RÉPONSES D'HYDRO-QUÉBEC DISTRIBUTION À LA DEMANDE DE RENSEIGNEMENTS N° 2 DE ROEÉ

RÉSEAU INTÉGRÉ

R-3864-2014
Information request no. 2 of the ROEÉ (expert Chris Neme) to Hydro-Québec

INTEGRATED GRID

1. Inclusion of pas energy efficiency program results in forecast sales and energy requirements

Reference :

(i) R-3864-2013, HQD-1, Document 1, Table 2-1, p. 12.

Questions :

1.1 Please indicate if the values in the table are net of the impacts of past energy efficiency programs? If not, please provide a version of the table that shows what the electricity consumption forecast would be once the impacts of past efficiency programs were included.

Réponse :

Voir la réponse à la question 13.1 de OC à la pièce HQD-3 document 9.

1.2 Please provide a similar table that takes into account this information and that shows peak demand savings over the last 10 years.

Réponse :

Voir la réponse à la question 1.1.

Par ailleurs, le tableau R-1.2 présente l'impact en puissance à la pointe des interventions en économie d'énergie pour les dix dernières années.

TABLEAU R-1.2
IMPACT EN PUISSANCE À LA POINTE DES INTERVENTIONS EN ÉCONOMIE D'ÉNERGIE (EN MW) - HIVERS 2003-2004 À 2012-2013

En MW	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Interventions en économie d'énergie	0	30	100	200	340	490	640	790	950	1 130

1.3 Please indicate if the values in the table are net of planned/future energy efficiency program or initiative impacts (e.g. the 0.6 to 1.0 TWh per year forecast for 2016 and beyond)? If not, please provide a version of the table that shows what the electricity consumption forecast would be once the impacts of both past and future efficiency programs were included.

Réponse :

Voir la réponse à la question 13.1 de OC à la pièce HQD-3 document 9.

1.4 Please provide a similar table that takes into account this information and that shows peak demand savings over the last 10 years.

Réponse :

Voir les réponses aux questions 1.2 et 1.3.

1.5 Please explain how Hydro-Quebec takes into account the life-cycle or persistence of the energy savings that were produced by energy saving programs when developing a sales forecast that is net of the impacts of past, current and future efficiency programs. For example, if an HQ program caused a customer to change a behavior (e.g. lowering a thermostat setting), how long is the impact of that change assumed to last? If it is assumed to last only two years, does the sales forecast reflect the assumption that the savings are no longer occurring after the two years. Similarly, if an HQ program caused a customer to install an efficient lighting fixture with a product life of 10 years, does its sales forecast assume that the savings will no longer be there (i.e. demand will go up) beginning in year 11?

Réponse :

La durée de vie effective des mesures est prise en compte tant dans les analyses de rentabilité des programmes que dans la prévision de la demande. Au-delà de la durée de vie, l'impact des mesures n'est plus attribué aux programmes, mais les économies ne disparaissent pas pour autant dans les marchés. Une proportion de celles-ci sont devenues pratique courante et demeurent dans la prévision de la demande.

2. Line loss rates

Reference :

(i) R-3864-2013, HQD-1, Document 1, p. 12 (section 2.3.1)

Preamble :

(i) *«The energy requirements covered by the Plan are essentially composed of electricity sales and distribution and transmission losses. A loss rate of 7.9% is assumed for the 2014–2023 period.»*

Questions :

2.1 Please explain what Hydro-Quebec's estimate of the line loss rate of 7,9% is based on.

Réponse :

Tel que mentionné à la section 3 de l'annexe 2A de la pièce HQD-1, document 2.2 (B-0007), le taux de pertes global de 7,9 % correspond à la moyenne des taux de pertes normalisés des années 2010 à 2012, moyenne corrigée pour l'écart entre la moyenne des taux de pertes de transport réels durant ces trois années et le taux de pertes de référence de 5,6 % retenu au dossier tarifaire du Transporteur (R-3823-2012).

Le taux global est stable sur tout l'horizon de prévision en raison de l'absence d'indication de croissance ou de décroissance de ce taux dans l'avenir.

2.2 Please indicate the loss ratio at a lower voltage (for example in the CATVAR program).

Réponse :

Le taux de pertes pour la basse tension est estimé à 9,3 %.

2.3 Line losses increase as loads increase (for example, see www.raponline.org/document/download/id/4537). Thus, the marginal loss rate – i.e. the losses associated with adding the last kW of demand to the system – is higher than the average loss rate. What is HQ's average annual marginal loss rate (i.e. the weighted average of the marginal loss rates over the course of the year)?

Réponse :

Le Distributeur ne dispose pas de cette information.

2.4 Please indicate Hydro-Quebec's average loss rate at the time of winter peak demand.

Réponse :

Le Distributeur ne dispose pas de cette information.

