

**Réponses du Distributeur et du Transporteur  
à la demande de renseignements numéro 1  
de l'Association québécoise des consommateurs  
industriels d'électricité et du  
Conseil de l'industrie forestière du Québec  
(« AQCIE-CIFQ »)**



1                                   **DEMANDE DE RENSEIGNEMENTS N°1 DE L’AQDIE-CIFQ À HYDRO-QUÉBEC**  
2                                   **RELATIVE À LA DEMANDE D’ÉTABLISSEMENT D’UN MÉCANISME DE RÉGLEMENTATION**  
3                                   **INCITATIVE ASSURANT LA RÉALISATION DE GAINS D’EFFICIENCE PAR LE**  
4                                   **DISTRIBUTEUR D’ÉLECTRICITÉ ET LE TRANSPORTEUR D’ÉLECTRICITÉ**

5                   **1. Références :**

- 6                   (i)    Piece HQT-2, Document 1.1, Curriculum Vitae de M. James M. Coyne  
7                   (ii)   Piece HQT-2, Document 1.2, Curriculum Vitae de M. Robert Yardley

8                   **Préambule :**

9                   These documents are not very specific concerning the PBR experience of the two  
10                  witnesses.

11                  **Demande :**

12                1.1.    Please detail all projects undertaken by each witness on PBR and provide copies (or  
13                   a link to copies) of all papers, reports, testimony, and presentations on PBR that are  
14                   in the public domain. Please make sure to identify any projects in which either  
15                   witness specifically addressed PBR for power transmission or distribution, or  
16                   undertook studies of the productivity trends of power transmission or distribution  
17                   utilities.

18                **R1.1**

19                **Resumes for Mr. Coyne and Mr. Yardley have been previously provided which**  
20                **include summaries of each witness’ experience and professional**  
21                **qualifications<sup>1</sup>.**

22                **Mr. Coyne has 35 years of experience in energy policy, planning, and**  
23                **regulation. His work has covered nearly every aspect of the energy and utility**  
24                **industries, ranging from broad policy matters to complex modeling, finance**  
25                **and operations. Specific work pertaining to performance based ratemaking**  
26                **includes the following projects:**

- 27                •    **Enbridge: Before the Ontario Energy Board (OEB), filed expert testimony**  
28                   **with Jim Simpson and Melissa Bartos in support of the Company’s**  
29                   **proposed 2nd Generation Incentive Regulation plan. Our work focused**  
30                   **on development of a proposed plan consistent with the OEB’s objectives**  
31                   **for such plans, while recognizing the Company’s operating environment**  
32                   **and business objectives, and capitalizing on the experience with other IR**  
33                   **programs. Concentric conducted a series of analyses, including industry**  
34                   **benchmarking, and productivity analyses for the industry and Enbridge**  
35                   **using both total factor productivity “TFP” analysis and partial factor**  
36                   **productivity (“PFP”) analysis. These analyses produced productivity**  
37                   **measures (“X-factors”) for both Enbridge and the industry peer group**  
38                   **that were utilized to test parameters for the proposed IR plan. Concentric**  
39                   **also evaluated alternative measures of inflation (“I-factors”) for utility**  
40                   **inputs. Lastly, Mr. Coyne examined Enbridge’s anticipated 2014 to 2016**

---

<sup>1</sup> HQT-2, Documents 1.1 and 1.2, respectively.

- 1 costs, and evaluated the ability of a traditional “I-X” framework to  
2 accommodate the Company’s cost profile. (EB-2012-045). (Report  
3 provided in Attachment A of HQT-4, Document 3.1).
- 4 • Toronto Hydro: Prepared a report for the management team: A  
5 Comparison: Incentive Regulation Frameworks for Electric Distributors  
6 in Ontario, The United Kingdom and Australia, June 2014. The report  
7 provided a foundation for Toronto Hydro’s submission to the OEB for its  
8 recently approved alternative regulation plan. Concentric began by  
9 reviewing the regulatory decisions that implemented the current IR  
10 framework in each jurisdiction, as well as supplementary decisions and  
11 guidelines explaining how the various elements of the respective IR  
12 frameworks will be applied. Concentric also reviewed rate applications  
13 filed by individual utilities under the new IR framework in the U.K., as  
14 well as Enbridge Gas Distribution’s IR application in Ontario which was  
15 filed using many elements of the new Custom IR option for electric  
16 distributors. This report summarized the results of that research, and  
17 provides a comparison of the common elements and key differences  
18 between the respective IR frameworks in Ontario, the U.K. and Australia.  
19 (2014, Confidential report)
  - 20 • Hydro One: Development of Outcome Measures for Hydro One’s 5 Year  
21 Distribution Rate Application, January, 2014. Concentric researched and  
22 provided an evaluation of potential outcome based measures for Hydro  
23 One’s inclusion into its proposed performance based regulation plan  
24 filed with OEB. The use of outcome metrics is relatively new to both the  
25 OEB and Hydro One. Historically the assessment of Hydro One’s  
26 performance has primarily been at the corporate level, and not focused  
27 on specific project initiatives. Establishing these new specific metrics  
28 against which the OEB should assess Hydro One’s performance has  
29 been a challenge. The metrics had to be targeted to on areas where  
30 assessing the specific issues which Hydro One intends to increase  
31 investment, as opposed to broad measures affected by many factors  
32 applicable to Hydro One’s entire system. (Results incorporated in Hydro  
33 One’s filing, no separate report in the public domain)
  - 34 • Nextera: Researched and profiled North American and international  
35 performance-based regulatory mechanisms and alternative ratemaking  
36 mechanisms for electric transmission facilities. (2014, Confidential  
37 report)
  - 38 • Ontario Power Authority (OPA): A Summary of Research On Efficiency  
39 Metrics, December 10, 2013. Concentric was retained in 2011 by the OPA  
40 to advise the Authority on appropriate efficiency metrics to utilize in  
41 measuring the effectiveness of the organization in response to a  
42 directive by the OEB issued in Decision and Order EB-2010-0279 dated  
43 July 8, 2011. Concentric conducted research and analysis to examine  
44 efficiency metrics used in the industry to measure the effectiveness of  
45 organizations with similar responsibilities to those of the OPA. This  
46 analysis was designed to help facilitate the OPA’s recommended metrics  
47 to the OEB. (2013, Confidential report)

- 1 • Vermont Gas Systems, Inc. (VGS): Before the State of Vermont Public  
2 Service Board (VPSB), on the company’s petition for approval of an  
3 alternative regulation plan, provided expert testimony on models of  
4 incentive regulation and their relative benefits for VGS and its  
5 ratepayers. This work included estimation of an appropriate productivity  
6 factor for the company’s proposed PBR plan. (VPSB Docket No. 7109,  
7 2006) (Testimony provided in Attachment B of HQT-4, Document 3.1)

8 In addition to these studies, Mr. Coyne has advised utilities on the  
9 development of performance based rate plans, developed strategic plans for  
10 regional transmission entities, researched and testified on the North American  
11 transmission and distribution businesses and their attendant risks. He has  
12 also researched and conducted workshops on utility innovation. (Most recent  
13 study co-authored with Mr. Yardley provided as Attachment C of HQT-4,  
14 Document 3.1)

15 Mr. Yardley has over 35 years of experience in the energy industry addressing  
16 a wide range of policy, regulatory, ratemaking, and operational issues in the  
17 electricity and natural gas industries. Specific engagements pertaining to  
18 performance-based ratemaking include the following:

- 19 • Advisor to the four New York Investor-Owned Utilities in New York Case  
20 No. 14-M-0101, which addresses multi-year rate plans, earnings sharing,  
21 and “earnings incentive mechanisms”. Joint Utilities Initial Comments on  
22 ratemaking filed on October 25, 2015 and available on the New York PSC  
23 Website.
- 24 • Ontario Energy Board: Co-authored a report on the potential application  
25 of incentive ratemaking to the regulated generation assets of Ontario  
26 Power Generation.  
27 [http://www.ontarioenergyboard.ca/oeb/documents/decisions/power\\_advisory\\_report\\_opg\\_20120511.pdf](http://www.ontarioenergyboard.ca/oeb/documents/decisions/power_advisory_report_opg_20120511.pdf)  
28
- 29 • Southern Connecticut Gas Company: Direct and Supplemental  
30 Testimony in Docket No. 99-04-18 (see attachments D and E of HQT-4,  
31 Document 3.1) reviewed and commented on Southern Connecticut Gas  
32 Company's PBR proposal including the earnings sharing mechanism. Mr.  
33 Yardley also developed and testified to the Service Quality Plan that was  
34 an integral part of the PBR proposal.
- 35 • Advisor to Bay State Gas Company in developing a PBR proposal,  
36 including a service quality plan. Bay State Gas Company filed a  
37 settlement in 1997, and did not file a rate case.
- 38 • Preparation of Initial and Reply Comments in a Massachusetts generic  
39 proceeding on incentive regulation (DPU 94-158)
- 40 • Wisconsin Gas Company: Direct Testimony in Docket 6650-GR-0112 (see  
41 attachment F of HQT-4, Document 3.1), which addressed a margin cap  
42 proposal, including a recommended productivity factor.

43 In addition to these studies which focused narrowly on performance-based  
44 regulation, Mr. Yardley has experience advising clients on capital expenditure  
45 plans, preparation of grid modernization plans, recovery of fixed costs,

1 **earnings attrition, and operational issues associated with operating an electric**  
2 **distribution system including emergency response and interconnection of**  
3 **distributed generation facilities.**

4 **2. Référence :**

5 Piece HQT-D-2, Témoignage de MM. James M. Coyne et Robert C. Yardley, p. 1

6 **Préambule :**

7 “Many jurisdictions pursue Performance-Based Regulation (“PBR”) in stages in order to  
8 proceed in a measured way and reflect the experiences gained in successive programs.”

9 **Demandes :**

10 2.1 Please confirm that early adopters of PBR such as the Ontario Energy Board have  
11 naturally had several opportunities to refine their methodologies, and were more  
12 likely to need refinements due to the avant garde nature of their early experiments.

13 **R2.1**

14 **Concentric does not view PBR as a “settled” ratemaking approach, even in**  
15 **“early adopter” jurisdictions.**

16 2.2 Please acknowledge that the Régie de l'Énergie can learn from the experience of  
17 these and other regulators in fashioning plans for Hydro-Québec. This reduces the  
18 need to "start simple."

