Réponse du Transporteur et du Distributeur à l'engagement 4

Engagement 4

(Demandé par l'AQCIE-CIFQ le 2013-11-01, notes sténographiques, volume 5, page 168)

Provide a copy of the June twenty-seven (27), two thousand and thirteen (2013) letter of the BCUC referred to at page 5 of Dr. Coyne's additional testimony filed as HQTD-3, Document 2.1, and also provide a copy of the written response addressed by Concentric to the BCUC in response to the said letter.

Réponse

Please see the following documents (bundled):

- BCUC letter dated June 27, 2013;
- Concentric's written submission dated July 26, 2013;
- Concentric's written response dated August 12, 2013.

ERICA HAMILTON
COMMISSION SECRETARY
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Log No. 39204

VIA EMAIL

June 27, 2013

To: All Registered Parties
(GCOC proceeding –Stage 1)

Re: British Columbia Utilities Commission
Generic Cost of Capital Proceeding
Stage 1 Decision dated May 10, 2013
Automatic Adjustment Mechanism
Requests for Written Submissions

The Commission in its Decision on Generic Cost of Capital (GCOC) Proceeding – Stage 1 (Decision) issued on May 10, 2013, determined that the Automatic Adjustment Mechanism (AAM) will be re-instituted for annually setting the Return on Equity (ROE) of the benchmark utility. The use of an AAM will commence in the 2014 calendar year and will operate until December 31, 2015, subject to the condition that an actual long Canada bond yield of 3.8 percent is met or exceeded. (Decision, pp. 90-91)

The formula to be used, and the basic method to determine the changes in long Canada bond forecast and the changes in utility bond spread, is as follows:

ROE_t = Base ROE (8.75%) + 0.50 x ($LCBF_t$ – Base LCBF) + 0.50 x ($UtilBondSpread_t$ – BaseUtilBondSpread)

Where:

$LCBF_t$ = is the Long Canada Bond Forecast for the test year, with a floor of 3.8 percent;
Base LCBF = 3.8 percent;
$UtilBondSpread_t$ = is the average spread of 30 year A-rated Canadian Utility bond yields over 30 year Government of Canada bond yields;
BaseUtilBondSpread = to be determined.

The LCBF is calculated as follows:

$$LCBF_t = \left[\frac{{}_{10}CBF_{3,t} + {}_{10}CBF_{12,t}}{2}\right] + \left[\frac{\sum_i ({}_{30}CB_{i,t} - {}_{10}CB_{i,t})}{I}\right]$$

Where:

- ${}_{10}CBF_{3,t}$ is the 3 month forecast of the 10 year Government of Canada bond yield as published in *Consensus Forecasts* for [a designated month].

…/2

- $_{10}CBF_{12,t}$ is the 12 month forecast of the 10 year Government of Canada bond yield as published in *Consensus Forecasts* [a designated month].

- $_{30}CB_{i,t}$ is the benchmark bond yield rate for the 30 year Government of Canada bond at the close of day i of [a designated month], as published by the Bank of Canada.

- $_{10}CB_{i,t}$ is the benchmark bond yield rate for the 10 year Government of Canada bond at the close of day i of [a designated month], as published by the Bank of Canada.

- I is the number of business days for which the Government of Canada and A-rated Utility bond yield rates are published in [the designated month].

The $UtilBondSpread_t$ is the average spread of 30 year A-rated Canadian Utility bond yields over 30 year Government of Canada bond yields over all the business days in a designated month preceding the implementation dates and is calculated as:

$$UtilBondSpread_t = \frac{\sum_i ({}_{30}UtilBonds_{i,t} - {}_{30}CB_{i,t})}{I}$$

Where

- $_{30}UtilBonds_{i,t}$ is the average 30 year A-rated Canadian Utility bond yield rate, from an agreed source, for business day I of a designated month preceding the implementation date.

