EB-2025-0252

IN THE MATTER OF the *Ontario Energy Board Act 1998*,
Schedule B to the *Energy Competition Act, 1998*, S.O. 1998, c. 15

AND IN THE MATTER OF an Application by Alectra Utilities Corporation for an Order or Orders approving just and reasonable distribution rates and other service charges for the distribution of electricity, effective January 1, 2027.

INTERROGATORIES OF ALECTRA UTILITIES CORPORATION

TO OEB STAFF ON THE PEG EXPERT EVIDENCE

References:

- **Statistical Cost Research for the Alectra Utilities CIR Plan "PEG Empirical Report"**
- **Issues in the Design of the New Alectra Utilities CIR Framework "PEG Plan Report"**
- **PEG Working Papers**

AUC-1

Please provide the engagement letter and all related materials including any RFP and proposal response, and all written instructions provided to PEG, related to the preparation of PEG's reports.

AUC-2

Reference: PEG Empirical Report, p. 6

PEG states, "Clearspring forecasts that Alectra Utilities' total cost efficiency is expected to decline by an average of 1.03% each year during the CIR plan term."

Please confirm that this decline essentially disappears when Clearspring uses the Handy-Whitman indexes as the basis for Alectra's asset price inflation. Please see Clearspring's interrogatory response to 1-Staff-20.

AUC-3

Reference: PEG Empirical Report, p. 7

PEG lists two larger concerns it has regarding Clearspring's cost benchmarking study. The first mentions that the dataset begins in 2000, and in conjunction with using a single time trend variable, asserts this may not adequately measure recent trends, challenges, and technical change in the industry. The second is not a specific concern regarding Clearspring's total cost

benchmarking but rather that Clearspring only provided total cost benchmarking and not OM&A and capital cost benchmarking as well.

PEG has previously raised a concern that Mr. Fenrick's benchmarking work did not go back far enough and stated this would reduce the precision of the econometric benchmarking model parameter estimates. In EB-2018-0218, Mr. Fenrick put forth a cost benchmarking model that used data from 2004 to 2016 (a 13-year period). PEG listed their concerns on page 14 of its report in that proceeding. The one listed first stated, "The relatively short sample period unnecessarily reduces the precision of the econometric benchmarking model parameter estimates." In that same report, PEG put forth a total cost model that spanned 22 years (1995-2016) and included a single time trend variable. Clearspring's model in this case spans 24 years and includes a single time trend variable.

a) Does PEG continue to maintain that Clearspring's larger dataset of 24 years should be classified as a "large" concern, especially in light of PEG's previous comments and studies?
b) If yes to part (a), is this a change in PEG's thinking or are there specific differences in this case compared to EB-2018-0218 where PEG said datasets with more years produce more precise parameter estimates?

AUC-4

Reference: PEG Empirical Report, p. 8

PEG states that the eleven years of productivity trends from 2014 to 2024 have fewer data problems.

a) Is PEG aware of any data problems during this 2014 to 2024 period? If so, please list and describe them.

AUC-5

Reference: PEG Empirical Report, p. 9

PEG suggests that new industry productivity factors should be considered in this proceeding.

a) How many months and weeks has PEG been working on this new productivity research?
b) How many person-hours of effort has PEG put into gathering the Ontario dataset, gathering and examining input prices, and conducting the productivity calculations?
c) In doing this above new research did PEG make use of, consider or take into account generic research it was also previously doing in connection with other work for the OEB relating to this topic? If so, in what way was this related research used, considered or taken into account, and when did PEG begin working on this other related generic research?

AUC-6

Reference: PEG Empirical Report, p. 9

PEG states, “We consider it reasonable for a large distributor such as Alectra Utilities to submit an alternative model in the context of CIR and to base it on U.S. rather than Ontario data.”

a) This statement was in context to the benchmarking dataset, however, PEG only provided productivity trend research using an Ontario-only dataset. Does PEG believe U.S. productivity trends are relevant to the productivity factor in the context of Alectra Utilities?

