BOMA's Compendium for Cross-Examination of the Applicants' Expert Panel

1. Excerpt from AUC 2018-2022 Performance-Based Regulation Plans [pp 1-8].
2. Excerpt from FortisBC Multi-Year Performance Based Ratemaking Plan [pp 9-18].
3. Excerpt from AUC Rate Regulation Initiative [pp 19-28].
4. Excerpt from PEG Study [p 29].
5. Excerpt from EB-2010-0379 Report of the Board Rate Setting Parameters and Benchmarking [pp 30-31].

AUC
Alberta Utilities Commission

2018-2022 Performance-Based Regulation Plans for Alberta Electric and Gas Distribution Utilities

December 16, 2016

Alberta Utilities Commission
Decision 20414-D01-2016
2018-2022 Performance-Based Regulation Plans for Alberta Electric and Gas Distribution Utilities
Proceeding 20414

December 16, 2016

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average TFP growth in recent years is significantly different to average TFP growth from 1972 to 1999.[170] In addition to their own tests, which the Commission finds to have limited usefulness due to their tendency to test differences of means between periods that overlap without sufficient statistical support for such a testing strategy, Brattle also undertook additional testing in response to IRs from the Commission. These test results indicate significant differences between means (of annual TFP growth rates) in the period 1972-1999 versus the ensuing 15 years, and in the period 1972-2004 versus the ensuing 10 years.[171] Structural change (Chow) tests conducted by Brattle, testing whether the parameters underlying TFP growth in one period are significantly different from those in the subsequent period, although subject to the caveats they describe, at the very least point to evidence of instability in the TFP growth rates beginning somewhere in the mid to late 1990s. These tests, however, do not formally identify any one particular year or combination of years where a structural break may have occurred.[172] Dr. Meitzen's test results, pertaining to non-stationarity tests with possible structural breaks, provided in an undertaking, also support this instability conclusion. For example, in the 1972-2014 sample, depending on the test chosen and how it is implemented, he found significant breakpoints in TFP growth at 1985, 1986, 1989, 1990, 1996, 2004, 2008 and 2010.[173] Dr. Meitzen concludes that "many of the breakpoints are at least 15 years from the end of the series, providing support that a 10- to 15-year time period appropriately captures the behavior of this series in the latter time period."[174]

143. Although not utilizing a formal testing strategy for structural breaks, the Meitzen study recommends a time period involving the last 15 years based on its focus on the Commission's interpretation, noted previously, that the X factor, in general terms, can be viewed as the expected annual TFP growth during the PBR term. The Meitzen study interprets this to mean that "the role of a TFP study in determining the X factor is as a predictor of expected annual productivity growth over the course of the subsequent price cap term"[175] (emphasis added). Subsequently, the Meitzen study calculates an average of (i) the average of annual TFP growth over the previous 10 years, and (ii) the average of annual TFP growth over the previous 15 years (the 10/15 moving average) and shows that between 1987 and 2009, generally (since 1998) this has been a better predictor of TFP growth for the next five years (a "forward-looking five-year average") than the NERA approach of using the average of all previous years.[176] Although the Meitzen study shows that since 1998 the 10/15 moving average is "closer" to the forward-looking five-year average than is the average of all previous annual TFP growth values,[177] "closeness" is a relative term, and no level of statistical significance is attached to the improvement for the 10/15 method that this figure demonstrates. Alternative methods (10/12, 8/15, etc.) could yield predictors that are even closer.

144. The Meitzen study recognizes that the 10/15 method is not necessarily the best predictor, but argues that it avoids cherry-picking dates or time periods, and that qualitatively similar results are obtained using a simple 10-year or 15-year moving average.[178] The choice of 10 to 15 years is based on the general span of recommendations made by parties in Proceeding 566,

[170] Exhibit 20414-X0387, Brattle reply evidence, page 20, Q/A 41.
[171] Exhibit 20414-X0173, PDF pages 22-26; Exhibit 20414-X0175.
[172] Exhibit 20414-X0173, PDF pages 27-31; Exhibit 20414-X0175, tabs "Request (e)(ii)," "Request (e)(iii)."
[173] Exhibits 20414-X0599 and 20414-X0601.
[174] Exhibit 20414-X0599, page 2.
[175] Exhibit 20414-X0074, Appendix B, EPCOR evidence of Dr. Meitzen, PDF page 214.
[176] Exhibit 20414-X0074, Appendix B, EPCOR evidence of Dr. Meitzen, pages 34-37, PDF pages 220-224.
[177] Exhibit 20414-X0074, Appendix B, EPCOR evidence of Dr. Meitzen, Figure 4a on PDF page 223.
[178] Exhibit 20414-X0074, Appendix B, EPCOR evidence of Dr. Meitzen, PDF pages 218 and 221.

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with Dr. Meitzen arguing that "this span of years provides a sufficiently long period that overcomes transient, short-run shocks that could influence TFP growth (such as with a 5-year average) and also avoids anchoring the forward-looking estimate with values from the distant past that no longer provide a reasonable basis for establishing a forward-looking X factor."[179] A drawback of the 10/15 method compared to simple averages of either the last 10 or last 15 years is that the last 10 years appear in both components that are averaged in the 10/15 method and, therefore, have higher weights than do the five years that precede them. A different choice of years (such as 8/13) would necessarily result in a different weighting scheme. This unequal weighting can only be avoided with a simple average and for this reason, the Commission prefers this latter approach.

145. The effect of the Commission's determination to dismiss the Meitzen study recommendation of the 10/15 method in favour of a simple average is to increase the lower bound of recommended TFP growth values in Table 1, which was previously associated with the 10/15 method. Again, however, due to the variability that results from the use of different assumptions underlying input growth, and the choice of the output measure, as described in the previous sections, and accounting for this variability means that this TFP growth component is not necessarily prevented from lying below the lowest remaining final recommendation (as shown in Table 1) of -0.79.

5.3 Stretch factor

146. Generally speaking, a stretch factor is an additional percentage incorporated in the X factor, thereby increasing the overall value for X and thus slowing the price or revenue cap growth determined by the I-X indexing mechanism. On this basis, the stretch factor can be viewed as sharing with customers the expected additional cost reductions that result from the move from a low-incentive regime such as COS regulation to a higher-incentive regime such as PBR. For this reason, stretch factors are common in first-generation PBR plans.

147. In this proceeding, parties disagreed on whether a stretch factor should be applied in the next generation PBR plans. The distribution utilities and their experts contended that readily available efficiency gains (the "low hanging fruit") have already been captured in the current generation PBR term.[180] In contrast, all interveners argued for a continuation of a stretch factor in the next generation PBR term in an amount not lower than the 0.2 per cent approved in Decision 2012-237.[181]

148. Among other arguments, the interveners submitted that a stretch factor is necessary as it strengthens the incentives under PBR.[182] On this point, the Commission disagrees. As indicated in Decision 2012-237, while the size of a stretch factor affects a utility's earnings, it has no

[179] Exhibit 20414-X0074, Appendix B, EPCOR evidence of Dr. Meitzen, PDF page 219.

[180] Exhibit 20414-X0056, Brattle evidence, page 36, Q/A 70; Exhibit 20414-X0069, ENMAX PBR plan proposal, paragraph 43; Exhibit 20414-X0070, ATCO PBR plan proposal, paragraph 44; Exhibit 20414-X0081, AltaGas PBR plan proposal, paragraph 79; Exhibit 20414-X0073, Fortis PBR plan proposal, paragraph 60; Exhibit 20414-X0074, EPCOR PBR plan proposal, paragraphs 92-94.

