response**

The purpose of including the BC Gas Utility PBR was not because I adopted it but rather to indicate that it was the result of negotiations between a large group of stakeholders. I have not studied the results in detail and can only indicate that obviously under the circumstances the stakeholders felt that this was an appropriate approach.

b. **Request**

Between the BC Gas case and the TransCanada case, which would be more pertinent, in your view, to the current review of SCGM's proposed PBR?

b. **Response**

The BC Gas case and the TransCanada case and the related agreements

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each have benefits. Again, the reason for incorporating both agreements in Appendix 4 and the reference in the evidence were to indicate the negotiations and the stakeholder groups that were involved compared to the unilateral imposition of a PBR mechanism by the utility on its stakeholders.

There are aspects of both the BC Gas and the Trans Canada agreements that are pertinent to the current review of SCGM's proposed PBR. As an LDC, certainly BC Gas is more akin to SCGM than Trans Canada. However, whether the stakeholders of the SCGM have the same goals and objectives as the stakeholders of BC Gas is something that I am unable to comment upon. I do believe that it is useful to look at both agreements in determining whether the SCGM proposal is reasonable.

3. a. **Request**

Ref.: p.11, L.12-15:

You suggest that SCGM's proposed PBR could be described as a form of revenue cap using a very significant Z factor.

Is your understanding of a revenue cap that non-Z-factor revenues are indeed capped, with rates then being set within the overall cap, and excess revenues being redistributed between the utility and customers according to a sharings bandwidth (when one is in place)?

- i) If not, please explain your understanding of a revenue cap, and how this relates to SCGM's proposal.
- ii) If so, please explain in what way SCGM's proposal - in which revenue, including non-z-factor revenue, is free to fluctuate - can be termed a form f revenue cap.

a. **Response**

The reason that the SCGM incentive mechanism was described as "could be... a form of revenue cap with a very significant Z factor..." was that the proposal did not limit changes in the specific rates of any customer group. Price caps normally limit the increases of a rate or basket of rates. The word " could" was used because the SCGM proposal was not limiting the rates but rather was proposing that the total revenues deemed to be under the control of SCGM, would be designed in such a manner as to limit the increase to inflation applied to a volumetrically adjusted revenue plus flow

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through costs sometimes referred to as an exogenous factor.

The concept of sharing excess revenues can be between the Utility and its customers according to bandwidths or otherwise, is applicable to both price cap and revenue cap methodologies.

b. Request

Would you agree or disagree that SCGM's proposal more closely resembles a rate cap approach or a rate target, than a revenue cap one?

b. Response

I would, as I did in my evidence, suggest that SCGM's proposal more closely resembles a revenue cap or rate cap. However, the proposal is not one which I would suggest falls clearly within either category and attempting to put a characterization on it is difficult. What is clear is that there is a large exogenous factor which limits the perceived control on either revenue or rates.

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intervenante

RÉPONSES DE M. HUGH W. JOHNSON AUX QUESTIONS
#1 À #16 DE SCGM

Montréal, le 16 octobre 1998

ACIG-1, doc. 3

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Demands de resignation de Société en commandite Gaz Métropolitain

No de dossier: R-3397-98

Témoignages de l'ACIG

1. Référence:

Page 2, ligne 14: "The existing methodology used with respect to SCGM has a number of shortcomings, however, it could be continued as an interim or stopgap measure until a broader consensus based incentive mechanism could be achieved."

Question:

1.1 Quelle est votre définition d'un "broader consensus"? Veuillez indiquer notamment si un tel consensus implique l'accord de la totalité ou de la majorité des participants au processus.

Response:

1. I understand the question to be what is my definition of a broader consensus and to indicate whether it implies agreement of the total or majority of participants in the process.

Consensus is generally considered to be "group solidarity and sentiment and belief... general agreement. UNANIMITY, ACCORD... The judgement arrived at by most of those concerned..." Webster's Third New International Dictionary provides the foregoing definitions of consensus. In the circumstances of the current proceeding, a broader consensus would imply agreement of SCGM, and those parties who intervened as well as all parties representing users of SCGM's services or those parties who are directly affected by the provision SCGM's services.

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Question:

1.2 De qui ce consensus devrait-il être obtenu?

Response:

2. I understand the question to be from whom would this consensus be obtained.

I would anticipate that this consensus would be obtained by SCGM sitting down with its various stakeholders - customers, intervenors, etc. and discussing the objectives of each. I would anticipate that while there will be a variety of objectives, each of the parties will recognize that in order to achieve their objectives, as in most negotiations, there will have to be some give and take. Only if a consensus cannot be reached should SCGM present a unilateral proposal.

Question:

1.3 À votre avis, la Régie de l'énergie ou son personnel "technique" devrait-il participer à ce consensus?

Response:

3. I understand the question to ask whether the personnel of the Régie de l'énergie would participate in this consensus.

It is my understanding that in some of the Appendix 4 agreements, most notably the BC Gas Agreement, the British Columbia Utilities Commission staff participated. In the case of the National Energy Board ("NEB") and the Nova Gas Transmission Ltd. incentive arrangements, the staffs of the Alberta Energy and Utilities Board

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("AEUB") and the NEB staff did not participate in the incentive negotiations. In the case of IPL, I believe there were some discussions regarding the potential of a settlement with the NEB staff. However, the role of the staff of the NEB and the AEUB is that of advisors. Therefore, they do not generally participate but rather would wait until the consensus and agreement was brought to the Board and then would advise the Board with respect to the agreement.

Question:

- 1.4 Pourriez-vous expliquer, à l'heure actuelle, quelles sont les conditions dans lesquelles un tel consensus pourrait être retenu par la Régie de l'énergie? Veuillez notamment expliquer comment un tel consensus pourrait être retenu par la Régie dans la mesure où il ne regroupe pas la totalité des intervenants.

Response:

4. I understand the question to be asking how or whether the Régie would be bound to the consensus reached by the parties.

It is my understanding that the Régie would not necessarily be bound by the consensus of the parties. However, in making its decision, I would expect that it would find it easier to deal with an incentive mechanism which had the support of a majority, if not all the intervenors and other stakeholders, rather than an unilateral proposal that appears to be opposed by many of the intervenors.

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Question:

- 1.5 Est-ce qu'un tel consensus éliminerait la nécessité de tenir des audiences publiques sur le sujet?

Response:

5. I understand the question to be asking whether the consensus will eliminate the necessity to hold a public hearing with respect to the agreement.

I do not believe that the consensus would necessarily eliminate the need to hold a public hearing, that would be dependent upon the statute and the Régie. However, a consensus should reduce the length and issues that would need to be dealt with.

For example, with respect to Nova, the AEUB dealt with the matter as a written proceeding; with respect to the Westcoast agreement, the Board had a four day hearing including argument which dealt with the incentive mechanism as well as certain costs which had not been dealt with in the incentive arrangement and which were somewhat contentious; as noted in the TransCanada decision RH-2-85 page 45 the NEB had initially scheduled a hearing to deal with the incentive agreement then cancelled the oral hearing and directed TransCanada to have an open forum to present the settlement. The Board provided an opportunity for parties to provide comments in writing in lieu of the oral hearing.

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2. Référence:

Page 2, ligne 18: "The Régie should direct SCGM and the stakeholders to commence discussions in order to arrive at an incentive mechanism that meets the goals and objectives of all stakeholders."

Question:

Pourriez-vous identifier chacun des intervenants auxquels vous référez et identifier les objectifs de chacun de ces intervenants?

Response:

I understand the question to be which stakeholders should be consulted and what would be the objective pursued by each of them.

I would suggest that the stakeholders should include all interested parties, in particular, those parties who are authorized to intervene in SCGM proceedings before the Régie.

I would expect that each would pursue their objectives in recognition that some of the objectives may be complementary or consistent and some might be conflicting. However, I would expect that ultimately most would want safe and reliable service at the lowest reasonable cost.

3. Référence:

Page 3, ligne 17: "Of the total 1998 Revenue Requirement of \$1.091 billion, only 9.17% (99.997 million/1.091 billion) are costs that are both controllable by SCGM and impacted by inflation over the shorter term, one year to the next. The balance

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of the costs are either not affected by inflation directly in the test year and/or are not controllable by SCGM. It is doubtful, therefore, that an incentive mechanism designed to control cost is appropriate."

Question:

3.1 Vous dites que seuls les coûts de 99,997 millions \$ sont affectés par l'inflation, directement à court terme, par l'inflation. Est-ce votre opinion que l'inflation n'a aucun impact à court terme sur les autres coûts composant les 1,091 milliards \$?

Response:

1. I understand the question to be is it my opinion that inflation has no impact on the other costs [excluding the 99,997 million] included in the 1,091 billion.

The reference to the 99,997 million or 9.17% was to costs which were impacted by inflation over the shorter term, one year to the next. Inflation, or projected inflation in 1999 does not impact on the depreciation expense incurred with respect to assets required in 1970 or 1996. The reference to over the shorter term, one year to the next, was to attempt to differentiate between those costs which would have a direct relationship with inflation similar to that implied by the incentive mechanism proposed by SCGM as compared to all costs which, over time, have been or will be impacted by inflation in some manner but not directly, as is the implied direct relationship shown in SCGM's proposal.

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Demandes de renseignements de Société en commandite Gaz Métropolitain

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Témoignages de l'ACIG

Question:

3.2 Est-ce votre opinion que l'inflation n'a aucune incidence sur, entre autres, les coûts, et donc les tarifs, de TCPL?

Response:

2. I understand the question to be whether it is my opinion inflation has no impact on amongst other costs, the tariffs of TCPL.

The tariff and tolls of TCPL are set by the NEB in part based on the incentive mechanism approved in the proceeding RH-2-95. The return on the rate base, income taxes and depreciation, foreign exchange on debt, insurance deductible costs and discretionary revenue are items for which inflation has affected the amount but does not directly affect the cost in the current year for the most part. Depreciation expense on TransCanada is made up of two components - depreciation expense for assets already in service and depreciation expense on the current year's additions. Depreciation expense on the current year's additions are impacted by inflation to the extent that the current year capital additions are impacted by inflation. However, even this is not a direct relationship, since materials may have been purchased in previous years.

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Question:

3.3 Est-ce votre opinion que l'inflation n'a aucune incidence sur, entre autres, les coûts de transport et d'entreposage? Connaissez-vous le mode d'établissement du tarif d'entreposage à Pointe du Lac? Saviez-vous qu'il s'agit d'un tarif approuvé par la Régie du gaz naturel et qu'il est ajusté annuellement pour tenir compte de l'inflation?

Response:

3 I understand the question to be is it my opinion that inflation has no impact on amongst other things the cost of transportation and storage and whether I know how the storage tariff is established for Pointe du Lac, and in particular that the tariff approved by the Régie is adjusted annually to reflect inflation

It is my understanding that Régie approves the tariff for Pointe du Lac. I am not aware of the mechanism for setting that tariff and whether it is assumed that all the costs are affected by inflation year to year. It is, however, a tariff payable to a third party over which SCGM has no control. In this respect, the storage rate for Pointe du Lac is similar to the rate payable to Union for storage or to TCPL for transportation.

Question:

3.4 Veuillez identifier et quantifier les autres composantes des 1,091 milliards \$ qui sont affectées indirectement ou à moyen et long terme, par l'inflation?

Response:

4. I understand the question to be to identify and quantify the other

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component of the 1,091 billion \$ that would over the medium and long term horizon not be impacted by inflation between one year and the next.

Depreciation of assets already in service prior to the beginning of the year is not impacted by inflation in the current or future years. Embedded cost of debt in place at the beginning of the year is not impacted by inflation in the current or future years. The amount of the depreciation expense and the amount of the embedded cost to debt, for example were impacted in some manner by inflation in the years in which they were incurred. Based on my review of the budget contained in SCGM-2 Document 5, it appeared that only operating expenses shown on Line 11 would be affected explicitly and directly by inflation between 1998 and 1999.

Question:

3.5 Si seulement 9,17% des dépenses sont sous le contrôle de SCGM et que ces dépenses (dépenses d'exploitation) sont relativement bien contrôlées, quel est le rôle de la Régie de l'énergie?

Response:

5. I understand the question to be if only 9.17% the costs are under the control of SCGM, what is the role of the Régie.

It is my understanding the role of the Régie is fixed by statute, in particular, Bill 50 An Act respecting the Régie de l'énergie, Chapter IV Rate Determination and more specifically articles 49,50 and 51. In order to stop paying depreciation expense or interest expense SCGM would require approval of the Régie.

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Question:

3.6 Le coût des immobilisations n'étant pas inclus dans le 9,17% et n'étant donc pas, selon vous, sous le contrôle de SCGM, veuillez expliquer pourquoi les gestionnaires de SCGM devraient justifier leurs projets d'investissement de plus de 1 million \$ en les soumettant à la Régie pour approbation préalable?

Response:

6. I understand the question to be if the costs other than 9.17% are not under the control of SCGM, please explain why management of SCGM must justify their investment projects in excess of \$1 million to the Régie.

As I indicated in my evidence, SCGM's proposal tends to equate costs which may be affected by inflation as controllable costs. Decisions made by SCGM in the past impact the current costs of depreciation, embedded costs of debt and consumer price reductions. However, having made those decisions and having had the Régie approve them, they are no longer subject to control by SCGM.

Similarly, additions to rate base are decided by SCGM and ultimately approved by the Régie. However, once the approval is granted, SCGM has little or no control over those costs. Should SCGM be rewarded in 1999, with an extra return because of a prudent decision made in 1990, for example?

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Question:

3.7 La Régie devrait-elle se contenter de constater ces coûts une fois qu'ils sont réalisés si, de toutes façons, SCGM ne les contrôle pas?