AUC-7

Reference: PEG Empirical Report, p. 10

Equation [2] states that the growth in cost equals the growth in input prices plus the growth in inputs.

a) Should the “I” in the I-X escalation formula track the growth in input prices or, alternatively, have an adjustment made to it?
b) In PEG’s view has the Board’s annual distribution IPI correctly tracked the growth in input prices? Please respond in the context of total costs, OM&A expenses, and capital costs.
c) In PEG’s view, what price indexes, weighting, or other alternatives would improve the inflationary tracking within the escalation formula?
d) Equation [3] on p. 10 states that the growth in inputs can be stated as the growth in costs minus the growth in input prices and then Equation [4] provides the equation for productivity being outputs divided by inputs. In PEG’s view, should the input price inflation assumptions in the productivity research match the inflation used in the I-X escalation formula? If not, please explain.
e) Did PEG use the Board’s historical IPI results as the input price inflation index in its productivity research?
f) If no to part (e), what would the TFP, OM&A PFP, and Capital PFP results be using the Board’s historical IPI inflation rates.
g) If no to part (e), please describe the input price indexes used in the productivity research for OM&A labour, OM&A materials and services, and capital and also provide a table with each of their values for 2004 to 2024.

AUC-8

Reference: PEG Empirical Report, p. 13

PEG states that larger utilities may be less able than smaller utilities to achieve incremental scale economies and that at some level of output the potential for scale economies may be exhausted.

a) Given that Alectra is either the largest or one of the largest distributors in Ontario, is PEG of the view that Alectra's ability to achieve scale economies from growth is lower than the mostly smaller utilities in Ontario, all else being equal?
b) Would the availability of fewer scale economies than the industry tend to reduce the productivity trend expectation for a utility relative to that same industry?
c) PEG further discusses the impact of inefficiency on productivity trends. PEG states, "A company's potential for future productivity growth from this source is greater the lower is its current efficiency." In PEG's view is the inverse of this statement also true? That is, a company's potential for future productivity growth from inefficiency is lower the higher is its current efficiency?

AUC-9

Reference: PEG Empirical Report, p. 18

Equation [16a] describes a maximization formula between essentially a capital revenue indexing approach and a capital revenue forecasting approach.

a) Is PEG of the view that the "Inflation" term in Equation [16a] for capital has been adequately tracked by the Board's IPI?
b) In PEG's view, has the poor inflationary tracking performance of capital assets by the Board's IPI contributed to the need for utilities to seek incremental funding in excess of I-X?
c) In PEG's view, would using the historical Handy-Whitman index inflation rates be a far closer approximation of the likely capital inflation encountered by distributors than the Board's IPI? Please give consideration to the historical costs of the rate base and the capital-related revenue requirement and how asset prices today and tomorrow for replacing assets that are 30 years old are impacted by the inflation rates in every historical year during that entire 30 year time span.

AUC-10

Reference: PEG Empirical Report, p. 21

PEG states, "The stretch factor term should then reflect an expectation of how the productivity growth of the utility that will be operating under IR (the "subject utility") should differ from the productivity trend of the peer group. This depends in part on how the performance incentives

generated by IR --- its incentive “power” --- differ from that generated by the regulatory systems of utilities in the productivity research sample.”

a) Given that Alectra is one of the largest distributors (thus reducing available scale economies relative to the sample) in Ontario and has a good starting cost efficiency level, does PEG have an empirical basis to expect that Alectra will outperform the industry’s productivity trend, which is already under IR, during the Custom IR period? If so, please provide that empirical basis.

AUC-11

Reference: PEG Empirical Report, p. 31

PEG states, “Many Ontario electricity distributors have transitioned to Modified International Financial Reporting Standards (“MIFRS”) that, among other things, reduce capitalization of their OM&A expenses. This materially slowed OM&A and total factor productivity trends of many distributors during the transition. However, this transition was largely complete by 2013, and the problem can be mitigated by focusing on the years since this occurred.”

a) Please confirm that the prior accounting standard that was mostly used in the industry before 2012, GAAP, tended to capitalize more expenses than the current MIFRS?
b) Would the higher capitalization in years before 2012 increase PEG’s monetary measure of the capital stock in PEG’s productivity research for all years of the sample, including years after 2012, above what they would have been if MIFRS had been the standard for all years?
c) Given the now lower capitalization under MIFRS but the elevated capital stock because of GAAP, would that be expected to increase both the TFP trends after 2012 and the capital PFP trends?

AUC-12

Reference: PEG Empirical Report, p. 32

PEG states, “However, due to the approach to the restructuring of retail power markets pursued in Alberta, many billing and collection services are provided by other entities that also sell power to end users.”

a) Please confirm this would tend to lower the total costs and OM&A expenses of the Alberta utilities included in the sample relative to other utilities, like Alectra, that do provide these services, all else being equal.
b) Are there any controls in the PEG benchmarking models to adjust for this?