19 **R2.2**

20 **Concentric acknowledges that the Régie can learn from the experience of**  
21 **other regulators. Concentric cannot speak for the Régie with respect to the**  
22 **weight or conclusions it might draw from studying other jurisdictions. It may**  
23 **conclude that it is best to start simple and benefit from its own experience in**  
24 **performance based regulation for electric distribution and transmission.**

25 2.3 Please identify commissions that adopted multiyear rate plans "in stages." For  
26 example, what commissions started with three year rate plans, or exempted a large  
27 portion of the cost of base rate inputs from the plan? Is it not in fact common for  
28 commissions to start with plans of four years or longer, and to have initial plans apply  
29 to most costs of base rate inputs?

1 **R2.3**

2 There are many commissions who have adopted multi-year rate plans in  
3 stages for electric distributors, including in Ontario, and Alberta. As noted in  
4 the Elenchus report<sup>2</sup>, “key factors in the success achieved by the OEB to date  
5 include:

6 “Evolving the regime systematically, so that complexity is added in  
7 stages as the stakeholders adapt to the increasingly complex  
8 system”.

9 PEG is also certainly aware of many multi-year rate plans with a term of three  
10 years. As noted in the report authored by Dr. Lowry, “Alternative Regulation  
11 for Emerging Utility Challenges: An Updated Survey,” Table 8 list the plan  
12 terms of various utility multiyear rate plans, at least six of which list 3-year  
13 terms (Arizona PSCo, PacifiCorp, Georgia Power, Central Vermont PSCo,  
14 Northland Utilities, Northland Yellowknife).

15 PEG’s suggestion that plans typically cover “most costs of base rate inputs”  
16 suggests that it is typical for capital expenses to be covered under the MRI.  
17 Many jurisdictions have adopted capital trackers because of the “lumpy” and  
18 unpredictable nature of these expenses. Alberta’s first generic MRI regime  
19 included approval of capital trackers, and Elenchus noted that while a capital  
20 tracker resulted in a higher regulatory burden, it “mitigates the concern that  
21 the regime could discourage necessary investments that increase costs  
22 without providing offsetting efficiency gains. The AUC anticipates that the  
23 benefits of allowing for the pass-through of some specific costs will outweigh  
24 the costs in terms of regulatory burden and the risk that the opportunity could  
25 be used inappropriately<sup>3</sup>”.

26 There are relatively few examples of MRI plans that are applied to transmission  
27 companies. In Canada, neither the Alberta nor Ontario commissions, that  
28 implemented PBR for distribution utilities, implemented PBR plans for  
29 transmission companies.

30 2.4 Do most regulators that adopt multiyear rate plans start with a remarkably simple  
31 plans or is it more accurate to say that the initial adoption of multiyear rate plans  
32 involves fairly sweeping change and the mechanisms grow even more complex over  
33 time?

34 **R2.4**

35 This question calls for a sweeping generalization that is unlikely to contribute  
36 to the determination of an appropriate MRI for HQD or HQT. As noted in  
37 response to Question 2.3, there are few examples of MRI plans that apply to  
38 transmission companies.

---

<sup>2</sup> Performance-based regulation – A review of design options as background for the review of PBR for Hydro-Québec Distribution and Transmission divisions, Elenchus Research Associates, Inc., January 2015, page 34.

<sup>3</sup> Performance-based regulation – A review of design options as background for the review of PBR for Hydro-Québec Distribution and Transmission divisions, Elenchus Research Associates, Inc., January 2015, page 42

1 **3. Référence :**

2 Piece HQT-D-2, Témoignage de MM. James M. Coyne et Robert C. Yardley, p. 4.

3 **Préambule :**

4 "As the Régie considers a transition to an MRI, it is important to note that the current regime  
5 already incorporates elements that promote efficiency gains. In fact, the existing parametric  
6 formula explicitly applies a productivity factor to OPEX:  $OPEX_t = [(OPEX_{t-1} - \text{Specifically}$   
7  $\text{Tracked Items}_{t-1}) + \text{Inflation} - \text{Efficiency} + \text{Growth}] + (\text{Specifically Tracked Items})_t$ ."

8 **Demande :**

9 3.1 Please provide the pertinent citations and further explanation concerning the use of  
10 these formulas by HQT and HQD.

11 **R3.1**

12 **HQD and HQT are both subject to a parametric formula to establish operating**  
13 **costs ("OPEX"). The company files annual rate proceedings that discuss the**  
14 **formula in further detail. The most recent proceedings are R-3933-2015<sup>4</sup> (HQD)**  
15 **and R-3934-2015<sup>5</sup> (HQT).**

16 **The parametric formula takes into consideration OPEX costs, inflation,**  
17 **productivity, and customer accounts growth (in the case of HQD) and system**  
18 **growth (in the case of HQT).**

- 19 •  **$OPEX_t = (OPEX_{t-1} - \text{Specifically Tracked items}_{t-1}) + \text{Inflation} - \text{Efficiency} +$**   
20  **$\text{Growth} + \text{Specifically Tracked items}_t$**
- 21 ▪  **$OPEX_{t-1}$ : OPEX approved the previous projected year**
  - 22 ▪ **Inflation: includes changes in wages and other components of**  
23 **OPEX with the exception of specifically tracked items**
  - 24 ▪ **Efficiency: applied to elements under the control of management**  
25 **(i.e. operating costs excluding specifically tracked items)**
  - 26 ▪ **Growth: corresponds to OPEX (excluding specifically tracked**  
27 **items) associated with customer accounts growth (in the case of**  
28 **HQD) and system growth (in the case of HQT)**
  - 29 ▪ **Specifically tracked items: corresponds to OPEX beyond control**  
30 **of HQD and HQT and other specific budgets**

31 **Concentric notes that, in HQT's most recent rate case (R-3934-2015), HQT had**  
32 **to adjust its OPEX parametric formula in order to reflect the impacts of**  
33 **applying the new asset management model ("MGA") on operating expenses.**

34 **Concentric further notes that, in its most recent rate case (R-3933-2015), HQD**  
35 **indicated that it was challenged to implement additional efficiencies; HQD**  
36 **proposed that the efficiency factor be set to zero in the parametric formula**  
37 **for 2016.**

---

<sup>4</sup> R-3933-2015, HQD-8, document 1, annexe A (B-0026)

<sup>5</sup> R-3934-2015, HQT-6, Document 2, p. 7 (B-0015).



1 **4. Référence :**

2 Piece HQT-D-2, *Témoignage de MM. James M. Coyne et Robert C. Yardley*, p. 5

3 **Préambule :**

4 "The fact that HQD and HQT are Crown Corporations warrants special consideration as  
5 these organizations are typically accountable to a broader mandate in addition to their core  
6 utility responsibilities than their investor-owned counterparts."

7 **Demandes :**

8 4.1 Please confirm that numerous publicly-owned utilities around the world operate  
9 under MRIs. Examples in Canada include EPCOR and Toronto Hydro-Electric.

10 **R4.1**

11 **Concentric is aware that publicly-owned utilities operate in other countries**  
12 **under MRIs. EPCOR is an Edmonton based municipally owned utility that**  
13 **operates under a PBR framework for its Alberta distribution facilities, but not**  
14 **for its transmission system. Toronto Hydro is also a municipally owned utility,**  
15 **and operates under a PBR framework for its Ontario distribution system**  
16 **(Toronto Hydro only has distribution assets). Concentric is referring to the**  
17 **unique role that Crown corporations play in Canada, as summarized in a report**  
18 **to Parliament<sup>6</sup>:**

19 **“Crown corporations derive their raison d’être from their statutory role**  
20 **as instruments of public policy. A large number of them, however,**  
21 **operate in a business environment where they may sometimes find it**  
22 **challenging to manage both their commercial and public policy**  
23 **objectives”.**

24 **As noted in response to Question 2.3, there are few examples of MRI plans that**  
25 **apply to transmission companies.**

26 4.2 Please cite any examples you are aware of where utilities have received special  
27 treatment from regulators in MRI design (other than a lower cost of capital) because  
28 of their public ownership.

29 **R4.2**

30 **Concentric is not aware of examples of MRI design that explicitly factor in**  
31 **public ownership. However, in general Crown Corporations in the electricity**  
32 **industry reflect their unique ownership when making certain decisions that are**  
33 **directly related to the public interest. A Crown Corporation is also likely to take**  
34 **a more conservative approach to financial matters, as would be expected by**  
35 **the public and their elected representatives. The public certainly benefits from**  
36 **efficient operations of Crown Corporations and Concentric has reflected this in**  
37 **its recommendations.**

---

<sup>6</sup> Review of the Governance Framework for Canada’s Crown Corporations, Treasury Board, 2005, p. 9.

1 **5. Référence :**

2 Piece HQTD-2, *Témoignage de MM. James M. Coyne et Robert C. Yardley*, p. 6

3 **Préambule :**

4 "The question of which of the various types of MRIs are appropriate for HQD and HQT  
5 requires an assessment of the particular facts and circumstances of each division. This  
6 evidence includes an analysis of the major revenue, cost, and service drivers of each  
7 division to determine the degree to which they are within the control of the division, and the  
8 factors that might cause them to be higher or lower in the future. For example, HQT's  
9 CAPEX are driven to a large degree by (1) a need to respond to requests from its customers  
10 either to connect to the network or for new transmission service, and (2) a need to replace  
11 aging infrastructure in a manner that optimizes maintenance expenses and infrastructure  
12 replacement."

13 **Demande :**

14 5.1 Please confirm that HQT has a great deal of control over the timing of its replacement  
15 CAPEX and the cost of replacements when undertaken. Please confirm that a variety of  
16 different strategies may potentially "optimize maintenance expenses and infrastructure  
17 replacement."

18 **R5.1**

19 **Concentric understands that HQT relies on an asset management model to**  
20 **develop an optimized scenario based on the available information in order to**  
21 **offer the best reliability in the short, medium and long term, while minimizing**  
22 **CAPEX (replacement of aging assets) and OPEX. Under the asset management**  
23 **model, HQT analyses alternative investment and maintenance combinations to**  
24 **determine an optimized program.**

25 **6. Référence :**

26 Piece HQTD-2, *Témoignage de MM. James M. Coyne et Robert C. Yardley*, p. 7

27 **Préambule :**

28 "Any MRI program tied to an output measure (e.g., sales or customer growth) should be tied  
29 to customer growth, with annual adjustments to accommodate for weather and any other  
30 factors that contribute to sales volatility."

31 **Demandes :**

32 6.1 Please discuss further the importance of customer growth as a driver of a power  
33 distributor cost and its suitability for use in a revenue cap index. Isn't peak load also  
34 an important distribution cost driver? If so, why should it not also be a revenue  
35 driver?