[181] Exhibit 20414-X0630, CCA revised argument, paragraph 204; Exhibit 20414-X0618, UCA argument, paragraph 86; Exhibit 20414-X0625, Calgary argument, paragraph 77.

[182] Exhibit 20414-X0625, Calgary argument, paragraph 75. Exhibit 20414-X0618, UCA argument, paragraphs 74 and 88. Exhibit 20414-X0630, CCA revised argument, Section 12 was titled "Including a Stretch Factor Will Increase Efficiencies Not Yet Realized."

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influence on the incentives for the utility to reduce costs. PBR plans derive their incentives from the decoupling of a utility's revenues from its costs as well as from the length of time between rate cases and not from the magnitude of the X factor (to which the stretch factor contributes).[183]

149. Brattle confirmed this observation stating that the existence of a stretch factor does not increase the benefits seen by customers. Rather, a stretch factor benefits customers because it provides the expected gains of PBR to them more quickly than the alternative of waiting until rebasing.[184] Brattle explained:

> ... the purpose of the stretch factor is to anticipate additional cost savings that are expected to be achieved under PBR, and set the path of base rates lower than it would have been in the absence of the stretch factor because of the anticipated additional savings. One way to characterize a stretch factor is that it passes on to customers anticipated additional savings (over and above those incorporated into the X-factor) immediately which would otherwise, in the absence of the stretch factor, be passed back to customers at the end of the PBR plan (by rebasing).[185]

150. Dr. Weisman expressed a similar view and indicated that "the question is whether those efficiency gains, to the extent they exist, the additional efficiency gains, should be guaranteed to consumers through the stretch factor rather than be passed along to consumers at the time of rebasing."[186] From this perspective, Dr. Weisman noted that the relevant factor for a regulator to consider when determining the need for the stretch factor is the certainty of additional efficiency gains, so as to make a decision on whether such gains should be passed along in the form of rebasing rather than guaranteed to consumers *a priori* through the stretch factor in the PBR formula.[187]

151. The distribution utilities and their experts have interpreted the Commission statement in paragraph 479 of Decision 2012-237 to mean that the inclusion of a stretch factor is warranted only during a transition from COS regulation to PBR.[188] Although the context for paragraph 479 concerned a transition from COS to first-generation PBR, the UCA's more general interpretation is that a stretch factor was approved in Decision 2012-237 because increased efficiencies were expected to be realized from the transition from a low incentive regulatory regime (in that case, COS) to a higher incentive regulatory regime (in that case, first-generation PBR). In the UCA's view, a better general definition of the purpose for a stretch factor is to share the efficiency gains that are expected to result when the subsequent generation of regulatory framework provides enhanced incentives relative to the previous generation (i.e., when there is a transition from a less-incentivized form of regulation to regulation that embodies greater incentives).[189]

152. Parties in this proceeding pointed out that because expenditures under the capital tracker mechanism in the 2013-2017 PBR plans were largely treated on a COS basis, they were not

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183 Decision 2012-237, paragraph 500.
184 Exhibit 20414-X0387, Brattle reply evidence, page 47, Q/A 97.
185 Exhibit 20414-X0056, Brattle evidence, pages 35-36, Q/A 68.
186 Transcript, Volume 14, page 2915, lines 11-17 (Dr. Weisman).
187 Transcript, Volume 14, page 2915, lines 18-23 (Dr. Weisman).
188 Exhibit 20414-X0623, EPCOR argument, paragraph 79; Transcript, Volume 14, page 2917, lines 4-10 (Dr. Weisman); Exhibit 20414-X0446, Brattle supplemental reply evidence, page 9, Q/A 24; Exhibit 20414-X0624, Fortis argument, paragraph 70.
189 Exhibit 20414-X0618, UCA argument, paragraphs 73 and 77.

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subject to the same high-powered incentives to control costs as the expenditures under I-X.[190] The Commission agrees. In Section 6 of this decision, the Commission approves the K-bar mechanism, which, as Dr. Weisman put it, is "a lot more high powered in terms of incentives,"[191] compared to capital trackers. Mr. Baraniecki for EPCOR agreed with the logic that if capital is moved from a low-powered incentive regime, such as capital trackers, to a higher-powered incentive regime, such as K-bar, there may be a need for a stretch factor.[192]

153. Given that current generation PBR plans include a COS-based capital trackers mechanism, which will be mostly replaced in the next generation PBR plans by the K-bar mechanism, the Commission expects that next generation PBR plans will be largely devoid of any significant COS elements. Therefore, the Commission finds merit in including a stretch factor component in the X factor for the next generation PBR plans for all distribution utilities. In a similar vein, because ENMAX was regulated under COS in 2014, the commencement of the 2015-2017 PBR plan warrants inclusion of a stretch factor in the X factor for the ENMAX 2015-2017 PBR plan as well.

5.4 Commission determination on the X factor for the 2018-2022 PBR plans

154. The TFP growth values that have been produced by the various studies in evidence are the result of an index-number type of calculation, rather than estimation, that can (but need not) be obtained using a spreadsheet. Despite this characteristic, even were the examination of the three TFP growth studies in this proceeding limited to a period comprising the last 15 years, a range included in all three studies, the range of TFP values that have been proposed for this period is strikingly large. Brattle expressed its view that "it is unusual for there to be more than one TFP study in evidence in a single proceeding,"[193] as in the case of the current proceeding where three TFP growth studies were filed, at least two of which involve some fundamental differences. Had only one objective and transparent study been filed in evidence, the variability inherent in the TFP growth value, which is a function of the assumptions and data used, and is evident from a comparison of the three studies, easily could have remained unknown. This could have led the Commission to conclude that there is a single TFP growth value that could be regarded as "correct." Rather, the Commission views the variety of results that have been provided as confirming that the TFP growth value is likely not a correct single number, but that a reasonable value likely falls within a range of values, demarcated by the breadth of assumptions and data sets that may be reasonably employed in producing the studies. This view was shared by some of the experts in this proceeding. For example, in its evidence, Brattle indicated that "Certainly estimating TFP trends is not an exact science."[194] This opinion was explained further in testimony by Dr. Carpenter when he stated the following:

> There's noise in the data, and there's noise in the results. So I think you have to take a practical view as to how much uncertainty there is in these numbers. I think at some point in our evidence we say there's probably about 150 basis points of potential just noise in

[190] Transcript, Volume 1, page 63, lines 3-8 (Dr. Brown); Transcript, Volume 12, page 2443, line 12 to page 2444, line 8 (Dr. Lowry); Transcript, Volume 14, page 3021, lines 2-21 (Dr. Weisman); Exhibit 20414-X0618, UCA argument, paragraph 83.

[191] Transcript, Volume 14, page 2918, lines 15-18 (Dr. Weisman)

[192] Transcript, Volume 14, page 2932, line 15 to page 2933, line 12 (Mr. Baraniecki).

[193] Exhibit 20414-X0387, Brattle reply evidence, page 43, Q/A 85.

[194] Exhibit 20414-X0387, page 43 Q/A 85.

each of the distribution utilities in the Alberta context, consistent with the Commission's five PBR principles.

169. The Commission has determined an X factor, using its judgement and expertise in weighing the evidence and in taking into account the multitude of considerations set out above, in particular evidence demonstrating that the TFP growth value cannot with certainty be identified as a single number, but rather, in view of the variability resulting from the assumptions employed, must be considered as falling within a reasonable range of values, between -0.79 and +0.75. The Commission finds that a reasonable X factor for the next generation PBR plans for electric and gas distribution utilities in Alberta, inclusive of a stretch factor, will be 0.3 per cent.

