

**Demande de renseignements numéro 1
du Transporteur d'électricité
à l'AQCIE-CIFQ (PEG)**

Questions de Concentric Energy Advisors

1. Préambule :

- i) C-AQCIE-CIFQ-018
Mémoire p. 16

“Concentric correctly notes that the X factors chosen by the AER for power transmitters have varied appreciably between the transmitters and over time. The X factors are frequently negative. However, this evidence has limited relevance to the choice of an X factor for CNE revenue. One reason is that these X factors are very sensitive to expected trends in capital cost. Consider also that, as we explained in Section 3.1, the general formula for a revenue cap index is $\text{growth revenue} = \text{inflation} - \text{growth productivity} + \text{growth scale}$.

*The terms of this formula can be rearranged as follows
 $\text{growth revenue} = \text{inflation} - (\text{growth productivity} - \text{growth scale})$.*

Since the AER revenue cap indexes do not have scale escalators, the X factors must be set low enough to fund the cost impact of scale growth.”

- 1.1. Please provide a reference from the AER demonstrating that “X factors must be set low enough to fund the cost impact of scale growth.”
- 1.2. Please confirm that scale growth is included in the utility cost forecasts that are included in the AER’s allowed X factors.

2. Préambule :

- i) C-AQCIE-CIFQ-018
Mémoire p. 19

“ PSE also calculates transmission productivity trends of a sample of 48 U.S. electric utilities over the twelve-year 2005-2016 sample period. Key findings of PSE’s productivity research are as follows.

- Over the full sample period, the multifactor productivity trend of the sampled utilities averaged a 1.71% decline. Capital productivity averaged a 1.93% annual decline while CNE productivity averaged a more modest 0.83% annual decline. Hydro One’s PMF averaged a much smaller -0.31% decline during this period. Hydro One’s CNE productivity averaged 1.07% annual growth while its capital productivity averaged a 0.58% annual decline.*

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• Over the more recent 2010-2016 period, the PMF growth of sampled US transmitters averaged a 2.40% annual decline. Capital productivity averaged a 3.17% annual decline while CNE productivity growth was flat. The PMF growth of Hydro One averaged a more modest -0.47% decline. The capital productivity of Hydro One averaged a 1.17% decline while CNE productivity averaged 2.90% growth. These results run counter to Concentric's narrative that the CNE productivity of transmitters has declined in recent years.

• PSE recommended and HOSSN (sic) proposed an X factor of 0.”

2.1. Please provide the working papers or other source material and appropriate references utilized for the cited breakdown between capital and CNE related productivity.

2.2. Please verify that the start year was 2004 and not 2005 for the PSE study.

3. Préambule :

i) C-AQCIE-CIFQ-018
Mémoire p. 19

“The transmission productivity study was supervised by Steven Fenrick. While Mr. Fenrick was an employee of PEG for several years and shares our views on some methodological issues, he has not to our knowledge previously prepared a power transmission productivity study.”

3.1. Please provide any transmission productivity study conducted by Dr. Lowry, Mr. Makos or Mr. Legge.

3.2. Did Mr. Fenrick assist with any of these or other transmission studies while at PEG?

4. Préambule :

- i) C-AQCIE-CIFQ-018
Mémoire p. 20

“The 2005-2016 sample period for the research is rather short for a CNE productivity trend study. Data are now available through 2017. The 2005 start date is ostensibly due to the fact that this is the first year data are available for a transmission peak demand variable which we are not sure is essential to the study. PSE’s productivity results are fairly sensitive to the choice in sample period.”

- 4.1. On what basis does PEG conclude that peak demand is not essential to the study?

5. Préambule :

- i) C-AQCIE-CIFQ-018
Mémoire p. 20

“Growth in each scale index is a weighted average of growth in ratcheted peak demand and the length of transmission lines. The weights (26% for demand and 74% for lines) were obtained from econometric cost elasticity estimates from a total cost function, not a CNE function.”

- 5.1. Is there any possible weightings that would move the CNE productivity trend for 2004-2016 to zero or above zero?
- 5.2. Absent econometric cost elasticity estimates from a CNE function, what does PEG believe would be the most appropriate weights to use in this case? What would the CNE productivity results be for the 2004-2016 time period using those weights?

6. Préambule :

- i) C-AQCIE-CIFQ-018
Mémoire p. 20

“Our experience suggests that the costs excluded from transmission O&M expenses must be thought through carefully due to major changes in the structure of the U.S. transmission industry which occurred during the sample period.”

6.1. Please describe the “major changes in the structure of the U.S. transmission industry which occurred during the sample period”

6.2. What costs would PEG suggest excluding from transmission O&M expenses? How does this differ from the definition used by PSE in their study?

7. Préambule :

- i) C-AQCIE-CIFQ-018
Mémoire p. 20

“Due to Ontario data limitations, the CNE weights for labor and material and service expenses were unnecessarily fixed for all sampled utilities at 38% and 62% respectively. US data permit these weights to vary by year. Chain-weighted quantity indexes are generally more accurate measures of input quantity trends.”