Response:

7. I understand the question to be whether the Régie should merely take note of these costs if SCGM does not control them anyway.

As indicated above, the Régie's responsibility is set by statute and in particular, Articles 49, 50 and 51 indicate what factors in fixing or modifying rates the Régie shall look at. As indicated in my evidence and as noted above, the ability of SCGM to dramatically change any of the costs other than operating costs is low. Even a number of operating costs are probably not changeable or controllable in the short term, i.e. it is likely that SCGM could not reduce its operating expenses to zero, therefore SCGM should not be rewarded for the changes in non-controllable items.

Question:

3.8 À votre avis, le mécanisme proposé par SCGM vise-t-il à contrôler les coûts ou les tarifs? Dans le mécanisme incitatif proposé par SCGM, est-ce que cette dernière serait récompensée pour une réduction de coûts accompagnée d'une augmentation des tarifs (si les volumes de ventes diminuent plus rapidement que les coûts)?

Response:

8. I understand the question to be in your opinion does the incentive mechanism proposed by SCGM aim to control its costs or its tariffs. In the incentive mechanism proposed by SCGM would it be rewarded for a reduction of costs accompanied by an increase of tariffs (if

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volumes of sales decreased more quickly than costs).

Answer to follow.

4. Référence:

Page 3, ligne 35: "IGUA (...) would like to see SCGM's facilities better utilized, with the increased utilization resulting in the reduction of rates. The incentive mechanism currently in place and the proposed method do not directly address this issue. These methods do not differentiate earnings achieved from cost savings from earnings achieved by obtaining new customers or improving the load factor utilization on the existing system."

Question:

4.1 Concrètement, quelle différence y a-t-il pour l'ACIG entre une réduction des tarifs provenant de la réduction des coûts (baisse de la courbe du coût moyen) sans réduction de la qualité de service, et une réduction des tarifs provenant d'une augmentation des ventes (déplacement sur la courbe du coût moyen)?

Response:

1. I understand the question to be what difference does it make to IGUA as long as the rates go down without a reduction in quality and service or a reduction in the tariff coming from increased sales.

IGUA would like a reduction in rates. However, IGUA does not wish to see an incentive mechanism which would reward SCGM without SCGM performing actions deserving of additional, above its allowed

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return.

Question:

- 4.2 Est-ce qu'une réduction des tarifs provenant d'une réduction de coûts pourrait inciter davantage les clients à convertir de nouvelles applications au gaz naturel?

Response:

- 2 I understand the question to be whether a reduction in the tariffs would provide an incentive to have customers convert to new applications for natural gas.

A reduction in the tariff coming from the cost reduction could stimulate the customers to use natural gas. However, generally the use of natural gas and the conversion from other fuels relates to the competitive value of natural gas relative to other energy sources. The combination of the cost of gas and transportation and storage is projected to be 66% (789,652million divided by 1,194,000 billion) of SCGM's cost. Therefore a reduction in the costs, particularly, those costs which may be reduced in the short term such as operating costs will not likely have a significant impact on stimulating customers to convert to natural gas. Rather, it will be the value of the commodity delivered into SCGM's franchise area relative to other fuels which will stimulate customers to find new applications for the use of natural gas.

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5. Référence

Page 4, lignes 5 à 10

Question:

5.1 Si la conjoncture économique peut occasionner des augmentations de consommation chez certains clients, peut-elle aussi causer des réductions de consommation?

Response:

1. I understand the question to be if economic circumstances can cause an increase in consumption for certain customers, can it also cause a reduction of consumption for customers.

The reference section of the evidence was written to indicate that SCGM should not be rewarded for increased revenues that do not come as a direct result of its efforts. Similarly, it should not be unduly penalized by a known reduction in consumption at the beginning of the test year e.g. if a plant closed. Its rates would be higher in those circumstances.

Question:

5.2 Est-il possible qu'une entreprise cliente de SCGM fasse faillite ou déménage?

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Response:

2. I understand the question to be is it possible for a customer of SCGM to become bankrupt.

The answer is yes, and in most cases an action of SCGM by reducing costs is unlikely to affect the economic status of the customer significantly enough to prevent the bankruptcy.

Question:

- 5.3 Est-ce que tous ces phénomènes ne risquent pas de s'annuler à moyen et long termes?

Response:

3. I understand the question to be is it possible that these actions could offset each other over the medium and long term.

Not necessarily. One would expect that over the medium to longer term there will be growth in the consumption so there are net increases. The risks of reductions in consumption and from bankruptcy should be less than the impact of growth. Over the past, it does not appear that risks from reduction in consumption or from bankruptcy have offset.

Question:

- 5.4 Serait-il exact de penser que, toutes choses étant égales, la consommation d'énergie devrait croître au même rythme que le PIB?

Response:

4. I understand the question to be would it be reasonable to think that

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all of the things being equal, consumption of energy should grow at the same rhythm as GDP.

I would expect that energy consumption would not necessarily grow in the same rhythm as GDP since the proportion of energy consumption in various goods and services will vary by customer. Temperature fluctuations will impact the usage of those who use energy for heating rather than general GDP. Those with heating loads will vary their consumption more than those using energy in the production of materials.

Question:

5.5 Serait-il exact de dire que, en pratique, la consommation d'énergie croît moins rapidement que le PIB, notamment en raison d'une efficacité énergétique accrue?

Response:

5. I understand the question to be, does the consumption of energy grow less than GDP notably by reason of increased energy efficiency.

Not necessarily. I am not aware of any studies that correlate the consumption of energy to GDP, let alone any studies which relate to energy efficiency and GDP.

In addition, because energy usage has different purposes, i.e. heating purposes and industrial purposes, there may be no correlation between the increased or decreased usage of energy and efficiency because of temperature fluctuations.

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6. Référence:

Page 5, line 24: "The incentive methodologies referred to in Appendix IV were all the results of negotiations and discussions amongst the stakeholders."

Question:

6.1 Pour chacun de ces mécanismes incitatifs, veuillez indiquer:

- Quelles étaient les parties à la négociation
- Selon quelles règles la commission concernée était liée par le résultat des négociations
- S'il y a quand même eu des audiences
- S'il y a toujours eu consensus

Response:

1. I understand the question to be for each of the incentive mechanisms referred to in Appendix 4 who were the parties to the negotiations, the role of the Commission or Board, whether there was a hearing, and whether there was always a consensus.

The information requested is found in each of the decisions with the exception of Order TO-1-95 with respect to Interprovincial Pipe Line (IPL). In all cases, the Board or Commission was required to rule upon the agreement. I am not aware of any legislation for the NEB, AEUB or the British Columbia Utilities Commission ("BCUC") which allows them to delegate their authority to a consensus and negotiated settlement. However, there have been changes in the legislation covering certain of the regulatory Boards such as the AEUB that allow it to take note of the negotiated settlement for purposes of arriving at

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its decision.

With respect to IPL, although the settlement agreement was between IPL and the Canadian Association of Petroleum Producers ("CAPP"), there was significant public consultation and letters of support.

7. Référence:

Page 6, ligne 12: "Discussing objectives and needs with customers allows a negotiation to take place that should meet some of the objectives of each of SCGM and its customers."

Question:

Pourquoi les objectifs des autres intervenants (ex. regroupements environnementalistes) ne doivent pas être considérés?

Response:

I understand the question to be why the views of other intervenor groups such as environmentalists should not be considered.

The reference could (should) have referred to stakeholders as well as customers. In writing the evidence, it was anticipated that the customers would have more specific objectives and needs than some of the other stakeholders. However, the comment was not meant to limit the participation in the consensus in the negotiations to only the customers.

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8. R f rence:

Page 7, ligne 23: "However, these indices are not rigorous not easily compared to other utilities (...)"

Question:

8.1 Veuillez identifier et d crire les indices utilis s chez les autres distributeurs, particuli rement ceux de l'Ontario.

Response:

1. I understand the question to be please identify and indicate the indices used by other distributors, particularly those in Ontario.

I have not specifically looked at the indices used by the distributors in Ontario. The statement was made with particular reference to the discussion and indices referred to in the BCUC, BC Gas decision and in an awareness that the AEUB was looking for appropriate indices in order to review the results and activities of the gas distributors under its jurisdiction.

Question:

8.2 Nous avons d pos  ceux de Consumers (SCGM-15, Document 1.46) en les d crivant sommairement. En quoi les n tres sont moins rigoureux et difficilement comparables   ceux de Consumers?

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Response:

2. I understand the question to be whether SCGM's standards are less rigorous than Consumers.

Based on SCGM-15, Document 1.46, it appears that some of the Consumers' performances indices are maybe less rigorous than SCGM's and some may be more.

9. **Référence:**

Page 8, ligne 3: "If these quality of service indicators are considered to be true indicators of the quality of service, perhaps the criteria should be based upon the actual performance for two or three years prior. If the current year does not meet or exceed the previous year's performance, SCGM would receive a lesser amount.

Question:

- 9.1 Si, chaque fois que la qualité du service est améliorée, cela contribue à rendre plus difficile l'atteinte des indices dans les années subséquentes, n'est-il pas vrai que le distributeur n'aurait aucun intérêt à se dépasser et que la vie lui serait plus facile s'il se contentait de maintenir la qualité de service au niveau exact de l'année précédente?

Response:

1. I understand the question to be that if the quality of service levels become more difficult to achieve, the distributor would have no interest in exceeding the previous year's level and would make it easier on himself by maintaining the quality of service to the exact level of the previous year.

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Quality of service indicators are generally incorporated into incentive mechanisms in order to prevent the utility from reducing the quality of service to improve its profitability and return. It may be that from the customer's perspective, further increases in the quality of service have a price which is not consistent with what the customers feel is appropriate. If it is considered necessary that the quality of service standards should be increased then that is a factor that should be considered separately. However, if the existing levels are appropriate then there may be no need to provide incentives to increase the quality of service.

Question:

9.2 Est-il exact de dire que, pour améliorer la qualité de service sans augmenter les coûts, il faut une amélioration de la performance?

Response:

2. I understand the question to be isn't it true that to improve quality of service without increasing costs, there has to be an improvement of performance.

One would expect that there would be improved performance. However, there may be circumstances where a reduced number of emergency situations could result in lower cost without a reduction in performance. Similarly, with respect to telephone answering, there may be fewer phone calls in which case the costs could remain the same or decrease and performance may not necessarily improve. However, I would generally expect that the proposition would hold.

Under SCGM's incentive mechanism it is possible that the costs

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could increase without a change or without an improvement of quality service indicators.

Question:

9.3 Est-il exact de dire que, pour réduire les coûts sans détériorer la qualité de service, il faut une amélioration de la performance?

Response:

3. I understand the question to be that in order to reduce costs without reducing the quality of service it is necessary to improve performance.

See response to 2 above.

Under SCGM's current methodology the costs could increase and the quality of service could decrease but not below the standards and SCGM would get a sharing of the excess earnings. As indicated in my evidence, in order to continue to receive the same share as received in the prior year, the quality of service indicators should meet or exceed the previous years' performance. As indicated previously, my understanding of the quality of service indicators are to insure that a utility or distributor such as SCGM does not reduce its performance and service at the expense of earning additional income.

Question:

9.4 Est-il exact de dire qu'une amélioration de la performance peut être utilisée soit pour réduire les coûts, et donc les tarifs, soit pour améliorer la qualité du service?

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Response:

4. I understand the question to be isn't it true that improvement of performance could be used to either reduce costs and therefore rates, or to improve quality of service.

Response to follow

Question:

- 9.5 Est-il exact de dire que si l'amélioration de la performance est utilisée pour augmenter la qualité du service, elle contribuera d'autant moins à baisser les coûts.

Response:

5. I understand the question to be is it fair to say that if the improvement of performance is utilized to increase the quality of service it is less likely to contribute to reduce costs.

In principle, that is correct. It should be recalled that the referenced section is dealing with the current incentive mechanism and the ability of SCGM to meet the performance standards for quality of service. Quality of service can always be increased either at the expense of the level of reductions in costs or by increasing costs. However, there are generally diminishing returns at a certain level and customers are not always willing to pay for increased service quality. If customers were given the choice and knew the dollar value of waiting another 10 seconds on the phone versus not waiting those 10 seconds, they may choose to spend the extra 10 seconds waiting for the call to be answered, rather than having their bill increase or not

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decrease.

Question:

9.6 Selon vous, si l'ACIG et les clients industriels avaient à choisir entre une amélioration de la qualité du service ou une réduction des tarifs, lequel vendrait en premier?

Response:

6. I understand the question to be if IGUA have to choose between an improvement in quality of service or a reduction in rates which would they choose.

My understanding is that IGUA would prefer to see a reduction in rates while maintaining the quality of service. Since as the system matures, it may be possible that both rates can be reduced and quality of service can be maintained or improved as some of the fixed costs may decrease. Fixed costs such as depreciation and return on rate base may decrease. In addition, it would be expected that throughput will increase at a faster rate than the costs, providing an opportunity for rates to decrease. Generally, IGUA would expect that the quality of service should not decrease and that SCGM should continue to maintain the safe and reliable system at the lowest reasonable cost.

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10. Référence:

Page 8, ligne 7: "In the future, SCGM may contract out, as other utilities are contemplating, some or both of the customer service items that are now result in quality of service indicators. In those circumstances, the quality of service indicators would be a matter of contract rather than a measure of service."

Question:

10.1 Est-ce votre opinion que la qualité de service est toujours bonne lorsque le service est donné en sous-traitance?

Response:

10.1 I understand the question to be: Is it my opinion that quality of service is always good when services are contracted out?

