

INTERROGATORY RESPONSES TO OEB STAFF – Clearspring Reply Report

INTERROGATORY 1-STAFF-1

References: Clearspring Reply Report “Responses to PEG’s New Analyses and Studies,” pp. 2-4

Preamble:

Clearspring criticizes the 2013 start date of PEG’s featured productivity trend calculations.

QUESTIONS:

Please confirm the following. If not confirmed, please provide an explanation as to why the statement is not confirmed.

- a) For purposes of productivity trend measurement, AMI account clearances to plant additions are much less of a concern than additions to OM&A expenses since a capital cost surge is not followed by a capital cost plunge.
- b) The 1.04% decline in OM&A productivity in 2013 that PEG reports was not especially large, ranking 11th in absolute value over PEG’s full sample period.
- c) Based on Clearspring's persistence on raising the issue of deferred smart meter O&M in 2013, PEG decided to conduct an independent analysis. We found that 38 distributors or more than half had cleared account 1556 to zero, negative or trivial values by the end of 2012. We also found that 21 distributors had fully cleared account 1556 during 2013. 12 of those distributors had previously cleared amounts from account 1556 between 2007 and 2012. In many of these cases, the amounts cleared earlier exceeded those cleared in 2013. Furthermore, six distributors cleared account 1556 during 2014 and 8 after 2014.

1 As stated in our original response to information requests, account 1556 will include
2 depreciation expenses which can be substantial and are not included in either the PEG or
3 Clearspring studies. This complicates any attempt to determine the materiality of the
4 impact on OM&A expenses and therefore productivity. Doesn't the fact that a minority of
5 distributors cleared accounts in 2013, many of these had already drawn down these
6 accounts, and 14 cleared accounts after 2013 materially weaken the argument for
7 excluding 2013 data from the TFP trend calculation?
8

9 **CLEARSPRING RESPONSE:**
10

- 11 a) Confirmed. AMI account clearances to plant additions are still a concern and will artificially
12 raise TFP trends when cleared in 2013 instead of when the costs were actually incurred but
13 by a lower amount than the OM&A clearances will raise the productivity trends, given the
14 same dollar levels.
15
- 16 b) This is not relevant to Clearspring's criticisms of the 2013 start date. Just because there also
17 were large clearances hitting in 2012 does not reduce the impacts of clearances occurring in
18 2013. Our contention is that PEG should have begun the TFP period in 2014 because the
19 2013 to 2014 period is characterized by excessive productivity growth likely due to AMI
20 clearances hitting in 2013 but far less in 2014 and afterwards. This creates an artificial decline
21 in OM&A in 2014 because 2013 was artificially elevated. PEG includes this 2013 to 2014
22 growth rate, which has a 1.80% OM&A PFP. This is the highest growth rate during the period
23 except the Covid-impacted 2020 year.
24

25 Furthermore, the OM&A PFP from 2012 to 2013 being -1.04% is extraordinarily low given
26 that it comes after two extremely negative PFPs in 2011 and 2012. The OM&A PFP growth
27 rate in 2011 was -4.79% and in 2012 it was -7.52%. This is likely due to OM&A being inflated
28 due to both the AMI clearances and the accounting transition. So, despite the increased
29 OM&A levels from 2011 and 2012 being well above inflation and output growth, the 2013

1 OM&A expenses not only stayed at this inflated level but increased beyond them by over 1%
2 (even after adjusting for inflation and output growth). If 2013 was a normal year, Clearspring
3 would have expected a large positive value after the AMI clearances in 2011 and 2012, as
4 OM&A would have dropped to more normal levels. The fact that this did not occur indicates
5 that 2013 did not revert to a normal year but that OM&A stayed artificially elevated at the
6 2012 level and actually increased beyond that elevated level.