2.5 Please indicate Hydro-Quebec's marginal loss rate at the time of winter peak demand.

Réponse :

Le Distributeur ne dispose pas de cette information.

2.6 Please indicate what Hydro-Quebec assumes about the loss rate for annual energy savings when it performs cost-effectiveness screening of its energy efficiency programs.

Réponse :

Dans le cadre de la prévision des besoins annuels en énergie, l'impact des économies d'énergie est pris en compte dans la prévision des ventes. Ainsi, le taux de pertes global prévu est appliqué à la réduction des ventes attribuable aux programmes d'efficacité énergétique.

2.7 Please indicate what Hydro-Quebec assumes about the loss rate for winter peak demand savings when it performs cost-effectiveness screening of its energy efficiency programs.

Réponse :

L'évaluation de l'impact en puissance à la pointe des programmes en efficacité énergétique ne s'appuie pas sur un taux de pertes moyen à la pointe d'hiver. Son évaluation se base plutôt sur des hypothèses de profils spécifiques aux économies d'énergie par usage et par secteur de consommation. La méthodologie permettant d'évaluer l'impact en puissance des économies d'énergie est présentée à la section 1.3 de l'annexe 2E de la pièce HQD-1, document 2 (B-1) du dossier R-3648-2007, phase 2.

3. Energy efficiency measures

References :

(i) R-3864-2013, HQD-1, Document 1, p. 17, l. 3-10.
(ii) R-3864-2013, HQD-1, Document 1, p. 12, Table 2-1.
(iii) R-3864-2013, HQD-1, Document 1, p. 17, l. 15-20.
(v) R-3864-2013, HQD-1, Document 1, p. 17, l. 27-29.

Preamble :

(i) *"As of 2016, so as to take account of the evolving context for the supply-demand balance, the Distributor proposes to fulfill one-third of its sales growth with energy savings interventions. Based on the current sales forecast, this represents annual realized savings of 0.6–1.0 TWh over the Plan horizon. Such a modulation of energy savings interventions offers flexibility to the Distributor but also requires sustained planning so as to be able to react rapidly to the market to capture the maximum number of lower-cost opportunities."*

(iii) *"In the business market, the Distributor will augment its offering of advisory and consulting services and will develop a portfolio of interventions targeting this sector. The priority will be on interventions designed to enhance the competitiveness of Québec companies. The Distributor's approach is thus part and parcel of its overall thrust to modernize its energy efficiency offering even as it pursues its R&D work."*

(iv) *"In the longer run, the Distributor will rely on strategies aiming to elicit durable behavioural change and market transformation. To achieve this, the Distributor will expand its range of interventions and work together with its partners. For example, the Distributor's expertise in the development of energy efficiency standards, codes, and regulations and its influence over such processes should help to guarantee the durability of gains made in certain markets that have reached maturity."*

(v) *"Furthermore, in view of expected trends in the energy and power balances, the Distributor will prioritize those energy savings interventions having a significant impact on the lessening of power requirements.*

Questions :

3.1 Please indicate how and on what basis and/or assumptions did Hydro-Quebec establish the target of fulfilling one-third of its sales growth with energy savings interventions indicated in reference (i).

Réponse :

Voir la réponse à la question 9.1 de l'ACEF de l'Outaouais à la pièce HQD-3, document 2.

3.2 Please indicate if the 0.6 to 1.0 TWh mentioned in reference (i) represent new savings from efficiency, over and above those that have already been achieved and/or will be achieved in 2014 and 2015. If not, please indicate how much of the savings are new and how much are the continued impacts of previous years' efficiency programs.

Réponse :

Voir la réponse à la question 1.1 du RNCREQ à la pièce HQD-3, document 10.

3.3 Please indicate how the 0.6 to 1.0 TWh per year compares to actual incremental annual savings from 2010 through 2013 as well as forecasts for 2014 and 2015.

Réponse :

Le Distributeur confirme que les valeurs d'économie d'énergie ajoutée atteignent des niveaux comparables.

3.4 Please indicate what Hydro-Quebec means by the term "sustained planning" ("planification soutenue") in reference (i).

Réponse :

Le recours à un critère modulable dans le temps et non à une cible fixe offre la possibilité au Distributeur d'ajuster rapidement ses efforts au chapitre des économies d'énergie en fonction des résultats obtenus et de l'évolution de la prévision de la demande.

3.5 In reference (ii), Hydro-Quebec suggests that sales will grow from 184.8 TWh in 2016 to 196.6 TWh in 2023, for an average annual increase of 1.7 TWh. Please indicate if the 0.6 to 1.0 TWh per year have already been removed from that number. In other words, please indicate if the average annual sales growth without energy efficiency would have been 2.3 to 2.7 TWh per year from 2016 to 2023. If not, please explain.

Réponse :

Voir la réponse à la question 13.1 de OC à la pièce HQD-3 document 9.