It would depend on the nature of the contract as well as on the competence of the subcontractor. The reason generally given for subcontracting out is improvement of service at a lower cost.

Question:

10.2 Si oui, est-ce à dire que l'on pourrait ne plus suivre les indices de qualité de service si le service était donné en sous-traitance?

Response:

10.2 I understand the question to be: If yes, is this to say that we would not be able to follow our quality of service indicators if the service was subcontracted out?

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The purpose of the comment was to indicate that the role of SCGM would be somewhat reduced and different and the performance indicators would be comparing the performance of the subcontractor as opposed to the service staff of SCGM.

Question:

10.3 Si non, quelle est la responsabilité du distributeur si la qualité du service n'est pas adéquate?

Response:

10.3 I understand the question to be: If no, what is the responsibility of the distributor if the quality of service is inadequate?

The ultimate responsibility for letting the contract and supervising the contract would rest with a distributor such as SCGM. The purpose of the section in the evidence was directed at the thought that the quality of service indicators could be a measure of contractual arrangements rather than a measure of SCGM's staff performance. For example, the contract would be designed to indicate the length of time in which the phone should be answered or the number of times meters should be read in a year.

11. Référence:

Page 8, line 13: "The time horizon on the response to emergency situations seems to be too long."

Question:

11. Avez-vous eu connaissance d'études qui vous permettent de faire une telle

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affirmation? Si oui, veuillez les déposer.

Response:

11. I understand the question to be: Am I aware of any studies that permit me to make the comment, and if so, to provide them.

The specific comment was made with respect to my understanding of the nature of emergencies involving natural gas where, in a true emergency, one would hope that the personnel of the distributor would be responding quickly enough to assist the other emergency response personnel, such as fire, in minimizing the amount of natural gas escaping and/or burning.

In 1997, Central Manitoba had requested a new computer aided dispatch and vehicle terminal so that qualified service personnel closest to an emergency could be assigned the call. Central Manitoba was attempting to reduce the average time it took to have a service person en route to an emergency down from its existing seven to eight minutes [1997 Test Year Main Filing Volume II Tab G Business Case CAD-3009]. As indicated, in the case of true emergencies, the response time of the distributor should be compared to response time of fire, 911, or other emergency services. The prompt and speedy response by the distributor to an emergency involving natural gas may prevent the need for fire or other emergency personnel. Alternatively, a slow response may result in a fire and/or explosion. Since the geographics of urban areas are different, it would be my view that it would be appropriate for SCGM to compare its emergency response time to the emergency response time of other emergency services in a similar geographic area centre.

12. Référence

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Page 9, line 3: "Another consideration with respect to the current methodology is that there appears to be an inherent bias in forecasting."

Question:

12.1 Dans quel sens y aurait-il un "bias" dans les projections?

Response:

12.1 I understand the question to be: In what sense do I suggest there is a bias in projections?

Based on SCGM-15 Document 1.3(a), with the exception of one year, SCGM earned above its allowed return. Without a bias in forecasting, I would have expected that there would have been an equal probability over the 9 year period that the authorized return would be more or less than the earned return. This comment is made in context of the current methodology.

Question:

12.2 A votre connaissance, les projections de ventes avaient-elle été sous ou surévaluées en 1995?

Response:

12.2 I understand the question to be: Do I know what happened in 1995?

I have been advised that SCGM overestimated its sales to medium and small sized customers by approximately 4 Bcf.

As a result of that forecasting error, I understand that SCGM cut its operating expenses by approximately \$11 million and sold excess gas, i.e., gas not

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required by its customers as a result of the forecasting error, out of its franchise. I also understand that a number of the costs associated with the reduction of the operating expenses were capitalized and are being amortized into the cost of services over a number of years. This is an example of circumstances where an action in one year results in non-controllable costs in subsequent years, i.e., the amortization of the costs from 1995 are no longer costs which can be controlled by the management of SCGM.

I have been informed that it was operating expenses that were cut by SCGM; SCGM did not cut (and could not cut) depreciation expense, amortization of deferred account balances, storage costs, transportation costs, or the embedded interest cost which are all beyond its control.

Question:

12.3 Etes-vous au courant des actions que SCGM a prises en 1995 pour rencontrer ses objectifs?

Response:

12.3 I understand the question to be: Was I informed of the actions that SCGM took in 1995 to meet its objectives?

See response to 12.2 above.

13. Référence:

Page 9, ligne 24: "However, natural gas distribution companies tend to be natural monopolies. By their nature, many costs are expected to increase at a rate less than inflation because marginal costs should be less than average cost."

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Question:

13.1 S'agit-il d'un concept théorique ou du reflet de la réalité?

Response:

13.1 I understand the question to be whether the statement on page 9 Line 24 of my evidence is a theoretical concept or a reflection of reality.

The statement is based on the economic theory of natural monopolies. Whether it is applicable to the realities of the specific situation depend upon the nature of the utility and where it is in its "life cycle". The concepts are discussed in Principles of Public Utility Rates, Bonbright, Danielsen, and Kamerschen, The Economics of Regulation, Kahn, Public Utility Economics, Garfield and Lovejoy, and The Regulation of Public Utilities, Philips.

It is generally expected that when new facilities are first put in service they may not be utilized to the maximum extent possible. As throughput increases and the utilization increases, the average cost per unit of throughput decreases. This is the concept that was being discussed in the above-referenced section of my evidence. It is unusual in distribution utilities that the facilities when built are sized to the existing market, but rather, facilities are generally sized to the potential of the market.

Question:

13.2 Pourriez-vous déposer des statistiques qui montrent que, sur par exemple les 20 ou 40 dernières années, cela e été le cas en pratique chez l'ensemble des distributeurs canadiens et américains?

Response:

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13.2 I understand the question to be: Do I have any statistics in the last 20 or 40 years where it has been the case for a Canadian or American distributor?

The TQM Pipeline has been an example of reducing costs per unit of throughput; although it is not a distributor, it is integral to the distribution system of SCGM.

In Alberta, the gas distribution company, Canadian Western Natural Gas Company Ltd. ("CWNG"), went from 1993 to 1998 without an increase in its base rates, i.e., other than the pass through costs for natural gas. Customers are seeking a refund for 1997 and CWNG applied for a refund for 1998.

This circumstance was related to the Company being able to attract new customers and generate new throughput at costs which were less than or equal to its average cost. In many of these years, CWNG was able to earn higher returns, on a normalized basis, than other distribution companies in Canada, even though it had no increase in its base rate or margin.

Question:

13.3 Est-ce que l'existence d'un coût marginal inférieur au coût moyen dépend de la position du distributeur sur la courbe du coût moyen?

Response:

13.3 I understand the question to be: In order for incremental or marginal costs to be less than average cost, does it depend where the distributor is on the average cost curve?

The phenomenon is not so much due to where the distributor is on the

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average cost curve but rather more related to whether the utility is new or has recently expanded or is old and needs to make expenditures to refurbish and extend the life of the system. In between, there will be various times when a major expansion may result in the incurrence of marginal cost exceeding average cost. In the context, pipelines it is often referred to as cheap expansibility versus expensive, i.e., pipe versus compression. In the case of the distributor, it is the building of mains versus the attaching of services.

Question:

13.4 Est-ce que cette position sur la courbe du coût moyen dépend la maturité du distributeur?

Response:

13.4 I understand the question to be: Is the location on the average cost curve dependent on the age of maturity of the distributor?

See 13.3 above.

Question:

13.5 Est-ce le distributeur est appelé à se déplacer sur cette courbe du coût moyen et que le coût marginal tendrait à long terme à dépasser le coût moyen?

Response:

13.5 I understand the question to be: Is the distributor inclined to displace itself on the average cost curve so that the marginal cost would exceed the average cost?

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I would expect the distributor to attempt to ensure that its marginal cost would be less than its average cost. To ensure that the marginal costs are not too high, some regulators have expansion guidelines, requiring a positive contribution to costs within a time period.

Question:

13.6 Est-il possible que la courbe du coût moyen se déplace vers le haut?

Response:

13.6 I understand the question to be: Is it possible that the average cost curve moves upward if the marginal cost exceeds the average cost?

If the marginal cost is less than the average cost, then the average cost curve will move downward.

14. Référence:

Page 10, ligne 2: "(...) a natural gas distribution company should have rates which decline in nominal as well as in real terms over the medium term."

Question:

14. Veuillez déposer des statistiques démontrant que, pour l'ensemble des distributeurs canadiens et américains, les tarifs des distributeurs ont, en dollars courants, diminué au cours des 20 ou 40 dernières années.

Response:

14. I understand the question to be: Please demonstrate with statistics that Canadian and American distributors' tariffs have, in current dollars, decreased during the last 20 or 40 years.

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I am not aware of any statistics or specific studies which would provide that information. The comment was based on my experience and, in particular, the circumstances surrounding CWNG referred to in 13.2 and CWNG's sister company, Northwestern Utilities Limited, which was also able to go two or three years without a rate increase.

15. Référence:

Page 11, line 12L "The incentive mechanism that SCGM is proposing could be described as a form of revenue cap (...)"

Question:

15. Veuillez décrire précisément votre définition d'un "revenue cap".

Response:

15. I understand the question to be: Please provide your precise definition of a "revenue cap".

I would describe a revenue cap as a mechanism that controls prices by limiting the revenues of the organization. This is contrasted with a "price cap" that limits the increase in the price of either a single product or a basket of goods and services. Essentially, a "revenue cap" is a basket of all goods or services rather than a single product or basket of some goods and services.

See also the response to RNCREQ No. 3.

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16. Référence:

Page 12, line 5: "As the SCGM system matures, it would be expected that additions to rate base, and in particular, to plant in service would be less than the depreciation expense resulting in a declining rate base for a period of years."

Question:

16.1 Est-il exact de dire que la dépense d'amortissement des actifs de SCGM reflète leur durée de vie utile?

Response:

16.1 I understand the question to be: Is it reasonable to say that the amortization or depreciation of assets reflects their useful life?

The depreciation expense is generally estimated based on an estimated useful life of the assets. However, over the life of an asset, the estimated useful life may change as more or better information becomes known. Useful life can be described in terms of physical or economic life. In many cases, the depreciation expense is based on the economic rather than the physical life. As a result, it is necessary to conduct depreciation studies every few years to update the estimated useful life.

Question:

16.2 Est-il exact de dire qu'à la fin de leur durée de vie utile, les actifs doivent être remplacés?

Response:

16.2 I understand the question to be: Is it fair to say that, at the end of their useful life, assets must be replaced?

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When assets reach the end of their useful life and service is still required to be provided, then the assets must be replaced. It is possible that the asset may be fully depreciated prior to the end of its useful life, if the depreciation expense is not updated reasonably frequently. There is a general tendency to set depreciation rates in the initial years that reflect a shorter useful life. This is done in order that the owner/shareholder receives the return of their capital sooner than would be the case if depreciation expense reflected a longer useful life.

Question:

16.3 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

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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Response:

16.3 I understand the question to be: Provide the following hypothetical, assuming:

- (a) a mature distribution with an age of 40 years;
- (b) a useful life of the assets of 40 years and a rate of depreciation of 2.5%;
- (c) in constant dollars, a uniform investment of \$100.00 per year for years 1 to 40;
- (d) uniform rate of inflation of 2% per year for years 1 to 40 and 2% for years 41 and following;
- (e) no development (new customer additions) during years 41 and following; and
- (f) no gain in productivity for the years 1 to 41.

The question then goes on to request a calculation for year 41 in current dollars the replacement value of the asset whose useful life has expired, i.e., the year 1 asset, that must be replaced during year 41.

Question:

16.4 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.

Response:

16.4 I understand the question to be: Please calculate, on the basis of the same hypothesis, the increase in current dollars of the value of the assets that will be required during year 41.

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Question:

16.5 Veuillez calculer, toujours selon les même hypothèses, l'augmentation, en dollars courants, de la valeur de l'amortissements qui en résultera au cours de l'année 41, toujours pour continuer à desservir les mêmes clients.

Response:

16.5 I understand the question to be: Please calculate, according to the same hypothesis, the increase in current dollars in the value of the depreciation or amortization that will result during year 41.

See attached SCGM 16.5 (H. Johnson).

Question:

16.6 Veuillez comparer le pourcentage d'augmentation de la dépense d'amortissement qui en résulte avec le faux d'inflation posé en hypothèse.

Response:

16.6 I understand the question to be: Please compare the percentage increase in the depreciation expense that results from the inflation posed in the hypothesis.

Question:

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

Response:

16.7 I understand the question to be: What is the effect of inflation on the depreciation expense of the mature distribution system?

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Demandes de résignement de Société en commandite Gaz Métropolitain

No de dossier: R-3397-98

Témoignages de l'ACIG

Answers for Responses 16.3 to 16.7:

The hypothetical posed is a concept that has been discussed in the context of accounting for income taxes since the early 1960s (*Alabama Tennessee FPC Opinion 417*, February 3, 1964). I have discussed the concept in evidence regarding accounting for income taxes since 1982, see, for example, proceeding of the National Energy Board regarding TransQuebec and Maritimes Pipeline Inc., RH-4-82, Exhibit 285.

It was because, I was well aware of the concept that the evidence indicates " . . . it would be expected that additions to rate base, and in particular department service would be less than the depreciation expense resulting in a declining rate base for a period of years." (emphasis added)

A distributor of natural gas, such as SCGM, might go ten, twenty, or thirty years without replacing pipe, even though in that period the plant may be depreciated by, assuming the 2,5% depreciation rate posed in this hypothetical, 25,0% to 75,0%.