- $_{30}CB_{i,t}$ is the benchmark bond yield for 30 year Government of Canada bond at the close of day I of a designated month preceding the implementation date, as published by the Bank of Canada.

- I is the number of business days for which Government of Canada and A-rated Utility bond yields are published in a designated month preceding the implementation date.

In the Decision, the Commission noted that the potential for downward bias exists in this two-variable AAM. Therefore, the Commission directed that any change in ROE resulting from the AAM formula be subject to an actual long Canada bond yield of 3.8 percent being met or exceeded. The Commission also noted that the potential for downward bias will continue if attention is not paid to setting appropriate base rates for the formula and notified parties who participated in the GCOC proceeding – Stage 1 that it will be seeking submissions with respect to determining appropriate base levels and developing an effective methodology for deriving the inputs to the formula. (Decision, p. 91)

By this letter, the Commission is inviting all parties to make submissions on the AAM for the benchmark ROE. The Commission is not seeking further comments on the merits of the implementation of the AAM but specifically on each element of the inputs to the formula.

The regulatory timetable for written submissions is as follows:

ACTION	DATE (2013)
Written submissions from all Parties	Friday, July 12
Reply Submissions to all Submissions	Monday, July 29
Oral Submissions for clarifications, if required	to be determined

In order to assist parties in their written submissions, Attachment A to this letter lists each of the elements in the AAM formula. The Commission seeks submissions for the elements in the shaded boxes.

Please do not hesitate to contact Commission Secretary at commission.secretary@bcuc.com or Commission staff Ms. Eileen Cheng at eileen.cheng@bcuc.com for further information.

Yours truly,

Erica Hamilton

EC/dg
Attachment

Automatic Adjustment Formula for the Benchmark ROE
for 2014 and 2015 if the Risk Free Rate Meets or Exceeds 3.8 Percent

Element	Value	Written Submissions Sought by BCUC
Risk free rate	3.8%	3.8% as floor
Market risk premium	6.4%	
Beta of benchmark utility	0.6	
Subtotal of Capital Asset Pricing Model	7.64%	
Results from DCF Model	8.9%	
Average of CAPM and DCF	8.25%	
Allowance for financing Flexibility	0.5%	
Total	8.75%	The allowed benchmark ROE at 8.75 percent is used as base for the formula.
Base LCBF	3.8%	This is the corresponding base for the Base ROE.
$_{10}CBF_{3,t}$	To be calculated	• Should data from the *Consensus Forecasts* be used? If not, where should the forecast information be sourced? • Should the month of October, similar to the old BCUC AAM formula, be used? If not, which month's data should be used?
$_{10}CBF_{12}$	To be calculated	• Should data from the *Consensus Forecasts* be used? If not, where should the forecast information be sourced? • Should the month of October, similar to the old BCUC AAM formula, be used? If not, which month's data should be used?
BaseUtilBondSpread	To be determined	• Should the value be based on data submitted by the expert witness Dr. Laurence Booth in his evidentiary filing or his Response to Information Requests (e.g., Exhibit C6-12, p. 100; Exhibit C6-15, BCUC IR 44.4)? • If not, what should the preferred base value and why?

Element	Value	Written Submissions Sought by BCUC
$UtilBondSpread_t$	To be determined	• Should the source of information be Bloomberg L.P. [Series C29530Y] as used by the Ontario Energy Board? • If not, what other indexes should be used as an alternative? Why? • Which month's index should be used? • Should FEI provide the information (e.g., Bloomberg data) for the designated month for the purpose of applying the formula?
$_{30}CB$	To be calculated	• Should the statistics as published by the Bank of Canada (Cansim Series V39056) be used? If not, which alternative source of information is preferred and why? • Should the month of October be used? If not, which month's data should be used?
$_{10}CB$	To be calculated	• Should the statistics as published by the Bank of Canada (Cansim Series V39055) be used? If not, which alternative source of information is preferred and why? • Should the month of October be used? If not, which month's data should be used?
AAM trigger	Decision whether or not to trigger the implementation of the AAM effective January 1, 2014	• Should the 3.8 percent threshold be based on the same calculation (data source and time period) as the factor '$_{30}CB$' in the AAM formula? If not, what other source and time period should be used to make that decision, and why?
ROE_t	To be calculated	• Should the calculation of ROE be rounded to two decimal places as described in Letter L-43-01?