Voir également la réponse à la question 1.5.

3.6 Please indicate, according to Hydro-Quebec, what kind of interventions tend to "enhance the competitiveness" of Quebec, as mentioned in reference (iii), and how these interventions can be identified and validated by Hydro-Quebec.

Réponse :

Au marché affaires, l'efficacité énergétique réfère généralement à une réduction de la consommation d'énergie pour produire une même unité de service ou de produit. Pour le secteur industriel en particulier, l'efficacité énergétique est étroitement liée à un accroissement de la productivité des entreprises et donc, de leur compétitivité. Ainsi, la réduction d'énergie consommée peut provenir de changements technologiques ou d'une meilleure organisation ou gestion des opérations dans l'usine. Le Distributeur priorisera les projets d'efficacité énergétique en fonction, notamment, de leur capacité à améliorer l'intensité énergétique d'une entreprise ou d'un secteur.

3.7 Please indicate what Hydro-Quebec means by "modernizing its energy efficiency offering" as mentioned in reference (iii).

Réponse :

Voir la réponse à la question 9.3 de l'ACEF de l'Outaouais à la pièce HQD-3, document 2.

3.8 Please indicate what Hydro-Quebec intends by the use of the term “market transformation” in reference (iv). Please provide a list of market transformation indicators and their respective weight.

Réponse :

Une approche de transformation de marché a pour objectif de favoriser des changements à long terme dans la structure ou le fonctionnement de celui-ci. Cette transformation s’effectue en éliminant les barrières structurelles. Elle vise ainsi l’adoption naturelle d’une mesure, c’est-à-dire que celle-ci persistera au terme de toute forme d’intervention.

Le taux de pénétration, la notoriété, l’accessibilité et la satisfaction des clients sont des indicateurs utilisés pour évaluer les mesures. Le poids accordé respectivement à chaque indicateur varie en fonction de la mesure.

3.9 Please indicate what Hydro-Quebec means exactly in reference (iv) by helping to “guarantee the sustainability of the gains made in certain markets that have reached maturity”.

Réponse :

Voir la réponse à la question 3.8.

3.10 Please indicate if reference (v) means that Hydro-Quebec will put emphasis on measures with great impact on peak demand, and indicate how and which of these interventions will be chosen.

Réponse :

Le Distributeur mettra l’accent sur les usages offrant un impact en puissance intéressant notamment ceux liés au chauffage des locaux et de l’eau.

4. Awareness raising interventions versus technological or financial incentive interventions

Reference :

(i) R-3864-2013, HQD-1, Document 1, p. 16-17 (section 3.1).

Question :

4.1 Hydro-Quebec appears to be suggesting in reference (i) that all of its post 2015 energy efficiency savings from both residential and business customers will result from the provision of awareness raising information, advice and consulting services (businesses only). Put another way, it appears as if Hydro-Quebec is not planning to offer any programs that, for example, provide rebates or other financial incentives for customers to invest in efficiency. Is that a correct interpretation of the Company's statements?

Réponse :

Cette interprétation ne reflète pas les intentions du Distributeur.

5. Interruptible electricity

Reference :

(i) R-3864-2013, HQD-1, Document 1, p. 18, l. 18-24.

Preamble :

(i) "*The Distributor will continue as well to attempt to interest large industrial customers in interruptible electricity. The Distributor maintains the hypothesis that this program will contribute 850 MW to the power balance. Added to this quantity is the interruptible block linked to the special contract with Aluminerie Alouette. Aluminerie Alouette's interruptible load is 150 MW for winter 2013–2014 and is expected to increase to 300 MW by winter 2016–2017, reaching 450 MW in winter 2019–2020."*

Questions :

5.1 What is the annual cost to HQ, per MW, of being able to interrupt Aluminerie Alouette? Please provide the cost separately for each year.

Réponse :

Le coût pour l'électricité interruptible d'Alouette est défini selon les modalités de l'option d'électricité interruptible pour la clientèle de

grande puissance des *Tarifs et conditions du Distributeur* à la section 2 du chapitre 6.

Voir aussi la réponse à la question 13.2 de la demande de renseignements n^{o} 1 de la Régie à la pièce HQD-3, document 1 (B-0021).

5.2 What is the annual cost to HQ, per MW, of the other 850 MW? Please provide the cost separately for each year.

Réponse :

Voir la réponse à la question 5.1.

6. Appeals to the public

Reference :

(i) R-3864-2013, HQD-1, Document 1, p. 19, l. 3-5.

Preamble :

(i) *"In addition, it will continue to make appeals to the public as necessary. The Distributor seeks to increase the public profile of this method and to analyze how the impact of appeals to the public evolves over several successive winters."*

Question :

6.1 Please indicate:

- what form such appeals to the public will take;
- how they will be modified to increase their public profile;
- what measures and methodology will be used to analyze their impact.