36 **R6.1**

37 **Concentric's review of HQD's costs indicates that customer accounts growth**  
38 **is a primary driver of HQD's costs and should be incorporated within the**  
39 **revenue cap design if HQD is to have a reasonable opportunity to recover its**

1 costs. New customer accounts are a primary driver of distribution costs over  
2 the term of the plan because of the need to connect customers to the  
3 distribution network and meter their load.

4 Growth in peak demand is also a driver of distribution investment with a  
5 longer-term perspective. Peak demand growth ultimately causes increased  
6 investment in distribution network facilities. This peak demand growth is  
7 influenced significantly by the growth in customers.

8 6.2 Why have the authors proposed a *revenue* cap index for HQD rather than a *price* cap  
9 index?

10 **R6.2**

11 See response to Régie Question 7.1 in HQTD-4, Document 1.

12 6.3 Is it, additionally, reasonable to add a revenue decoupling mechanism to the  
13 regulatory system? Please explain why or why not.

14 **R6.3**

15 See response to Régie Question 7.2 in HQTD-4, Document 1.

16 **7. Référence :**

17 Piece HQTD-2, Témoignage de MM. James M. Coyne et Robert C. Yardley, p. 8

18 **Préambule :**

19 "Electricity and transmission purchases are the two largest components of HQD's revenue  
20 requirements and are not controllable by management. Electricity purchases are recovered  
21 through the pass-through mechanism and do not influence earnings. Similarly, HQD  
22 maintains a deferral account to track any differences between projected and actual  
23 transmission costs. These expenses, together with fuel costs that are also not controllable  
24 by management, comprise more than three-quarters of the HQD's revenue requirement at  
25 77.1%."

26 **Demandes :**

27 7.1 Please confirm that HQD can use rate designs, as well as conservation and demand  
28 management programs, to reduce its power purchase and fuel expenses and use of  
29 the transmission system. Additionally, HQD has some control over the cost of power  
30 supplies that are supplemental to the heritage block.

31 **R7.1**

32 HQD could employ conservation and demand management programs and  
33 ratemaking tools in an effort to lower energy usage during certain hours of the  
34 year and/or to lower peak demand during certain hours of the year. To the  
35 extent that these tools reduce energy usage, it would result in lower supply  
36 costs, assuming that the reduction in supply comes from the marginal cost  
37 supply source. To the extent that these tools reduce peak demand, these  
38 reductions may be significant enough to impact the timing of need for new

1 **distribution and transmission facilities that would otherwise be required to**  
2 **meet demand growth.**

3 7.2 Please also confirm that HQD's pass-through mechanism for power purchase  
4 expenses and its deferral account for transmission costs weaken its incentives to  
5 control these costs.

6 **R7.2**

7 **See response to Régie Question 1.4 in HQTD-4, Document 1.**

8  
9 **The pass-on account for power purchases and the deferral account for**  
10 **transmission costs were created and authorized by the Régie to take into**  
11 **account costs incurred during a test year which had unforeseen conditions at**  
12 **the time distribution rates were fixed, or for when the actual costs differ from**  
13 **those originally planned. Therefore, customers do not pay more for power**  
14 **supply than costs actually incurred by HQD.**

15 **8. Référence :**

16 Piece HQTD-2, Témoignage de MM. James M. Coyne et Robert C. Yardley, p. 13.

17 **Préambule :**

18 “Under the proposed plan, the “I” and “X” factors would have to be set according to the  
19 process adopted by the Régie. An expanded definition of operating costs under  
20 management’s control would be included under the formula, and include amortization, taxes  
21 and corporate expenses, even though not directly controllable by HQD.”

22 **Demandes :**

23 8.1 Why does it make sense to address amortization and taxes using indexing, but not  
24 use indexing to address the return on rate base?

25 **R8.1**

26 **The cost of debt and the cost of equity are beyond the control of management.**  
27 **The cost of HQD’s equity is set by the Régie and factors in bond yields and**  
28 **other capital market inputs, which in addition to interest rates, are beyond the**  
29 **direct control of management. Without control, incentives tied to these costs**  
30 **create risk for both customers and HQD, without the expectation of**  
31 **productivity gains. A related complication is that to include these costs, one**  
32 **would want assurance that the inflation factor “I” fairly represented changes in**  
33 **these costs. Due to the potential volatility of these costs and lack of control,**  
34 **Concentric sees no benefit to their inclusion in the costs covered by the index.**

35 8.2 Please identify other jurisdictions where this ratemaking treatment of the return on  
36 rate base has been used.

1 **R8.2**

2 For example, Enbridge’s most recently approved MRP contained this feature.  
3 As described in the Board’s decision:

4 “Having already determined that the return on equity and cost of debt  
5 should be determined on a consistent basis, the Board concludes that  
6 the cost of debt should also be set each year through the annual rate  
7 adjustment proceeding.”<sup>7</sup>

8 Hydro One proposed a similar adjustment approved by the OEB:

9 “Hydro One proposed an annual cost of capital adjustment (using  
10 OEB’s updated cost of capital parameters and an update of Hydro One’s  
11 long term debt) before each new rate year, as per its past practice in  
12 implementing its multi-year rate setting decisions. The OEB agrees that  
13 these updates should continue in this case for the 3-year period of this  
14 rate approval. No change to the debt/equity structure was proposed<sup>8</sup>.”

15 8.3 Why is the return on rate base treated as a controllable cost in the proposed MRI for  
16 HQT?

17 **R8.3**

18 ~~The return on rate base is not being treated as a controllable cost for HQT. In~~  
19 ~~the proposed MRI for HQT, the cost of debt and equity would initially be~~  
20 ~~forecast, providing the opportunity to incorporate reasonable expectations for~~  
21 ~~future costs and thereby reducing the risks of changes in these costs for~~  
22 ~~customers and the Division. Forecasted cost of equity will be equal to~~  
23 ~~authorized ROE, as it is established from time to time by the regulator. Should~~  
24 ~~this authorized ROE change during the term of the MRI, or the Régie changes~~  
25 ~~its approach to the determination of the ROE, these changes would be~~  
26 ~~reflected in adjustments under the MRI. The cost of debt will be adjusted~~  
27 ~~annually for HQT<sup>9</sup>, based on updated debt costs.~~

28 8.4 Was this exclusion first proposed by the authors, or by Hydro-Québec's attorneys  
29 and/or management?

30 **R8.4**

31 The authors.

32 **9. Référence :**

33 Piece HQT-D-2, *Témoignage de MM. James M. Coyne et Robert C. Yardley*, pp. 6.

---

<sup>7</sup> EB-2012-0459, Enbridge Gas Distribution 2014-2018 rate Application, Decision with Reasons, July 17, 2014, p. 55.

<sup>8</sup> EB-2013-0416 and EB-2014-247, p. 40.

<sup>9</sup> ~~Décision D-2014-034 (dossier R-3842-2013), paragraphe 273 et D-2015-018 (dossier R-3905-2014), paragraphes 347 et 409.~~

1 **Préambule :**

2 "HQT's business is significantly more capital-intensive than HQD's, and its capital budget is  
3 comprised of larger multi-year projects."

4 **Demande :**

5 9.1 Please explain why a "larger multi-year project" necessarily complicates the design  
6 of a revenue cap escalator, provided that costs of these projects are spread fairly  
7 evenly over the years of the project. Isn't it true that an appreciable share of the  
8 assets of these projects often become used and useful in each year of the project?

9 **R9.1**

10 **It is not reasonable to assume that the costs of large multi-year transmission**  
11 **projects are likely to be spread evenly over the years of the project. It is**  
12 **therefore not necessarily true that an appreciable share of these projects**  
13 **become used and useful in each year of the project.**

14 **10. Référence :**

15 Piece HQTD-2, *Témoignage de MM. James M. Coyne et Robert C. Yardley*, p. 17.

16 **Préambule :**

17 "Thus, the HQT depreciation and amortization expense (the recovery of capital invested), its  
18 return on rate base (the return on capital invested) and applicable taxes comprise 78.9% of  
19 the company's revenue requirements. This represents a challenge for an MRI program  
20 because capital is typically the most difficult expense to accommodate under these  
21 programs. CAPEX are often "lumpy", and influenced by large projects over many years and  
22 are often dictated by system requirements beyond management's direct control, such as the  
23 integration of new generation. These challenges are documented in the Elenchus report,  
24 and are present for distribution utilities as well, but even more so for transmission  
25 companies, such as HQT, where capital represents the vast majority of its revenue  
26 requirements."

27 **Demandes :**

28 10.1 Please confirm that the allowed revenue of HQT can in principle be indexed to the  
29 generation capacity of its service territory.

30 **R10.1**

31 **Concentric disagrees with this assertion. The required revenue of HQT is more**  
32 **likely to track transmission investments than changes in generation capacity.**  
33 **There are four types of capital projects for HQT: growth (from which**  
34 **generation interconnection is part of), replacement of aging assets,**  
35 **sustainment or improvement of quality of service and investments required to**  
36 **meet other legal requirements. Each of them has an impact on revenue**  
37 **requirements. Different types of generation interconnection projects may have**  
38 **different impact on revenue requirements Also an increase or decrease of**  
39 **generation capacity may or may not require additional investments, and if**  
40 **investments are required, they may be small or large depending on the**

1 available capacity on the network. In sum, it is not appropriate to index HQT's  
2 revenue requirement on generation capacity.

3 10.2 Please confirm that capital cost trackers are used in many jurisdictions to address  
4 certain costs that are hard to address using indexes.

