

DEMANDE DE RENSEIGNEMENTS N° 1 D'OPTION CONSOMMATEURS (OC) À

AQCIE-CIFQ /PACIFIC ECONOMICS GROUP (PEG)

**DEMANDE DU TRANSPORTEUR DE MODIFICATION DES TARIFS ET CONDITIONS DES SERVICES
DE TRANSPORT POUR L'ANNÉE 2022-**

R-4167-2021

PEG TRANSMISSION INDUSTRY TFP STUDY

1. Reference : i) C-AQCIE-CIFQ 0009 PEG Report

Preamble: PEG has been retained by AQCIE-CIFQ to prepare a Partial and Total Factor Productivity Study for the North American Transmission Industry and Total Cost Benchmark Report.

- a) Please provide a listing, with references, of recent similar PEG studies.
- b) Please include client, regulatory agency and date for each.
- c) Specifically note and reference studies reviewed by Canadian energy regulators.
- d) Please provide the Scope of the Canadian studies, Conclusions and Recommendations.
- e) Please provide reference(s) to the regulator's decision(s).

- 2. References:**
- i) C-AQCIE-CIFQ-0005, correspondence from PEG dated August 23, 2021
 - ii) C-AQCIE-CIFQ-0050, PEG's Comments on Brattle Study, November 8, 2021, Pages 47/48

Preamble : In Reference ii) PEG has summarized the results of the February 2021, Brattle and PEG Partial (CNE and Capital) and Multi/Total Factor productivity studies for the North American transmission industry:

	Multifactor Productivity			CNE		Capital	
	Brattle (OHS)	Brattle (GD)	PEG (GD)	Brattle	PEG	Brattle (OHS)	PEG (GD)
Full sample period	-1.04%	-1.82%	-0.62%	-3.38%	-0.68%	-0.05%	-0.46%
Last 15 years	-1.69%	-2.26%	-3.09%	-1.74%	-0.97%	-2.16%	

- a) Confirm that OC has extracted the correct/appropriate data from the Brattle and PEG reports.
- b) Are the Brattle and PEG US transmission company samples similar? Note the primary differences between the two samples.
- c) For the Multi-Factor and Capital Factor Productivity Analysis, has PEG used One Hoss Shay (OHS) or Geometric Decay (GD) for Capital in the prior Canadian studies provided in the response to OC Interrogatory No1 above. Using the list of prior studies, please indicate which used OHS and GD.
- d) Does PEG prefer OHS or GD methodology?
- e) Please discuss the significant reasons for the materially different results for the Multifactor Productivity of the North American transmission industry between Brattle and PEG.
- f) Does PEG agree that the differences between Brattle and PEG make it difficult for intervenors and the Régie to determine an appropriate X-factor for HQT? Please discuss, for example, the AQCIE-CIFQ recommendation to keep the existing X-Factor of 0.57%. [C-ACQIE-CIFQ -0048, page 21 : « (...) l'AQCIE et le CIFQ recommandent à la Régie de maintenir le taux de productivité actuel de 0,57 % comme Facteur X. »]

Multifactor Productivity-North American Transmission Industry

	Brattle (OHS) (GD)	PEG (GD)	ClearSpring EA (GD)
Full sample period	-1.04% -1.82%	-0.62%	
Last 15 years	-1.69% -2.26%	-3.09%	-1.66% (2000-2019)
2010-2019 (last 10 years)	-1.19%		

- a) Please confirm OC has correctly extracted the TFP results from the 3 studies. Correct if necessary.
- b) Confirm that PEG has been retained by OEB Board Staff to review the ClearSpring EA TFP and Cost Benchmarking study and prepare an independent study.
- c) Please comment on the ClearSpring EA TFP results, taking into account any material differences on sample and period.
- d) Discuss the implications for setting the appropriate X factor for HQT.

PEG AND BRATTLE TOTAL COST BENCHMARKING STUDIES

5. References :
- i) B-0012(*HQT-5, Document 2*), Pages VII-65/66, Table 15, and Figure1
 - ii) C-AQCIE-CIFQ-0009PEG Report page 3
 - iii) C-AQCIE-CIFQ-0050, PEG’s commentary on Brattle’s Empirical Study, Page 40, Figure 3

Preamble: Pacific Economics Group and Brattle have prepared Econometric Benchmarking Models to compare/score HQT to the North American transmission industry. OC wishes to compare/understand the assumptions and methodology of the two studies. Indeed, the results of the two models are very different:

	Brattle		PEG	
	HQT Total Costs	US Sample	HQT Total Costs	US Sample
2001-2019	-1.7%,	-2.3% avg		
2005-2019	-2.8%	-1-9% avg		
2010-2019	-6.0%	-1.0% avg	2017-19	+67%
Stretch Factor	0.10- 0.30%		0.60%.	

- a) Has PEG estimated the projected relative Total Cost scores for the period 2020-2025?
- b) Brattle results in B-0012 indicate HQT is a good performer in Total Cost relative to the US Industry but PEG concludes in C-AQCIE-CIFQ-0009 that HQT is a relatively poor performer relative to the US industry. Please discuss how the intervenors and the Régie can decide on an appropriate stretch factor for HQT given the very different results and recommendations?
- c) In reference iii) PEG compares a revised Brattle Total Cost Benchmark to its own results. Please provide the main reasons for the “upgraded” Brattle result, such as OLS estimator, secondary variables, different variables, etc.
- d) Indicate which of these factors affected the “upgraded” results more.
- e) OC suggests that the PEG-adjusted Brattle Total Cost (>90%) score with OLS is not credible. Please discuss.