5.5 X factor for ENMAX's 2015-2017 PBR plan

170. Decision 21149-D01-2016 approved an interim X factor for the ENMAX 2015-2017 PBR plan, with the direction that the final X factor will be determined in the present proceeding.[212] ENMAX submitted that the same X factor, based on Brattle's recommendation, should apply to both of its 2015-2017 and 2018-2022 PBR plans.[213]

171. The UCA recommended that the 0.96 per cent X factor, based on the TFP growth number approved in Decision 2012-237, be used for ENMAX's 2015-2017 PBR plan, given that this plan is, in most material respects consistent with the PBR plans approved in Decision 2012-237. In the alternative, the UCA recommended that the 0.80 per cent X factor, based on the TFP growth number approved for ENMAX's FBR plan in Decision 2009-035, and approved as an interim measure in Decision 21149-D01-2016, be approved.[214]

172. Given the updated TFP growth numbers put forward in this proceeding, including the extension of that data series from 2010 to 2014, the Commission considers that it would not be reasonable to base the X factor on the TFP growth numbers approved in prior decisions dating back to 2009 or 2012. Further, as ENMAX highlighted, in this proceeding, the Brattle and Meitzen studies specifically undertook to update NERA's TFP growth numbers on which the Commission relied in Decision 2012-237.[215] Therefore, based on its considerations of the TFP growth numbers and a stretch factor as set out earlier in this decision, the Commission finds that the same X factor of 0.3 per cent that has been determined for the next generation PBR plans for all gas and electric distribution utilities should also apply to the ENMAX 2015-2017 PBR plan.

5.6 Proposals for a non-negative I-X provision

173. The five distribution utilities sponsoring Brattle's evidence proposed that the value of the I-X index should be restricted to be non-negative with zero as a lower bound (i.e., in years when the I-X index value is negative, the index would be held at a floor of zero per cent). ENMAX asked for the same provision to apply to its 2015-2017 PBR plan.[216]

174. These distribution utilities submitted that the value of the input price inflation measure in PBR plans, the I factor, has recently entered the negative range, and that a positive value of the X factor would tend to enhance this (i.e., cause I-X to be even more negative), at a time when

[212] Decision 21149-D01-2016 (Errata), paragraph 53.
[213] Transcript, Volume 8, page 1467, lines 10-12 (Mr. Hildebrandt).
[214] Exhibit 20414-X0618, UCA argument, paragraphs 70-71.
[215] Exhibit 20414-X0634, ENMAX reply argument, paragraph 71.
[216] Exhibit 20414-X0619, ENMAX argument, paragraph 94.

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utilities are finding that many of their costs, such as those flowing from union agreements, are escalating at a positive rate.[217] Brattle experts expressed their view that if the I factor in the PBR formula were to be negative, that could signal that the approved inflation measure is not representative of the price changes facing the utilities.[218] The five distribution utilities agreed with this observation and submitted that a non-negative I-X provision would allow them to mitigate the issues with the approved inflation measure. AltaGas and ENMAX called for a revision of the I factor in some future proceeding.[219]

175. EPCOR confirmed it did not make a request for a non-negative I-X provision in its next generation PBR plans. At the hearing, Mr. Baraniecki indicated that even though EPCOR is facing the same conditions as other distribution utilities, it did not apply for such a provision because it was inconsistent with the principles of PBR.[220] The UCA agreed with EPCOR's view that there is no principled basis on which to impose a floor of zero on the I-X value.[221]

176. The I factor value is not within the scope of this proceeding; however, the proposal to restrict I-X to be non-negative can also be framed as a recommendation involving the X factor value.[222] As such, the Commission has considered this request.

177. Dr. Brown and Dr. Carpenter for Brattle, Dr. Meitzen and Dr. Weisman for EPCOR and Dr. Lowry for the CCA, indicated that there is no apparent theoretical basis for restricting I-X to be non-negative.[223] The Commission agrees and accordingly, will not impose such a provision at this time. Specifically, restricting I-X to be non-negative may result in blunting of incentives to control costs for certain categories of expenditures. As well, the I-X index value is just one component of a number of interacting components of the next generation PBR plans. As set out in Section 9, in designing next generation PBR plans, the Commission has considered all relevant factors, including those that may affect the distribution utilities during the next generation PBR term – such as the current economic climate in Alberta – that the non-negative I-X proposal was aiming to address.

6 Treatment of capital additions

178. In Decision 2012-237, the Commission recognized that while the TFP study used in determining the X factor for the Alberta distribution utilities reflected a rate of long run productivity growth for a set of distribution utilities over time and, therefore, necessarily included capital input costs, there are nevertheless circumstances where an Alberta distribution utility may require capital funding in addition to the funding generated under the I-X mechanism

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217 Exhibit 20414-X0619, PDF pages 29-31; Appendix A, PDF pages 47-48 (ENMAX); Exhibit 20414-X0622, PDF pages 25-26 (ATCO); Exhibit 20414-X0624, PDF pages 21-22 (Fortis); Exhibit 20414-X0639, PDF pages 10-11 (AltaGas).

218 Exhibit 20414-X0173, BRATTLE-AUC-2016APR15-011(b).

219 Exhibit 20414-X0639, AltaGas reply argument, paragraph 31; Exhibit 20414-X0619, ENMAX argument, paragraph 94.

220 Exhibit 20414-X0256, EDTI-AUC-2016APR15-015(a) and Transcript, Volume 14, page 2939 lines 15-22 (Mr. Baraniecki).

221 Exhibit 20414-X0618, UCA argument, paragraph 67.

222 Specifically, if the Commission were to set some value of X, say X_0, the recommendation from the utilities could be expressed as: $X = \begin{cases} X_0, & if\ I > X_0 \\ I, & if\ I < X_0 \end{cases}$

223 Exhibit 20414-X0173, BRATTLE-AUC-2016APR15-011(b); Exhibit 20414-X0256, EDTI-AUC-2016APR15-015(c); Exhibit 20414-0321, CCA-AUC-2016APR15-012(b).

IN THE MATTER OF

FORTISBC ENERGY INC.

MULTI-YEAR PERFORMANCE BASED RATEMAKING PLAN FOR 2014 THROUGH 2018

DECISION

September 15, 2014

Before:

D.M. Morton, Panel Chair/Commissioner
D. A. Cote, Commissioner
N. E. MacMurchy, Commissioner

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EXECUTIVE SUMMARY

On June 12, 2013, FortisBC Energy Inc. (FEI) applied to the British Columbia Utilities Commission for approval of a proposed multi-year Performance Based Ratemaking (PBR) plan for the years 2014–2018 (Application). The Application was made pursuant to sections 59-61 and 44.2 of the *Utilities Commission Act* (UCA). FEI, among other things, seeks approval of requests in the following areas:

- PBR mechanisms and the rate stabilization mechanism for setting rates for the years 2014–2018.
- Permanent rates for all customers effective January 1, 2014 resulting in an increase of 0.6 percent over 2013 and the flow through of any rate increase or decrease resulting from the Generic Cost of Capital (Stage 2) proceeding.
- Deferral accounts additions, changes and discontinuance as well as proposed changes in financing costs.
- Accounting policies including the allocation of executive costs, the capitalized overhead rate and direct overhead charging methodology.
- Demand Side-Management (DSM) related to 2014-2018 expenditures and amortization changes.

FEI has filed this 2014-2018 PBR plan based on the following objectives:

1. To reinforce FEI's productivity improvement culture, while ensuring safety and customer service requirements continue to be met; and
2. To create an efficient regulatory process for upcoming years, allowing the Company to focus on effectively managing business priorities and minimizing costs for customers.