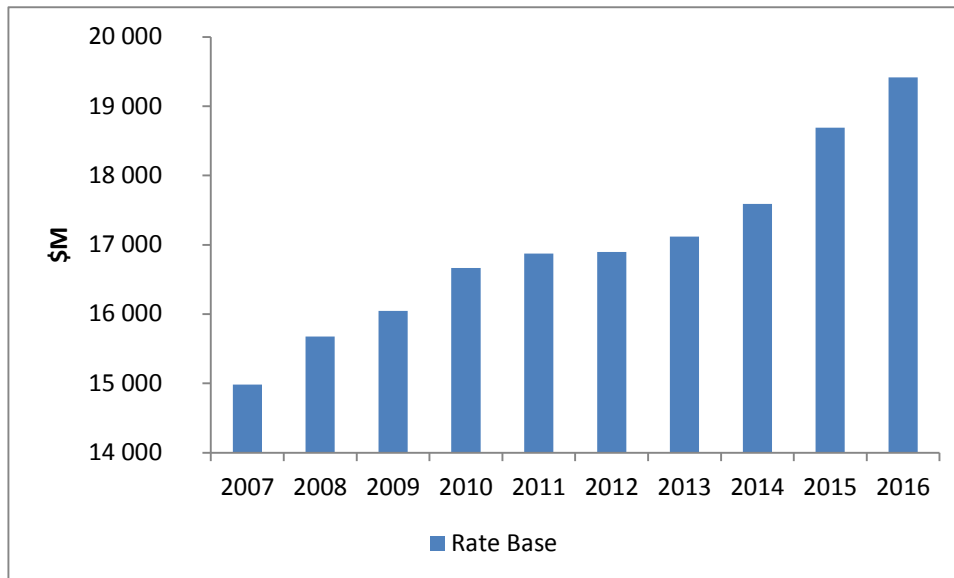
5 **R10.2**  
6 **Capital cost trackers are used in many jurisdictions for specified investments**  
7 **in order to allow cost recovery to more accurately track cost incurred and to**  
8 **allow for more timely cost recovery between rate cases if the investment or**  
9 **expense item was not reflected in the rate case cost of service.**

10 10.3 Please confirm that, due to the large size of HQT's system, capex volatility doesn't  
11 necessarily translate into volatile amortization expenses, return on rate base, capital  
12 cost, or total cost.

13 **R10.3**  
14 **Concentric has not suggested that capital spending is volatile or that such**  
15 **volatility would translate into volatile amortization expenses, return on rate**  
16 **base, capital cost or total cost. Concentric's point is that fluctuations in levels**  
17 **of capital expenditures can lead to patterns of cost recovery that are**  
18 **incompatible with "I-X" revenue trajectories.**

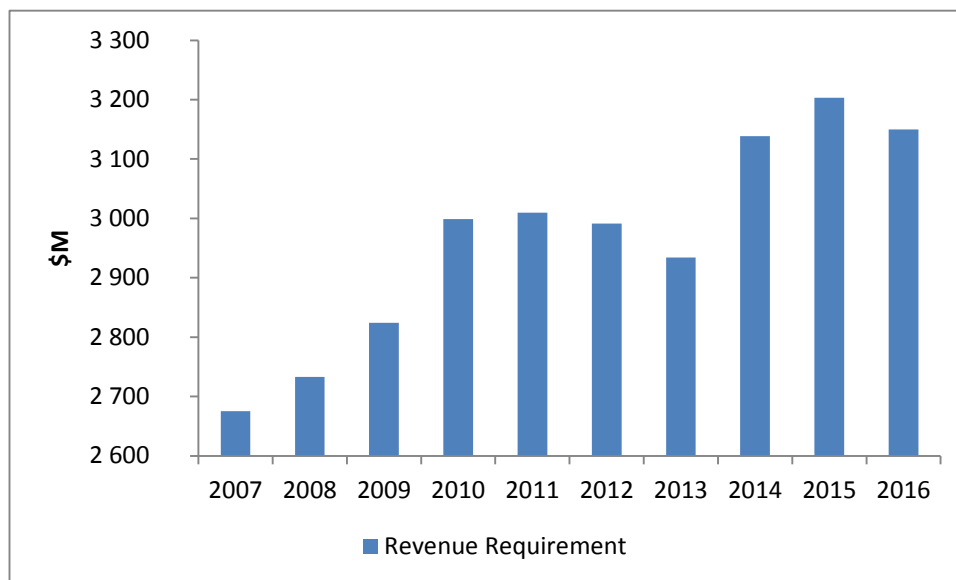
19 **The two largest components of HQT's revenue requirements, amortization and**  
20 **return on rate base, are driven by the rate base itself. As seen in the following**  
21 **Figure R10.3-A, the evolution of the rate base shows a significant increase**  
22 **of 30% over the 2007-2016 period with a staircase cost path due to CAPEX**  
23 **growth. The revenue requirement follows a pattern closely related to the rate**  
24 **base path over the same time period with an increase of 18% as showed in**  
25 **Figure R10.3-B.**

**Figure R10.3-A  
Evolution of Rate Base – 2007-2016**



1

**Figure R10.3-B  
Evolution of Revenue Requirement – 2007-2016<sup>10</sup>**



- 2 10.4 Please provide any and all evidence that the amortization, rate base, or capital cost  
 3 of HQT have been unusually volatile in the past or are likely to be unusually volatile  
 4 during the term of a first generation MRI.

<sup>10</sup> The 2016 revenue requirement includes the effect of the inclusion of the US GAAP variance account (-\$91.2M). See docket R-3934-2015, HQT-5, Document 1.



1 **R10.4**

2 ~~See response to Question 10.3 above. As already noted in CEA's revised~~  
 3 ~~evidence<sup>44</sup>, HQT's CAPEX and PP&E Placed in Service expenses have been~~  
 4 ~~highly variable, historically.~~

**Table R10.4**  
**HQT Statistics – 2007-2016 (\$M)**

	Max	Min	Mean	Std.-Dev	Variation Coefficient
CAPEX	1,893.4	804.7	1,384.5	309.0	22%
OPEX	-742.9	633.2	-680.3	-42.3	6%
AMORTIZATION	1,035.0	569.1	-888.1	-154.6	17%

5

6 ~~As seen in the above chart, there is significant variation in the major cost~~  
 7 ~~components for HQT. These trends will continue in future years, considering~~  
 8 ~~the stairsteps investments tied to growth projects, reliability improvements~~  
 9 ~~and regulatory obligations. It is important to note that capital is included in the~~  
 10 ~~proposed MRI for HQT, but rather than an index approach it is accommodated~~  
 11 ~~under the building block approach.~~

12 **11. Référence :**

13 Piece HQT-D-2, Témoignage de MM. James M. Coyne et Robert C. Yardley, p. 23-24

14 **Préambule :**

15 "Based on the goals of Article 48.1 and HQT's unique characteristics, Concentric  
 16 recommends a "building block" MRI approach, which is a comprehensive "bottom-up"  
 17 approach that sets a future revenue path based on a detailed forecast and review of capital  
 18 and operating expenses. This approach recognizes the non-parametric nature of HQT's  
 19 CAPEX and OPEX that does not readily accommodate an I-X program as well as the  
 20 obligation for HQT to maintain the long-term reliability of the system. The efficiency  
 21 incentives sought under Article 48.1 could still be achieved by developing a multi-year rate  
 22 plan that determines a future revenue cap."

23 **Demandes :**

24 11.1 Please explain how a building block approach can be made consistent with the  
 25 requirements of Article 48.1 that the MRI foster 1) continuous improvement in  
 26 performance, 2) cost reduction that is beneficial to both consumers and HQT, and 3)  
 27 a streamlined regulatory process. For example, how would the Régie ensure that  
 28 cost forecasts embody continuous improvements in performance?

29 **R11.1**

30 ~~Concentric understands that HQT intends to measure its performance under~~  
 31 ~~three fundamental dimensions: 1) public and employees security, 2) network~~  
 32 ~~reliability and 3) network availability. As with HQD, the specific service quality~~  
 33 ~~targets and associated financial impacts will be addressed in Phase 3 at the~~

<sup>44</sup> Revised HQT-D-2, Document 1, p. 17.

~~1 same time that the specific MRI parameters are established. This is the  
2 appropriate time to ensure that the overall MRI, including service quality  
3 metrics, complies with the performance improvement objective of Article 48.1.~~

~~4 Cost optimization and efficiencies will be promoted in two ways. First, HQT will  
5 be required to present a three-year revenue cap based on a building block  
6 approach. The revenue cap will reflect projected efficiencies in operating and  
7 capital expenditures subject to the scrutiny of the Régie and stakeholders.  
8 Secondly, HQT will be incented to manage costs during the rate period to  
9 create earnings sharing for the benefit of both the shareholder and customers.~~

~~10 With respect to the streamlined regulatory process, a three-year rate plan  
11 significantly contributes to a streamlined regulatory process as it avoids the  
12 need for two additional rate cases.~~

13 11.2 Please confirm that numerous power distributors have been subject to index-based  
14 rate and revenue caps over the years despite an obligation to maintain the long-term  
15 reliability of their systems. Why is this obligation mentioned in the context of HQT  
16 but not HQD?

#### 17 R11.2

18 **Confirmed. Reliability is a critical objective for both HQT and HQD.**

#### 19 12. Référence :

20 *Piece HQTD-2, Témoignage de MM. James M. Coyne et Robert C. Yardley, p. 23*

#### 21 Préambule :

22 "There are alternative ways to derive "X" that range from the application of judgment applied  
23 to past observed productivity gains to industry benchmarking studies to complex productivity  
24 studies. Both benchmarking studies and productivity analyses rely on large data sets  
25 comprised of data for utilities that are deemed to be sufficiently "comparable." For a  
26 Canadian utility, this usually requires expanding the data set to include utilities from the  
27 United States in order to arrive at an acceptable sample size. A desire for a larger sample  
28 size in order to improve statistical validity and the desire for comparability tend to work  
29 against each other. This contributes to the controversy associated with productivity studies,  
30 particularly in Canada. In addition, these studies tend to add complexity and delays to the  
31 process, which goes against the streamlining goal of Article 48.1."

#### 32 Demandes :

33 12.1 Is it generally beneficial to have productivity studies that include the latest available  
34 data when setting X factors?

#### 35 R12.1

36 **Even though the general purpose of productivity studies is to measure longer  
37 term industry productivity, Concentric would agree that latest available data  
38 can be helpful in indicating inflection points in these trends.**

1 12.2 Does the commissioning of a custom productivity study in any sense preclude the  
2 additional consideration of the results of *other* studies in the public domain?

3 **R12.2**

4 **No. Concentric's concern with the production of a custom study is based on**  
5 **the time, cost, and need for opposing parties to present alternative studies.**  
6 **The estimation of productivity, while theoretically sound, is heavily influenced**  
7 **by the choice of company sample, data inputs and assumptions. In**  
8 **Concentric's experience, no one study will satisfy the collective requirements**  
9 **of the regulator and stakeholders and Concentric questions whether the**  
10 **drawbacks and controversies that will need to be addressed with a custom**  
11 **study will efficiently advance the establishment of an MRI programs.**

12 12.3 If it is hard to find appropriate peers for Hydro-Québec, why is this an argument for  
13 basing X on a survey of the results of other productivity studies that are even *less*  
14 attentive to the Company's special operating conditions than a custom study?

