

**Réponses de William Harper aux demandes de renseignements
de la Régie de l'énergie
Dossier R-3492-2002 – Phase I
5 février 2003**

1. Référence : Evidence of William Harper, pages 5 et 6

Préambule:

« While the process appears straightforward and logical, the nature of utility operations is characterized by the existence of common or joint use facilities (and activities) that are used to support the provision of more than one product/service and/or serve more than one customer class. As a result, while cost analysts may strive to identify and isolate plant and expenses incurred exclusively to serve a specific customer class or group of customers, it is unrealistic to assume that large portions of a utility's plant investment and expenses can be directly assigned. In addition, there are practical constraints (e.g. time and budgets) that will limit the extent to which costs can be directly tracked and assigned.»

Question 1.1:

Dans le cas du Distributeur, veuillez expliciter, selon vous, les contraintes pratiques qui devraient limiter l'allocation directe de certains coûts.

Réponse 1.1:

As indicated in the referenced text, many of the facilities installed and the activities undertaken by HQD serve to support more than one customer class, or even more than one "function". In these cases direct assignment is not possible and some form of allocation must be undertaken. In other cases, while individual facilities or activities could be directly attributed to a specific customer class or function, budgets and actual accounting records are not prepared and maintained in sufficient detail to allow this to be done. In such situations, practical constraints that limit the implementation of more detailed systems that would permit direct assignment include:

- the cost of implementing the required systems,
- the cost and work implications of collecting the information requirements needed to operate and maintain the systems, and
- the anticipated accuracy of the results.

2. Référence: Evidence of William Harper, page 26

Préambule:

« There is no definitively correct way to allocate generation costs and indeed different methodologies have been and are applied in various jurisdictions. The methodology employed by HQD yields the appropriate “relative” results for the various customer classes in that the lower a class’ load factor the higher its average cost (consistent with the need to recover the cost of the generating facilities required to serve these customers over fewer kWh). The approach may warrant further study in the future when revenue to cost ratios are closer to unity but it is likely satisfactory for now.»

Question 2.1:

Pourquoi recommanderiez-vous de conduire une nouvelle étude d’allocation des coûts lorsque les ratios revenus/coûts seront proches de l’unité?

Réponse 2.1:

The Evidence does not recommend that the classification of remote networks generation costs be reviewed but rather observes that it may warrant further study in the future.

HQD appears to have adopted the same method for classification of remote networks generation costs as is applied (based on statutory requirements) to grid-connected customers without any consideration of alternatives. As the Evidence notes, there is no “definitively correct way to allocate generation costs” and the results of the methodology employed by HQD are reasonable. As a result there is likely no need to revisit the issue at this time, particularly in light of the need to address the other changes and analyses recommended in the Evidence.

HQD’s proposed cost allocation methodology results in significant variations in the revenue to cost ratios for the various customer classes and such variations

are likely to continue to exist even after the methodology has been revised to incorporate any changes directed by the Régie. Therefore, it is expected that in the future both HQD and the Régie will be striving to move the revenue to cost ratios closer to unity – subject to considerations such as other rate-making objectives and, in HQD’s case, statutory constraints.

However, at the same time it is expected that HQD will continue to review the appropriateness of its cost allocation methodology and recommend revisions as required to reflect changes in utility circumstances, information/data improvements or opportunities for fine tuning. As suggested in the Evidence potential revisions to the classification of remote generation costs should be viewed as “fine tuning” at this time, particularly in view of the other issues raised, but may warrant review in the future. What is important, at this stage, is that the cost allocation methodology adopted for setting 2004-2005 rates reflects the principles of cost causality to the extent possible given available data and tools. This will serve to minimize any changes in allocation and the resulting revenue to cost ratios arising from future revisions to the cost allocation methodology.

Question 2.2:

Quel est le lien entre le ratio revenu/coût et le bien-fondé d’une méthode d’allocation des coûts ? Expliquer.

Réponse 2.2:

See the Response to 2.1.

3. Référence: Evidence of William Harper, pages 31 et 32

Préambule:

« The customer load characteristics used to allocate the demand-related portions of Distribution function will depend upon the load diversity that is present in the distribution system at the point where the equipment whose costs are being allocated is located. The distribution stations included in the Stations and Operating Centres sub-function transform power between various medium voltage levels (e.g. 25 kV and 12 kV) and, as a result, the load diversity at HQD's distribution stations will be fairly high. The same is true for the loads actually carried by the medium voltage lines. In such circumstances common utility practice is to allocate the associated demand-related distribution costs to customer classes based on their individual class peaks (i.e., NCP) and HQD follows this practice. However, HQD has not been able to provide sufficient information to determine whether the use of 1 NCP is appropriate or whether the use of customer class peaks over a number of months would be more appropriate.

For facilities closer to the customer, such as secondary feeders and line transformers, the load diversity will be much lower. As a result, in these situations, the demand-related costs of the facilities are often allocated to customer classes based on the sum of the individual customer's maximum demands. HQD's proposed cost allocation methodology does not make this distinction. »

Question 3.1:

Veillez expliquer les raisons qui sont à la base de l'affirmation suivante : *« For facilities closer to the customer, such as secondary feeders and line transformers, the load diversity will be much lower ».*

Réponse 3.1:

Load diversity is defined as the difference between the arithmetic sum of customers' peak demands and the peak demand that would be recorded if all of the customers' loads were recorded through a single meter – the former is commonly referred to as the non-coincident peak for the group of customers concerned. Such diversity exists even for customers assigned to the same customer class. In the case of residential customers, for example, it will arise as

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a result of differences in lifestyles, appliances, and geographic location. One way of measuring diversity is to take the ratio of the group's non-coincident peak divided by the arithmetic sum of the customers' peak demands – commonly referred to as the non-coincident demand factor. The lower this ratio, the more diversity exists between the individual customers loads.