July 26, 2013

FortisBC
10th Floor, 1111 West Georgia Street
Vancouver, BC V6E 4M4
Canada

Attention: Mr. Roger Dall'Antonia
Vice President, Strategic Planning, Corporate Development and Regulatory Affairs

Dear Roger:

Re: British Columbia Utilities Commission
Generic Cost of Capital Proceeding
Stage 1 Decision dated May 10, 2013
Automatic Adjustment Mechanism
Requests for Written Submissions

Please find enclosed for filing the written submission of Concentric Energy Advisors, Inc. in response to the FortisBC Utilities' request regarding the above referenced letter, dated June 27, 2013.

Yours very truly,

James M. Coyne, Senior Vice President
Concentric Energy Advisors, Inc.

I. Introduction

In its Letter, dated June 27, 2013, the Commission sought stakeholder submissions on the specification of inputs for the newly reinstated annual AAM formula, adopted by the Commission in its Generic Cost of Capital Proceeding – Stage 1 Decision, issued May 10, 2013. The AAM will be used to derive the ROE for the benchmark utility and all other BC utilities' equity returns will be established at specified premiums to the benchmark. The use of the AAM will commence for the 2014 calendar year and will operate until December 31, 2015.

Because the BCUC recognized that the previous AAM, which was based entirely on the change in long term government bond yields, failed to satisfy the Fair Return Standard when interest rates continued at abnormally low levels,[1] the new AAM formula introduced a spread component which is effectively appended to the previous formula to capture not only changes in the fundamental long term interest rates, but also changes in corporate utility costs of capital. Lastly, the new AAM establishes a floor LCBF of 3.8 percent, in recognition of the atypical relationship between ROE and the cost of risk in periods of unusually low interest rates.[2] The formula as approved by the BCUC is shown below:

$$ROE = Base\ ROE\ (8.75\%) + 0.50 \times (LCBF_t - BaseLCBF) + 0.50 \times (UtilBondSpread_t - BaseUtilBondSpread)$$

Where:

$LCBF_t$ is the Long Canada Bond Forecast for the test year, with a floor of 3.8 percent. The $LCBF_t$ is calculated as follows:

$$LCBF_t = \left[\frac{10CBF_{3,t} + 10CBF_{12,t}}{2}\right] + \left[\frac{\sum_i (30CB_{i,t} - 10CB_{i,t})}{I}\right]$$

The *BaseLCBF* is 3.8%

$UtilBondSpread_t$ is the average spread of 30 year A-rated Canadian utility bond yields over 30 year Government of Canada bond yields, averaged over all business days in a designated month preceding the implementation date; and the BaseUtilBondSpread will be determined after consideration of stakeholder submissions.

The new AAM is similarly specified to the currently established Ontario AAM formula, with the exception of the 3.8 percent LCBF floor. Until the trigger is met, the currently authorized return of 8.75 percent will continue as the authorized return for the benchmark utility in BC. The Commission has specifically sought comments on each element of the inputs to the formula. The Commission's specific questions and Concentric's responses are on the following pages.

1 BCUC Order G-20-12 (May 10, 2013) at 89.
2 Ibid at 90.

II. Concentric's Comments on the Formulaic Inputs

10CBF3,t and 10CBF12,t

a) Should data from Consensus Forecasts be used? If not, where should the forecast information be sourced?