On July 5, 2013, FortisBC Inc. (FBC) filed a similar application. Portions of each application concerned with the PBR mechanism were combined into a joint proceeding. For convenience the joint applicants in that portion of the proceeding are referred to as Fortis.

Many of the interveners expressed concern with the Fortis proposal and recommended denying the Application in favour of moving forward with additional process to resolve the issues that arose. Considering the time and money spent to conduct the proceeding and the considerable volume of evidence, the Commission Panel determines it is appropriate to move forward with the process and render a decision based on the substantial evidentiary record. The Panel considers much of the problem among the parties is based on a lack of trust which, over time, must be addressed if a PBR regimen is to be successful.

The Decision following the Introduction section has been separated into three sections:

- PBR Design which deals with determinations related to the PBR formula components and elements of the PBR plan including the management of Service Quality Indicators (SQI);
- Making the PBR Work which addresses key revenue requirement issues including Base Operations and Maintenance (O&M) and Base Capital, accounting policy proposals and a number of issues with deferral accounts; and
- Demand-Side Management (DSM) Programs.

PBR Design

A brief summary of some of the key issues and determinations related to the PBR design components are as follows:

PBR Formula Components

(a) **PBR Term:** Fortis' proposal is for a five year PBR term starting in 2014. Most interveners favoured a shorter term pointing to the risk associated with a five year term. The Commission Panel in recognition of the timing of this Decision, determines that a six year period ending in 2019 is optimum. In the Panel's view, the changes made to certain PBR mechanisms provide the necessary checks and balances to protect ratepayer interests.

(b) **I-Factor:** The Commission Panel supports the use of BC-CPI and the BC-AWE indexes in the determination of the I-factor as recommended by Fortis. However, the Panel is not

persuaded that relying on forecast data to determine the I-factor is appropriate. We find that a reliance on the previous year's actual index figures, while backward looking, has significant advantages and therefore have determined this method to be most appropriate.

(c) **X-Factor:** Considering the opposing views of two expert witnesses, Dr. Overcast on behalf of Black and Veatch (B&V) and Dr. Lowry on behalf of Pacific Economic Group (PEG), the Panel does not accept the B&V study results due to methodology shortcomings and resulting errors but places considerable weight on the PEG study considering it more rigorous. The Commission Panel determines an X-factor of 1.1 is appropriate for FEI.

PBR Plan Components

(a) **Earnings Sharing Mechanism:** The Commission Panel determines that an Earnings Sharing Mechanism where gains and losses are shared equally by the Company and the ratepayer balances the interests of the customer and the utility.

(b) **Efficiency Carry-over Mechanism:** Fortis proposes an efficiency carry-over mechanism (ECM) to allow the utility to benefit from savings following the PBR period resulting from measures taken and costs incurred during PBR. The interveners opposed this proposal considering it one sided and favouring the utility. The Commission Panel denies the Fortis ECM request but remains open to its inclusion where warranted.

(c) **Service Quality:** Considering the evidence, the Commission Panel determines there is a need for consequences to be tied to the failure to achieve reasonable performance on defined SQIs. It further determines a list of SQIs and sets performance benchmarks for each. The Panel acknowledges the need for an acceptable performance range for each SQI and directs the Fortis Companies in consultation with the stakeholders to develop these ranges.

(d) **Capital Expenditures:** Fortis has proposed an approach to capital which excludes Certificate of Public Convenience and Necessity (CPCN) related capital from the PBR plan. Interveners

have raised concerns with respect to inclusion of capital pointing out various shortcomings. The Commission Panel finds the Fortis proposed CPCN criteria to be inappropriate for determining what capital is excluded from the PBR formula and favours establishment of a dollar threshold. On a temporary basis, the Panel approves the current CPCN exclusion criteria and sets a process to further examine issues related to dollar thresholds and management of capital within the PBR.

(e) **Mid-Term and Annual Review Process:** The Commission Panel finds that an extensive Annual Review process is necessary to build trust among the stakeholders and ensure the PBR plan functions as intended. The Panel sets out a list of items which it directs the parties to address within the Annual Review. Given this more comprehensive approach to Annual Reviews, there is no need for the proposed Mid-Term Review and it is therefore denied.

Making the PBR Work

A brief summary of some of the key issues and determinations related to FEI's Non PBR components are as follows:

Determining Base Operating and Maintenance (O&M) and Capital

(a) **Base O&M:** The methodology for determining Base O&M proposed by FEI is to use the 2013 Approved O&M as a starting point and make adjustments to arrive at the PBR Opening Base O&M figure. Interveners expressed concern with both the methodology and the proposed adjustments. The Commission Panel determines that 2013 Approved O&M is an appropriate starting point and determines that further adjustments to the PBR Opening O&M Base are required resulting in a minor overall reduction to FEI's proposed base.

(b) **Base Capital:** Given that there is to be a more fulsome review of issues related to dollar thresholds and the management of capital within the PBR, the Commission Panel approves FEI's approach to formula capital and approves FEI's Base Capital as applied for, subject to further adjustment as directed elsewhere in this Decision.

Accounting Policies

The Commission Panel approves a number of proposed accounting changes including the discontinuance of the US Generally Accepted Accounting Principles (GAAP) to Canadian GAAP reconciliation, changes to the handling of Pension and Other Post-Employment Benefits (OPEB) funding differences and application of the Massachusetts Formula for executive costs. The Panel directs FEI to reduce its capitalized overhead rate to 12 percent in 2014 as well as to commence expensing its annual software upgrade costs consistent with the direction provided to FEI in its 2012–2013 RRA Decision.

Deferral Accounts

(a) **2012–2014 Application Costs Deferral Account:** The Commission Panel approves FEI's proposal to establish the 2012–2014 Application costs Deferral Account and also approves the amortization of its balance over the six year PBR period.

(b) **Thermal Energy Services Deferral Account (TESDA) Overhead Allocation Variance Deferral Account:** The Commission Panel approves the TESDA Overhead Allocation Variance Deferral Account and directs that the December 31 balance each year be amortized into rates the following year.

FEI is directed to discontinue the use of the Tax Variance, Property Tax Variance, Insurance Expense Variance and Interest Expense Variance Deferral Accounts. Although the Panel approves the flow through treatment of these expenses, FEI is directed to flow through variances between forecast and actual expenses in these accounts through the annual true up mechanism.

The Panel approves FEI's amortization requests, with the exception of the following, where the Panel directs:

1. The reduction of the amortization period from 3 to 2 years for the Southern Crossing Pipeline (SCP) Mitigation Revenues Variance Account.

2. Continuance of the amortization period of the Pension and OPEB Variance deferral account at three years.

The Panel denies FEI's request to capture 2012 Biomethane application related costs in the existing Biomethane Program Costs deferral account. Instead it is directed to record these costs in the Biomethane Variance account.

Other FEI requests concerning creation, amortization and discontinuance of deferral accounts as proposed by FEI are approved.

Demand-Side Management

The Commission accepts FEU's proposed DSM expenditure schedule as follows:

	(thousands)
2014	$34,353
2015	$36,537
2016	$35,839
2017	$35,388
2018	$35,874

including approval for new EEC program initiatives. However, the Panel directs FEU to submit a detailed plan for each new program for approval prior to the expenditure of any funds. The Panel also directs FEU to file, by the end of 2015, one or more EEC programs intended to specifically address the unique barriers to energy efficiency faced by renters.