I am also assuming in the hypothetical that when no new customer additions are included, that also means no change in throughput and no productivity gains. This is very hypothetical.

The phenomenon illustrated by the hypothetical posed by SCGM is inconsistent with the theory of natural monopolies and regulation. Under the circumstances illustrated in this hypothetical, there would be limited barriers entering and there could be a number of competing facilities. I have attached as 16.3-7, Revised, an illustration of the phenomenon that was discussed in the evidence.

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Demandes de résignement de Société en commandite Gaz Métropolitain

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Témoignages de l'ACIG

See the attached calculations on Schedules SCGM 16.3-7 (H. Johnson), SCGM 16.3-7 Revised (H. Johnson), and SCGM 16.5 (H. Johnson).

The phenomenon discussed in the evidence is also illustrated by the attached figure from Philips. The Regulation of Public Utilities Theory and Practice, 1988 Public Utilities Reports Inc., page 45.

SCGM 16.5
(H. Johnson)

Response to SCGM questions 16.5 regarding a hypothetical

Assumptions:

- Depreciation is 2.5%
- Asset has original value of 4 000
- Inflation is 2.0%
- Addition in year 41 to replace depreciated plant, in constant dollars
- No retirements until year 41
- No increase in number of customers or in throughput
- Return on rate base of 10.0%

Years	Plant in service / rate base			Accumulated Depreciation				Depreciation Expense	Return on Rate Base
	Opening Balance	Additions	Retirements	Closing Balance	Opening Balance	Additions	Retirements		
1	4000			4000		100		100	395.0
2	4000	0		4000	100	100	0	200	395.0
3	4000.0	0.0		4000.0	200.0	100.0	0.0	300.0	375.0
4	4000.0	0.0		4000.0	300.0	100.0	0.0	400.0	365.0
5	4000.0	0.0		4000.0	400.0	100.0	0.0	500.0	355.0
6	4000.0	0.0		4000.0	500.0	100.0	0.0	600.0	345.0
7	4000.0	0.0		4000.0	600.0	100.0	0.0	700.0	335.0
8	4000.0	0.0		4000.0	700.0	100.0	0.0	800.0	325.0
9	4000.0	0.0	0.0	4000.0	800.0	100.0	0.0	900.0	315.0
10	4000.0	0.0	0.0	4000.0	900.0	100.0	0.0	1000.0	305.0
11	4000.0	0.0		4000.0	1000.0	100.0	0.0	1100.0	295.0
12	4000.0	0.0		4000.0	1100.0	100.0	0.0	1200.0	285.0
13	4000.0	0.0		4000.0	1200.0	100.0	0.0	1300.0	275.0
14	4000.0	0.0		4000.0	1300.0	100.0	0.0	1400.0	265.0
15	4000.0	0.0		4000.0	1400.0	100.0	0.0	1500.0	255.0
16	4000.0	0.0		4000.0	1500.0	100.0	0.0	1600.0	245.0
17	4000.0	0.0		4000.0	1600.0	100.0	0.0	1700.0	235.0
18	4000.0	0.0		4000.0	1700.0	100.0	0.0	1800.0	225.0
19	4000.0	0.0		4000.0	1800.0	100.0	0.0	1900.0	215.0
20	4000.0	0.0	0.0	4000.0	1900.0	100.0	0.0	2000.0	205.0
21	4000.0	0.0	0.0	4000.0	2000.0	100.0	0.0	2100.0	195.0
22	4000.0	0.0	0.0	4000.0	2100.0	100.0	0.0	2200.0	185.0
23	4000.0	0.0	0.0	4000.0	2200.0	100.0	0.0	2300.0	175.0
24	4000.0	0.0	0.0	4000.0	2300.0	100.0	0.0	2400.0	165.0
25	4000.0	0.0	0.0	4000.0	2400.0	100.0	0.0	2500.0	155.0
26	4000.0	0.0	0.0	4000.0	2500.0	100.0	0.0	2600.0	145.0
27	4000.0	0.0	0.0	4000.0	2600.0	100.0	0.0	2700.0	135.0
28	4000.0	0.0	0.0	4000.0	2700.0	100.0	0.0	2800.0	125.0
29	4000.0	0.0	0.0	4000.0	2800.0	100.0	0.0	2900.0	115.0
30	4000.0	0.0	0.0	4000.0	2900.0	100.0	0.0	3000.0	105.0
31	4000.0	0.0	0.0	4000.0	3000.0	100.0	0.0	3100.0	95.0
32	4000.0	0.0	0.0	4000.0	3100.0	100.0	0.0	3200.0	85.0
33	4000.0	0.0	0.0	4000.0	3200.0	100.0	0.0	3300.0	75.0
34	4000.0	0.0	0.0	4000.0	3300.0	100.0	0.0	3400.0	65.0
35	4000.0	0.0	0.0	4000.0	3400.0	100.0	0.0	3500.0	55.0
36	4000.0	0.0	0.0	4000.0	3500.0	100.0	0.0	3600.0	45.0
37	4000.0	0.0	0.0	4000.0	3600.0	100.0	0.0	3700.0	35.0
38	4000.0	0.0	0.0	4000.0	3700.0	100.0	0.0	3800.0	25.0
39	4000.0	0.0	0.0	4000.0	3800.0	100.0	0.0	3900.0	15.0
40	4000.0	0.0	0.0	4000.0	3900.0	100.0	0.0	4000.0	5.0
41	4000.0	8832.0	4000.0	8832.0	4000.0	160.4	4000.0	160.4	433.6
42	8832.0	0.0	0.0	8832.0	160.4	220.8	0.0	381.2	856.1
43	8832.0	0.0	0.0	8832.0	381.2	220.8	0.0	602.0	834.0
44	8832.0	0.0	0.0	8832.0	602.0	220.8	0.0	822.8	812.0
45	8832.0	0.0	0.0	8832.0	822.8	220.8	0.0	1043.6	789.9

10/16/98mir16-3-SCGM16.5

Response to SCGM questions 16.3 to 16.7 regarding a hypothetical

SCGM 16.3-7
(H. Johnson)

Assumptions:

- Depreciation is 2,5%
- Asset has original value of 4 000
- Inflation is 2,0%
- Constant additions of 100 per year, in constant dollars
- Retirements of 100 per year
- No increase in number of customers or in throughput
- Return on rate base of 10,0%

Years	Plant in service / rate base			Accumulated Depreciation			Closing Balance	Depreciation Expense	Return on Rate Base
	Opening Balance	Additions	Retirements	Closing Balance	Opening Balance	Additions			
1	4000			4000		100	100	100.0	395.0
2	4000	100	100	4000	100	100	100	100.0	390.0
3	4000.0	102.0	100.0	4002.0	100.0	100.0	100.0	100.0	390.1
4	4002.0	104.0	100.0	4006.0	100.0	100.1	100.1	100.1	390.4
5	4006.0	106.1	100.0	4012.2	100.1	100.2	100.4	100.2	390.9
6	4012.2	108.2	100.0	4020.4	100.4	100.4	100.8	100.4	391.6
7	4020.4	110.4	100.0	4030.8	100.8	100.6	101.4	100.6	392.5
8	4030.8	112.6	100.0	4043.4	101.4	100.9	102.3	100.8	393.5
9	4043.4	114.9	100.0	4058.3	102.3	101.3	103.6	101.3	394.8
10	4058.3	117.2	100.0	4075.5	103.6	101.7	105.3	101.7	396.2
11	4075.5	119.5	100.0	4095.0	105.3	102.1	107.4	102.1	397.9
12	4095.0	121.9	100.0	4118.9	107.4	102.6	110.1	102.6	399.7
13	4118.9	124.3	100.0	4141.2	110.1	103.2	113.3	103.2	401.7
14	4141.2	126.8	100.0	4168.0	113.3	103.9	117.1	103.9	403.9
15	4168.0	129.4	100.0	4197.4	117.1	104.6	121.7	104.6	406.3
16	4197.4	131.9	100.0	4229.3	121.7	105.3	127.0	105.3	408.9
17	4229.3	134.6	100.0	4263.9	127.0	106.2	133.2	106.2	411.7
18	4263.9	137.3	100.0	4301.2	133.2	107.1	140.3	107.1	414.6
19	4301.2	140.0	100.0	4341.2	140.3	108.0	148.3	108.0	417.7
20	4341.2	142.8	100.0	4384.1	148.3	109.1	157.4	109.1	421.0
21	4384.1	145.7	100.0	4429.7	157.4	110.2	167.5	110.2	424.4
22	4429.7	148.6	100.0	4478.3	167.5	111.4	178.9	111.4	428.1
23	4478.3	151.6	100.0	4529.9	178.9	112.6	191.5	112.6	431.9
24	4529.9	154.6	100.0	4584.5	191.5	113.9	205.4	113.9	435.9
25	4584.5	157.7	100.0	4642.2	205.4	115.3	220.8	115.3	440.0
26	4642.2	160.8	100.0	4703.0	220.8	116.8	237.6	116.8	444.3
27	4703.0	164.1	100.0	4767.1	237.6	118.4	256.0	118.4	448.8
28	4767.1	167.3	100.0	4834.4	256.0	120.0	276.0	120.0	453.5
29	4834.4	170.7	100.0	4905.1	276.0	121.7	297.7	121.7	458.3
30	4905.1	174.1	100.0	4979.2	297.7	123.6	321.3	123.6	463.3
31	4979.2	177.6	100.0	5056.8	321.3	125.5	346.7	125.5	468.4
32	5056.8	181.1	100.0	5137.9	346.7	127.4	374.2	127.4	473.7
33	5137.9	184.8	100.0	5222.7	374.2	129.5	403.7	129.5	479.1
34	5222.7	188.5	100.0	5311.2	403.7	131.7	435.3	131.7	484.7
35	5311.2	192.2	100.0	5403.4	435.3	133.9	469.3	133.9	490.5
36	5403.4	196.1	100.0	5499.4	469.3	136.3	505.6	136.3	496.4
37	5499.4	200.0	100.0	5599.4	505.6	138.7	544.3	138.7	502.5
38	5599.4	204.0	100.0	5703.4	544.3	141.3	585.6	141.3	508.6
39	5703.4	208.1	100.0	5811.5	585.6	143.9	629.5	143.9	515.0
40	5811.5	212.2	100.0	5923.7	629.5	146.7	676.2	146.7	521.5
41	5923.7	216.5	100.0	6040.2	676.2	149.5	725.8	149.5	528.1
42	6040.2	220.8	102.0	6159.0	725.8	152.5	776.2	152.5	534.9
43	6159.0	225.2	104.0	6280.2	776.2	155.5	827.7	155.5	541.8
44	6280.2	229.7	106.1	6403.8	827.7	158.5	880.1	158.5	548.8
45	6403.8	234.3	108.2	6529.9	880.1	161.7	933.5	161.7	556.0

101698Gm16.3.xls SCGM 16.3

Response to SCGM questions 16.3 to 16.7 regarding a hypothetical

Assumptions:

Depreciation is 2,5%

Asset has original value of 4 000

Inflation is 2,0%

Additions of 1 000 at year 10, 20, 30 and 40, in constant dollars

Retirements of original plant at year 10, 20, 30, and 40

No increase in number of customers or in throughput

Return on rate base of 10,0%

Years	Plant in service / rate base				Accumulated Depreciation				Depreciation Expense	Return on Rate Base
	Opening Balance	Additions	Retirements	Closing Balance	Opening Balance	Additions	Retirements	Closing Balance		
1	4000			4000		100		100	100.0	395.0
2	4000			4000	100	100		200	100.0	385.0
3	4000.0	0.0		4000.0	200.0	100.0	0.0	300.0	100.0	375.0
4	4000.0	0.0		4000.0	300.0	100.0	0.0	400.0	100.0	365.0
5	4000.0	0.0		4000.0	400.0	100.0	0.0	500.0	100.0	355.0
6	4000.0	0.0		4000.0	500.0	100.0	0.0	600.0	100.0	345.0
7	4000.0	0.0		4000.0	600.0	100.0	0.0	700.0	100.0	335.0
8	4000.0	0.0		4000.0	700.0	100.0	0.0	800.0	100.0	325.0
9	4000.0	0.0	0.0	4000.0	800.0	100.0	0.0	900.0	100.0	315.0
10	4000.0	1195.0	1000.0	4195.0	900.0	100.0	1000.0	0.0	100.0	364.8
11	4195.0	0.0		4195.0	0.0	104.9	0.0	104.9	104.9	414.3
12	4195.0	0.0		4195.0	104.9	104.9	0.0	209.8	104.9	403.8
13	4195.0	0.0		4195.0	209.8	104.9	0.0	314.6	104.9	393.3
14	4195.0	0.0		4195.0	314.6	104.9	0.0	419.5	104.9	382.8
15	4195.0	0.0		4195.0	419.5	104.9	0.0	524.4	104.9	372.3
16	4195.0	0.0		4195.0	524.4	104.9	0.0	629.3	104.9	361.8
17	4195.0	0.0		4195.0	629.3	104.9	0.0	734.1	104.9	351.3
18	4195.0	0.0		4195.0	734.1	104.9	0.0	839.0	104.9	340.8
19	4195.0	0.0		4195.0	839.0	104.9	0.0	943.9	104.9	330.4
20	4195.0	1456.0	1000.0	4651.0	943.9	110.6	1000.0	54.5	110.6	392.4
21	4651.0	0.0	0.0	4651.0	54.5	116.3	0.0	170.7	116.3	453.8
22	4651.0	0.0	0.0	4651.0	170.7	116.3	0.0	287.0	116.3	442.2
23	4651.0	0.0	0.0	4651.0	287.0	116.3	0.0	403.3	116.3	430.6
24	4651.0	0.0	0.0	4651.0	403.3	116.3	0.0	519.6	116.3	419.0
25	4651.0	0.0	0.0	4651.0	519.6	116.3	0.0	635.8	116.3	407.3
26	4651.0	0.0	0.0	4651.0	635.8	116.3	0.0	752.1	116.3	395.7
27	4651.0	0.0	0.0	4651.0	752.1	116.3	0.0	868.4	116.3	384.1
28	4651.0	0.0	0.0	4651.0	868.4	116.3	0.0	984.7	116.3	372.4
29	4651.0	0.0	0.0	4651.0	984.7	116.3	0.0	1100.9	116.3	360.8
30	4651.0	1774.9	1000.0	5425.9	1100.9	126.0	1000.0	226.9	126.0	437.5
31	5425.9	0.0	0.0	5425.9	226.9	135.6	0.0	362.5	135.6	513.1
32	5425.9	0.0	0.0	5425.9	362.5	135.6	0.0	498.2	135.6	499.6
33	5425.9	0.0	0.0	5425.9	498.2	135.6	0.0	633.8	135.6	486.0
34	5425.9	0.0	0.0	5425.9	633.8	135.6	0.0	769.5	135.6	472.4
35	5425.9	0.0	0.0	5425.9	769.5	135.6	0.0	905.1	135.6	458.9
36	5425.9	0.0	0.0	5425.9	905.1	135.6	0.0	1040.8	135.6	445.3
37	5425.9	0.0	0.0	5425.9	1040.8	135.6	0.0	1176.4	135.6	431.7
38	5425.9	0.0	0.0	5425.9	1176.4	135.6	0.0	1312.1	135.6	418.2
39	5425.9	0.0	0.0	5425.9	1312.1	135.6	0.0	1447.7	135.6	404.6
40	5425.9	2163.6	1000.0	6589.5	1447.7	150.2	1000.0	597.9	150.2	498.5
41	6589.5	0.0	0.0	6589.5	597.9	164.7	0.0	762.6	164.7	590.9
42	6589.5	0.0	0.0	6589.5	762.6	164.7	0.0	927.4	164.7	574.4
43	6589.5	0.0	0.0	6589.5	927.4	164.7	0.0	1092.1	164.7	558.0
44	6589.5	0.0	0.0	6589.5	1092.1	164.7	0.0	1256.9	164.7	541.5
45	6589.5	0.0	0.0	6589.5	1256.9	164.7	0.0	1421.6	164.7	525.0