7
8 c) Clearspring disagrees. PEG arbitrarily began the sample using a start year with the highest
9 TFP and OM&A PFP growth rate of all years except the Covid-influenced year of 2020. The
10 reason for the high growth rate in the first year is the AMI clearances hitting in 2013. This
11 decision to start the productivity sample in 2013 substantially increased PEG's TFP and
12 OM&A PFP trends artificially. PEG's analysis cited in the question describes 21 distributors
13 completely clearing out the 1556 account in 2013 and then only 6 doing so in 2014. This is a
14 large drop in distributors (around 40% of the industry sample compared to 12%) and is likely
15 causing the continued drop in productivity in 2013 (which PEG does not include in its
16 productivity analysis) and the increase in productivity in 2014 (which PEG does include). A
17 much better approach is to begin the sample in 2014, like Clearspring recommends, to avoid
18 this issue and the skewing of results it causes. While PEG found that six distributors also
19 cleared out the account in 2014, this is a far lower number than 21. We believe PEG's above
20 analysis described in the question supports the need to begin the productivity sample in
21 2014 (with the first growth rate being 2015).

INTERROGATORY RESPONSES TO OEB STAFF – Clearspring Reply Report

INTERROGATORY 1-Staff-2

References: Clearspring Reply Report “Responses to PEG’s New Analyses and Studies,” pp. 6-8

Preamble:

Clearspring claims that PEG’s 11-year sample period is arbitrary and that PEG recommended use of a ten-year sample period as the basis for the THESL productivity factor in a 2023 proceeding.

QUESTIONS:

- a) Please confirm that PEG featured a fifteen-year sample period in its THESL evidence and has rarely if ever featured a sample period less than 15 years for such evidence if quality data for a longer period were available. 15 years is also the norm in the productivity trend research of Christensen Associates. If not confirmed, please provide an explanation as to why the statement is not confirmed.
- b) Since PEG typically uses a 15-year sample period and data problems prohibit a 15-year period in this study, how would a ten-year sample period be less “arbitrary” than the 11-year period that PEG proposes?

CLEARSPRING RESPONSE:

- a) Clearspring can confirm that PEG discussed both the 15-year results and the 10-year results in its THESL evidence. However, PEG chose to recommend a base productivity factor for THESL that aligns with the 10-year results. On page 9 of PEG’s Report dated May 6, 2024 *Statistical Cost Research for THESL’s New CIR Plan* in EB-2023-0195, PEG states, “Over the ten-year period ending in 2022, total factor productivity averaged a 0.13% annual decline

1 while OM&A productivity averaged 0.38% annual growth. During these same years, the
2 cost-weighted average of TFP growth was 0.10% while that for OM&A productivity was
3 0.75%.”
4

5 PEG’s base productivity factor recommendation aligns with and appears to have been
6 based on its 10-year results in the THESL case. We also note that in the THESL research PEG
7 failed to use the average approach, like it does now, nor did it use a multi-output quantity
8 index, as it does now. The average results from PEG’s research in the THESL case showed a
9 negative trend of -0.13%, and using a multi-output quantity index makes these trend
10 results even more negative.
11

12 b) As discussed in the Clearspring Reply Report and supported by PEG’s evidence and
13 Clearspring’s response in 1-Staff-1, which showed that over 20 distributors had AMI
14 clearances in 2013, the 11-year sample period also has data problems. The TFP and PFP
15 results themselves show clear evidence of data problems in that 11th year used by PEG. If
16 PEG has no objection to including data problems in its sample period and prefers a 15-year
17 period, then it should use the 15-year period and feature the -0.37% TFP trend. It appears
18 arbitrary to Clearspring, to discard the 15-year period on the basis of data problems but
19 still choose a period with continued data problems, especially when the data problems are
20 substantially reduced if PEG simply moves forward its start year by one year. The better
21 approach is to move forward one year and use the 10-year trend which considerably
22 reduces data concerns. As discussed in part (a), PEG featured a 10-year TFP trend in the last
23 THESL CIR application in EB-2023-0195 and used that as the basis for its productivity factor
24 recommendation.
25

INTERROGATORY RESPONSES TO OEB STAFF – Clearspring Reply Report

INTERROGATORY 1-STAFF-3

References: Clearspring Reply Report “Responses to PEG’s New Analyses and Studies,” p. 4

Preamble:

Clearspring disputes PEG’s inclusion of Elexicon in its productivity trend sample.

QUESTIONS:

- a) Please confirm that productivity studies that are used to set productivity factors in IR plans commonly include the subject utility. If not confirmed, please provide persuasive evidence to the contrary.