For facilities close to the customers, the diversity amongst the customers serviced will generally be lower for a couple of reasons. First, such facilities serve a smaller number of customers and, typically, the more customers in a group the higher the diversity will be, although there are diminishing returns to scale. Second, customers located close enough to each other to be served off the same secondary line or transformer are more likely to have more similar load patterns (e.g. if residential customers may all be located in a subdivision with gas heating).

Question 3.2:

Veillez identifier la méthode à laquelle vous réferez dans l'énoncé suivant: « *the demand-related costs of the facilities are often allocated to customer classes based on the sum of the individual customer's maximum demands.*»

Réponse 3.2:

See the Response to 3.1. The allocation factor referred to in the quote is determined by calculating for each customer class the sum of the peak demands of the individual customers in the class. NARUC's Electric Utility Cost Allocation Manual (page 97) refers to this allocator as the "individual customer maximum demands".

Question 3.3:

Veillez expliquer le lien entre la diversité de la charge et la méthode d'allocation des coûts en puissance ?

Réponse 3.3:

The objective, in choosing a particular allocation method for demand related costs (e.g. coincident peak versus non-coincident peak versus individual customer maximum demands) is to select the measure that best reflects the diversity considerations and resulting demand measure used in sizing the associated distribution equipment.

4. Référence: Evidence of William Harper, pages 33 et 39

Préambule:

« Generally, utilities separate out the costs associated with meter reading and billing and use an allocation factor that weights the number of customers in each class by a factor that reflects the relative meter reading and billing costs per customer across the various customer classes.»

« The rate base items associated with customer meter reading, accounting and billing should be separated, to the extent possible, and allocated to customer classes using a weighted customer allocation factor that reflects the relative costs of service to the various customer-classes.»

Question 4.1:

Pouvez-vous identifier, en fournissant des exemples d'autres juridictions, par quel(s) critère(s) le nombre de clients pourrait être pondéré ?

Réponse 4.1:

The Evidence recommends (pages 44 and 45) that customer meter reading, billing and accounting expenses be separately identified and allocated to customers based on a weighted customer count.

In the case of meter reading costs, the number of customers in each customer class could be weighted by the average number of meter readings per customer per year. Utilities employing such an approach include:

- Hydro One Networks
- Manitoba Hydro.

In the case of customer billing and accounting costs, the number of customers in each class could be weighted by the number of bills issued per customer per year. Utilities employing such an approach include:

- Hydro One Networks
- BC Hydro

Internal studies could also be performed to determine the relative costs of billing and collecting for various customer classes and the results used to establish the weighting factors. Utilities employing this approach include:

- Manitoba Hydro
- Newfoundland Power

As an alternative, Alberta Power - prior to the restructuring of the market and the introduction of retailer billing – classified customer accounting costs as 98% customer-related and 2% energy-related to recognize the higher costs associated with large customers. The allocation of customer costs then incorporated meter reading and billing frequency. Similarly, TransAlta, allocated customer accounting costs to each rate class 95% in proportion to that class' share of weighted customers and 5% in proportion to its share of revenue. Again, for TransAlta, the number of customers in each class was weighted based on billing and metering frequency.

5. Référence: Evidence of William Harper, page 42

Préambule:

« The requirements are summarized below and the Régie should direct HQD to undertake the recommended changes, documentation and analyses and incorporate the results into their Phase II filing for 2004-2005 rates.»

Question 5.1:

Quel serait, selon vous, l'impact d'un changement de méthodologie d'allocation des coûts sur les tarifs 2004-2005 du Distributeur ?

Réponse 5.1:

As indicated in Evidence (pages 4-5), cost allocation studies are one of the inputs used by utilities and regulators in setting the rates for individual customer classes. Other factors that come into play in actually setting rates include customer bill impacts and economic efficiency considerations. As a result, it is not possible at this time to indicate what, if any, impact changing the cost allocation methodology will have on 2004-2005 rates. However, to the extent that changes to the cost allocation methodology change either the total allocated costs to each of the customer classes based on the 2004-2005 revenue requirement or the units costs of providing service to each customer class (and subject to the interpretation established as to the statutory limitations on changing rates), any such changes will likely influence decisions with respect to both the overall level of rate change and the rate design for each customer class.

Question 5.2:

Selon vous, quel serait le délai requis pour une entreprise comparable au Distributeur pour la mise en pratique de vos recommandations ?

Réponse 5.2:

HQD should be able to implement the recommended changes set out on pages 43-45 and to further document the aspects of the proposed methodology identified on pages 45-48 (and propose changes if necessary) in time for consideration as part of the review of their proposed 2004-2005 rates in Phase II of this proceeding.

With respect to the issues requiring further analysis, it should be possible to complete these as well and implement any changes required in time for the 2004-2005 rates. In the case of the recommendation concerning the “Determination of NCP Allocators”, it is assumed that system loading data is tracked across the HQD system for purposes of system monitoring and for HQT billing purposes, in sufficient detail that an adequate sample can be established and analyzed.