The Regulation of Public Utilities Theory and Practice

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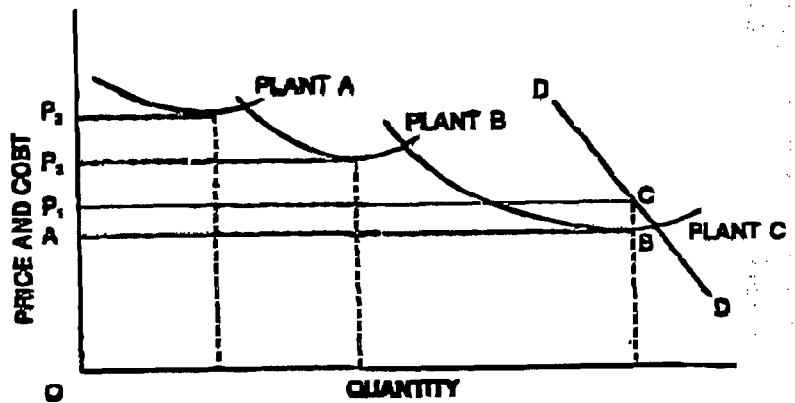
... The first is short-run decreasing cost. This reflects the fact that once an investment in facilities is made, output can be increased with unit costs declining until the physical capacity of the facilities is reached.

The second aspect of decreasing cost relates to the long run. This phenomenon arises from the fact that, at any point in time, the unit cost of adding capacity declines as the size of the additional facility increases. Note that whereas the short-run decreasing cost situation relates to fuller utilization of existing capacity, the long-run decreasing cost situation applies to the economies associated with larger rather than smaller additions to capacity.

The third aspect of decreasing cost reflects the fact of technological progress. Note that the second aspect is basically a static concept; at any point in time, with given technology, larger capacity increments tend to be associated with lower unit costs. But this third aspect of decreasing cost is dynamic as technology changes, the real unit costs of adding capacity decline.¹¹

As short-run decreasing cost is a characteristic of many industries, this phenomenon does not provide an economic rationale for detailed regulation. The long-run decreasing cost situation, however, does provide an economic justification for regulation, as illustrated in Figure 2-1. Assume a given state of technology. If four firms of equal size were competing in a market, the long-run price could not be less than P_3 (plant A). If two firms of equal size were serving the market, minimum average costs would fall to P_2 (plant B). But the situation would still be unstable, for if economies of scale permitted one of the firms to double his plant, it would be able to supply the entire market (plant C), charging P_1 and earning a monopoly profit equal to P_1CBA .¹²

FIGURE 2-1
The Natural Monopoly Situation



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regulation are not always logical. Similarly, the conditions that first produced regulation may well change to the point that regulation should be reduced or drastically revised.⁴

Determinants of Market Structure

The market structure, market conduct, and market performance of public utility industries will be discussed at length in Part III.⁵ What economic characteristics possessed by such industries distinguish them from other domestic industries? Specifically, why provide detailed regulation of electric, gas, and water firms (and, historically, telecommunications firms) and leave the large steel companies, drug manufacturers, and automobile producers free from comparable regulation? Clearly all of these industries are "affected with a public interest" and "render an essential service."

Market Structure: Cost Considerations

The classic economic case for extensive regulation of price, investment, service, and other managerial decisions of an industry is the inherently noncompetitive situation. Public utilities are frequently referred to as "natural monopolies."⁶ The phrase is misleading.⁷ Economics of scale may allow one firm to serve a market at a lower average cost than can several competing firms.⁸ But in some cases, primarily transportation utilities, competition was limited for many years by legislative policy rather than by technological conditions. In such cases, there was nothing natural or inherent about the resulting market structure. Similarly, interindustry or intermodal competition may be present. While this type of competition may lead to different results than does intraindustry or intramodal competition, it can still serve to limit discretionary control over price. Many utility industries, therefore, exhibit both monopolistic and competitive elements.

It should be emphasized also that economic conditions are constantly changing. Market growth may make entry of new firms economically feasible; technological advances may lead to either larger or smaller optimum-size plants; substitute products or services may be developed. What is "natural" at one period of time, then, may become quite unnatural at another. One must distinguish, therefore, between a permanent and a temporary natural monopoly.⁹ "Perhaps, as others have observed, the notion of a natural monopoly was invented to justify exclusive markets for utility companies after their ineffectual and sometimes wasteful rivalry proved unsatisfactory to both the investor and the consumer interest."¹⁰

Economics of Scale. In some fields, regulation is predicated on the idea that an enterprise can achieve lower costs if placed in the position of a monopolist in a market. As Seiber has pointed out, there are three aspects of decreasing cost.

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The inherently noncompetitive market structure, therefore, is determined by economies of scale, of the long-run variety.¹⁵ Competition may exist for a time, but only until bankruptcy or merger leaves the field to one firm. Competition is self-destructive and results in a waste of scarce resources.¹⁶ Conceivably, the two or three firms could make an agreement to share the market. Neither the firms nor the public would benefit should this occur. The firms would be high cost producers and the consumers would be denied the benefits derived from economies of scale. Moreover, nonprice rivalry between inefficient plants does not lead to an efficient allocation of resources. When economies of scale permit only one optimum-size producer in a market, it is highly desirable for public policy to allow a monopolistic supplier to operate. But the mere fact that a monopolist is allowed to exist does not assure the public of obtaining the benefits of whatever lower costs are achieved. In fact, the monopolist might absorb not only the benefits resulting from the lower cost, but also might raise prices. Consequently, the presence of a monopolist calls for some degree of public regulation.¹⁶

With respect to public utilities, significant (permanent) economies of scale indicating large-scale, monopolistic operations appear to be found in the transmission and distribution of electric power; the transportation by pipeline of natural gas and petroleum; the distribution of natural gas; and water and sewage services. The pipeline industry is illustrative. Unit costs of crude oil pipeline transport decline rapidly with increases in the designated capacity (throughput) per day and the diameter of the pipeline. Thus, a throughput of 25,000 barrels per day in a 10 3/4-inch line costs 0.237 cents per ton-mile as compared with a cost of .0513 cents per ton-mile for a daily throughput of 400,000 barrels in a 32-inch line.¹⁶ The second cost is approximately 22 percent of the first.

In some markets, two or more competitors are found, all of which may be relatively efficient producers. Even when subjected to detailed regulation, this was true with respect to air, highway, and water transportation and to the production of natural gas. In these cases, regulation was based on considerations other than the existence of significant economies of scale and, consequently, it is not surprising that these activities have been subject to deregulation in recent years. Some economists, moreover, believe that the generation of electricity and the provision of telecommunications services may be only temporary natural monopolies, "since the tendency for average costs to decline with plant size may not continue indefinitely."¹⁷ The telecommunications industry, in particular, is currently undergoing a significant change in market structure, as will be discussed in Chapter 15.

Fixed and Nonliquid Investment. Economies of scale often require large-scale plants. Such plants, in turn, require large fixed investments. Indeed, an important economic characteristic of public utilities (bus, highway freight, and water carriers are exceptions) is their heavy investment in durable equipment; and investment which is largely fixed (and, hence, unchanging irrespective of how many units are sold) and which represents a high

C A N A D A

RÉGIE DE L'ÉNERGIE

PROVINCE DE QUÉBEC
DISTRICT DE MONTRÉAL

N° : R-3397-98

SOCIÉTÉ EN COMMANDITE GAZ
MÉTROPOLITAIN

requérante

et

L'ASSOCIATION DES CONSOMMATEURS
INDUSTRIELS DE GAZ (CI-APRÈS "ACIG")

intervenante

RÉPONSES RÉVISÉES DE M. HUGH W. JOHNSON
AUX QUESTIONS #3.8 ET #9.4 DE SCGM

Montréal, le 19 octobre 1998

ACIG-1, doc. 3
Réponses révisées aux questions #3.8 et #9.4 de SCGM

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Question:

- 3.8 À votre avis, le mécanisme proposé par SCGM vise-t-il à contrôler les coûts ou les tarifs? Dans le mécanisme incitatif proposé par SCGM, est-ce que cette dernière serait récompensée pour une réduction de coûts accompagnée d'une augmentation des tarifs (si les volumes de ventes diminuent plus rapidement que les coûts)?

Response:

- 3.8. I understand the question to be: In your opinion does the incentive mechanism proposed by SCGM aim to control its costs or its tariffs. In the incentive mechanism proposed by SCGM would it be rewarded for a reduction of costs accompanied by an increase of tariffs (if volumes of sales decreased more quickly than costs).

The primary focus of the incentive mechanism seems to relate to the control off costs. It is not tied to rates, but rather costs. However, there appears to be an aspect that relates to rates. The costs that SCGM defines as controllable are compared to the previous years rates multiplied by the current year's volume forecast, an amount which also impacts the calculation of expected costs. If the previous years rates multiplied by the current year's volume forecast exceeds costs then SCGM can either increase its costs by more than inflation or earn an larger Performance Bonus (up front) ie increase volumes allow SCGM to control costs less.

With respect to the second part of the question, it is impossible to make an all encompassing statement. It would depend on the magnitude on each of the changes.

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Question:

- 9.4 Est-il exact de dire qu'une amélioration de la performance peut être utilisée soit pour réduire les coûts, et donc les tarifs, soit pour améliorer la qualité du service?

Response:

- 9.4 I understand the question to be: Isn't it true that improvement of performance could be used to either reduce costs and therefore rates, or to improve quality of service.

I do not understand the question in the context of the reference to my evidence.

However, it appears possible that an increase in performance could result in either a reduction in cost or an improvement in the quality of service. The comment made in my evidence related to, if there were a reduction in the quality of service. In those circumstances should SCGM get the same amount of performance bonus as it would if there were an increase in the quality of service or a lesser amount to reflect the reduction in quality of service.

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**SOCIÉTÉ EN COMMANDITE GAZ
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**L'ASSOCIATION DES CONSOMMATEURS
INDUSTRIELS DE GAZ (CI-APRÈS "ACIG")**

intervenante

**RÉPONSES DE M. HUGH W. JOHNSON AUX QUESTIONS
#17 À #30 DE SCGM**

Montréal, le 19 octobre 1998

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17 Référence:

Page 12, ligne 7: "A significant shortcoming of SCGM's mechanism is that it does not incorporate an explicit reduction in costs for productivity improvements (...)"

Question:

17.1 Dans l'hypothèse où tous les producteurs des biens considérés dans l'établissement de l'indice des prix à la consommation réalisent, à marge de profit constante, des gains de productivité leur permettant de réduire leurs coûts de 1% dans une année donnée, quel serait l'indice serait l'indice d'inflation (déflation) pour cette année?

Response:

17.1 I understand the question to be: On the assumption that all producers of goods and services considered in consumer price index would realize a constant profit margin permitting them to reduce their costs by 1% in a year, what would the impact be on inflation or deflation in that year?

The hypothesis postulated is theoretical to the extreme and highly unlikely to happen. It is impossible to speculate what the impact on inflation or deflation would be. It is my understanding that inflation is impacted by costs and also demand. To the extent that the demand for the goods and services exceeded the supply, then prices would increase and probably inflation as well. So even though the producers were able to reduce their costs by the 1% postulated, it might not reduce inflation or deflation. All other things being equal, however, it is likely that inflation would be less or deflation would be greater by the 1%. It is highly unlikely that all other things would be equal. Generally speaking, productivity increases are not constant across all goods and services at the same time. For instance, productivity

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increases in the computer industry, the so-called "Moore's Law," are not comparable to productivity increases in gas pipelines or gas distribution systems.