Concentric believes that the use of the Consensus Economics forecast of the 10-year Government of Canada ("GOC") bond yield 3-months out and 12-months out continues to be appropriate. The Consensus Economics forecast is already widely used across Canada. Averaging the 3-months out and the 12-months out forecasts for the 10-year GOC bond (to which the term spread between the 30-year and 10-year bonds is added) has become the convention in Canada for purposes of deriving a long-term risk free rate for AAMs. The Ontario formula relies upon the same convention and Concentric finds no compelling reason to make a change. As Concentric noted in our review of Formulaic Inputs, in Appendix A of our 2010 Report, the forecast 10-year GOC bond yield adds a forward-looking element that is generally superior to using the near term historical bond yield; and this data by Consensus Economics is widely available for use by practitioners and therefore provides an objective, transparent and widely accessible measure of forecast government bond yields. Concentric is not aware of any deficiencies in the Consensus Economics forecast that would preclude its ongoing use. Although there are reasonable alternatives (i.e. Blue Chip Financial offers a consensus forecast with similar data), we do not find one forecast to be superior to the other. In summary, the Consensus Economics forecast provides a reasonable forecast for the purpose of providing a forward looking 10-year government bond yield and there is no reason to discontinue its use for this purpose.

b) Should the Month of October, similar to the old BCUC AAM formula, be used? If not, which month's data should be used?

Concentric finds no reason to discontinue the practice of using October forecast data for the BCUC AAM formula. It is generally advisable to allow adequate time between the date data is collected and the date rates go into effect for administrative ease. The time period should allow sufficient time to incorporate the data into rates while assuring it is current enough to be relevant in the prevailing economic environment. The use of forecast data for the month of October satisfies both of these objectives.

BaseUtilBondSpread

a) Should the value be based on data submitted by the expert witness Dr. Laurence Booth in his evidentiary filing or his Response to information requests (e.g., Exhibit C6-12, p. 100; Exhibit C6-15, BCUC IR 44.4)?

No, it should not. The spreads Dr. Booth has calculated of 1.86[3], 1.77[4], and his

[3] Dr. Booth Direct Testimony, Exhibit C6-12, p. 100 to this proceeding.

recommended spread of 180 basis points[5] are based on the Generic A-rated corporate bond as opposed to the A-rated utility bond and are substantially above current levels. It is Concentric's view that the utility-specific bond spread is the more relevant indicator of the capital environment of the Canadian regulated utility and accordingly is the preferred data set for the AAM's bond spread inputs. Further, the Commission has incorporated the use of a utility-specific bond spread in its AAM formula. Therefore, Dr. Booth's recommendation does not align with the Commission's request for a utility-specific bond spread.

Even if one were to accept the corporate bond spread as a substitute for the utility bond spread, Dr. Booth's estimate of the corporate bond spread at 180 basis points is well above prevailing spreads. Concentric's data in Figure 1 shows that the Canadian Generic Corporate A-rated bond spread (using Bloomberg data series C28730Y) has averaged 149 basis points over the 10-year period, with a median value of 142 basis points. The average daily corporate bond spread since the global economic crisis was 150 basis points from January 2010 to July 4, 2013.

Without reviewing Dr. Booth's data and calculation, we cannot comment on the cause of the substantial difference between his recommendation for the bond spread of 180 basis points and the prevailing corporate bond spreads shown in Figure 1, but it appears that Dr. Booth has incorporated a period of abnormally high bond spreads (which occurred during the global economic crisis in 2009) in his average. As such, the use of Dr. Booth's recommended bond spread would result in a downwardly biased AAM at the outset, which the Commission has acknowledged to be a concern with the AAM.[6] The downward bias is created by establishing base levels for formulaic inputs that exceed prevailing levels.[7]

By contrast, the historical median daily utility bond spread is 135 basis points and the average is 131 basis points for the period represented by the data below. The utility bond spread that has occurred since the global economic crisis is 145 basis points from January 2010 to July 4, 2013, and is 140 basis points on July 4, 2013. In its current formulation, if Dr. Booth's recommended bond spread of 180 basis points were adopted as the base utility bond spread, the triggering of the formula would result in an immediate reduction in the formula ROE for 50 percent of the difference between Dr. Booth's 180 basis points and the applicable month's utility bond spread, currently 140 basis points as of this writing. This difference would create downward bias in the formula, separate from the compression of utility bond spreads that would be expected to occur as interest rates rise to 3.8 percent. In Concentric's view, a declining ROE formula in a rising interest rate environment would not provide a meaningful response to market conditions and would be evidence that the formula was mis-specified.