15 **R12.3**

16 **The expert reports cited in response to Régie Question 4.2 in HQTD-4,**  
17 **Document 1 largely draw from US samples of electric or gas utilities. The most**  
18 **recent, presented by the Brattle Group, was submitted in December 2015.**  
19 **Productivity estimates from these studies cover a broad range, depending on**  
20 **the consultant developing the estimate and choice of industry sample,**  
21 **methodology and inputs. While Concentric maintains that finding an**  
22 **appropriate peer group for HQD and even more so for HQT is a challenge,**  
23 **Concentric believes that these studies can be useful sources of industry**  
24 **productivity trends. When used in conjunction with company specific data on**  
25 **historic productivity, the Régie and stakeholders would have sufficient**  
26 **information to make an informed decision on an appropriate X-factor.**

27 ~~Concentric notes that HQT's MRI will incorporate efficiencies in its forecast~~  
28 ~~and does not suggest the establishment of an explicit productivity factor for~~  
29 ~~HQT.~~

30 12.4 The authors propose an unusual kind of MRI for HQD in which the return on rate  
31 base is not addressed by the revenue cap index. Doesn't this limit the relevance of  
32 existing multifactor productivity studies for setting the X factor in the proposed plan,  
33 and make a custom study more necessary?

34 **R12.4**

35 **Concentric recognizes that the results of productivity studies are applied to**  
36 **costs for the target company that are never in complete alignment. This is due**  
37 **to both variations in accounting data for the productivity sample companies,**  
38 **the resulting MRI plans inevitably have a mixture of included and excluded**  
39 **costs through outright exclusions, and Y and Z factored costs that are never**  
40 **fully aligned with the productivity sample. While Concentric finds this a**  
41 **weakness, in general, in the application of productivity studies to utility**  
42 **regulation, this particular exclusion is warranted for the reasons described in**  
43 **response to Question 8.1.**

1 12.5 Publicly available studies of power transmission productivity are rare. Isn't this an  
2 argument for a custom transmission productivity study in this proceeding?

3 **R12.5**

4 **Concentric is concerned that data required to produce a reliable study is not**  
5 **readily available. HQT is a very large transmission company operating in a**  
6 **unique environment. Design of such a study would likely involve the need for**  
7 **an international sample of companies, where data availability and**  
8 **comparability concerns would become even greater challenges. Concentric**  
9 **believes that the proposed building block approach is a more practical**  
10 **solution which can be utilized to create the incentives and streamlined**  
11 **regulatory process envisioned under Article 48.1.**

12 12.6 Do the authors believe that a rate or revenue cap escalator based on industry  
13 productivity research involves *more* regulatory complexity, cost, and controversy than  
14 the building-block approach that they propose for HQT? If so, please provide the  
15 evidence that supports this view.

16 **R12.6**

17 **See response to Question 12.7.**

18 12.7 Please confirm that the building block approach to establishing rate escalators has  
19 proven complex, costly, and controversial in Australia and Britain.

20 **R12.7**

21 **Confirmed. The development of some MRI plans can prove to be complex,**  
22 **costly, and controversial, but that does not mean that all MRI plans are such.**  
23 **Concentric is proposing a three-year rate plan for HQT that relies on cost of**  
24 **service principles, as opposed to an X-factor, but applies incentives through**  
25 **the revenue cap. This proposal will not be nearly as complex for stakeholders**  
26 **to understand and respond to as an approach that relies on a TFP or PFP**  
27 **study which is certainly complex, costly, and controversial, and which**  
28 **complicate or extend the time necessary to establish the regime. The choice of**  
29 **methodology should reflect all relevant factors. The framework chosen should**  
30 **provide the best fit for the utility, resources available to the regulator, and**  
31 **value for consumers.**

32 12.8 Please confirm that regulators in Australia and Britain have made extensive use of  
33 statistical benchmarking and independent engineering studies when reviewing the  
34 cost forecasts of utilities subject to building block regulation.

35 **R12.8**

36 **It is Concentric's understanding that benchmarking and related studies have**  
37 **been used by regulators in both Australia and the U.K. The process begins**  
38 **with a company forecast of its revenue requirements, and these studies are**  
39 **used as a cross-check on the underlying cost trend. Company forecasts are**  
40 **also compared against other utilities and prior trends for the subject company.**

1 12.9 Please confirm that the Ontario Energy Board uses statistical benchmarking studies  
2 to review cost forecasts of energy distributors proposing “custom IR” plans.

3 **R12.9**

4 **Confirmed, this is one aspect of the Board’s review. The Board also examines**  
5 **a wide array of evidence in approving multi-year custom rate plans. It should**  
6 **also be recognized that the OEB is in the unique position of having data**  
7 **from 77 local electricity distributors to draw upon, in contrast to one primary**  
8 **distributor in Quebec.**

9 **Concentric would also note that the AUC rejected this approach:**

10 “268. The efficiency frontier and benchmarking method advocated by  
11 the UCA’s experts represents yet another approach to determining the  
12 value of the X-factor. In contrast to productivity studies that deal with  
13 the rate of industry productivity growth over time, the efficiency frontier  
14 analysis focuses on a company’s productivity level (i.e., efficiency) at a  
15 particular time in relation to comparable companies. In other words,  
16 instead of looking at how the industry’s productivity changes over time,  
17 this method examines whether one particular company is less or more  
18 efficient at the time of measurement as compared to its peers.

19 269. In the Commission’s view, the efficiency benchmarking analysis is  
20 prone to two major criticisms. First, as NERA and Dr. Carpenter  
21 explained, the efficiency levels are hard to estimate as this type of  
22 analysis requires a multitude of historical company-specific data, which  
23 exhibit a great deal of year to year volatility and are prone to errors.  
24 Indeed, as the UCA witnesses observed, this method of developing the  
25 X-factor would busy “hundreds of analysts” both of the companies and  
26 the regulator.

27 270. More importantly, Dr. Makhholm and Dr. Carpenter pointed out that  
28 in practice it is virtually impossible to determine whether a firm is or is  
29 not efficient by looking at benchmark data alone, since relative  
30 efficiency depends on a boundless number of variables, both  
31 observable and unobservable. Factors such as age of plant, soil type,  
32 weather and geography, customer density, etc., are to be taken into  
33 account when considering efficiency levels. In these circumstances,  
34 inadvertently leaving out an important productivity driver may invalidate  
35 the results of the study.

36 272. Under the UCA’s efficiency benchmarking approach to developing  
37 the X-factor, a company is incented to catch up to the level of efficiency  
38 experienced by peer companies deemed to be more efficient by the  
39 regulator, rather than to meet or beat the industry rate of productivity  
40 growth. Because of the practical and theoretical problems associated  
41 with measuring efficiency levels described above, the Commission does  
42 not accept this approach for the purposes of PBR in Alberta.<sup>12</sup>  
43 (Footnotes excluded.)

---

<sup>12</sup> Attachment A in HQT-4, Document 1.1, AUC Decision 2012-237, September 12, 2012, pp. 56-57.

1 12.10 Please confirm that econometric methods are available that use large and varied  
2 samples but can produce tailored cost benchmarks and productivity growth targets.

3 **R12.10**

4 **These methods are available, but they are only as reliable as the data and**  
5 **assumptions required to produce these benchmarks and targets. One could**  
6 **argue that “large and varied” samples may be true for U.S. electric and gas**  
7 **distributors, but that is not the case for electric transmission companies.**  
8 **Results presented from these methods vary considerably according to the**  
9 **sample chosen, time period, input assumptions and specification of the model,**  
10 **and in the end require considerable judgment in their interpretation.**

11 **Concentric would also note that, for these very reasons, the AUC rejected the**  
12 **use of econometric models in its determination of productivity targets:**

13 **“350. The gas companies’ concern regarding the lack of objectivity in**  
14 **PEG’s study primarily related to the econometric model that Dr. Lowry**  
15 **and his colleagues used in addition to the index approach for estimating**  
16 **TFP. In particular, PEG regressed the TFP index for the 32 gas**  
17 **companies in its sample against the number of gas distribution**  
18 **customers, the number of electricity customers (for companies that**  
19 **provide both gas and electric service), the line miles and a time trend**  
20 **variable. Applying the obtained coefficients to the projected variables**  
21 **for Alberta gas companies, PEG came up with a TFP estimate**  
22 **customized for business conditions in Alberta.**

23 **362. With respect to PEG’s econometric model for TFP, the Commission**  
24 **agrees with NERA’s explanation that the outcome of any regression**  
25 **model is highly dependent on the choice of explanatory variables, which**  
26 **represents the subjective judgment of the person conducting the**  
27 **analysis.<sup>13</sup>”**

28 **13. Référence :**

29 Piece HQT-3, Document 1, Caractéristiques des MRI du Distributeur et du  
30 Transporteur, p. 1

31 **Préambule :**

32 "Tous les régimes réglementaires comportent des incitatifs, souvent implicites."

33 **Demande :**

34 13.1 In light of this comment, please discuss the incentives that HQT and HQD have had  
35 to contain their capital costs under a system of virtually annual rate cases.

36 **R13.1**

37 **Tous les projets ainsi que les budgets d’investissement du Distributeur et du**  
38 **Transporteur sont préalablement autorisés par la Régie. Selon le Règlement**

---

<sup>13</sup> Attachment A in HQT-4, Document 1.1, AUC Decision 2012-237, September 12, 2012, pp. 73 and 75.

1 **sur les conditions et les cas requérant une autorisation de la Régie de**  
2 **l'énergie, cette dernière examine notamment :**

- 3  
4 • Les objectifs ;  
5 • Les coûts ;  
6 • La justification ;  
7 • L'impact sur les tarifs.

8  
9 Par ailleurs, le Transporteur souligne que, dans le cadre de son modèle de  
10 gestion des actifs, la stratégie de renouvellement des actifs (stratégie de  
11 pérennité) prévoit des remplacements échelonnés dans le temps pour gérer  
12 l'évolution du taux de risque de défaillance complète des actifs tout en  
13 minimisant les coûts pour les générations actuelles et futures. C'est dans ce  
14 contexte qu'il adapte le niveau de maintenance requis pour assurer une  
15 meilleure fiabilité de son parc afin d'éviter le recours à davantage de  
16 remplacements dans le contexte actuel de son réseau.