CLEARSPRING RESPONSE:

- a) We can confirm that this does occur for various reasons but is not the best approach for a single utility CIR application, especially when it is simple to exclude the studied utility. One of the aims of incentive regulation is to de-link prices and revenues from a utility’s costs. Like the rationale for excluding the studied utility from the benchmarking dataset (which both PEG and Clearspring correctly do), excluding the studied utility from the productivity factor calibration strengthens the separation of a utility’s allowed revenues with its costs. Nevertheless, in this case due to using the averaging approach and large sample size, this is a minor issue with a minimal impact on the TFP trends.

INTERROGATORY RESPONSES TO OEB STAFF – Clearspring Reply Report

INTERROGATORY 1-STAFF-4

References: Clearspring Reply Report “Responses to PEG’s New Analyses and Studies,” pp. 6-8

Preamble:

Clearspring advances several reasons for not using ratcheted peak demand as a measure of output growth in the Ontario productivity trend research.

QUESTIONS:

- a) The table below compares econometric results when a rolling average of peak demand is used in PEG’s three cost models instead of ratcheted peak demand. It can be seen that, while the first order term for the rolling average peak has a little higher parameter estimate and higher t stat than the ratcheted peak term, it has a materially lower parameter estimates (in absolute value) for the second order and interaction terms. Moreover, the adjusted R-squared is higher in the model with ratcheted peak demand while the root mean squared error is lower. Do these models, which are based on US data and thus also have implications for US productivity trends, support Clearspring’s contention that a “correction” must be made to PEG’s US and Ontario productivity calculations to remove ratcheted peak demand as a scale variable?

Variable Details		Peak Variables in Full Sample Models (including Elexicon)	
		Ratcheted	10-year rolling average
Linear peak parameter (YP)	Total Cost	0.398	0.421
	<i>t-statistic</i>	15.645	21.688
	OM&A Cost	0.238	0.313
	<i>t-statistic</i>	5.304	8.764
	Capital Cost	0.500	0.486
	<i>t-statistic</i>	28.241	44.818
Quadratic peak parameter (YP*YP)	Total Cost	1.488	0.928
	<i>t-statistic</i>	11.397	11.273
	OM&A Cost	1.716	0.846
	<i>t-statistic</i>	5.900	4.790
	Capital Cost	1.230	0.976
	<i>t-statistic</i>	18.704	20.057
Interaction peak parameter (YN*YP)	Total Cost	-1.417	-0.859
	<i>t-statistic</i>	-10.600	-10.308
	OM&A Cost	-1.643	-0.760
	<i>t-statistic</i>	-5.485	-4.243
	Capital Cost	-1.171	-0.931
	<i>t-statistic</i>	-19.256	-18.877
Adjusted R ²	Total Cost	0.971	0.970
	OM&A Cost	0.907	0.905
	Capital Cost	0.974	0.973
RMSE	Total Cost	0.165	0.168
	OM&A Cost	0.293	0.297
	Capital Cost	0.162	0.164

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- b) Please confirm that distributors will rationally base their capacity decisions on the expectation of peak demand growth in the next several years. If confirmed, wouldn't a rolling average of past peak demand poorly model the effect of peak demand on the productivity of Elexicon and many other Ontario distributors today? If not confirmed, please explain what distributors base their capacity decisions on.
- c) If rolling average peak demand is the best variable for studying the impact of peak demand on power distributor cost, why did Clearspring instead use a forecast of peak demand (i.e.

1 expected actual demand) and not a rolling average in constructing its proposed G factor
2 mechanism?

3
4 d) Please confirm that, Clearspring was effectively using a forecast of Elexicon's ratcheted
5 peak demand growth in its G factor calculations. If not confirmed, please explain how
6 Clearspring's forecast differed from the forecasted growth in ratcheted peak demand.

7
8 e) Please confirm that CDM budgets are principally directed to the volume savings that drive
9 energy costs and not to the peak load savings that are only one of several drivers of
10 distribution cost. If not confirmed, please provide an explanation as to why the statement
11 is not confirmed.