Question:

17.2 Est-il exact que l'indice d'inflation intègre les gains de productivité moyens de l'ensemble des industries produisant les biens considérés dans l'indice d'inflation?

Response:

17.2 I understand the question to be: Does the consumer price index include or reflect the average productivity gains of the bulk of the industries included for purposes of determining the index?

The average increase is just that, an average, and it would be expected that various industries would perform better or worse than the industry average.

It should be noted that the reason for including the comment in my evidence was a general reference to the standard price cap formula. This formula generally includes CPI minus X, where X includes factors such as rate of productivity growth in the industry, decreased costs owing to incentive regulation, otherwise known as "stretch factor" or "consumer productivity dividend," and decreased costs resulting from declining rate base.

18. Référence:

Page 12, ligne 23: "SCGM has also assumed that all costs that are within SCGM's control are subject to inflation on an annual basis. That certainly is not true with respect to items such as depreciation, embedded debt costs, (...)"

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Question:

- 18.1 Vous dites que l'inflation n'a pas d'effet sur ces coûts sur une base annuelle. Y a-t-il un effet sur une base pluriannuelle?

Response:

- 18.1 I understand the question to be: You say that inflation doesn't have an effect on these costs on a yearly basis. Is there an effect over more than one year?

As indicated in previous responses, the portion of depreciation expense, the cost of amortization of deferred charges which relate to expenditures made in prior years would be impacted by inflation in those years. The amount of capital expenditures, new debt, and new amounts deferred would, to some degree, be impacted by inflation if there was inflation. However, the embedded or historical costs do not increase and would not be expected to increase by inflation each and every year.

In future years, the amount of depreciation expense and embedded of cost debt would be impacted by inflation to the extent that there were additions to the depreciable base (or to rate base) and new debt issues, and assuming inflation impacts the underlying asset cost. The interest rate in a given year is a function of a number of factors, one of which is generally the inflation rate, actual or expected.

Question:

- 18.2 En supposant que les actifs augmentent au rythme de l'inflation, de combien, toutes autres choses étant égales par ailleurs, augmenteraient

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l'amortissement et le coût de la dette requise pour financer ces actifs?

Response:

18.2 I understand the question to be: Assuming that the assets increased at the rate of inflation, all other things being equal, by how much would you expect the depreciation and the cost of debt required to finance these assets to increase ?

In the hypothetical presented in the question, the depreciation expense and the embedded or the financing cost would increase by the amount of inflation. The following example, I believe, reflects the concept espoused in the question.

Assume the rate base is \$100,000.00 and the composite depreciation range is 3% and the embedded cost of debt is 9% at the end of year 1. In year 2, if the inflation rate is 2%, then assume that the addition to assets is equal to 2% of \$100,000.00 or \$2,000.00. In this example, the depreciation expense would increase by \$60.00 (3% of the \$2,000.00); however, the debt cost may not increase by 2% of the \$9,000.00 since the interest rate that would be applicable with 2% inflation versus the embedded cost would be more likely to be in the 6%-7% range rather than the embedded 9%. Therefore, the debt cost would increase by between \$120 and \$140 (6% of \$2,000 or 7% of \$2,000) rather than the \$180 that would be applicable when 9% was applied to it. The more likely scenario is one where the assets at the end of year 1 are valued at \$100,000.00, depreciation at 3% yields depreciation expense of \$3,000.00 and the embedded debt cost is 9% per debt for debt costs of \$9,000.00. The rate base additions based on year 1 dollars in year 2 are assumed to be \$10,000.00 but, because of the 2% inflation, the rate base additions

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in year 2 are \$10,200.00 ($\$10,000 \times 1.02$). Under these circumstances, the depreciation expense would increase by \$306.00 ($\$10,200 \times 3\%$). And if we again assume that the current debt cost is 6% (reflecting 2% inflation), the debt cost would increase by \$612.00 ($\$10,200 \times 6\%$). The total depreciation expense would be \$3,306.00 and the total debt cost would be \$9,612.00 at the end of year 2.

As can be seen in this example, if inflation is applicable, it is applicable to only the additions to the rate base in the current year, not to the total assets.

19. Référence:

Page 13, ligne 11: "The depreciation rates are set by the Régie and I would anticipate that SCGM cannot change the depreciation rates without the approval of the Régie."

Question:

19.1 Est-ce que cette affirmation implique que SCGM ne peut influencer les taux d'amortissement?

Response:

19.1 I understand the question to be: Am I suggesting that SCGM cannot influence the rate of depreciation?

I would expect that, for purposes of determining depreciation rates which it would recommend to the Régie, SCGM would conduct or have conducted a depreciation study. That study would be carried out in accordance with generally accepted accounting principles and practices for depreciation.

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Further, I would expect that, in requesting a change in the depreciation rates for approval from the Régie, SCGM would present the results of the study and other intervenors may question or present evidence as to the reasonableness of the depreciation rates. The Régie would then determine the depreciation rates for the various asset classes that SCGM would be allowed to collect.

Question:

19.2 Comment sont fixes les taux d'amortissement approuvés par la Régie:

Arbitrairement?

Selon la durée de vie utile des actifs?

Response:

19.2 I understand the question to be: Does the Régie approve the rates arbitrarily or based on the useful life of the assets?

I am not aware of how the Régie bases its approval of the depreciation rates. However, I would expect that the Régie will review the information which is presented to it and determine what appears to be a reasonable useful life for each asset class. The determination of depreciation rates is an art not a science; there are generally a number of estimates of the useful life of an asset, and lifespan can be a subject of significant debate. This is particularly true when the economic life is used to truncate the physical life expectations.

Question:

19.3 Est-ce que SCGM pourrait, avec l'approbation de la Régie, réduire les taux d'amortissement en travaillant à prolonger la durée de vie utile moyenne de ses actifs, par exemple en mettant en place un programme d'entretien

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préventif plus performant sur ses véhicules?

Response:

19.3 I understand the question to be: Would SCGM be able, with the approval of the Régie, to extend the life of the assets by, for example, putting in place a more effective preventative maintenance program on its vehicles?

It may be that through maintenance, SCGM can extend the life of some of its assets and, therefore, apply to the Régie to have the depreciation expense reduced. Generally, such an activity then requires increased maintenance expenditures. There is an old saying in depreciation that the longer something lives, the longer it is likely to live. So that in most cases, a reduction in the depreciation rate may be due to a number of factors, not just the preventative maintenance programs of SCGM, but also factors such as changed economic circumstances.

In other circumstances, additional capital expenditures such as cathodic protection might maintain the life expectancy of the pipe. Generally, with respect to pipe, it is factors that were inherent at the time the pipe was put in place, that would influence its life, i.e. the metallurgical content, whether it is wrapped or coated or bare, and whether it is cathodically protected. The climate and soil can also have an impact. I am aware of some pipe which was taken out of service in Southern Alberta because it was too small, that it still had the chalk markings on it from when it was installed in the twenties and thirties. This pipe is currently being used for irrigation.

20. Référence:

Page 14, ligne 1: "Financing charges including interest and the deemed cost of preferred shares are another cost item which is not controllable by SCGM."

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Question:

20.1 Est-il exact que le coût de la dette est égal au montant de la dette multiplié par le taux d'intérêt sur la dette?

Response:

20.1 I understand the question to be: Isn't it true that the cost of debt is equal to the amount of debt multiplied by the interest rate on the debt?

Yes, in general terms. Sometimes the cost of debt will include such items as debt issue costs; however, generally speaking, that is the arithmetic that will provide the cost of debt.

Question:

20.2 Est-il exact de dire que le montant de la dette, en supposant un ratio d'endettement constant, dépend directement du niveau des actifs financés, donc du niveau de la base de tarification?

Response:

20.2 I understand the question to be: Is it fair to say that the amount of debt, if we assume a constant debt ratio, depends on the level of the assets financed directly and, therefore, the level of the rate base?

Again, that would appear to be the arithmetic.

If the interest expense was under the control of SCGM, there would be no need for it to have a deferral account. Certainly, the level of interest rates at any point in time is a function of a number of factors, including the

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economy as a whole. Decisions made by the Régie and the management of SCGM may impact slightly the ratings and, therefore, the cost of debt. However, that is a minor consideration compared to the basic interest rate structure, which is neither controllable or easily forecast.

21. Référence:

Page 14, ligne 12: "Real estate and property taxes as well as other charges including the royalty to the Régie are also costs which are essentially beyond the control of SCGM. It will be the municipalities who will determine the amount of the property taxes. The increases in those taxes reflect inflation only to the extent that the municipality increases its millrate by an amount equivalent to inflation. In addition, the royalty paid the Régie allocates the royalty amongst the companies that it regulates."

Question:

21.1 Est-il exact que, au Québec, les taxes foncières résultent d'un taux de taxe multiplié par la valeur de la propriété?

Response:

21.1 I understand the question to be: In Quebec are real estate taxes the result of a tax rate multiplied by the value of property?

I would expect so; that was what was alluded to in the evidence. Millrate is the term used in Alberta for the rate of tax which is applied to the value of property, generally the assessed value.

I also understand that the rate of taxation amongst municipalities could vary, with some having increases equal to or greater than inflation, and some

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having increases of less than inflation.

Question:

21.2 Est-il exact que SCGM a un contrôle sur le coût, et donc la valeur, des propriétés qu'elle utilise pour exploiter son entreprise?

Response:

21.2 I understand the question to be: Isn't it true that SCGM has control of the costs and, therefore, the value of the property that it uses in its business?

At some point, SCGM decided whether to acquire a piece of property. However, to suggest that in 1999, SCGM can control the amount of property taxes with respect to a building it acquired in 1980 or 1990 is, in my view, stretching the definition of controllable costs. The initial decision to acquire the property was a decision undertaken by SCGM, and I would anticipate, approved by the Régie (when it approved the rate base). In addition, I would expect that SCGM can determine whether to purchase property or, alternatively, to lease or rent it.

Question:

21.3 Est-il exact que si SCGM utilise des infrastructures de façon rationnelle, leur quantité, leur coût et donc leur valeur globale s'en trouveront moindres et que les taxes s'en trouveront d'autant réduites?

Response:

21.3 I understand the question to be: If SCGM uses its infrastructures in a rational fashion, their quantity and, therefore, their cost and, therefore, their global value would be less and, as a result, their taxes will be less.

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The above comment is true at the time the decision is made to acquire the property. However, once the property is acquired, the levying of taxes is outside the control of SCGM. If the building was assessed at \$20 million versus \$10 million, all other things being equal, one would expect that the property taxes would be twice as high for the \$20 million building. However, the various municipalities levy taxes at different rates. Therefore, the choice of municipality will also impact the amount of tax to be paid.

Question:

21.4 Est-il exact que, toutes choses étant égales, la valeur des propriétés devrait à long terme suivre l'inflation et, par conséquent, le compte de taxes aussi?

Response:

21.4 I understand the question to be: All other things being equal, would the value of property over the long term follow inflation and, therefore, the amount of property taxes would also follow inflation?

The value of property over the very long term may follow inflation; however, the value of properties over the short to medium term tends to reflect factors other than inflation. For example, over the last two or three years, property values in Calgary have increased at a rate significantly greater than inflation; however, previous to that, the values actually decreased notwithstanding inflation. The value of property tends to be related to supply and demand and the general economic health of the area that the property is located in rather than to inflation. There are numerous examples of commercial buildings being sold at less than their replacement cost because the rental rates are low. I have been advised that in Montreal, rather than increasing with inflation, property values have, over the past few years, tended to decrease.

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I also understand that, in a number of locations, municipalities, as a result of reduced transfers from higher levels of Government such as the Province, have been required to increase their taxes at a rate higher than inflation to compensate for the loss of transfer payments.

Question:

21.5 Pourriez-vous expliquer quels sont les critères utilisés par la Régie pour allouer les redevances entre les distributeurs? Si vous les ignorez, veuillez déposer le règlement de la Régie de l'énergie sur le mode d'établissement des redevances.

Response:

21.5 I understand the question to be: Could I explain what criteria are used by the Régie to allocate royalties between regulated companies.

I understand that the current royalties are determined pursuant to Order in Council 383-98, dated 25 March 1998.

As I understand that Order in Council and the attached regulation, the estimated costs of the Régie are divided by the sum of the volumes of electric power transmitted and distributed by each distributor of electric power in the preceding fiscal period, excluding the volume of electric power sold to another distributor, plus the sum of the volumes of natural gas transported and distributed by each distributor of natural gas in the preceding fiscal period, plus the volumes of fuel and diesel fuel delivered by each distributor of petroleum products refined in Quebec and some of the volume of steam distributed by pipes for heating purposes by each distributor of steam in the preceding fiscal period. There is also an

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adjustment for differences between the estimated expenditures approved by the Government and any surplus from the preceding fiscal period.

As I understand it, the principal reason for the reduction in the royalty to the Régie is the inclusion of Hydro Quebec and the electric power volumes of Hydro Quebec in the determination of the amount to be collected.