AUC-13

Reference: PEG Empirical Report, p. 33

PEG says that the Alberta data only has consistent capital data to allow capital cost and quantity indexes to start in 2004. For comparison, PEG's U.S. dataset has capital data that begins in 1964 and Clearspring's capital data begins in 1947.

a) Is one of the considerations for PEG starting its benchmarking dataset in 2009 due to the fact Alberta utilities do not have capital data available prior to 2004?
b) Is PEG concerned that this recent capital benchmark year may insert a higher level of inaccuracy into its dataset relative to utilities with capital benchmark years beginning in 1964?

AUC-14

Reference: PEG Empirical Report, p. 33

PEG says that ATCO Electric serves a rural service territory and is an outlier in benchmarking studies that include its data.

a) ATCO does not appear in PEG's benchmarking data sample list. Is the reason why they were excluded because of this outlier result status?
b) Please provide evidence that ATCO Electric is an outlier.
c) Does ATCO tend to have very strong cost performance (i.e., a good benchmark score) or a very poor cost performance score?
d) Please insert ATCO Electric into PEG's benchmarking models and provide the model, ATCO's benchmark score for the most recent three years of data, and Alectra's benchmark scores after ATCO is inserted in the model. We note that the working papers do not appear to include ATCO data for Clearspring to allow Clearspring to test this statement.

AUC-15

Reference: PEG Empirical Report, p. 36

Under the "Major Disadvantages of U.S. Data" heading the second bullet states, "An econometric cost benchmark tends to be more reliable to the extent that the subject utility faces business conditions near the sample mean. In this regard, it is notable that the average size of companies in the U.S. IOU sample is much closer to that of Alectra Utilities than is the average size in the Ontario sample."

a) Should this bullet actually be in the "Major Advantages" to the U.S. data section?

AUC-16

Reference: PEG Empirical Report, p. 40 and p. 43

PEG states on p. 40 that Clearspring has moved its methodology to align with PEG in regards to the construction cost trends in Ontario. Clearspring preferred using the Handy-Whitman indexes ("HWI") and PEG preferred using a Canadian specific index. To better align the methodologies, both consultants took 50/50 weights in the most recent CIR applications. However, PEG has now shifted to using only Clearspring's preferred index, which is the Handy-Whitman indexes.

PEG states on p. 43, "Recent research by PEG suggests that it is more accurate to just use the HWI."

a) What caused PEG to now shift to only using the HWI despite its prior arguments against using the index?
b) Did PEG also use the HWI in its Ontario productivity trend research?
c) If yes, did that substantially increase the total factor productivity trends and the capital PFP trends relative to PEG's previously preferred asset price index?
d) Please provide the Ontario TFP trend and capital PFP trend results using PEG's previously preferred asset price index for Ontario.
e) Please provide the recent research by PEG that suggests the HWI is more accurate.

AUC-17

Reference: PEG Empirical Report, p. 44

In one of PEG's smaller concerns of Clearspring's research it says that Clearspring's capital cost does not include capital gains.

a) Did PEG's 4GIR benchmarking and productivity research on behalf of OEB Staff include capital gains?
b) Please describe how the capital gains term is calculated.
c) Has PEG put forth previous CIR research or studies that did not include capital gains? If so, please advise which ones.
d) Please detail the argument to include capital gains in capital costs in light of how capital costs are calculated for utility revenue requirements.
e) Is there typically a capital gains component in the revenue requirement of electric utilities?
f) If yes, is it a typically large component of the capital cost portion of an electric distribution utility's revenue requirement?
g) Is one of the impacts from the capital gains term to lower the proportion of capital costs relative to total costs?
h) In examining the PEG working papers, it appears that in PEG's productivity research the share of capital in total costs is well below the share of OM&A expenses. Is this mostly due to the inclusion of this capital gains term?

AUC-18

Reference: PEG Empirical Report, p. 47 Table 1

PEG lists the 53 Ontario distributors included in its productivity trend study.

a) Are the 53 distributors based on how many distributors reported data in 2024?
b) How many distributors were there in Ontario in 2013?
c) In PEG's opinion, are there cost savings typically associated with mergers? If cost savings do result from mergers will those savings have an impact on industry productivity trends?
d) Alectra is listed on Table 1. Is Alectra data included in the productivity trend research?
e) In PEG's 4GIR productivity trend research, the utilities of Hydro One Networks and Toronto Hydro were excluded from the samples. Did PEG continue that approach? If not, why not?