12
13 **CLEARSPRING RESPONSE:**

14
15 a) To be clear, Clearspring's primary contention is that ratcheted peak demands (as
16 constructed by PEG) are inappropriate in productivity trend studies due to the changing
17 definition of the output variable in the start year relative to the end year of the study. A
18 study of trends (that is, changes from one period to the next) must have a consistent
19 definition from the start year to the end year to be a valid study of a trend. PEG uses the
20 maximum of the last 12 years of annual peak demands in the start year of its productivity
21 trend study and then uses the maximum of the last 23 years of annual peak demands in the
22 end year. This creates an upward bias in PEG's productivity trend study. Using a rolling
23 average approach or a ratcheted peak demand approach that looks back a consistent
24 number of years, such as ten, like we showed in the Clearspring Reply Report, are all valid
25 approaches without bias.

26
27 An analogous example of why PEG's approach has upward bias may be helpful. Assume, we
28 have an Olympic high jumper, that has the same jumping ability for an entire year, and we
29 are trying to find her maximum jump. There are 23 competitions in a year. In our first

1 sample, we only take the first 12 competitions and find the maximum jump. In the second
2 sample, we take all 23 competitions (the first 12 plus 11 more) and find the maximum
3 jump. Clearly that second sample could have a higher number than the first only due to our
4 sample definition and nothing to do with the jumper's ability (since we assumed that was
5 constant across all competitions). The second sample may be equal to the first or higher
6 than the first but never lower. If we did this same study for 50 Olympic high jumpers, the
7 second sample mean of the maximum jumps would certainly show a higher result than the
8 first sample. We would erroneously conclude from the results that Olympic jumpers
9 increased their maximum jumping ability in the second part of the season even though
10 they did not. The reality is our study design was flawed and created a clear bias towards
11 the second part of the season. This is what PEG has done with its ratcheted peak demand
12 definition giving the start year a lookback of only 12 years and the end year a lookback of
13 those same 12 years plus the next 11 years.

14
15 Continuing the example above, how would the researcher design the study to actually see
16 if jumping ability has improved in the second part of the season? A valid, unbiased study
17 would be if they took the maximum of the first 10 competitions and then took the
18 maximum of the last 10 competitions for each jumper. This has the same measurement
19 definition for each period. This approach is analogous to one of the alternatives that
20 Clearspring put forward in the Reply Report on fixing PEG's biased productivity study.
21 When the start year and end year of the productivity study are placed on an equal footing
22 such as this, the productivity results turn negative.

23
24 The above is why PEG's ratcheted peak demand variable invalidates its productivity trend
25 study. We find PEG's statistical analysis inconclusive regarding the rolling average approach
26 or the ratcheted peak approach for an econometric cost benchmarking study. We would
27 tend to put more weight on the first order results which supports Clearspring's rolling
28 average approach. The first order terms signify the estimated cost impacts at the mean of
29 the data, the quadratic and interaction terms have zero impact at the mean of the data.

1 Further, the fact that PEG's quadratic and interaction terms are higher reveals that the cost
2 impacts of peak demand in PEG's model will vary far more for observations at the extreme
3 of the data. Clearspring's quadratic and interaction terms being smaller reveal the
4 estimated cost impacts are more stable and consistent with the impacts found at the mean
5 of the data.

6
7 The shifting definitions of peak demand in every year used by PEG will have far more
8 detrimental impacts on the productivity trend study and be less harmful on the
9 econometric cost benchmarking study. Yet even PEG's benchmarking study is negatively
10 impacted since the outputs in more recent years have an unfair advantage over outputs in
11 earlier years. This later-year advantage will tend to lower the trend variable, which harms
12 benchmark scores in more recent and CIR years.

13
14 b) Confirmed. The rolling average approach assumes that there is a constant capacity "adder"
15 across all utilities to the rolling average that aligns with capacity planning peak demands.
16 This is not a perfect assumption as the "adder" may not be constant but is a better one
17 than PEG's assumption that peak loads from two decades ago or more may influence
18 current and future capacity plans.

19
20 c) The rolling average approach is conducted to smooth out the variable because of the large
21 variations in annual peak demands caused by abnormal weather. Elexcion's forecasts are
22 already weather normalized and naturally smoothed because of the weather normalization
23 and are a closer approximation to what is used for capacity planning activities, rather than
24 past observations.