7.1. Has PEG tested the hypothesis that chain- weighted quantity indices are more accurate? If so, please provide supporting evidence.

7.2. Does PEG believe making this change would produce a materially different result? If so, please provide an estimate of the change in the result.

8. Préambule :

i) C-AQCIE-CIFQ-018
Mémoire p. 21

- *PSE uses a 1989 benchmark year adjustment to calculate capital cost for US utilities in the sample even though a 1964 benchmark year is feasible for these utilities. This may significantly reduce the accuracy of the capital and multifactor productivity results.*
- *Capital cost is calculated using a methodology that, like geometric decay, features a constant depreciation rate. However, the PSE methodology excludes capital gains, so that the PMF indexes tend to overemphasize the importance of the (more negative) capital productivity trend.*
- *PSE does not exclude companies from its sample which had sizable transfers of assets between the transmission and distribution sectors of the utility. This is a potential problem when monetary methods are used to calculate capital costs.”*

8.1. Please describe how these issues which affect the measurement of capital have any impact on the measurement of O&M (CNE) productivity.

9. Préambule :

i) C-AQCIE-CIFQ-018
Mémoire p. 21

“Concentric is correct to note on p. 32 of its April report that U.S. power transmission utilities are typically regulated by the Federal Energy Regulatory Commission (“FERC”) using formula rate plans.”

9.1. Please indicate where on p. 32 of its report that Concentric indicates that U.S. transmission utilities are “typically regulated” under formula-based rates.

10. Préambule :

i) C-AQCIE-CIFQ-018
Mémoire p. 21

ii) B- HQT- 0067

i) *“These plans effectively involve comprehensive cost trackers that weaken cost containment incentives. Concentric states in response to DDR 5.1 from PEG that in general, a multi-year rate plan contains stronger incentives than an annual adjustment plan (such as the FEC’s formula rate).”*

ii) “

Demande:

5.1 Please that formula rates produce weaker incentives to contain O&M expenses than the MRI which the Regie has chosen for HQT.

Réponse :

1 **Partially confirmed.**

2 **In general, a multi-year rate plan contains stronger incentives than an annual**
3 **adjustment plan (such as the FEC’s formula rate), but the FERC formula rate**
4 **has no earning’s sharing mechanism to reduce its incentive properties and**
5 **there is opportunity in any given year for companies to exceed or miss their**
6 **allowed ROE.**

”

10.1. Please confirm that Concentric indicated, in its full response to this question, that a MTER weakens the incentive properties:

11. Préambule :

- i) C-AQCIE-CIFQ-018
Mémoire p. 21

“PEG presented results in an incentive power model in the Appendix of its first MRI report. We reported that the long-run annual efficiency gains achieved under an MRI with a three-year rate case cycle and no MTÉR was 90 basis points higher than under cost plus regulation. This should be taken into account when appraising trends in the productivity of U.S. transmission utilities. HQT’s MRI does have a MTÉR but this shares only surplus earnings and has a four-year term.”

11.1. Please confirm that the “incentive power model” presented in PEG’s appendix was based exclusively on a hypothetical utility and assumptions by PEG, without any actual data on utility performance. If not confirmed, please reference the actual utility data employed in this analysis.

12. Préambule :

- i) C-AQCIE-CIFQ-018
Mémoire p. 7 and p. 27

“Productivity has tended to grow.”

“The available data from Australia, Canada, and the United States do not on balance indicate a recent general decline in transmission CNE productivity.”

12.1. Other than studies prepared by PEG, is PEG aware of any North American utility productivity study conducted in the past 5 years that has not shown a negative productivity trend since 2000 in the electric utility or electric transmission industry? If so, please cite those studies.

12.2. Please provide the basis for the assertion referenced at page 7.

13. Préambule :

- i) C-AQCIE-CIFQ-018
Mémoire p. 28

“On the basis of available evidence, it is reasonable to assume that HQT’s proposed CNE revenue requirement for 2019 reflects average cost performance.”

13.1. Please provide quantitative analysis and the arguments for this assumption.

14. Préambule :

- i) C-AQCIE-CIFQ-018
Mémoire p. 29
- ii) R-3897-2014, C-AQCIE-CIFQ-0107
Mémoire p. 106

i) *“Considering all of these factors, we believe that a stretch factor of 0.20% is reasonable for HQT if its X factor is based on Australian, Canadian, or and European productivity evidence. A considerably higher stretch factor would be warranted were the base productivity growth factor to be driven solely by U.S. power transmission productivity research.”*

ii) *“PEG stated in its Phase 1 Report in this proceeding, on p. 106: The Phase 2 study should, if HQT's data permits, consider the division's productivity trends as well as the trends for a large sample of investor-owned US power transmission utilities.”*
(emphasis added)

14.1. Why is a higher stretch factor justified if the X factor is based on U.S. evidence?

14.2. Does this imply that PEG believes U.S. transmission utilities are less efficient than their Australian, Canadian or European counterparts? Please provide any statistical basis or industry studies that would support this assumption.

14.3. Please reconcile this recommendation with the above comment on the need to change the stretch factor for the use of U.S. utilities.