#### 17 **14. Référence :**

18 Piece HQTd-3, Document 1, *Caractéristiques des MRI du Distributeur et du*  
19 *Transporteur*, pp. 7 and 30

#### 20 **Préambule :**

21 "Les MRI sont majoritairement appliqués chez des distributeurs. Dans leur recherche  
22 d'entreprises comparables, ERA a répertorié seulement trois juridictions où des MRI ont été  
23 conçus spécifiquement pour les transporteurs d'électricité, soit le Royaume-Uni, l'Australie  
24 et la Norvège. Il n'a identifié aucun transporteur soumis à un MRI au Canada." (p. 7)

25 "Etant donné le faible nombre de transporteurs d'électricité assujettis à un MRI à travers le  
26 monde et leur absence au Canada et en Amérique du Nord, force est de constater que le  
27 Transporteur joue un rôle de précurseur en matière de MRI pour le secteur du transport  
28 d'électricité sur ce continent. Dans ce contexte, il est de mise pour le Transporteur, la Régie  
29 et les intervenants de procéder de façon ordonnée et prudente dans l'élaboration de ce  
30 premier MRI, ce que la proposition équilibrée du Transporteur permet d'accomplir." (p. 30)

#### 31 **Demandes :**

32 14.1 Please confirm that the ERA paper involved an assortment of case studies and not a  
33 survey of power transmission MRIs.

#### 34 **R14.1**

35 **Le Distributeur et le Transporteur rappellent que le mandat confié par la Régie**  
36 **à Elenchus Research Associates (« ERA ») dans sa décision D-2015-016**  
37 **prévoyait une revue complète des MRI utilisés pour le transport et la**  
38 **distribution de l'électricité, en portant une attention particulière aux MRI**  
39 **utilisés par des entreprises comparables au Transporteur et au Distributeur.**  
40 **Or, en audiences, les représentants d'ERA ont précisé la façon dont ils ont**  
41 **choisi les cas présentés dans leur rapport. Les extraits présentés à la pièce**  
42 **HQTd-3, Document 1, à la page 7, lignes 15 à 25, sont éloquentes. De la longue**

1 **liste d'entreprises de distribution et de transport d'électricité soumises à des**  
2 **MRI, ERA a retenu les trois seuls transporteurs d'électricité dans son rapport.**

3 14.2 Please list the countries with advanced economies OUTSIDE of North America that,  
4 to the best of your knowledge, do and do not use MRIs to regulate large transmission  
5 utilities. Is it fair to say that MRIs are more the rule than the exception for such  
6 utilities in these countries?

7 **R14.2**

8 **Concentric invites AQCIE-CIFQ to produce this research if it believes that it**  
9 **will inform the determination of an appropriate MRI for HQT. See also**  
10 **responses to Question 12.5 and OC Question 2.3 in HQT-4, Document 6.**

11 **15. Référence :**

12 Piece HQT-3, Document 1, *Caractéristiques des MRI du Distributeur et du*  
13 *Transporteur*, p. 10

14 **Préambule :**

15 "Les coûts liés aux achats d'électricité, au service de transport et aux achats de  
16 combustible, représentent à eux seuls environ 77 % des revenus requis du Distributeur. Ces  
17 coûts ne sont pas sous le contrôle direct du Distributeur."

18 **Demandes :**

19 15.1 Please confirm that HQD can use rate and service offerings, as well as conservation  
20 and demand management programs to control its power purchase expenses and the  
21 use of the transmission system. Additionally, please confirm that HQD has some  
22 control over the cost of power supplies that are supplemental to the heritage block.

23 **R15.1**

24 **Voir les réponses aux questions 1.4 de la Régie à la pièce HQT-4, Document 1**  
25 **et 1.2 de l'AHQ-ARQ à la pièce HQT-4, Document 2.**

26 15.2 Please also confirm that HQD's pass-through mechanism for power purchase  
27 expenses and its deferral account for transmission costs weaken its incentives to  
28 control these costs.

29 **R15.2**

30 **Voir la réponse à la question 7.2.**

31 **16. Référence :**

32 Piece HQT-3, Document 1, *Caractéristiques des MRI du Distributeur et du*  
33 *Transporteur*, p. 14



1 **Préambule :**

2 "La formule proposée englobe davantage d'éléments que la formule paramétrique actuelle.  
3 En effet, en plus de l'ajout des taxes et des frais corporatifs, elle couvre également les coûts  
4 liés aux investissements par le biais de l'amortissement des actifs mis en service."

5 **Demandes :**

6 16.1 Why does it make sense to address HQD's amortization and taxes using indexing but  
7 to exclude the return on rate base?

8 **R16.1**

9 **Voir la réponse à la question 8.1**

10 16.2 Was this unusual exclusion first proposed by Coyne and Yardley, or by Hydro-  
11 Québec's attorneys and/or management?

12 **R16.2**

13 **Voir la réponse à la question 8.4.**

14 **17. Référence :**

15 Piece HQTD-3, Document 1, *Caractéristiques des MRI du Distributeur et du*  
16 *Transporteur*, p. 15

17 **Préambule :**

18 "Considérant que le meilleur inducteur de coûts est le nombre d'abonnements pour le  
19 Distributeur, le facteur de croissance des activités proposé doit être établi en fonction de  
20 l'évolution du nombre d'abonnements."

21 **Demandes :**

22 17.1 Please discuss further the importance of the number of customers served as a driver  
23 of a power distributor's cost, and its suitability for use in a revenue cap index. Aren't  
24 other scale-related variables, such as peak demand, also pertinent?

25 **R17.1**

26 **Voir la réponse à la question 6.1.**

27 17.2 Why has HQD proposed a *revenue* cap index for HQD rather than a *price* cap index?

28 **R17.2**

29 **Voir la réponse à la question 7.1 de la Régie à la pièce HQTD-4, Document 1.**

30 17.3 Is it, additionally, reasonable to add revenue decoupling to HQD's regulatory system?

31 **R17.3**

32 **Voir la réponse à la question 7.2 de la Régie à la pièce HQTD-4, Document 1.**

1 **18. Référence :**

2 Pièce HQTD-3, Document 1, *Caractéristiques des MRI du Distributeur et du*  
3 *Transporteur*, p. 20 and 25

4 **Préambule :**

5 "Le réseau de transport du Transporteur est l'un des plus vaste et complexe en Amérique  
6 du Nord." (p. 20)

7 "La structure de coûts du Transporteur est fortement axée sur les investissements." (p. 20)

8 "Ces caractéristiques tiennent notamment compte du contexte d'un réseau vieillissant et  
9 fortement sollicité dans lequel évolue le Transporteur, ainsi que de la mise en place du  
10 MGA, tous deux affectant le niveau des coûts aux charges et aux investissements. Un tel  
11 contexte requiert une connaissance intrinsèque du réseau et de son état, de même que des  
12 impératifs de gestion qui en découlent, pour prévoir, sur un horizon de trois ans, les besoins  
13 anticipés. De plus, la prépondérance des coûts liés aux investissements dans la structure de  
14 coûts du Transporteur et leurs variations dans le temps, ainsi que la nécessité de maintenir  
15 l'évolution du risque de défaillance partielle des équipements sous contrôle, sont autant  
16 d'éléments qui militent en faveur de l'établissement des revenus requis selon une évaluation  
17 des besoins budgétaires envisagés sur la période du MRI résultant de l'application du MGA.  
18 Le MRI retenu doit donc permettre l'exercice d'un jugement informé pour l'établissement de  
19 projections intégrant ces besoins. Dans ce contexte, le Transporteur estime ne pas pouvoir  
20 recourir à une formule prédéfinie pour l'établissement de ses revenus requis." (p. 25)

21 **Demandes :**

22 18.1 Please explain how a building block approach can be made consistent with the  
23 requirements of Article 48.1 that the MRI foster 1) continuous improvement in  
24 performance, 2) reduced costs for customers, and 3) a streamlined regulatory  
25 process.

26 **R18.1**

27 ~~Voir la réponse à la question 11.1.~~

28 ~~À la section 4.1.2 de la pièce HQTD-3, Document 1, le Transporteur a présenté~~  
29 ~~comment les objectifs visés par l'article 48.1 de la LRE sont rencontrés par sa~~  
30 ~~proposition.~~

31 18.2 Please confirm that costs of the base rate inputs of power distributors, local  
32 telephone exchange carriers, and oil pipelines are also quite capital intensive, but  
33 that these utilities have often operated under index-based multiyear rate plans.

34 **R18.2**

35 ~~Voir la réponse à la question 11.2.~~

36 18.3 Please explain why capital intensiveness itself makes a utility less suitable for an  
37 index-based escalator.

1 **R18.3**

2 **Capital intensiveness, alone, does not make a utility less suitable for an**  
3 **indexed-based approach. It is the combination of capital intensity, capital**  
4 **variability and management’s decision-making process pertaining to capital**  
5 **investments that are relevant. In HQT’s circumstances, CAPEX does not**  
6 **strongly correlate with inflation (that would create the “I-X” cap under an Index**  
7 **approach) and is primarily driven by operational requirements.**

8 18.4 Please provide evidence to support the notion that the amortization, return on rate  
9 base, and total capital cost of HQT have been unusually volatile in the recent past or  
10 will be so during the term of a first generation plan.

11 **R18.4**

12 **Voir la réponse à la question 10.4.**

13 18.5 Please confirm that the enormous size of HQT's current rate base reduces the  
14 impact of capital expenditure volatility on the capital *cost* volatility that matters for the  
15 design of a revenue cap escalator.

16 **R18.5**

17 **Voir la réponse à la question 10.3.**

18 **19. Référence :**

19 Piece HQT-3, Document 1, *Caractéristiques des MRI du Distributeur et du*  
20 *Transporteur*, p. 27

21 **Préambule :**

22 « Le témoignage d'un représentant d'ERA, lors de 2 l'audience du 27 mai 2015 dans le  
23 cadre du présent dossier, corrobore la recommandation 3 de CEA et la proposition du  
24 Transporteur :

25 « Could we see a multi-year cost of service as being a transitional phase towards a  
26 more sophisticated PBR?

27 Yes, I think that that is a development path that you see in other jurisdictions as well,  
28 sometimes going, even if it's a gradual extension of the term so perhaps, starting  
29 with a three year cost of service and then lengthening the term and also starting to  
30 delink the rate changes from cost changes so therefore try to build in this concept of  
31 having an automatic change which is based on inflation and productivity rather than  
32 just cost plus. »

33 **Demande :**

34 19.1 Please substantiate the notion that it common for the initial generation of multiyear  
35 rate plans to have three-year terms. Is it not indeed more accurate to say that this  
36 approach is, in fact, less common than longer plan terms?