25
26 d) Not confirmed. Clearspring is using a forecast of Elexicon's annual peak demands that are
27 based on average weather assumptions. The expectation is one of an "average" outcome
28 and thus aligns closer to Clearspring's rolling average definition. PEG's ratcheted peak
29 demand approach takes the maximum value over a changing number of years. For a

1 growing utility like Elexicon, PEG using Elexicon's average forecasts is likely lowering PEG's
2 peak demand values from what is expected to result because there is an expectation of
3 weather variance from year to year. PEG's ratcheted peak demand variable, thus, would
4 take the extreme year and apply that to all future years. Clearspring's would take an
5 average. So PEG's assertion that Elexicon's forecasts represent a ratcheted peak value is
6 only true if one assumes average weather for each future year, which is unlikely to be the
7 case. It is likely that 2 or 3 years will be above average and 2 or 3 years will be below
8 average. Since PEG's peak demand variable would set the peaks based on the extreme
9 weather year because it takes the maximum value, using the forecasted weather
10 normalized values during the CIR period is actually an underestimation of the likely
11 ratcheted peak demand variable value during the CIR years. Clearspring's rolling average
12 definition has no such issue and aligns with using the forecasted values based on average
13 weather conditions.

- 14
15 e) Clearspring is unable to respond as we are unaware of the composition of CDM budgets in
16 terms of energy savings versus peak load savings.
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INTERROGATORY RESPONSES TO OEB STAFF – Clearspring Reply Report

INTERROGATORY 1-STAFF-5

References: Clearspring Reply Report “Responses to PEG’s New Analyses and Studies,” p. 4

Preamble:

Clearspring disputes PEG’s inclusion of Elexicon in its productivity trend sample.

QUESTIONS:

- a) Please confirm that productivity studies that are intended to set productivity factors in IR plans commonly include the subject utility. If confirmed, is a “correction” to PEG’s calculations again in order? If not confirmed, please provide persuasive evidence to the contrary.

CLEARSPRING RESPONSE:

- a) Please see the response to 1-Staff-3.

INTERROGATORY RESPONSES TO OEB STAFF – Clearspring Reply Report

INTERROGATORY 1-STAFF-6

References: Clearspring Reply Report “Responses to PEG’s New Analyses and Studies,” p. 7-10

Preamble:

Clearspring ventures arguments against the use of OM&A cost research in these pages, stating the following.

- “Just like with disaggregated cost benchmarking, as OM&A and capital are separated this creates an unknown error from items such as capitalization differences between utilities and substitution issues where capital and OM&A investment strategies differ between utilities and through time. TFP trends mitigate these unknown errors because both capital and OM&A are combined in the analysis.” (p. 7)
- “PEG suggests using weights derived from its OM&A cost model (to calculate the OM&A G factor) in the scenario of the panel rejecting Elexicon’s proposal.” (p. 9)
- “Both an OM&A cost model and PFP trends will cause results to have high standard deviations and variances. These issues are mitigated when using a total cost model approach and TFP trends.” (p. 9)
- “The first order peak demand variable in Clearspring’s total cost model has a higher t-statistic than PEG’s and is more precise.” PEG’s lower and less precise cost elasticity estimates on peak demand reduce the weight given to peak demand growth in the G Factor calculation.” (p. 9)

QUESTIONS:

- a) Please confirm the following statements. If not confirmed, please provide an explanation as to why the statement is not confirmed.

- 1 i. OM&A productivity growth is sensitive to capital/OM&A substitution strategies but
2 in the design of a revenue cap index that applies specifically to OM&A revenue this
3 is highly relevant.
4
- 5 ii. Differences in capitalization propensities between utilities should not be a major
6 concern in calculating OM&A productivity trends. Changes in capitalization policies
7 could matter in calculating these trends but a sample period is available that is
8 largely free of these changes.
9
- 10 iii. PEG argued in favor of a G factor based on OM&A cost elasticities if the IPD was
11 included in the approved index formula.
12
- 13 iv. Clearspring developed its own OM&A cost model and reports that the estimated
14 elasticity of cost with respect to peak demand is considerably lower than in its total
15 cost model while the elasticity with respect to customers is much higher. Aren't
16 these results sensible considering that a sizable share of OM&A cost (e.g.,
17 metering, meter reading, billing and collection expenses) is driven by the number
18 of customers? Isn't Clearspring therefore essentially saying that total cost
19 elasticities should be used to calculate a G factor designed to escalate OM&A
20 revenue because they can be computed more accurately even though they are less
21 relevant?
22