AUC-19

Reference: PEG Empirical Report, p. 51-52

PEG states that both the ratcheted peak demand and a moving average of recent annual peak demands were considered but the ratcheted peak demand approach received more statistical support.

a) Please describe and provide the statistical support for the ratcheted peak demand.
b) Please confirm that the ratcheted peak demand variable used by PEG can never decline for a given utility, even for utilities that have experienced long-term and sustained peak demand reductions.
c) Please provide the productivity trend results for the TFP, OM&A PFP, and Capital PFP when using a 10-year rolling average.
d) PEG calculated the ratcheted peak demand variable based on the highest annual peak demand since 2002. For utilities with declining peak demands, does the use of the ratcheted peak demand increase their productivity trends upwards relative to using a moving average or annual peak demands?
e) It is understood that, due to the energy transition, utilities are expecting higher peak demands in the future and this is creating a need for increased investment and spending. Would not the inverse be true, that if utilities are expecting or experiencing declining peak demands, their costs would be lower?

AUC-20

Reference: PEG Empirical Report, p. 52

PEG states, “We used separate but related input price indexes in our benchmarking and productivity trend research. The productivity trend research used input price trend indexes that are similar to the trend components of the input price indexes we used for benchmarking.”

a) For the Ontario productivity trend research, please provide the exact sources and input price indexes used for each cost component of labour, materials and services, and capital.
b) For the U.S. benchmarking dataset, please provide the exact sources and input price indexes used for each cost component of labour, materials and services, and capital.
c) Please provide a table showing the annual input price index values for each component by year for the productivity trend research.
d) Please provide a table showing the annual input price index by year for the total factor, OM&A, and capital productivity trends.
e) Please provide a table showing the annual input price index values for each component by year used for Alectra in the benchmarking research.
f) Please provide a table showing the annual input price index values for each component by year used for Madison Gas and Electric in the benchmarking research.

AUC-21

Reference: PEG Empirical Report, p. 59

PEG lists the cost exclusions to the cost definition for the U.S. utilities. That list includes “sales”.

a) Why is PEG excluding sales expenses from the U.S. utility cost definition?
b) Has PEG made this exclusion before in cost benchmarking for CIR applications?

AUC-22

Reference: PEG Empirical Report, p. 62

PEG states, “However, recent research by PEG suggests that the GDPPI tends to materially understate the M&S price inflation of U.S. utilities. For the M&S price trends of Alberta utilities we use Statistics Canada’s gross domestic product implicit price index for final domestic demand (“GDPIPIFDD”) in Alberta. We use the GDPIPIFDD in Ontario for Alectra.”

a) Please provide the recent research by PEG that suggests GDPPI tends to understate the M&S price inflation.
b) Did PEG make an adjustment to the GDPPI for U.S. utilities in calculating M&S input price inflation? If yes, please describe.

c) If yes to part (b), did PEG make the same adjustment to the Alberta and Ontario M&S input price. If not, why not?
d) PEG says it used the Ontario GDPIPIFDD for Alectra. Is this the same input price index used for Alectra in the benchmarking and in the Ontario productivity research? If not, please provide a description of the different indexes used for the studies for the M&S input price index.
e) Why did PEG not use the Canadian GDP-IPI FDD that is used in the Board's IPI calculations?

AUC-23

Reference: PEG Empirical Report, p. 64

PEG uses a different rate of return for the U.S. utilities compared to Alectra and the Alberta utilities. PEG took a 50/50 average of the rates of return for debt and equity for the U.S. utilities.

a) Does this create different rates of return on capital for the sample and the studied utility?
b) These differences will impact the proportion of capital costs and OM&A costs, correct?
c) Please explain why a benchmarking study that is attempting to estimate the cost performance of the studied utility (Alectra in this case) should not use the same rate of return as the utility being studied?

AUC-24

Reference: PEG Empirical Report, p. 65

PEG states, "We instead use this variable to create a customer density variable (customers/area). We add a quadratic term to the log linear term to permit the effect of this variable to be non-linear. We expect the sign on the quadratic density term to be positive in all models, and the sign on the linear term indeterminate in all models."

a) Please confirm this is the only business condition variable that also includes a quadratic term.
b) Please explain in more detail why the linear term should not be negative.
c) Would a positive linear coefficient be correctly interpreted to mean that at the mean of the data, increased customer density increases cost?
d) Does PEG agree or disagree that a predominantly rural utility will face higher cost challenges, all else equal, than a utility with average customer density?

