

C A N A D A

PROVINCE DE QUÉBEC
DISTRICT DE MONTRÉAL

DOSSIER R-3986-2016

RÉGIE DE L'ÉNERGIE

PLAN D'APPROVISIONNEMENT 2017-2026
D'HYDRO-QUÉBEC DISTRIBUTION

HYDRO-QUÉBEC
En sa qualité de Distributeur

Demanderesse

-et-

STRATÉGIES ÉNERGÉTIQUES (S.É.)

ASSOCIATION QUÉBÉCOISE DE LUTTE
CONTRE LA POLLUTION ATMOSPHÉRIQUE
(AQLPA)

Intervenantes

**DOCUMENT RELATIF À L'INCLUSION DES COÛTS D'AMÉLIORATION DU
RÉSEAU DANS LE CALCUL DES COÛTS ÉVITÉS EN RÉSEAUX AUTONOMES
D'HYDRO-QUÉBEC DISTRIBUTION**

Déposé par :
Stratégies Énergétiques (S.É.)
Association québécoise de lutte contre la pollution atmosphérique (AQLPA)

Le 24 mai 2017

- 1 parcs à carburant doivent se conformer. À cet effet, voir les réponses aux
2 questions 25.2 et 44.2 de la demande de renseignements n° 3 de la Régie à la
3 pièce HQD-16, document 1.2 (B-0075) du dossier R-3933-2015.

DEMANDE DE RENSEIGNEMENTS S.É.-AQLPA-1.21

Référence(s) :

- i) **ICF INTERNATIONAL for HYDRO-QUÉBEC DISTRIBUTION**, Dossier R-3986-2016, Pièce B-0019, HQD-2, Doc. 2.3, *Methodology for calculating avoided cost in non-integrated area*, http://publicsde.regie-energie.qc.ca/projets/389/DocPrj/R-3986-2016-B-0019-Demande-Piece-2016_12_05.pdf (également reproduit à: **HYDRO-QUÉBEC DISTRIBUTION**, Dossier R-3980-2016, Pièce B-0080, HQD-4, Doc. 4, http://publicsde.regie-energie.qc.ca/projets/382/DocPrj/R-3980-2016-B-0021-Demande-Piece-2016_07_29.pdf, Annexe B), page 8 :

*In general, utility avoided costs have several components including: electric energy (kWh), roughly the short-run variable costs of generation; capacity (kW), **considered the contribution to enhancement of the utility's system reliability**; and transmission and distribution, equivalent to the costs associated with maintenance and operation of the T&D system serving the area (see section 1.1.3). In cases of deferred investment, the avoided costs include not only the capital cost of a new resource, but also the financing, corporate income tax (when applicable), and regulated rate of return, i.e. the revenue requirements. Costs are avoided when alternative actions offset operational expenditures or reduce the planned capital expenditures. Both DSM and investment projects may have an impact on planned capital expenditures. [Souligné en caractère gras par nous]*

- i) **ICF INTERNATIONAL for HYDRO-QUÉBEC DISTRIBUTION**, Dossier R-3986-2016, Pièce B-0019, HQD-2, Doc. 2.3, *Methodology for calculating avoided cost in non-integrated area*, http://publicsde.regie-energie.qc.ca/projets/389/DocPrj/R-3986-2016-B-0019-Demande-Piece-2016_12_05.pdf (également reproduit à: **HYDRO-QUÉBEC DISTRIBUTION**, Dossier R-3980-2016, Pièce B-0080, HQD-4, Doc. 4, http://publicsde.regie-energie.qc.ca/projets/382/DocPrj/R-3980-2016-B-0021-Demande-Piece-2016_07_29.pdf, Annexe B), page 11 :

*Avoided capacity installation due to demand growth is often referred to as avoided capacity cost. Avoided capacity cost can be turned into a marginal rate, in \$ per kW per year. **Other avoided capital expenditures are generally not turned into a rate, and are instead included in cost-benefit analyses as a present worth.***

Demande(s) :

- a) This question is not addressed to Hydro-Québec but to ICF International. In certain non-integrated areas of Hydro-Quebec Distribution (HQD), it has been observed that service under the existing equipments is of poor quality (reliability deficiencies, harmonics, etc.) and therefore that improvements to these equipments would be required whether or not a new source of supply is contracted by HQD for these areas. In such areas, it has also been observed that HQD has asked, in its request for proposals, that eventual new suppliers also correct these deficiencies in the existing grids, in order to provide better quality of service. In such circumstances, how should we apply avoided costs, given that the cost of improving the existing equipments might not be the same as the cost to be incurred by future suppliers to improve quality of service through their own new equipments ? We also need to take into account the facts that a) the cost of improving the existing equipments might not be available and that b) the part of the cost of the new equipments that would serve to improve quality of service might also be difficult to separate from the rest of the costs.

Réponse d'ICF International :

1 **The cost of improving the existing equipment to correct pre-existing power**
2 **quality issues should be included in the DRR method as a cost, in present**
3 **value, under the base-case scenario.** The total cost of the base case is to be
4 compared against the total cost of the solution proposed by the new
5 suppliers, provided that: (i) the power quality issues that are being fixed were
6 pre-existing power quality issues and are not new power quality issues that
7 are introduced by the new form of supply, and (ii) the pre-existing power
8 quality issues can actually be solved by the new suppliers. For instance, if the
9 distribution infrastructure itself (wires, poles, cap banks, pole switches etc.) is
10 reaching the end of its lifetime, we assume the distribution infrastructure
11 would have to be replaced in both the base case and the alternative scenario,
12 leading to no avoided cost (we are assuming that the new suppliers
13 envisioned by HQD would not propose behind-the-meter solutions.)

14 Furthermore, any base-case projects aimed at solving existing power quality
15 issues may also yield fuel and/or operation and maintenance cost savings.
16 These savings should be taken into account in calculating the present value
17 of the base-case scenario.

18 **If the cost of improving the existing equipment is not available AND cannot be**
19 **estimated, then it will not be possible to estimate the avoided costs**
20 **associated with reliability.** Having a cost estimate of the capital expenditure is
21 a key component of the DRR method. We are not aware of a generic estimate
22 that can be used. Even if we aware of a generic estimate, we would not
23 recommend using a generic estimate because of the inaccuracy that would
24 result in doing so, due to the size and characteristics of small distribution
25 systems.