23 **CLEARSPRING RESPONSE:**
24

- 25 a)
26 i. Confirmed. Relative to a total revenue cap, an OM&A only revenue cap will be
27 more impacted by capital/OM&A substitution strategies than one covering the
28 full revenue envelope.
29

- 1 ii. Not confirmed due to the second sentence. While the accounting standards
2 have not changed since 2012, the asset strategies at different utilities likely
3 have. Each utility is regularly making asset decisions and setting strategies on
4 whether to invest in capital to avoid O&M, or vice versa. These strategies very
5 likely have changed at several utilities during the sample period. A TFP trend
6 helps mitigate those changes since it incorporates both capital and OM&A,
7 whereas an OM&A PFP trend is more susceptible to being impacted by these
8 changing strategies.
- 9
- 10 iii. While we are not disputing PEG is arguing for this, we also cannot confirm
11 what PEG has argued for absent a clear citation in one of PEG's reports.
- 12
- 13 iv. No, PEG's characterization of what Clearspring is saying is not accurate.
14 Clearspring is saying that the total cost model produces more accurate and
15 stable results than disaggregated models, such as an OM&A only model. Our
16 recommendation is to use one G Factor, based on the total cost model
17 parameter estimates, to escalate total revenue, including both capital and
18 OM&A. We are proponents of using the totality of costs and TFP trends in the
19 escalation formulas rather than creating complexity and disaggregation, while
20 also increasing inaccuracy.
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INTERROGATORY RESPONSES TO OEB STAFF – Clearspring Reply Report

INTERROGATORY 1-STAFF-7

References: Clearspring Reply Report “Responses to PEG’s New Analyses and Studies,” pp. 10-14

Preamble:

Clearspring ventures various criticisms of PEG’s K-bar calculations on these pages. These include the following.

- “The K-Bar approach is not an option under the OEB’s Renewed Regulatory Framework” (p. 10)
- “A K-Bar approach (using properly constructed calculations to align with economic theory) would in our view only be a potential option for utilities that are in a “steady state” situation.” (p. 10)
- “PEG tries to acknowledge this reality by excluding high growth cost items from the calculations to make the results close to the Company’s forecasts. This defeats the purpose of pursuing a historical indexing approach in the first place.”
- “A generic proceeding where all stakeholders and experts can put forth proposals and counterproposals and fully analyze the models of others is the proper place for this discussion.” (p. 11)
- “The inflation assumptions used in PEG’s preliminary analysis are also of consequence. For example, on Table 6a PEG assumes 2025 asset price inflation is equal to 2.41% based on a weighting of the AWE and GDP-IPI. PEG includes a 2-year lag so the 2025 inflation assumption shows up in 2027. However, the 2025 Handy-Whitman indexes have now been released and they show the growth rate in 2025 was 4.99%, over twice the value of PEG’s assumption. PEG’s underestimating of asset price inflation is likely to continue through the 2031 period given the persistently high asset price inflation over the last 25 years.” (pp. 11-12)

- 1 • “The growth escalation assumption clearly underestimates Elexicon’s forecasted capital
- 2 expenditures by a large amount.” (p. 11)
- 3 • Accelerating growth will necessitate large increases in capital expenditures far beyond the
- 4 actual output quantity growth rate. (p. 12)
- 5