37 **R19.1**

38 **Voir la réponse à la question 2.3.**

1 **20. Référence :** None

2 **Préambule :**

3 An important decision for the Régie in this proceeding is whether index-based attrition relief  
4 mechanisms merit further consideration for Hydro-Québec and, if so, what kind of  
5 productivity research should be commissioned in a possible Phase 2 of this proceeding.  
6 Relatedly, does a “building block” approach to ARM design merit further consideration, and if  
7 so, should the Régie commission statistical benchmarking studies like the commissions in  
8 Australia, Britain, and Ontario? A study could consider only the productivity trends of other  
9 (e.g., US) utilities or also consider the productivity trends and/or recent cost efficiency level  
10 of Hydro-Québec. Studies of Hydro-Québec's performance depend in part on the data  
11 available from Hydro-Québec.

12 **Demandes :**

13 20.1 Do documents exist that provide detailed, annual, standardized financial and  
14 operating data for Hydro-Québec's transmission and distribution divisions? The  
15 principle financial data that are needed for productivity research are for operation and  
16 maintenance expenditures, plant additions, and the net value of plant. The requisite  
17 operating data include the number of customer accounts, the kWh delivered, the kW  
18 of peak demand, and the kWh generated. If the relevant documents exist, for how  
19 long have such documents been prepared?

20 **R20.1**

21 **Le détail demandé excède le périmètre de la phase 1 du présent dossier fixé**  
22 **par la Régie dans la décision D-2015-103. Au paragraphe 11 de cette décision,**  
23 **la Régie précise qu'elle réserve sa décision sur la nécessité de réaliser une**  
24 **étude de productivité multifactorielle à la suite des conclusions de la phase 1.**

25 20.2 The 2001-2002 period saw a change in the organization of the company. Are  
26 consistent, itemized operating data available for earlier years? If not, please explain  
27 the main consistency problems. Please discuss any other salient data problems that  
28 complicate construction of consistent time series on key cost and output variables.

29 **R20.2**

30 **Voir la réponse à la question 20.1.**

31 20.3 The attached Data Table is contained in an Excel spreadsheet which lists specific  
32 data items that might be used in productivity and benchmarking studies for HQD and  
33 HQT. For each item please modify the spreadsheet to indicate the years for which it  
34 is possible to produce a consistent series of data and provide any comments you  
35 may have regarding this potential future data request.

36 **R20.3**

37 **Voir la réponse à la question 20.1.**

38 20.4 It might be important to the analysis to request a limited amount of data for years  
39 prior to 2003. The information requested would likely be limited to additions to  
40 transmission and distribution plant, gross plant in service, and accumulated

1 depreciation on plant. Should the relevant documents and databases be available,  
2 how long might it take (weeks, months) for the company to be able to provide such  
3 information? Would it be possible to produce the source documents such that a  
4 consultant could undertake the relevant calculations to produce the data series?

5 **R20.4**

6 **Voir la réponse à la question 20.1.**

7 **21. Références :**

- 8 (i) Piece Hydro-Québec Distribution rapport annuel 2013 (Historique des ventes,  
9 des produits des ventes, des abonnements et de la consommation, HQD-10,  
10 Doc. 2, pg. 6)
- 11 (ii) Piece Hydro-Québec Distribution rapport annuel 2014 (Historique des ventes,  
12 des produits des ventes, des abonnements et de la consommation, HQD-10,  
13 Doc. 2, pg. 6)
- 14 (iii) Piece R-3933-2015 (Réponses d'Hydro-Québec Distribution à la demande de  
15 renseignements No 1 de la Régie, HQD-16, Doc. 1, pg. 10)

16 **Préambule :**

17 A key issue in this proceeding is whether rate or revenue cap indexes merit sufficient  
18 consideration in MRIs for HQD and HQT to warrant the commissioning of a Phase 2  
19 productivity study.

20 The following general formula for revenue cap indexes might apply to these divisions:

21 
$$\text{growth Revenue Requirement} = \text{Inflation} - X + \text{growth Scale} + Y + Z. \quad [1]$$

22 The third term on the right-hand side of this formula is the growth in an index of operating  
23 scale.<sup>14</sup> It could be calculated as a weighted average of the growth of multiple scale  
24 variables.

25 Using data on inflation and the revenue requirements and operating scales of HQD and  
26 HQT, one can get a notion of the range of X factors that could make a revenue cap index  
27 compensatory for each division. For example, we can calculate the value of X in the  
28 equation

29 
$$X = (\text{Inflation} + \text{growth Scale}) - \text{growth Revenue Requirement}. \quad [2]$$

30 An exercise of this kind can be conducted using Hydro-Quebec's historical and/or forecasted  
31 data. It is also interesting to know how closely revenue cap indexes track revenue  
32 requirements from year to year. Calculations of both kinds are valuable to consumers in  
33 assessing the desirability and feasibility of indexing.

34 Peak native load, the number of customers served, and the km of line are important drivers  
35 of distribution cost. Peak transmission system demand and the km of line are important  
36 drivers of transmission cost. To develop revenue cap indexes that encourage efficient use  
37 of the T&D systems, however, it may be desirable to not base the scale indexes on  
38 measures of peak demand. Other scale variables are correlated with peak demand. For

---

<sup>14</sup> The index doesn't have to be multidimensional. For example, the Régie de l'énergie has directed Gaz Métro to develop an MRI featuring a revenue per customer index.

1 HQD these include the number of customer accounts. For HQT these include generation  
2 capacity and the number of retail customers.  
3 PEG Research LLC has gathered data from Hydro-Québec documents on several key scale  
4 variables. The data are presented in tables that identify their sources. We seek some  
5 clarification about the data we have assembled and ask for the latest forecasts of scale  
6 variables that are available.  
7 The number of native-load customer accounts is one item in which we are interested.  
8 However, we have only been able to locate company forecasts through 2016. These data  
9 are shown in Table 1.

10 **Demandes :**

11 21.1 Please provide the company's latest forecasts of total native-load customer accounts  
12 for the years 2016-2022, or for as many years as are available.

13 **R21.1**

14 **Voir la réponse à la question 20.1.**

15 21.2 Please also provide updates to the historical data, if available.

16 **R21.2**

17 **Voir la réponse à la question 20.1.**

18 21.3 Please comment on the difference between the number of accounts data in the two  
19 series shown under "total customers" in the table.

20 **R21.3**

21 **Voir la réponse à la question 20.1.**

22 **22. Références :**

- 23 (i) Piece R-3933-2015 (**Efficienc e et performance**, HQD-2, Doc. 1, pg. 21)
- 24 (ii) Piece Hydro-Québec Annual Report 2014 (pg. 2)
- 25 (iii) Piece Hydro-Québec Annual Report 2013 (pg. 2)
- 26 (iv) Piece Hydro-Québec Annual Report 2010 (pg. 3)
- 27 (v) Piece Hydro-Québec Annual Report 2008 (pg. 3)
- 28 (vi) Piece Hydro-Québec Rapport Annuel 2004 (pg. 110)

29 **Préambule :**

30 We have only been able to locate forecast data for km of distribution lines through 2016.  
31 These data are shown in Table 1.

32 **Demandes :**

33 22.1 Please provide the company's latest forecasts of distribution line km for 2016-2022, or  
34 for as many years as are available. Please decompose these data into overhead and  
35 underground distances if available.

1 **R22.1**2 **Voir la réponse à la question 20.1.**

3 22.2 Please also provide updates, if available, to the 2000-2015 data.

4 **R22.2**5 **Voir la réponse à la question 20.1.**6 22.3 Are these data stated in structure km? If not, please provide analogous structure km  
7 data if available.8 **R22.3**9 **Voir la réponse à la question 20.1.**10 **23. Références :**

- 11 (i) Piece R-3934-2015 (*Planification du réseau de transport*, HQT-9, Doc. 1, pg.  
12 11)
- 13 (ii) Piece R-3934-2015 (*Charges nettes d'exploitation*, HQT-6, Doc. 2, pg. 29)
- 14 (iii) Piece R-3777-2011 (*Charges nettes d'exploitation*, HQT-6, Doc. 2, pg. 32)
- 15 (iv) Piece *Hydro-Québec Rapport Annuel 2004* (pg. 110)
- 16 (v) Piece R-3934-2015 (*Indicateurs de performance et objectifs corporatifs*,  
17 HQT-3, Doc. 2, pg. 27)
- 18 (vi) Piece R-3777-2011 (*Indicateurs de performance et objectifs corporatifs*,  
19 HQT-3, Doc. 2, pg. 35)

20 **Préambule :**

21 Two different data series appear to reflect the number of circuit kilometers of transmission  
22 line. The first is drawn from a series of documents, and excludes transmission lines  
23 operated by Hydro-Québec Distribution. The second series is drawn from the documents  
24 titled "*Indicateurs de performance et objectifs corporatifs*." The first series includes forecasts  
25 through 2016, while the second series only includes historical data through 2014.

26 **Demandes :**

27 23.1 Please explain why the numbers in these two data series are different. Also, please  
28 indicate whether they are both measures of circuit kilometers (as opposed to  
29 structure km).

30 **R23.1**

31 **Les pièces citées dans les références (i) (ii) (iii) (iv) présentent le nombre de**  
32 **kilomètres de ligne du Transporteur, tandis que les références (v) et (vi)**  
33 **présentent le nombre de kilomètres de circuit. La différence entre le nombre de**  
34 **kilomètres de ligne et le nombre de kilomètres de circuit s'explique par**  
35 **l'utilisation de portion de lignes biternes sur le réseau de transport**  
36 **d'Hydro-Québec.**

1 23.2 Please provide the company's latest forecasts of transmission circuit kilometers  
2 through 2022, or for as many years as are available. Please also indicate to which of  
3 the two data series these forecasts are comparable.

4 **R23.2**

5 **Le détail demandé excède le périmètre de la phase 1 du présent dossier fixé**  
6 **par la Régie dans la décision D-2015-103. Le Transporteur présente les**  
7 **prévisions de ses kilomètres de lignes dans le cadre de ses demandes**  
8 **tarifaires annuelles, incluant sa prévision pour l'année témoin.**

9 23.3 Please also provide historical and forecasted data for transmission km kilometers  
10 from 2001-2022, or for as many years as are available. This measure should reflect  
11 the total length of all spans of transmission line, rather than the total length of all  
12 circuits within the line.

13 **R23.3**

14 **Voir la réponse à la question 23.2. Les données historiques sont disponibles à**  
15 **la pièce HQT-6, Document 2 des demandes tarifaires annuelles.**

16 **24. Références :**

- 17 (i) Piece R-3934-2015 (Indicateurs de performance et objectifs corporatifs, HQT-3,  
18 Doc. 2, pg. 27)
- 19 (ii) Piece R-3934-2015 (Indicateurs de performance et objectifs corporatifs, HQT-3,  
20 Doc. 2, pg. 10)
- 21 (iii) Piece R-3777-2011 (Indicateurs de performance et objectifs corporatifs, HQT-3,  
22 Doc. 2, pg. 35)

23 **Préambule :**

24 We have only been able to locate forecast data for transmission network capacity through  
25 2016. These data are shown in Table 2.