The Commission Panel approves FEU's request to (i) continue the EEC accounting treatment approved for 2012–2013 and (ii) to transfer any new amounts accumulated in the non-rate base EEC deferral account to FEU rate base EEC deferral account in the following year. The Commission Panel directs FEU to include in the next FEU EEC Application an analysis of the rate impact of a reduction in the EEC amortization period to eight years and to five years.

The Commission Panel approves the third-party administration portion of the PWC proposal put forward by FEU. However, the Panel does not approve the initial and subsequent annual backward-looking review portion of the PWC proposal. The Commission Panel denies FEU's request to place the actual expenditures from PWC's administration of EEC funds for projects with a thermal energy component in the EEC non-rate base deferral account that attracts AFUDC.

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Rate Regulation Initiative

Distribution Performance-Based Regulation

September 12, 2012

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"low hanging fruit") due to increased incentives.[586] In the Commission's view, two issues are salient when considering the need for a stretch factor. The first issue is whether NERA's TFP estimate, on which the X factors for the Alberta companies are based, provides a good estimate for the productivity growth under PBR. As Dr. Cicchetti explained, in the case that an industry TFP trend is estimated using historical data that predominantly reflect the productivity experience under cost of service regulation, such a TFP target may need to be "stretched" to account for higher incentives under PBR.[587] However, it is not clear the extent to which NERA's data include both cost of service and PBR forms of regulation,[588] and there was no evidence on the record of this proceeding upon which to make such an adjustment.

483. The second issue to consider is whether there is a potential for the Alberta companies to collect the "low-hanging fruit" when transitioning from the current cost of service regulation to a PBR framework. In that regard, the Commission does not share Dr. Carpenter's view that the efficiency incentives under the current cost of service price setting framework in Alberta and PBR are going to be largely the same.

484. On the same topic, Fortis and the ATCO companies also argued that there will be no "low-hanging fruit" to pick under PBR because of the companies' strong productivity performance in recent years.[589] However, as the CCA pointed out, it is possible that the companies are unable to appraise the productivity gains that are achievable under PBR.[590] Dr. Weisman addressed this matter in an academic article that he co-authored as follows:

> With very limited potential rewards but significant disallowance risks, the traditional regulatory model strongly encourages the prudent use of tried-and-true operating practices and technologies. It thus provides very limited incentives, if not explicit disincentives, to look beyond the status quo to discover and employ new, innovative operating practices and technologies. This is why the provision of enhanced incentives can stimulate a discovery process that enables regulated firms to become more efficient than they previously knew how to be.[591]

485. The Commission observes that having analysed its recent experience under PBR, ENMAX also pointed to a number of efficiency improvements and cost-minimising measures that were realized since the transition to a regulatory regime with stronger efficiency incentives. Notably, ENMAX indicated that the company would not have undertaken these productivity initiatives under a traditional cost of service regulatory framework.[592]

486. Finally, the Commission notes that the companies characterized the inclusion of a stretch factor (or a lack thereof) as an alternative to an ESM. In this regard, the Commission agrees with NERA and the interveners that although there is some trade-off between an ESM and a stretch

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586 Transcript, Volume 9, page 1766, lines 4-22.
587 Exhibit 103.05, Cicchetti evidence, pages 27-28.
588 Exhibit 299.02, Cronin and Motluk UCA evidence, page 79, footnote "c".
589 Exhibit 633, Fortis argument, paragraphs 144-146; Exhibit 631, ATCO Electric argument, paragraph 271; Exhibit 632, ATCO Gas argument, paragraph 296.
590 Exhibit 645, CCA reply argument, paragraph 47.
591 Exhibit 500.02, Weisman, Dennis L., and Pfeifenberger, Johannes P., *Efficiency as a Discovery Process: Why Enhanced Incentives Outperform Regulatory Mandates*, The Electricity Journal, January-February 2003, page 60.
592 Exhibit 297.01, ENMAX evidence, pages 16-18.

factor, they are not mutually exclusive.[593] This is demonstrated by the fact that a number of PBR plans in North America have both of these components.[594] Nevertheless, as set out in Section 10 of this decision, the Commission determined that an ESM should not be part of the companies' PBR plans. Accordingly, the inclusion of an ESM in the PBR plans of the companies cannot provide an additional justification for not imposing a stretch factor.

487. In light of the above considerations, the Commission agrees with EPCOR, AltaGas and the interveners that a stretch factor should be a part of the PBR plans for the Alberta companies.

6.5.2 Size of the stretch factor

488. Parties acknowledged that unlike TFP estimates, stretch factors are commonly set based upon regulatory judgment and evidence from other jurisdictions rather than on a theoretical basis.[595] However, in the parties' view, this judgement has to be informed by the empirical evidence to accord with best regulatory practices.[596]

489. In this respect, Dr. Cicchetti found informative the average level of the stretch factor assigned to electric distributors in Ontario. The Ontario Energy Board, in its third generation incentive regulation plan, set the stretch factors at 0.2 per cent, 0.4 per cent and 0.6 per cent for the most efficient, the average efficient and the least efficient distributors, respectively. The average of the stretch factors imposed by the Ontario Energy Board is 0.4 per cent. Dr. Cicchetti noted that this was also the stretch factor approved by the Commission for ENMAX in Decision 2009-035.[597] Given Dr. Cicchetti's view that his recommended O&M PFP was of a "conservative nature," and in conjunction with not having an ESM, EPCOR's expert recommended that the company's PBR plan include a stretch factor of 0.2 per cent that lies at the mid-point between a stretch factor of zero (Dr. Cicchetti's preferred value), and the 0.4 per cent assigned to ENMAX.[598]

490. The UCA also relied on the Ontario Energy Board's determination on the stretch factor. The UCA indicated that if the menu approach to the X factor is not adopted, it recommends stretch factors for the companies of between 0.2 and 0.6 per cent based on the current Ontario third generation PBR plan approach.[599]

491. AltaGas indicated that it is prepared to dispense with the ESM with the addition of a "modest stretch factor of between 0.1-0.2 per cent."[600] Dr. Schoech explained that this recommendation reflected his evaluation of how the X factor should change if an ESM is removed from the plan.[601]

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593 Exhibit 195.01, AUC-NERA-12(d); Transcript, Volume 13, page 2579, lines 17-21 (Dr. Lowry); Transcript, Volume 17, page 3188, lines 13-19 (Dr. Cronin); Exhibit 629, Calgary argument, page 60.

594 Exhibit 391.02, NERA second report, Table 3, page 30.

595 Exhibit 195.01, AUC-NERA-12(d); Transcript, Volume 9, page 1688, lines 18-23 (Dr. Schoech); Transcript, Volume 4, pages 776-778 (Dr. Carpenter).

596 Exhibit 103.05, Cicchetti evidence, page 28; Exhibit 634.02, UCA argument, paragraph 152; Transcript, Volume 13, page 2567, lines 1-10 (Dr. Lowry).