6 **QUESTIONS:**

- 7
- 8 a) Doesn’t the use of cost forecasts to accelerate capital revenue defeat the purpose of
- 9 pursuing a historical indexing approach? If yes, why isn’t replacing forecasts with an
- 10 alternative approach that strengthens performance incentives, lowers regulatory cost, and
- 11 reduces information asymmetries that favor utilities, more in the spirit of historical
- 12 indexing than what Elexicon is proposing? Aren’t some kinds of capex excludable from K-
- 13 bar treatment in Alberta and Massachusetts?
- 14
- 15 b) Please confirm that PEG did use a Handy Whitman power distribution construction cost
- 16 index in its K-bar calculations but was unable to forecast its growth in the illustrative
- 17 application. If not confirmed, please provide an explanation as to why the statement is not
- 18 confirmed. Wouldn’t complete reliance on HWIs in the K-bar calculations increase their
- 19 usefulness in Ontario ratemaking?
- 20
- 21 c) Wouldn’t an econometric model of capital expenditures be useful in ascertaining the
- 22 appropriate scale driver(s) for a K-bar formula?
- 23
- 24 d) Isn’t a large proportion of capital expenditures unrelated to system growth but related to
- 25 the general scale of operations?
- 26
- 27 e) Please confirm that PEG has not proposed to apply a K-bar treatment to most rapidly
- 28 growing capex projects (e.g., those projects where the funding provided by K-bar was less

1 than 30% of Elexicon's forecast). If not confirmed, please provide an explanation as to why
2 the statement is not confirmed.

- 3
- 4 f) Please confirm that the OEB's RRFE decision did not mandate any specific approaches to
5 Custom IR plans and that revenue cap indexes with G factors and input price differentials
6 are innovations not mentioned in the decision. If not confirmed, please provide an
7 explanation as to why the statement is not confirmed.

8

9 **CLEARSPRING RESPONSE:**

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- 11 a) A utility using the forecast approach for capex is indicating that an indexing approach will
12 not provide sufficient funding for its capital needs. While a properly calibrated indexing
13 plan could be a viable option for a utility in a steady state situation, that approach does not
14 work well for capex when challenges are growing. To Clearspring's knowledge, there is no
15 obvious method for excluding "non-status quo" capital spending and only indexing "status
16 quo" spending. PEG's straw man K-Bar approach was not properly calibrated for Elexicon
17 for reasons explained in the Clearspring Reply Report. Further, using Elexicon's forecasts to
18 determine which categories to exclude from the K-Bar, and arbitrarily determining a line of
19 "status quo" versus "non-status quo" based on those forecasts, is certainly not what
20 Clearspring would consider an indexing approach.

- 21
- 22 b) Confirmed that PEG used the historical HWIs through 2024. However, PEG then used AWE
23 and GDP-IPI inflation rates to forecast asset prices for years after 2024. AWE and GDP-IPI
24 inflation rates are, historically, far lower than asset price inflation as measured by the
25 HWIs. Over the last two decades, the HWI inflation rates have been over double those of
26 the AWE and GDP-IPIs. For example, PEG's K-Bar asset price inflation for 2025, using the
27 AWE and GDP-IPI, was estimated at 2.41%. However, since that time the HWIs have been
28 released and showed a growth rate of 4.99% in 2025. Given the consistent history of HWIs
29 outpacing inflation for over the last two decades, along with North American utilities

1 investing in the energy transition and other geopolitical factors (e.g., NATO members
2 ramping up investments, AI and data centers) it is likely, in Clearspring's view, that HWI
3 inflation will continue to be substantially higher than what PEG has assumed.

4
5 c) A properly calibrated econometric model of capital expenditures would have the potential
6 to be useful in forecasting capital expenditures and expected changes in them. We
7 emphasize a "properly calibrated" model. PEG's current K-Bar straw man did not even
8 include an adjustment for changes in output growth rates or examine the impacts of lags in
9 those growth rates. A properly calibrated model would have certainly included this.
10 Furthermore, there must be some recognition in timing differences for these types of
11 approaches rather than point estimates. A range of when spending might increase or
12 decrease due to timing that provides flexibility to a specific utility.

13
14 d) The proportions will be different for utilities based on their growth rates. A utility with
15 minimal growth will tend to have a higher proportion of spending on replacement activities
16 relative to a faster growing utility.