Question:

21.6 La Régie doit-elle, dans cette allocation, appliquer le principe de l'utilisateur payeur?

Response:

21.6 I understand the question to be: Does the Régie, in determining this royalty, apply the principle of user pay?

As indicated above, the regulations are such that I would understand that it may not necessarily reflect user pay. For example, even if SCGM did not have a proceeding before the Régie for a year, it still would be allocated costs on the basis of the formula approved in the Order in Council. The formula in the Order in Council is similar to the methodology used by other regulators, such as the NEB. There was a recent situation before that regulator where a pipeline with negotiated rates had sought to have its allocation reduced because it was less likely to have a proceeding before the Board than some of the other pipelines. The National Energy Board ruled against that pipeline. Over the longer term, one would expect that if the companies under its jurisdiction were to have less rate hearings, the Régie may be able to reduce its costs somewhat. However, in order to maintain its function and be able to react to the circumstances that it is required under statute to deal with, I would anticipate that it will require a

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certain staff and a number of commissioners irrespective of, for example, the number of proceedings that SCGM has in any year.

Question:

21.7 Est-il exact que si SCGM présente ses demandes à la Régie de façon efficace, que si elle entretient des relations harmonieuses avec les différents intervenants et avec la Régie et que si elle limite ses demandes, les redevances qu'elle sera appelée à payer s'en trouveront réduites en raison de l'application du principe de l'utilisateur payeur.

Response:

21.7 I understand the question to be: If SCGM presents its case in an efficient manner and maintains harmonious relationships with different intervening parties and the Régie so that the time spent before the Régie is reduced, then by reason of the application of the user pay principle, its royalties should be reduced.

As indicated in 21.5 and 21.6 above, it is my understanding that the allocation of the royalties is not on the basis of user pay. However, as indicated in 21.6 above, to the extent that the SCGM is able to reduce the need for proceedings before the Régie or reduce the length of those proceedings, there may be some impact on the overall costs of the Régie and SCGM.

Question:

21.8 Est-il exact que les redevances à la Régie reflètent désormais, globalement, les coûts d'opération de la Régie de l'énergie?

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Response:

21.8 I understand the question to be: Do the royalties from the Régie reflect the total costs of the operation of the Régie?

As indicated above, it is my understanding that the royalties would reflect the estimated expenditures approved by the Government for the current fiscal year adjusted for any surplus on hand.

Question:

21.9 Est-il exact que les coûts d'opération de la Régie comprennent en grande partie des salaires qui sont sujets à l'inflation?

Response:

21.9 I understand the question to be: Isn't it correct that the costs of operations of the Régie in large part include wages that are affected by inflation?

I would expect that wages are the Régie's largest single expenditure. However, as indicated, the Order in Council and the regulations have very specific criteria and rules for the determination of how the royalty is paid. Whether the wages of members and staff of the Régie are adjusted for inflation or whether they are frozen, or, as was the case when some of the regulatory boards in Alberta rolled back, would be decisions of the Government and the Régie, over which SCGM has no control. Therefore, inflation may not directly impact the wages of the Régie.

Question:

21.10 Pourriez-vous décrire les coûts d'opération de la Régie, avec leur

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importance relative dans le budget d'opération de la Régie, qui ne sont pas sujets à l'inflation.

Response:

21.10 I understand the question to be: Could I describe the cost of the operations of the Régie and the relative importance on the budget of items that are not subject to inflation.

I have not reviewed the budget of the Régie and, therefore, do not know what components of its costs are affected by inflation.

See responses to Question 21 above, particularly those of 21.5 and 21.9.

22. Référence:

Page 16, ligne 8: "While I am not completely familiar with all of the other items included in the cost of transportation and storage, there does not appear to be any one item that is more controllable than others. As such, I would suggest that all of the costs of transportation and storage should be considered as Non-Controllable Costs by SCGM. In addition, the driving factor for many of these costs is the cost of gas, rates determined by other regulators or through contract, and are generally not impacted by inflation in the simple and straight forward manner".

Question:

22.1 Pourriez-vous prendre connaissance des tarifs d'entreposage pour Pointe du Lac et St. Flavien approuvés par la Régie du gaz naturel (Décisions D-89-21 et D-94-06). Veuillez expliquer quelle l'incidence de l'inflation sur ces tarifs.

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Response:

22.1 I understand the question to be: Do I have knowledge of how the rates for storage are set for Pointe du Lac and St. Flavien (Decisions D-89-21 and D-94-06), and then to describe the impact of inflation on these tariffs.

It is my understanding that the Régie has approved the tariffs. I also understand that the amounts are paid to third parties. I am not aware of the makeup of the costs associated with those storage facilities. I would expect that some of the costs may be impacted by inflation on a year-to-year basis; some may be fixed, being the depreciation and return on rate base, and some may be energy consumption for the running of compressors. Depending on whether those compressors are electric or gas driven, the changes in costs would be different.

Question:

22.2 Pourriez-vous confirmer que la méthodologie utilisée par la Régie du gaz naturel était basée sur les coûts évités, donc sur les tarifs exigés par les autres fournisseurs de service d'entreposage?

Response:

22.2 I understand the question to be: Would I be able to confirm that the methodology used by the Régie was based on the avoided cost, i.e., tariffs that would be charged by other suppliers of storage service.

I am unaware of the methodology adopted by the Régie in determining the tariff, or what was applied for by the operators of those storage fields. It is my understanding, however, that the Régie has approved those tariffs and,

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therefore, there is a third party or a regulator that can change the rates. SCGM cannot change the rates.

Question:

22.3 Pourriez-vous expliquer pourquoi, si la Régie du gaz naturel n'avait pas été convaincue que ces tarifs d'entreposage sont affectés par l'inflation, elle aurait accepté d'indexer à l'inflation (minimum 3%, maximum 6%) les tarifs pour Pointe du Lac et St. Flavien?

Response:

22.3 I understand the question to be: Can I explain why, if the Régie had not been convinced that the rates for storage are affected by inflation, it would have accepted an index to inflation (minimum 3%, maximum 6%) for the tariffs of Pointe du Lac and St. Flavien?

The methodology approved by the Régie, I understand, was based on avoided cost, particularly Union's costs, and apparently the Régie felt that the method to adjust those rates, based on the inflation factor, was appropriate. However, from the perspective of controllable costs, the basis of setting the rate was the avoided cost of Union, whose rates are set by the OEB and whose rates are considered by SCGM to be non-controllable. In addition, the rates for the two storage fields in Quebec are approved by the Régie. Since they are approved by the Régie, they are no different from rates approved by the OEB for Union or the NEB for TransCanada.

23. Référence:

Page 16, ligne 16: "The approximate \$65 million of storage and transportation costs included by SCGM as Controllable Costs are approximately 65% of the

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forecast O&M expense shown on SCGM-2, Document 5 of \$104.4 million. The inclusion of these storage and transportation costs as Controllable Costs allows SCGM to increase its operating expenses by approximately 4.4% (SCGM, Document 6, page 3 of 5) when inflation is projected at 1.7% (...)"

Question:

23. Veuillez détailler vos calculs pour en arriver à conclusion que l'application d'un taux d'inflation de 1,7% sur des coûts de 65 millions \$ se transforme en une augmentation de 4,4% lorsque transposé sur des coûts de 104,4 millions \$.

Response:

23. I understand the question to be: How did I arrive at the conclusion that the application of inflation of 1,7% on cost of \$65 million would transform into an augmentation or an increase of 4,4% when applied to costs of \$104.4 million.

The inclusion of these amounts allowed SCGM to increase its operating costs by more than inflation. The referenced comment in the evidence was not implying that 1,7% of \$65 million equated to 4,4% or \$104.4 million. Rather it was to indicate that 1,7% of \$65 million allowed a further increase in operating expenses (1,1%) to be greater than the rate of inflation of 1,7% and still provided SCGM with an opportunity to receive its performance bonus under its proposal.

24. Référence:

Page 16, ligne 23: "One cost under the complete control of SCGM is the new consumer price discounts offered to certain customers. The amount of new

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discounts to be offered is a decision SCGM may make. However, the continuation of previous discounts for which SCGM is still contractually obligated to pay (historical amounts) in the upcoming year are certainly not controllable".

Question:

24.1 Est-ce que l'on peut résumer votre opinion sur les rabais tarifaires en disant que SCGM a peu de contrôle à court terme (dans l'année en cours) mais que les décisions qu'elle prend d'octroyer ces rabais auront une influence à moyen terme et qu'elle contrôle donc ces coûts à moyen terme?

Response:

24.1 I understand the question to be: Is it my opinion that SCGM has no control in the short term (year to year) but the decision that it takes with respect to these discounts will have a medium term influence and that SCGM can control the medium term costs?

The comment was made that in the current year, SCGM can control and determine the new discounts to be offered to customers. However, the discounts that were offered to customers last year or the year before, the amortization of which or the inclusion of which is included in the current year's (1999) required revenue is not within the control of SCGM in 1999; rather it is a 1998 or 1997 decision that is impacting the cost in 1999. Further, it is unlikely that these costs will change with inflation.

Question:

24.2 Est-ce donc dire que pour l'inciter à réduire ces coûts, un mécanisme incitatif devrait viser le long terme et non le court terme?

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Response:

24.2 I understand the question to be: In order to reduce costs, can we assume that the incentive mechanism should focus on the longer term rather than the short term horizon?

See the response to 24.1 above.

One of the objectives of an incentive mechanism may be to induce SCGM to look beyond the short term. However, the current proposal appears to be designed more to look at the shorter term, and if costs are reduced in the first year and then maintained at inflationary increases in subsequent years, SCGM would continue to be rewarded.

This is another reason why it is important that a consensus be reached amongst stakeholders as to the appropriate nature of an incentive mechanism for SCGM. Some stakeholders may focus on the short term and others may have longer term objectives.

25 Référence:

Page 17, ligne 6: "It is my view that for the purpose of SCGM's proposal, the only costs over which SCGM has any significant control or influence is operating expenses."

Question:

25. Si SCGM ne contrôle rien d'autre que les dépenses d'exploitation, veuillez expliquer pourquoi l'ACIG a tant critiqué, dans le passé, le niveau global du coût de service de SCGM, notamment quant au niveau de la base de

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tarification, et que la Régie a également manifesté à plusieurs reprises ses préoccupations à cet égard.

Response:

25. I understand the question to be: If SCGM does not control its operating expenses, please explain why IGUA has criticized so much in the past the global cost of service of SCGM, notably the rate base, and also explain why the Régie has expressed concern with respect to the rate base as well.

The adjective "significant" was used to provide an indication of the costs that could be adjusted, as discussed previously, within a year or year-to-year. The matter of rate base and decisions with respect to the construction of rate base is based on decisions of SCGM and approval of the Régie. My understanding of IGUA's concerns is that the rate base increases have not been commensurate with the additional throughput or new customers rather than what the level of the additions were per se. The incentive mechanism proposed by SCGM does not relate to capital expenditures, and if it was the intention of SCGM to propose an incentive mechanism that dealt with capital efficiency, then it should have been done explicitly rather than in the limited and indirect manner incorporated into their incentive mechanism. The proposed incentive mechanism does not appear to penalize SCGM if capital expenditures are made and the forecast throughput is not achieved.

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26 Référence:

Page 17, ligne 17: "The SCGM is a departure from most of the incentive based mechanisms in that it proposes that shortfalls between allowed and achieved return on common equity (ROE) would be shared".

Question:

26. Pourriez-vous décrire ce à quoi fait référence l'expression "most of the incentive based mechanisms"? Plus particulièrement, veuillez indiquer:

Le nom du distributeur concerné.

Si chacun des distributeurs est assujéti à un exercice annuel du type "fermeture de livres" au cours duquel il est appelé à ses clients une partie de ses éventuels trop-perçus.

Response:

26. I understand the question to be: Could I describe and provide references with respect to the expression "most incentive-based mechanisms" and, more particularly, to provide the name of the distributor and indicate if each of the distributors is subject to a yearly exercise of a closing of the books.

The statement was made on the basis of two general items. One, Dr. Rabeau, witness for SCGM, indicated at page 15 of his evidence that this was the general concept. Second, I was aware of the same concept in the price cap adopted by the CRTC. There was generally no opportunity for the telco to share shortfalls between allowed and achieved returns.

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27 Référence:

Page 18, ligne 8: "This creates an obvious incentive to utilize what otherwise would be a surplus at the end of one year to incur costs or expenses which by the mere timing of their occurrence would result in a greater saving in the subsequent year for which SCGM would, under their proposal, retain two thirds".

Question:

27.1 Pourriez-vous donner des exemples de dépenses qui pourraient être ainsi devancées?

Response:

27.1 I understand the question to be: Could I give examples of expenses that could be moved forward?

Maintenance expenses are the most obvious candidate of an example of expenses that can be moved from one fiscal period to the other without a great deal of difficulty. If, for example, it was originally budgeted that the maintenance would not be done until October, it would be possible for SCGM to decide to do the maintenance in August or September, switching fiscal periods.

Question:

27.2 Compte tenu que le dossier tarifaire est habituellement déposé à la Régie de l'énergie au début de mai et que l'année financière se termine à la fin de septembre, comment en pratique SCGM pourrait, en fin d'année, devancer des dépenses et utiliser ce devancement pour générer une baisse de tarifs dans un dossier qui aura été préalablement déposé à Régie en mai?

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Response:

27.2 I understand the question to be: As the rate case is usually filed in the beginning of May and the fiscal year end is the end of September, how, in practice, could SCGM push forward expenses at the end of the year and use those expenses to reduce the budget of the case that has been filed with the Régie in May?