6. References :
- i) B-0012(HQT-5, Document 2), Pages VII-71/72 ,Table 19 and Figure 3
 - ii) C-AQCIE-CIFQ-0050, PEG’s commentary on Brattle’s Empirical Study, Page 40, Figure 3

Preamble: Brattle and PEG have prepared an Econometric Benchmarking Model for Total Cost, OM&A Costs and Capital Costs to compare/score HQT to the North American transmission industry. OC wishes to compare/understand the assumptions, methodology and results. With regard to Total Cost:

- a) Please confirm/list the major differences in methodology.
- b) Please confirm/list the key differences in model variables
- c) Please list any other material differences.

MRI FORMULA

7. **References :**
- i) B-0012 (*HQT-5, Document 2*), Page VIII-74, Table 20
 - ii) C-AQCIE-CIFQ-0009, PEG Report, p.24

Preamble: "Relation [12] has been the basis for the design of several approved X factors in MRI plans in the United States. Since the PMF growth of the U.S. economy has tended to be brisk, it has resulted in substantially negative X factors in several American MRIs for energy distributors. PMF growth has historically been slower in Canada's economy and macroeconomic price indexes are less frequently the sole inflation measures in revenue cap indexes".

- a) Please list Canadian MRIs that PEG has reviewed, where the I-factor is based either on CPI or the Canadian GDP-PI.
- b) Confirm that in Ontario the OEB sets the I-factor based on the proposed Inflation Factor (I) based on the weighted average of the annual percent change of two labour and non-labour indices, namely:
 - Canada's GDP-IPI (FDD) as reported by Statistics Canada; and
 - Average Weekly Earnings (AWE) for workers in Ontario, as reported by Statistics Canada.

What is PEG's view of this approach (using Québec AWE)?

8. **Reference:**
- i) C-AQCIE-CIFQ-0050, PEG's Commentary on the Brattle report (*HQT-5, Document 2*), Page 46

Preamble: "If the Régie remains intent on true-ups of capital revenue to capital cost, they should apply only to underspends. There is precedent for this in the MRIs of New York utilities. A partial true up of revenue to actuals would strengthen HQT's performance incentives."

- a) Please provide more details on PEG's proposal(s) for true-up of capital revenue to capital cost should the Régie include Capital in the MRI Formula.
- b) How many US and Canadian jurisdictions is PEG aware of that include Capital in the MRI Formula. Please list with case references.

9. **Reference :** i) C-AQCIE-CIFQ-0052, OEB EB-2021-0110 *Hydro One Networks Integrated Rate Application [Exhibit A Tab 4 Schedule 1 Pages 1-2]*

Preamble: PEG has prepared a TFP and Econometric Benchmarking Model for OM&A and Capital Costs. OC would like to understand PEG's opinion regarding exclusion of a Capital factor in the IRM Formula.

- a) Please provide PEG's recommended MRI Formula for HQT.
- b) Is PEG aware that in the Custom IRM for Hydro One Transmission for 2023-2027,

the Custom RCI is expressed as follows:

$$RCI = I - X + C$$

Where:

- "I" is the Inflation Factor, based on a custom weighted two-factor input price index;
- "X" is the Productivity Factor, equal to the sum of Hydro One's Custom Industry Total Factor Productivity measure and Hydro One's Custom Productivity Stretch Factor; and
- "C" is Hydro One's Custom Capital Factor, designed to recover incremental revenue each year necessary to support Hydro One's proposed system plans, beyond the amount of revenue recovered through the I - X adjustment, **but reduced by a supplemental stretch factor on capital of 0.15%?**

- c) Please comment on the viability or not, of a similar approach for HQT.
- d) Is PEG aware that in Ontario under "Custom IR", electricity and gas distribution utilities are also eligible to propose an Incremental Capital Module (ICM) to allow for extraordinary CAPEX?
- e) If the Régie decides to include Capital in the MRI, does PEG have an opinion on such, or similar approach for Québec?

10. **References :**
- i) B-0012(*HQT-5, Document 2*) Page VIII-76
 - ii) C-AQCIE-CIFQ-0009, PEG Report
 - iii) C-AQCIE-CIFQ-0052, OEB EB-2021-0110 *Hydro One Networks Integrated Rate Application [Exhibit A Tab 4 Schedule 1 Pages 1-2]*

Le 15 novembre 2021

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Preamble: Additional features of an IRM may include a Stretch Factor or Factors, an Earnings Sharing Mechanism (ESM), Off Ramps, Capital In-Service Variance Account (CISVA) (if Capital is included in the MRI) and provision for a Z-factor (with threshold).

- a) Please confirm PEG's opinion on the appropriate Stretch Factor, the recommended Range and if this should apply to OM&A, or if the Régie decided to include Capital, to both OM&A and capital?

- b) Should some, or all, of the additional features noted in the Preamble be included in the IRM for HQT?
Please provide a detailed response.