Réponse :

Voir les réponses aux questions 9.2 de OC à la pièce HQD-3, document 9 et 11.1 de AHQ-ARQ à la pièce HQD-3, document 3.

7. Development of new interventions and continuation of strategic intelligence efforts

Reference :

(i) R-3864-2013, HQD-1, Document 1, p. 19, l. 10-l6.

Preamble :

(i) *"The Distributor will pursue the analysis of the commercially achievable potential of the power demand management measures identified in the technical/economic potential assessment. This analysis will serve to define the set of parameters needed to design new interventions.*

The Distributor is also pursuing its strategic monitoring of market trends in new technologies enabling public utilities to deploy new power demand management methods."

Questions :

7.1 Please explain how Hydro-Quebec carries out the analysis mentioned in reference (i). Are measures identified on the basis of their technological and economic potential and on their effect on peak load? Please explain how these power demand management measures are identified and applied.

Réponse :

Voir les réponses aux questions 2.4 et 2.6 de la FCEI à la pièce HQD-3, document 7.

7.2 Please indicate what Hydro-Quebec views as "strategic monitoring" and please provide the documents or results related to this strategic monitoring**.**

Réponse :

Voir la réponse à la question 3.4 du GRAME à la pièce HQD-3, document 8.

9. Winter peak capacity

Reference :

(i) R-3864-2013, HQD-1, Document 1, p. 28, Table 4-3.

Questions :

9.1 Hydro-Quebec estimates in reference (i) that it will need to acquire 650 MW of winter peak capacity in 2013-2014 from short-term market purchases. That need is projected to grow to 1500 MW by 2018-2019. Please provide Hydro-Quebec's estimate of the cost, per MW, of those purchases.

Réponse :

Voir les réponses aux questions 13.2 de la demande de renseignements n° 1 de la Régie à la pièce HQD-3, document 1 (B 0021) et 4.1 de AHQ-ARQ à la pièce HQD-3, document 3.

9.2 Please provide the values separately for each year and explain the basis for the estimates.

Réponse :

Voir la réponse à la question 9.1.

10. Economic development and government policy

References :

(i) R-3864-2013, HQD-1, Document 1, p. 30, (Section 4.5) l. 1-9.
(ii) R-3864-2013, HQD-1, Document 1, p. 30, Table 4-4.
(iii) R-3864-2013, HQD-1, Document 1, p. 12, Table 2-1.
(iv) R-3864-2013, HQD-1, Document 1, p. 28, Table 4-3.

Preamble :

(i) *"On 7 October 2013, the Government of Québec announced the launch of its "Priorité Emploi" economic policy. Among the measures put forward in this policy is the use of the Distributor's energy surpluses over the next ten years to stimulate job creation and investment in Québec in certain specific niches. This measure represents a promising opportunity to sell a significant portion of the surplus over the period and, in so doing, to maximize the use of heritage pool electricity. To illustrate the impact of this initiative on energy surpluses, the*

Distributor, in Table 4-4, presents several scenarios for the period covered by the Plan."

Questions :

10.1 Is it accurate to say that HQ's base forecast of electricity sales (i.e. as shown in Table 2-1) and winter peak demand (i.e. as shown in Table 4-3) does not include any potential impacts from this policy? If not, please explain.

Réponse :

La prévision des ventes du scénario de référence, telle que présentée à la référence (iii), et la prévision des besoins en puissance à la pointe d'hiver, telle que présentée à la référence (iv), n'inclut pas les impacts potentiels de la politique gouvernementale *Priorité Emploi*.

10.2 Please provide a Table similar to Table 4-4, but showing the impacts on winter peak demand (MW) and related reserve margin requirements rather than annual TWh sales.

Réponse :

Voir la réponse à la question 22.1 de la demande de renseignements n° 2 de la Régie à la pièce HQD-3, document 1.1.

11. Deferred energy agreements

Reference :

(i) R-3864-2013, HQD-1, Document 1, p. 7, l. 4-12.

Preamble :

(i) *"Thus, the Distributor planned to make prudent use the deferred energy agreements with the Generator to ensure that the balance of the deferred energy account could be used up by the expiration of the base load and cycling contracts. To achieve this, energy covered by the cycling contract was no longer deferred out to the Plan horizon, and energy covered by the base load contract was not deferred for the initial years of the plan. The non-deferred quantities were to be covered by sales transactions with the Generator. Recalls were planned for the entire period covered by the Plan so as to meet winter energy and power requirements."*

Question :

11.1 Please explain concretely what this involves.

Réponse :

À la référence, le Distributeur rappelle la stratégie qui avait été présentée dans le Plan d'approvisionnement 2011-2020. Voir à cet effet la pièce HQD-1, document 1 (B-0004) du dossier R-3748-2010.