26 **Demandes :**

27 24.1 Please provide the company's latest forecasts of transmission network capacity for  
28 2016-2022, or for as many years as are available.

29 **R24.1**

30 **Le détail demandé excède le périmètre de la phase 1 du présent dossier fixé**  
31 **par la Régie dans la décision D-2015-103.**

32 24.2 Please also provide updates to the 2001-2015 data, if available.

33 **R24.2**

34 **Voir la réponse à la question 24.1.**

35 **25. Références :**



- 1 (i) Piece R-3934-2015 (**Charges nettes d'exploitation**, HQT-6, Doc. 2, pg. 29)  
2 (ii) Piece R-3777-2011 (**Charges nettes d'exploitation**, HQT-6, Doc. 2, pg. 32)  
3 (iii) Piece R-3934-2015 (**Planification du réseau de transport**, HQT-9, Doc. 1,  
4 pg. 32)

5 **Préambule :**

6 Two non-overlapping data series appear to reflect the transmission capacity needed to  
7 serve both native load and point-to-point load. The first (historical) series is displayed under  
8 the heading "besoins totaux" in the document titled "**Charges nettes d'exploitation**." The  
9 second (forecast) series is displayed under the heading "besoins de transport" in the  
10 documents titled "**Planification du réseau de transport**." These data are also reported in  
11 Table 2.

12 **Demandes :**

13 25.1 Please explain how "besoins totaux" and "besoins de transport" are defined.

14 **R25.1**

15 **Le détail demandé excède le périmètre de la phase 1 du présent dossier fixé**  
16 **par la Régie dans la décision D-2015-103. Toutefois, par courtoisie, le**  
17 **Transporteur mentionne que dans les tableaux cités aux références (i) et (iii),**  
18 **les expressions « besoins totaux » et « besoins de transport » sont**  
19 **équivalentes et expriment les besoins pour l'alimentation de la charge locale et**  
20 **ceux du service de transport de point à point à long terme pour une année**  
21 **donnée.**

22 **À la référence (i), ce sont des besoins réels pour l'alimentation de la charge**  
23 **locale ainsi que des besoins reflétant les réservations réelles pour le service**  
24 **de transport de point à point à long terme. De plus, des besoins sous des**  
25 **conditions climatiques normales pour l'alimentation de la charge locale sont**  
26 **présentés dans les rapports annuels du Transporteur à la pièce HQT-2,**  
27 **Document 5, sous la colonne « Charge locale » et « Normalisé ». À noter par**  
28 **ailleurs que les données dans la colonne « Point à point », à la même pièce, ne**  
29 **sont pas équivalentes aux besoins pour le service de transport de point à**  
30 **point à long terme à la référence (i).**

31 **À la référence (iii), il s'agit des besoins projetés pour les services de transport**  
32 **présentés au premier paragraphe de cette réponse.**

33 25.2 Are they equivalent, such that the historical "besoins totaux" data may be combined  
34 with the forecasted "besoins de transport" data to form continuous series?

35 **R25.2**

36 **Voir la réponse à la question 25.1.**

37 25.3 If the historical and forecast series are not equivalent, please provide the necessary  
38 data to form continuous series from 2001-2022, if available.

39 **R25.3**

40 **Voir la réponse à la question 25.1.**

1 25.4 Please provide updates to the forecast data for both native and point-to-point loads,  
2 if available.

3 **R25.4**

4 **Le détail demandé excède le périmètre de la phase 1 du présent dossier fixé**  
5 **par la Régie dans la décision D-2015-103. Toutefois, par courtoisie, le**  
6 **Transporteur mentionne qu'en ce qui a trait aux besoins de transport à long**  
7 **terme, ce sont les prévisions les plus récentes qu'il a présentées à la Régie.**

8 **26. Référence :**

9 **Piece *Hydro-Québec TransÉnergie's information and discussion meeting on the***  
10 ***transmission system planning process: Main transmission system: Montréal,***  
11 ***October 10, 2014* (pg. 30)**

12 **Préambule :**

13 We are interested in data on historical and future generation capacity served by HQT. We  
14 have cobbled together itemized data on generation capacity from diverse documents. In a  
15 2014 presentation, HQT shows what appear to be forecasts of "connection requests" for  
16 2013, 2018 and 2023. No data are present for the intervening years. These data are  
17 provided in Table 3.

18 **Demandes :**

19 26.1 Please explain what is meant by a "connection request." Please also confirm that the  
20 connection request values are forecasts.

21 **R26.1**

22 **Le détail demandé excède le périmètre de la phase 1 du présent dossier fixé**  
23 **par la Régie dans la décision D-2015-103. De plus, le Transporteur considère**  
24 **que ce détail n'est pas pertinent à la détermination des caractéristiques du MRI**  
25 **du Transporteur.**

26 **Toutefois, par courtoisie, sans admission et pour des fins de compréhension**  
27 **de l'intervenant seulement, le Transporteur offre les renseignements suivants.**  
28 **Le Transporteur comprend que l'intervenant réfère à un document déposé**  
29 **dans le cadre d'une rencontre sur le processus d'information et d'échanges**  
30 **sur planification du réseau de transport. Le terme « connection request »**  
31 **représente une demande de raccordement de centrales au réseau de transport**  
32 **en vertu des *Tarifs et conditions des services de transport d'Hydro-Québec.***  
33 **Les valeurs pour les années futures, présentées au tableau 3 auquel**  
34 **l'intervenant fait référence, reflètent autant des puissances installées actuelles**  
35 **que celles qui étaient planifiées lors de la préparation de ce document. La**  
36 **variation des valeurs dans les colonnes du tableau 3 découle de**  
37 **l'augmentation des puissances installées alors planifiées.**

38 26.2 How do these data differ from the historical data provided in the other columns of  
39 Table 3?

1 **R26.2**

2 **Voir la réponse à la question 26.1.**

3 26.3 Please provide updated data on the historical and expected future generation  
4 capacity served by HQT over the 2000-2023 period, itemized by generation  
5 resource, where such data are available.

6 **R26.3**

7 **Le détail demandé excède le périmètre de la phase 1 du présent dossier fixé**  
8 **par la Régie dans la décision D-2015-103.**

9 **27. Références :**

- 10 (i) Piece R-3897-2014, HQT-3, Document 1 Temoignage de Messrs. Coyne et  
11 Yardley. *Caracteristiques des MRI du Distributeur et du Transporteur*  
12 *d'electricite.*
- 13 (ii) Piece R-3897-2014 Temoignage de Mark Newton Lowry, *Incentive Regulation*  
14 *for the Transmission and Distribution Services of Hydro-Québec.*

15 **Préambule :**

16 Data on the historical and forecasted cost trends of HQD and HQT are pertinent for  
17 assessing alternative approaches to the design of rate or revenue cap escalators for these  
18 divisions.

19 Hydro-Québec witnesses Coyne and Yardley present data on the capital cost trends of HQD  
20 and HQT in their testimony. The sample periods for these data are dissimilar. They only  
21 present capital cost data on capital expenditures, plant additions, and amortization. These  
22 variables tend to be more volatile than the capital cost and total cost to which a rate or  
23 revenue cap index would actually apply. In particular, capex and plant additions can be  
24 quite volatile and nonetheless have a modest impact on the cost of capital because these  
25 costs are amortized and the amortized costs are small relative to the cost of older plant.

26 It would be useful for consumers and the commission to have historical and forecasted data  
27 on the pro forma capital cost and total cost of service of HQ. The capital cost would have a  
28 formula such as

29 
$$\text{Capital Cost} = \text{Target Rate of Return} \times \text{Rate Base} + \text{Depreciation \& Amortization} +$$
  
30 Taxes.

31 Lacking such information, Dr. Lowry provided data in Tables 1b and 1c of his testimony on  
32 the base rate revenues requis of Hydro-Québec's T&D services. Data in the tables are  
33 itemized with respect to the base de tarification and amortissement et declassement.

34 **Demandes :**

35 27.1 Please report the depreciation and amortization, capex, and PP&E data for each  
36 company for the full period of historical and future years for which data and forecasts  
37 are available.

38 **R27.1**

39 **Réponse du Distributeur**

1 Voir la pièce révisée HQT-2, Document 1 aux pages 9 et 10. Pour ce qui est  
2 des dépenses d'amortissement et des données relatives aux investissements  
3 et aux mises en service, voir respectivement les pièces HQD-5, document 1 et  
4 HQD-9, document 5 des dossiers tarifaires du Distributeur.

5 **Réponse du Transporteur**

6 ~~Voir la pièce révisée HQT-2, Document 1 aux pages 18 à 21. Pour ce qui est~~  
7 ~~des dépenses d'amortissement, des immobilisations corporelles en~~  
8 ~~exploitation et des données relatives aux investissements et aux mises en~~  
9 ~~service, voir respectivement les pièces HQT-5, Document 1, HQT-7,~~  
10 ~~Document 1 et HQT-9, Document 1 (HQT-10, Document 1 pour l'année 2006)~~  
11 ~~des demandes tarifaires du Transporteur.~~

12 27.2 Please report, additionally, the value of rate base and the target rate of return for  
13 these companies for the same years.

14 **R27.2**

15 **Réponse du Distributeur**

16 Voir les pièces HQD-5, document 1 des dossiers tarifaires du Distributeur.

17 **Réponse du Transporteur**

18 Voir les pièces HQT-5, Document 1 des demandes tarifaires du Transporteur.

19 27.3 Please report, if available, the company's estimated full pro forma cost of service for  
20 all years for which this is available.

21 **R27.3**

22 Voir la réponse à la question 27.2.

23 27.4 Please comment on the suitability of Dr. Lowry's revenue requi data as proxies for the  
24 trends in each division's pro forma cost of service. Can you suggest possible  
25 improvements to his methodology?

26 **R27.4**

27 It appears that Dr. Lowry has utilized historic and projected total revenue  
28 requirements for HQD and HQT and calculated annual growth rates in these  
29 aggregate costs along with period averages. These seem to be calculations  
30 regarding the trend in aggregate costs, rather than a proposed methodology  
31 for determination of an MRI, so it is unclear what methodology is being  
32 suggested for comment.

33 27.5 Please present better revenue requi data for historical and forecasted years if  
34 available for the two divisions.

35 **R27.5**

36 Voir la réponse à la question 27.2.