597 Decision 2009-035, paragraph 185.

598 Exhibit 103.05, Cicchetti evidence, pages 30-31.

599 Exhibit 634.02, UCA argument, paragraph 146.

600 Exhibit 529, AltaGas corrections and amendments to application, page 4.

601 Transcript, Volume 9, page 1689, lines 9-16.

492. PEG indicated that its research suggests that stretch factors for Alberta companies should lie in the range of 0.19 to 0.5 per cent. In developing its stretch factor recommendations, PEG examined regulatory precedent and noted that the average explicit stretch factor approved for PBR plans of energy companies with rate escalation mechanisms informed by productivity research is about 0.50 per cent.[602] In addition, PEG developed an incentive power model that estimates the typical cost performance improvements that will be achieved by companies under stylized regulatory systems. Calibrating this model for the circumstances of Alberta companies produced a stretch factor value of 0.19 per cent.[603] Based on the results of PEG's research, the CCA recommended that all companies be assigned the 0.19 per cent stretch factor that resulted from PEG's incentive power model.[604]

493. Based on the record of this proceeding, Calgary recommended that the stretch factor be in the range of 0.13 per cent to 0.5 per cent.[605]

494. Similar to the discussion about the size of the X factor, parties commented on whether the presence and the magnitude of a stretch factor have any effect on the incentives of PBR plans. EPCOR, AltaGas and the ATCO companies submitted that the strength of the incentives under a PBR plan is not tied to the magnitude of the X factor (including the stretch).[606] NERA and the CCA supported this view.[607]

495. In contrast, Calgary argued that inasmuch as the companies are going to be incented to find capital and operating efficiencies under PBR relative to the cost of service regulation, a stretch factor "will play a key role as an additional driver to achieve those efficiencies."[608] In a similar vein, the UCA submitted that a stretch factor should incent a company to "obtain maximum efficiency improvements."[609]

496. Fortis' evidence on this matter was contradictory. On one hand, Fortis argued that "the level of X, regardless of whether that level includes some notion of stretch, does not determine if the incentive properties of PBR grow or diminish. Whatever X is, or more accurately the result of I-X is, the incentive to attain and better that result exists."[610] On the other hand, Fortis submitted that "the imposition of a stretch factor [...] by its nature and effect could only increase the perceived incentive to cut costs in any available manner."[611]

602 Exhibit 307.01, PEG evidence, page 45.
603 Exhibit 307.01, PEG evidence, page 45 and Exhibit 478, PEG rebuttal evidence, page 24.
604 Exhibit 636, CCA argument, paragraph 106.
605 Exhibit 629, Calgary argument, page 33.
606 Exhibit 630.02, EPCOR argument, paragraph 86; Exhibit 628, AltaGas argument, page 34; Exhibit 631, ATCO Electric argument, paragraph 112; Exhibit 632, ATCO Gas argument, paragraph 122.
607 Transcript, Volume 1, page 117, lines 10-15 (NERA); Exhibit 636, CCA argument, paragraph 112.
608 Exhibit 641, Calgary reply argument, paragraph 132.
609 Exhibit 634.02, UCA argument, paragraph 157.
610 Exhibit 644, Fortis reply argument, paragraph 86.
611 Exhibit 633, Fortis argument, paragraph 157.

Commission findings

497. As parties pointed out, the determination of the size of a stretch factor is, to a large degree, based on a regulator's judgement and regulatory precedent and does not have a "definitive analytical source" like the TFP study represents.[612]

498. The UCA's experts recommended that the Commission assign stretch factors of between 0.2 and 0.6 per cent, similar to the Ontario Energy Board's determination in its third generation incentive regulation plans.[613] Dr. Cicchetti also found informative the average level of the stretch factor assigned to electric distributors in Ontario, and recommended a stretch factor of 0.2 per cent.[614] PEG proposed that stretch factors for Alberta companies should lie in the range of 0.19 to 0.5 per cent.[615] A similar range of 0.13 to 0.5 per cent was advocated by Calgary.[616] AltaGas recommended a stretch factor of 0.1 to 0.2 per cent.[617]

499. Taking into account the fact that the companies are moving from a cost of service regulatory framework to PBR, and being cognizant of the uncertainties associated with the change in regulatory framework, the Commission is taking a conservative approach to setting a stretch factor. Accordingly, the Commission considers that a stretch factor for Alberta companies should be on the lower end of the 0.2 to 0.6 per cent ranges recommended by PEG and the UCA's experts. The Commission observes that the CCA expressed its preference for a stretch amount on the lower side of the 0.19-0.5 per cent range recommended by its experts, PEG.[618] The Commission has considered the recommended stretch factors and finds a 0.2 per cent stretch amount to be reasonable. This stretch factor should apply to the companies' plans for the duration of the PBR term.

500. Finally, the Commission agrees with the parties who argued that while the size of a stretch factor affects a company's earnings, it has no influence on the incentives for the company to reduce costs.[619] Similar to a discussion in Section 6.1 of this decision, the Commission considers that PBR plans derive their incentives from the decoupling of a company's revenues from its costs as well as from the length of time between rate cases and not from the magnitude of the X factor (to which the stretch factor contributes).[620]

6.6 X factor proposals and the Commission determinations on the X factor

501. As discussed previously in this section, the X factor proposals in this proceeding reflected the parties' views as to the purpose of and approaches to determining the X factor, the relevant productivity estimates to use and the need for any adjustments, as well as considerations on the need for a stretch factor. Table 6-2 below shows that the parties' recommendations for an X factor are based on a variety of time periods and TFP indexes that the parties considered relevant.

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612 Transcript, Volume 1, page 115, lines 6-19 (NERA). On this subject, see also Exhibit 103.05, Cicchetti evidence, page 28; Transcript, Volume 9, page 1688, lines 18-23 (Dr. Schoech); Transcript, Volume 4, pages 776-778 (Dr. Carpenter).
613 Exhibit 634.02, UCA argument, paragraph 146.
614 Exhibit 103.05, Cicchetti evidence, pages 30-32.
615 Exhibit 307.01, PEG evidence, page 45 and Exhibit 478, PEG rebuttal evidence, page 24.
616 Exhibit 629, Calgary argument, page 33.
617 Exhibit 628, AltaGas argument, page 33.
618 Exhibit 636, CCA argument, paragraph 106.
619 Exhibit 628, AltaGas argument, page 34;
620 Transcript, Volume 1, page 117, lines 10-15 (NERA); Exhibit 636, CCA argument, paragraph 112.

Table 6-2 Summary of the X factor proposals

	ATCO Electric/ ATCO Gas[621]	EPCOR[622]	Fortis[623]	AltaGas[624]	CCA[625]
Starting point	-0.28 to -1.09	-1.0	-1.0	-1.0 to -1.7	1.32 for gas companies 1.08 to 1.23 for electric companies
Productivity research relied upon	NERA's TFP	PFP based on NERA's data	Statistics Canada MFP index and NERA TFP	Statistics Canada MFP index and NERA TFP	PEG's TFP for gas companies NERA's TFP for electric companies
Time period	1994-2009 and 1999-2009	1999-2009	2000-2009	2000-2009	1996-2009 (PEG data) 1989-2007 (NERA data)
Adjustment for the U.S.-Canada productivity gap	-1.31 to -1.73	--	--	--	--
Stretch factor[626]	No	0.2	No	0.1 to 0.2	0.19
Proposed X factor (in per cent)	**-2.0**	**-1.0**	**-1.0**	**-1.3**	**1.08 to 1.32**

Note: Numbers do not add up due to a number of assumptions and qualifications that parties incorporated in their X factor proposals (for example, choice of a mid-point value for a range of X, application of a stretch factor only if an ESM was excluded from the plan, etc.).