AUC-25

Reference: PEG Empirical Report, p. 67

PEG states, “We calculated a DER penetration variable which is the ratio of DER generation capacity to maximum peak load. The source of these data for the United States is the Form EIA 861 survey’s section on Net Metering and Non-Net Metering Distributed Generation. We obtained analogous data from the Alberta transmission system operator for the Alberta distributors.”

a) What historical data source did PEG use for Alectra’s DER penetration value?
b) On what basis did PEG escalate DER into the custom IR years of 2027 to 2031 for Alectra?
c) Please describe why PEG believes that DER penetration will impact distribution costs.

AUC-26

Reference: PEG Empirical Report, p. 70

PEG states, “We use an alternative, fully time-variant urban congestion variable (number of skyscrapers) that has a positive value for Alectra Utilities.”

a) What cities did PEG examine for Alectra?
b) How did PEG escalate the number of skyscrapers for each year through 2031 for Alectra?
c) Is this variable divided by area or some other scale variable or is it just the sum of all 100m and above skyscrapers?
d) If it’s just the sum, please explain how a large utility serving a large area with multiple medium-sized cities summing to 50 skyscrapers would have the same congested urban challenge as a utility serving only one metropolitan area in a much more condensed area.
e) Will the marginal costs of adding one skyscraper for a large-area utility (e.g., Pacific Gas and Electric) be the same as that for a one-city utility (e.g. Consolidated Edison)? In PEG’s view, should the marginal costs of adding one skyscraper in the model at least be somewhat similar?

AUC-27

Reference: PEG Empirical Report, p. 71

PEG states, “The parameter estimates for the number of customers and the ratcheted peak demand are highly significant and positive.”

a) Please provide the custom elasticities on customers and ratcheted peak demand for Alectra in 2024.

AUC-28

Reference: PEG Empirical Report, p. 78 Table 6

PEG provides a comparison table for Alectra variable values to the sample mean.

a) Alectra's O&M input price is 113.6% of PEG's sample mean. Is the Alectra input price essentially denominated in Canadian dollars and the sample mean is predominantly in U.S. dollars? Is most of that difference due to currency differences?
b) Please explain why the Alberta sample has an average O&M price in 2023 at 1.320 versus Alectra's 1.045. Is this implying that O&M inputs for Alberta utilities cost around 25% more than Alectra's?

AUC-29

Reference: PEG Empirical Report, p. 85

PEG states, "Our new research includes these costs, albeit in years in which they cleared smart meter deferral accounts rather than in the years when they were incurred. The first sample year that was free of these clearances was 2014."

a) Please provide a year-by-year detail with costs of when the smart meter deferral accounts were cleared. If this is not possible, please provide the years in which these accounts were cleared.
b) What accounts were these deferral accounts generally cleared into?

AUC-30

Reference: PEG Empirical Report, p. 87 Table 8b

PEG provides a table showing the outputs and input quantities in its Ontario productivity study.

a) The average annual growth rate of the ratcheted peak demand variable from 2014 to 2024 is listed as 0.21%. What is the average annual growth rate of annual peak demand of the industry without it being ratcheted from 2014 to 2024?
b) Please confirm that the 2024 ratcheted peak demand variable was a maximum of 23 prior years' worth of annual peak demands (from 2002 to 2024) for each utility.
c) Please confirm that the 2013 value of ratcheted peak demand was a maximum of 12 prior years' worth of annual peak demands (from 2002 to 2013) for each utility.

AUC-31

Reference: PEG Plan Report, p. 7

PEG states, “PEG agrees with Clearspring that the OEB’s I factors tend to understate OM&A input price inflation.”

a) What is PEG’s estimate for how much the OEB’s distribution IPI is or will understate OM&A input price inflation? What would be the appropriate IPD (or other adjustment) to better align the inflationary relief in the escalation formula with input price inflation?
b) Would PEG further agree that the OEB’s I factors have tended to understate capital input price inflation?
c) If yes to part (b), can PEG provide an estimate of the magnitude of the differential between the Board’s IPI and asset price inflation? For reference, the electric distribution North Atlantic HWIs have grown approximately 6.5% per year over the last 20 years versus the Board’s IPI which is around 2.7%.
d) If yes to part (b), in PEG’s view is the large understatement in capital inflation, at least in part, one likely reason distributors need to use custom IR and propose using the capital forecasting approach rather than capital indexing?

AUC-32

Reference: PEG Working Papers

PEG produced a new service territory area variable and a new percent forested variable.

a) Please provide the new GIS service territory maps for each utility in PEG’s benchmarking sample.
b) Please provide the overlayed forestation maps for each utility in PEG’s benchmarking sample.
c) What was the source used for the new service territory maps?
d) Please provide either the map or a link used to the land cover map used for the forestation variable.
e) What are the six land cover categories that were designated as forest?