17
18 e) Clearspring cannot confirm. First, setting a cut-off at 30% to include or exclude the forecast
19 is an arbitrary line. The analysis can show forecasts being too high or too low just based on
20 whatever cut-off is decided by the researcher. Second, there are instances in PEG's K-Bar
21 calculations of capex categories not being included that are less than the 30% cut-off set by
22 PEG. For example, according to PEG's working papers, Externally- Initiated Plant
23 Relocations had a K-Bar estimate of \$11.1 million in 2028 – 2031 and Elexicon's forecast
24 has those expenses at \$5.9 million. This is less than 30%, in fact is negative, but this
25 category is not included. There are examples in the other direction as well. Substation
26 Renewal and Underground System Renewal are both included in the K-Bar analysis,
27 according to PEG's working papers, but have forecasts well over twice as high as PEG's K-
28 Bar spending formula would indicate. One other instance that does not align with the 30%

1 cut-off is General Plant Equipment is included in the analysis even though the forecasts
2 show expenses nearly doubling.

3
4 Clearspring adjusted PEG's K-Bar working papers to actually follow a 30% cut-off, as the
5 question suggests. When this 30% cut-off is properly implemented, Elexicon's capex
6 forecasts are 28% below what the K-Bar calculations indicate. This is despite the K-Bar
7 calculations having insufficient inflation assumptions and not accounting for system growth
8 changes.

9
10 All of this illustrates that the K-Bar model should not be considered in this application, and
11 if it were to be considered in a generic proceeding as a potential option, it would need
12 substantial additional examination and upgrades from its current form.

13
14 f) Confirmed.
15
16
17
18

INTERROGATORY RESPONSES TO OEB STAFF – Clearspring Reply Report

INTERROGATORY 1-STAFF-8

References: Clearspring Reply Report “Responses to PEG’s New Analyses and Studies,” p. 13

Preamble:

Clearspring states that

Asset price inflation rates have historically exceeded 6% for the last two decades and do not appear to be abating, yet Elexicon used lower inflation assumptions in its capital planning process. This is already effectively an implicit supplemental stretch factor on top of both the proposed 0.15%.

QUESTIONS:

- a) Please confirm that a simple average of Elexicon’s annual capex price inflation assumption for the 2027-31 period is a brisk 4.67%. If not confirmed, please provide the correct value. Please confirm that other CIR applicants have in recent years made much more conservative inflation assumptions. If not confirmed, please provide an explanation as to why the statement is not confirmed.
- b) Please confirm that Clearspring, like Elexicon, has relied on historical inflation trends to legitimize brisk future inflation even though forecasts of Handy Whitman power distribution construction cost inflation are readily available from S&P Global. If not confirmed, please provide an explanation as to why the statement is not confirmed.

- 1 c) Given Clearspring's advocacy of using Handy Whitman indexes in TFP research and an IPD
2 based on inflation forecasts rather than historical trends, how much weight should the OEB
3 panel place on the historical capex price trend analysis?
4

5 **CLEARSPRING RESPONSE:**
6

- 7 a) Clearspring can confirm the number of 4.67% was stated by Elexicon and, according to the
8 Company will be revised to 4.45%, nevertheless Clearspring does not agree with the
9 characterization of either number as "brisk". Asset price inflation in the electric
10 distribution industry has increased at an average annual rate of approximately 6.5% for the
11 last two decades. With utilities across North America increasing investments due to the
12 energy transition, data centers, and other geopolitical events such as substantial NATO
13 spending increases, commodity prices are not likely to reverse this persistent trend in
14 upcoming years, in Clearspring's view. In fact, the HWIs for 2025 have just been released
15 and the North Atlantic total distribution HWI showed an increase of 4.99% in 2025. We are
16 aware that other applicants have assumed lower asset price inflation rates and, thus,
17 included even larger implicit stretch factors. Elexicon has partially fixed this deficiency.
18
- 19 b) Please see the response to part (a) for Clearspring's view on expected HWI inflation.
20
- 21 c) Clearspring's view is that asset price inflation has showed sustained inflation levels in
22 excess of 6% for over two decades. There are current and upcoming inflation pressures, as
23 discussed in part (a), that would indicate to Clearspring that the experience of elevated
24 asset price inflation over the last two decades should not be expected to abate. The fact
25 that Clearspring is recommending a forecasted IPD does not impact our view on asset price
26 inflation. The forecasts of AWE and GDP-IPI that are used by Clearspring, closely align with
27 the historical record of the differences in those indexes, whereas the asset prices have
28 deviated substantially for over the last two decades from those forecasts.
29