502. Calgary recommended an X factor in the range of 1.0 to 1.7 per cent based on the results of NERA's and PEG's productivity studies.[627] As well, based on the record of this proceeding, Calgary recommended that the stretch factor be in the range of 0.13 per cent to 0.5 per cent.[628]

503. IPCAA did not make a specific recommendation on the X factor except to mention that a negative X factor unduly increases the risk of the companies over-earning.[629]

504. The UCA's experts, Dr. Cronin and Mr. Motluk, recommended using the X factor and ROE menu discussed in the Ontario Energy Board's *2000 Draft Rate Handbook.*[630] As set out in Section 6.2, the Commission did not accept the UCA's menu approach. The UCA also indicated that if the menu approach to the X factor is not adopted, it recommends stretch factors for the

621 Exhibit 98.02, Carpenter evidence, page 32, Table 3.
622 Exhibit 103.05 Cicchetti evidence, page 16.
623 Exhibit 100.02, Frayer evidence, pages 78-79.
624 Exhibit 110.01, Christensen Associates evidence, pages 13-15.
625 Exhibit 636, CCA argument, paragraphs 60-62.
626 Exhibit 631, ATCO Electric argument, paragraph 106; Exhibit 632, ATCO Gas argument, paragraph 116; Exhibit 630.02, EPCOR argument, paragraph 81; Exhibit 633, Fortis argument, paragraph 142; Exhibit 628, AltaGas argument, page 33; Exhibit 636, CCA argument, paragraph 106.
627 Exhibit 629, Calgary argument, page 24.
628 Exhibit 629, Calgary argument, page 33.
629 Exhibit 635, IPCAA argument, pages 2-3 and Exhibit 642, IPCAA reply argument, paragraphs 5-6.
630 http://www.oeb.gov.on.ca/documents/cases/RP-1999-0034/handbook0.html.

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companies of between 0.2 and 0.6 per cent based on the current Ontario third generation PBR plan approach.[631]

Commission findings

505. As noted earlier in this section, the parties' X factor proposals were based on a variety of productivity indexes, approaches, and sample periods that they considered to be the most relevant in determining the X factor.

506. There was some discussion about whether the X factor to be used in a PBR plan necessarily has to be positive. The companies contended that there is nothing inherently wrong with a negative X factor. All companies proposed negative X factors in their respective PBR applications. Calgary did not agree with this conclusion and argued that a negative X factor does not provide the proper incentives to reduce costs.[632] IPCAA observed that a lower X factor would lead to a higher risk of company over-earning.[633]

507. On this issue, the Commission agrees with the companies' argument that, in theory, the X factor does not necessarily have to be always positive. As NERA's and EPCOR's experts explained during the hearing, a negative TFP (and the resulting X factor) just means that a particular industry grows more slowly in its productivity than the economy as a whole or that input costs are growing faster in the industry than in the economy.[634] Because the economy-wide productivity represents the average productivity of different industries comprising the national economy, some of the industries must be below average and some above. For instance, Dr. Makholm and Dr. Schoech pointed to the construction industry as an example of a sector with slower productivity growth.[635]

508. In Section 6.2 of this decision, the Commission reiterated its preference for an approach to setting the X factor based on the long-term rate of productivity growth in the industry. The Commission dismissed the alternative approaches to determining the X factor, such as the building blocks approach proposed by Fortis and the efficiency benchmarking and menu approaches proposed by the UCA.

509. In Section 6.3 of this decision, the Commission examined multiple aspects of the parties' TFP recommendations and determined that the results of NERA's TFP study represent a reasonable starting point for establishing a productivity estimate for Alberta electric and gas distribution companies. Based on the results of NERA's study, the Commission determined that a long-term industry TFP of 0.96 per cent represents a reasonable basis for determining the X factors to be used in the PBR plans of the electric and gas distribution companies. In this proceeding, parties discussed several potential adjustments to TFP to arrive at the X factor, some of which would have resulted in a negative X factor.

510. Specifically, NERA explained that the theory behind PBR plans may require an input price differential and a productivity differential adjustment to TFP if an output-based measure is used for the I factor.[636] However, the Commission explained in Section 6.4.1 above that because

631 Exhibit 634.02, UCA argument, paragraph 146.
632 Exhibit 629, Calgary argument, page 30.
633 Exhibit 304.01, IPCAA evidence, page 2.
634 Transcript, Volume 3, page 487, lines 20-22 and Volume 11, page 1987, line 17 to page 1988, line 11.
635 Transcript, Volume 3, page 488, lines 24-25, Volume 9, page 1678, lines 17-25.
636 Exhibit 461.02, AUC-NERA-17(a) and (b).

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both components of the approved I factors can be considered input-based price indexes, no adjustment to TFP is required.

511. Additionally, Dr. Carpenter on behalf of the ATCO companies indicated that NERA's TFP analysis based on U.S. data needed to be adjusted for a productivity gap between the U.S. and Canadian economies.[637] Dr. Schoech on behalf of AltaGas also noted that this productivity gap warrants consideration.[638] As well, Dr. Carpenter and Dr. Cicchetti urged the Commission to consider the possible adjustment for the productivity performance of the Alberta economy when setting the X factor for the companies.[639] The Commission has reviewed the issue of productivity gap in Section 6.4.2 of this decision and determined that no adjustment to NERA's TFP is necessary to account for the differences in the economy-wide productivity growth between the U.S. and Canada, or Canada and Alberta.

512. The Commission has considered IPCAA's suggestion that a stretch factor be used to adjust for 2012 rates for historical over-earning. Give the approach the Commission has taken to the requested adjustments to going-in rates requested by the companies (see Section 3.4), the Commission will not make an adjustment to the stretch factor for that purpose. In Section 3.4, the Commission rejected adjustments to going-in rates to reflect selected actual results on 2012 because those adjustments could not be made without concurrently reviewing all actual results for 2012. The Commission will not assume what the results of such a review might be and seek to capture assumed 2012 productivity gains through an increased stretch factor.

513. Parties also discussed the effect on X of excluding all or part of capital from the I-X mechanism, as set out in Section 6.4.3. In that regard, because the Commission did not accept EPCOR's proposal to exclude capital from its PBR plan, no consideration of the partial productivity factors, of the type proposed by Dr. Cicchetti, is required in determining the X factor for the companies. With respect to the exclusion of only some capital, the Commission determined that no adjustments to TFP will be made during the PBR term to account for the possible exclusion of some capital from the I-X mechanism.

514. Based on the above, the Commission finds that no adjustments to the industry TFP growth rate are required when establishing the X factors for the companies. Accordingly, the Commission finds that the X factor to be used in the PBR plans of the electric and gas distribution companies prior to consideration of a stretch factor is 0.96 per cent.

515. Furthermore, as set out in Section 6.5 of this decision, the Commission determined that a stretch factor of 0.2 per cent will apply to the companies' PBR plans for the duration of the PBR term. Accordingly, the Commission finds that the total X factor for the electric and gas distribution companies, inclusive of a stretch factor, will be 1.16 per cent.

[637] Transcript, Volume 4, pages 595-596.
[638] Transcript, Volume 8, page 1414, lines 9-25.
[639] Exhibit 98.02, Carpenter evidence, pages 33-34; Exhibit 233.01, AUC-ALLUTILITIES-EDTI-9(b).

7 Adjustment to rates outside of the I-X mechanism

7.1 Introduction

516. The Commission recognizes the need to make provision for recovery of a limited number of costs outside of the I-X mechanism. It is common for PBR plans to make special provision to reflect the cost impact of significant unforeseen events that are outside the ability of the regulated entity to control. Approved costs of this nature are recovered through a Z factor rate adjustment. In addition, the companies have proposed a capital factor for the recovery of certain specific capital project costs as well as Y factor rate adjustments to permit the flow through to customers of third party charges that are beyond the control of the companies, Commission directed costs, deferral accounts and certain other costs. This section will review each of the proposals to deal with costs outside of the I-X mechanism.

7.2 Z factors

517. A Z factor is ordinarily included in a PBR plan to provide for exogenous events. The Z factor allows for an adjustment to a company's rates to account for a significant financial impact (either positive or negative) of an event outside of the control of the company and for which the company has no other reasonable opportunity to recover the costs within the PBR formula.