My understanding is that SCGM would provide the update on its expenditures with five months of actual and seven months of forecast at the time of filing. At that stage, I would expect that SCGM has a reasonable understanding of whether and to what level its expenses will increase or decrease, and whether it will have surplus earnings at the end of the year. With that knowledge in mind, it appears to me that SCGM, to the extent that there are discretionary expenses that can be moved from one fiscal period to another without major disruption to its operations, could make those adjustments. That is, in filing its current rate case in May, it would adjust its expenditures to reflect the otherwise expected surplus earnings so as to reduce the current year's surplus earnings and increase the test year's surplus. For example, based on SCGM-2, Document 5, it appears that SCGM is forecasting surplus earnings of approximately \$5.8 million for the year end 1998. Under the proposed incentive methodology, it would be in SCGM's economic interest to reduce that surplus by increasing expenses and therefore reducing what otherwise would have been a \$5.8 million surplus to, say, a \$2.8 million surplus and, therefore, allowing the expenses for 1999 to be \$3 million lower than they otherwise would have been.

28 Référence:

Page 18, ligne 22: "It appears to me that SCGM's risk is reduced by including the

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Performance Bonus (up-front) in the rates. This produces a built in cushion so that SCGM could still earn its allowed return even though costs increased by the amount of its forecast Performance Bonus (up-front) or sales were less than that amount."

Question:

28.1 Dans l'exemple qui suit, veuillez indiquer la quote part des économies qui revient aux clients et à SCGM.

Response:

28.1 I understand the question to be: In this example, please indicate what portion of the savings would go to SCGM as opposed to the client or customer.

	Début d'année	Fin d'année			
		1	2	3	
Coût de service attendu	700	Revenus	697	697	697
Coût de service requis	691	Coût de service réel (taux de rendement sans bonification)	697	698	700
Économies anticipées	9	Économies réalisées	3	2	0 00
Tarifs (avec bonification 2/3 de 9M\$)	697	Trop-perçu (manque à gagner)	0 00	-1	-3
		Quote part des économies réalisées			
		Client	(a)	(c)	(e)
		SCGM	(b)	(d)	(f)

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The responses that follow are provided in the context of comparing the existing methodology to the proposed incentive mechanism. Under the existing methodology the Revenue Required would be 691, under the proposed methodology the rates would be set to recover 697.

- (a) Customer - The customers have a negative saving (cost) of \$6 million. The customer's rates were set higher by \$6 million at the beginning of the year.
- (b) SCGM - SCGM is better off or has a savings of \$6 million. Under the existing methodology SCGM would have to cover the full shortfall of \$6 million. However, although the costs increased by \$6 million SCGM still earns its allowed return. This is the cushion that I referred to in my evidence.
- (c) Customer - The customers have a negative saving (cost) of \$6.67 million (6 + .67). The customers must bear 2/3 of the revenue deficiency i.e. 2/3 of -1 or .67.
- (d) SCGM - SCGM is better off or has a savings of \$6.67 million. Under the existing methodology SCGM would have to cover the full shortfall of \$7 million. Under the proposed mechanism it does not get the "bonification" and only absorbs 1/3 of the revenue deficiency i.e. 1/3 of -1.
- (e) Customer - The customers have a negative saving (cost) of \$8 million (6 + 2). The customers must bear 2/3 of the revenue deficiency i.e. 2/3 of -3 or -2.

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- (f) SCGM - SCGM is better off or has a savings of \$8 million.
Under the existing methodology SCGM would have to cover the full shortfall of \$9 million. Under the proposed mechanism it does not get the "bonification" and only absorbs 1/3 of the revenue deficiency i.e. 1/3 of -3

Question:

- 28.2 En supposant que, sans mécanisme incitatif, le distributeur ne serait pas incité à présenter ni réaliser les 9 millions \$ d'économies, quel serait l'inconvénient, dans le mécanisme incitatif proposé, à inciter SCGM à proposer à la Régie des tarifs de 697 millions \$?

Response:

- 28.2 I understand the question to be: Assuming that without the incentive mechanism there would not be an incentive for the distributor to realize the saving in the order of \$9 million, what would be the inconvenience of a proposed incentive mechanism to provide an incentive to SCGM to propose rates of \$697 million to the Régie?

It appears that SCGM is suggesting that it would inflate its costs to \$697 million notwithstanding that its internal budget or best estimates would be \$691 million. The suggestion postulated appears to be indicative of the attitude and approach indicated in Question 12, where I mentioned that there appeared to have been a bias in SCGM's forecasting.

There is an inherent bias for a distributor such as SCGM to either overestimate its expenses or underestimate its volumes in order to ensure that it achieves its allowed return. The proposed mechanism would appear to change that bias so that there would be a bias to reduce forecast

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expenditures and increase forecast volumes so as to create a larger Performance Bonus (up-front). If that bonus was not achieved, the customers could be bearing two-thirds of the shortfall, if it exceeds the Performance Bonus (up-front).

It should be noted that the referenced section in the evidence was dealing with the additional comfort or reduced risk of not achieving its allowed return under SCGM's proposal. The amount of Performance Bonus (up-front) essentially provides a cushion so that, even if expenses or volumes were not forecast correctly, SCGM would not be at risk for not achieving its allowed return until the amount of the proposed bonus up-front had been lost or used to offset the increased expenditures or lower sales. For example, if the \$691 million of expected expenses became \$695 million, SCGM would still earn its allowed return plus some additional amount.

29. Référence:

Page 20, ligne 12: "If, however, the SCGM proposal were adopted and many of the costs, which I do not consider controllable, were included for the purpose of calculating an inflationary impact, than another index would likely be more appropriate."

Question:

29.1 En supposant que tous les coûts que vous jugez non contrôlables soient inclus, quel indice recommanderiez-vous?

Response:

29.1 I understand the question to be: Assuming all costs which are considered non-controllable are included, what indices would you recommend?

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I have not studied the indices in detail as this is not the approach that I recommend in my evidence. However, in the hypothetical requested:

1. I would apply the consumer price index to the operating expenses.
2. I would apply the industrial products index to 3.5% (assumed average depreciation rate) of the net additions to plant in service and nothing to the balance of the depreciation expense.
3. I would use a forecast of interest rate increases (based upon Government of Canada bonds) to apply to the net new debt and nothing to the remaining debt.
4. I would apply no factor or a similar factor to the debt adjustment (iii) to the net deemed change in preferred equity.
5. I would apply a weighted average of the impact of I, ii, & iii to the net change in customer rebates.
6. I would not apply any factor to the deferred charges or if there were significant increase in the year I would look at the components causing the increase before determining the factor, and apply the factor only to the net change.
7. With respect to other storage and transportation items I would look to the increases projected for TCPL and Union and use those for the increases in the other transportation and storage items.
8. I might apply the consumer price index to a portion of the property taxes and the royalties to the Régie but no likely to all the cost.

The response and use of an index or factor might change depending upon the nature and type of deferral accounts and the exact specifics of the pass through items.

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29.2 Qui public cet indice?

Response:

29.2 I understand the question to be: Who publishes that index?

Statistics Canada publishes the consumer price index (CPI) and the industrial products index. These are a number of sources for forecast of interest rate changes, Consensus reports and a number of the banks and other economic forecasters. TCPL and Union file in advance of SCGM normally.

Question:

29.3 Où sont disponibles des prévisions de cet indice?

Response:

29.3 I understand the question to be: And where can we find a forecast of that index?

Consensus reports publishes forecasts of CPI as do some of the financial institutions and other economic forecasters. Some distributors retain consulting economist to provide such forecasts.

30. Référence:

Page 20, ligne 26: "The methodology proposed by SCGM creates a situation where customers are initially worse off than they would have been, absent the proposal."

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Question:

30.1 Pour en venir à cette conclusion, est-ce que vous présumez que, en l'absence du mécanisme incitatif proposé par SCGM, les tarifs proposés par SCGM seraient égaux aux tarifs requis?

Response:

30.1 I understand the question to be: In order to come to this conclusion, have I assumed that in the absence of the incentive mechanism, the rates proposed by SCGM would equal the required rates?

I assumed that SCGM would not change its standard forecasting and budgeting methodologies and that they would not become more inefficient, irrespective of the incentive mechanism, and would not include any additional bias into their forecasts. The question seems to imply that, without the incentive mechanism, SCGM would not be efficient and would inflate its costs that it presents to the Régie.

The basic presumption under utility regulation is that the utility will have a reasonable opportunity to recover all of its prudently incurred costs including a fair return on its equity. In return it is expected that the utility will not abuse its monopoly power or if it does, the regulator will intervene and adjust the rates to ensure that the utility does not.

Another implication of the SCGM in question is that SCGM has been inflating its costs for the last few years and, therefore, perhaps its rate of return has been too high.

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30.2 Si oui, est-ce parce que vous croyez que le fait de pouvoir conserver les 2/3 des économies n'est pas encore assez suffisant pour inciter SCGM à réaliser des économies (ou générer des ventes additionnelles) au-delà de ce qu'elle ferait sans mécanisme incitatif?

Response:

30.2 I understand the question to be: In the affirmative, is this because I believe that the possibility to keep two-thirds of the savings is not yet sufficient to provide an incentive to SCGM to realize cost savings or generate sales over and above what gas metro would do without an incentive mechanism?

No, I am suggesting the opposite, that two-thirds is too much or too generous. It is my view that a distributor such as SCGM should not require any incentive to do what it should already be doing and for which it is being given an opportunity to earn a fair return on its equity. If SCGM is suggesting that it is not attempting to minimize costs and that it needs some incentive for doing so, perhaps the rate of return has been too high.

Question:

30.3 Suggéreriez-vous d'augmenter le pourcentage des économies conservées par SCGM?

Response:

30.3 I understand the question to be: Am I suggesting that the percentage of the savings to be kept by SCGM should be increased?

No. I am suggesting the opposite. The current methodology providing

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SCGM with 50% is probably generous. Two-thirds is extremely generous, especially when it is combined with the opportunity to pass off two-thirds of the risk of underearning to the customers. The two-thirds is especially too high considering the more than adequate rates of return that SCGM has been allowed by the Régie.

Question:

30.4 Comment pouvez-vous ou concrètement, advenant que le mécanisme incitatif proposé par SCGM soit approuvé par la Régie, déterminer ce qu'auraient été les tarifs en l'absence d'un tel mécanisme incitatif?

Response:

30.4 I understand the question to be: How could you, in the event that the incentive mechanism proposed by SCGM is approved by the Régie, determine what the tariffs would have been in the absence of the incentive mechanism?

In this hypothetical, I would expect that the budgets prepared by SCGM for its shareholders and senior management would not (and should not) be significantly different under an incentive mechanism than under the current circumstances. I expect at the present time, SCGM management and controlling shareholders know where the excess or "padding" is included in the budget which is presented to the Régie. Over the years, it may become more difficult to determine the numbers; however, again, I would expect that the internal budgets and forecasts of SCGM will reflect the same reasonable expectations that would have been there without the incentive mechanism. To suggest otherwise would be an acknowledgement by SCGM that its current budgets are overly inflated. In addition, I would expect that the forecast, even under the incentive mechanism, would be such that the

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forecast would be subject to challenge at a hearing.

Question:

30.5 Comment pourriez-vous faire cet exercice pour d'autres types de mécanisme incitatif, comme par exemple le plafonnement des prix.

Response:

30.5 I understand the question to be: How could I make the same exercise this exercise for other types of incentive mechanisms such as price cap?

The wide range of possibilities and differing objectives of stakeholders was the reason why I suggested that SCGM should hold discussions with its stakeholders in an attempt to reach a consensus with them as to the appropriate incentive mechanism. I fail to understand how this question relates to the referenced passage of my evidence.

C A N A D A

RÉGIE DE L'ÉNERGIE

**PROVINCE DE QUÉBEC
DISTRICT DE MONTRÉAL**

N° : R-3397-98

**SOCIÉTÉ EN COMMANDITE GAZ
MÉTROPOLITAIN**

requérante

et

**L'ASSOCIATION DES CONSOMMATEURS
INDUSTRIELS DE GAZ (CI-APRÈS "ACIG")**

intervenante

**RÉPONSE DE M. HUGH W. JOHNSON À LA QUESTION
#3 DE LA RÉGIE DE L'ÉNERGIE**

Montréal, le 19 octobre 1998

ACIG-1, doc. 5

October 19, 1998

No de dossier: R-3398-98

Demande de clarification de la Regie concernant la preuve de l'ACIG

Page 2 Revised

Reference:

Témoignage de Hugh Johnson, ACIG-1, document 1. page 12

Préambule:

Shortcoming of SCGM Mechanism

Demande:

3. Pourriez-vous élaborer, à l'aide d'exemples, un mécanisme qui intégrerait une réduction explicite des coûts à cause des gains de productivité (cost for productivity improvements) et/ou qui tiendrait compte d'un dividende de productivité en faveur de la clientèle (...consumer productivity dividend).

Response:

- 3 I understand the question to be: Could I provide with the help of examples an mechanism which would provide explicit reductions in cost on account of gains in productivity (cost for productivity improvements) or would take into account a dividend in favor of the customer (...consumer productivity dividend).

There are almost as many mechanisms as there are distributors or utilities with incentive mechanisms. The mechanism chosen depends upon the rate structure, cost structure, location and competitive situation vis a vis alternative fuels of the utility.

That is why I have not nor has my client IGUA recommended a specific incentive mechanism. Rather we have suggested that there be consultation and negotiation.

The references on page 12 were to indicate that generally if inflation is factored, explicitly, into an incentive mechanism there is an adjustment for productivity and a dividend. The productivity factor is included as a reduction to reflect the fact that increases should be less than inflation.

The consumer productivity dividend is a recognition that without some added benefits there is nothing in it for the consumer from an incentive mechanism. This is particularly true if the current method of regulation is efficient and the regulator is doing its job. Therefore a dividend or stretch factor is incorporated essentially to provide the customers with something for agreeing to the incentive mechanism.