518. The Commission considered the criteria for when the impact of an exogenous event would qualify for a Z factor adjustment to rates in Decision 2009-035 and accepted the following proposal put forward by Dr. Cronin:[640]

> With respect to exogenous events, the Commission considered the evaluation criteria proposed by Dr. Cronin, and has determined that the following criteria for an exogenous adjustment should be adopted.
>
> 1) The impact must be attributable to some event outside management's control;
> 2) The impact of the event must be material. It must have a significant influence on the operation of the utility otherwise the impact should be expensed or recognized as income, in the normal course of business;
> 3) The impact of the event should not have a significant influence on the inflation factor in the FBR formulas; and
> 4) All costs claimed as an exogenous adjustment must be prudently incurred.

519. Applying these criteria, if an exogenous event has an economy-wide impact, the cost of that impact will be reflected in and recovered through the I factor. Providing the company with additional revenues through a Z factor adjustment in circumstances where the event has economy-wide impacts would result in a double-counting of the impact of the exogenous event. The criteria adopted by the Commission in Decision 2009-035 also speak to the recovery of costs after they have been incurred and subsequently found by the Commission to have been prudently incurred.

520. All of the companies' proposed plans include Z factors and generally agreed with the continued use of the criteria established in Decision 2009-035.[641]

[640] Decision 2009-035, Section 9.3, paragraph 247, page 54.

6. Stretch Factor and X Factor Recommendations

6.1 Stretch Factor

The Applicants adopted NERA's recommendation of a 0% stretch factor.[62] No benchmarking evidence was presented by the Applicants to substantiate this proposal. The evidence in hand is that Enbridge had a TFP growth trend well below the U.S. norm, while Union's TFP growth was above the norm.[63] Both companies have been operating for several years under rate plans that provide supplemental capital revenue.

Dr. Makholm maintained in his direct evidence that stretch factors are appropriate only for first generation IRMs. The AUC embraced this principle in its decision in its first generic IRM proceeding.[64] However, the AUC in in its second generation IRM decision seemed to include a stretch factor in its 0.30% X factor decision.[65] Stretch factors have been included explicitly in some other second generation or later IRMs.[66] For example, *three* generations of IRMs for power distributors in Ontario have included a stretch factor, including the current plan. The OEB explained why it continues to include stretch factors in IRMs in a decision on 4th GIRM, stating that:

> The Board believes that stretch factors continue to be required and is not persuaded by arguments that stretch factors are only warranted immediately after distributors switch from years of cost of service regulation to IR. Stretch factors promote, recognize and reward distributors for efficiency improvements relative to the expected sector productivity trend. Consequently, stretch factors continue to have an important role in IR plans after distributors move from cost of service regulation.[67]

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[62] EB 2017-0307, Exhibit B, Tab 1, pp. 8-9.

[63] However, better methods for measuring the MFP trends of the Applicants may yield faster TFP growth.

[64] EB 2017-0307, Exhibit B, Tab 2, p. 14.

[65] Alberta Utilities Commission (2017), *Errata to Decision 20414 2018-2022 Performance-Based Regulation Plans for Alberta Electric and Gas Distribution Utilities*, pp. 38-40.

[66] Numerous IRMs, including most established through settlements, do not itemize the components of the X factor and thus do not indicate whether a stretch factor is included. This likely includes some second generation or later IRMs which had previously included an explicit stretch factor.

[67] Ontario Energy Board (2013), EB-2010-0379, *Report of the Board Rate Setting Parameters and Benchmarking under the Renewed Regulatory Framework for Ontario's Electricity Distributors,* Issued on November 21, 2013 and as corrected on December 4, 2013, p. 18-19.

At the Stakeholder Conference and in the subsequent written comments, distributors expressed the view that setting the productivity factor to zero when estimated TFP growth is negative constitutes an implicit stretch factor in the X-factor. The Board notes that if that argument is accepted, then the 2-factor IPI may also be considered to constitute an implicit, and offsetting, input price differential in the overall price cap index ("PCI") adjustment. For the 2002 to 2012 period, the PCI growth that would have resulted from the combination of the 2-factor IPI inflation and a zero productivity factor exceeds the growth that would have resulted from the combination of the 3-factor IPI inflation and PEG's estimated -0.33% TFP growth by an average of 0.5% per annum.[19]

All stakeholders supported the Board's efforts to estimate an Ontario TFP trend; however, some proposed alternative methods to indexing and others proposed alternative inputs and/or assumptions for the indexing method. The alternatives proposed are outlined in Appendix A. While the Board finds that there may be merit in some of the alternatives presented; there is insufficient information at this point to incorporate them into the calculation of the TFP to be used for setting rates for 2014 and beyond. The Board may further explore some of these alternatives when carrying out the 2019 update.

2.2.2 Stretch Factor

In its RRF Report, the Board determined that its approach in relation to the use and assignment of non-negative (i.e., >0 or =0) stretch factors under 3rd Generation IR will continue under the Board's Price Cap IR. The Board believes that stretch factors continue to be required and is not persuaded by arguments that stretch factors are only

[19] Table 2 on page 12 shows that GDP-IPI (FDD) grew by 1.9% per annum between 2002 and 2012, and AWE-All Employees-Ontario grew by 2.45% over the same period. The 2-factor IPI over that period would have yielded 2.1% (i.e., 0.7*GDP-IPI(1.9%) + 0.3*AWE(2.45%)). Table 1 in the Board's Draft Report shows that industry input price index as estimated by the 3-factor IPI grew by 1.3% between 2002 and 2012. The input price differential (inflation factor minus input price inflation) is therefore 2.1% - 1.3% = 0.8%. The 2-factor IPI exceeds the industry's computed growth in input price inflation by an average of 0.8% per annum, over the same historical period used to estimate the -0.33% productivity factor. Combining these two effects yields the 0.5% PCI growth differential.

warranted immediately after distributors switch from years of cost of service regulation to IR. Stretch factors promote, recognize and reward distributors for efficiency improvements relative to the expected sector productivity trend. Consequently, stretch factors continue to have an important role in IR plans after distributors move from cost of service regulation. However, the Board in its RRF Report concluded that it will make the stretch factor assignments under Price Cap IR on the basis of total cost benchmarking evaluations, rather than the two OM&A cost benchmarking evaluations used in 3rd Generation IR. The assignments will continue to be revised annually to reflect changes in efficiencies.

The Board also stated in its RRF Report that it would consider whether the current three stretch factor values of 0.2%, 0.4%, and 0.6% continue to be appropriate or whether there should be greater differentiation between the three values.

The Board re-iterates its earlier conclusion:

> It is important to note that stretch factors are consumer benefits. They are somewhat analogous to earnings sharing mechanisms, although stretch factors take effect immediately with the application of the formula and are not dependent on the realization of any productivity gains or excess earnings, as would be the case with an earnings sharing mechanism. Stretch factors are an integral part of the IR formula, and are not dependent on future performance by the distributor. [20]

With the development of total cost benchmarking, and in light of continuing concerns with the use of peer group analysis, **the Board has determined that distributors will be assigned to one of five groups with stretch factors based on their efficiency as determined through PEG's econometric total cost benchmarking model**.

PEG developed two benchmarking models, one econometric and one unit cost using peer groups. The models are described in the May 2013 Updated PEG Report. Also in

[20] Ontario Energy Board. EB-2007-0673 Supplemental Report of the Board on 3rd Generation Incentive Regulation for Ontario's Electricity Distributors. September 17, 2008. p.19.