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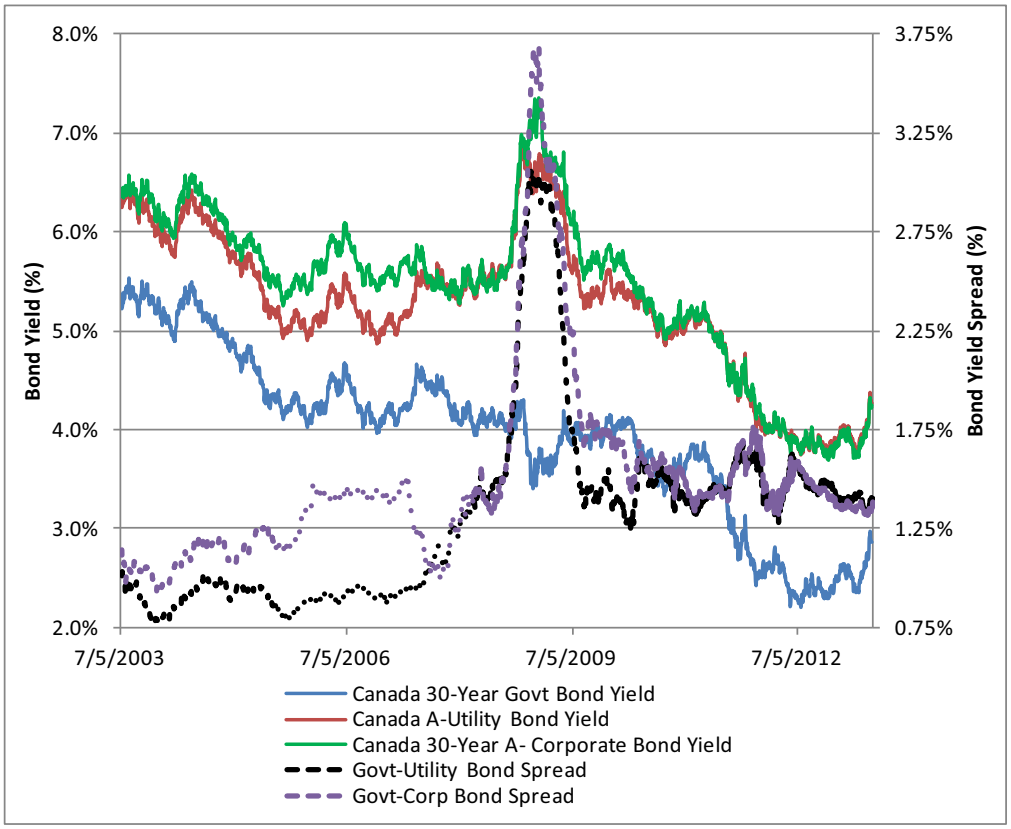
4 Dr. Booth IR Response to BCUC IR 44.4.
5 Ibid.
6 BCUC Order G-20-12 (May 10, 2013) at 91.
7 Ibid.

Figure 1: Analysis of Canadian Utility Bond Spreads



b) If not, what should the preferred base value be and why?

As Concentric noted during the oral hearings in the GCOC proceeding, implementing a trigger and a floor for the LCBF of 3.8 percent, while interest rates gradually increase to 3.8 percent, would make Dr. Booth's proposed formula (with a 3.8 percent trigger on the LCBF) downwardly biased at the outset. Note that in Concentric's 2010 Report, we found that there was a negative relationship between the spread between utility corporate bond yields and the long term government bond yield.[8] In its Order, the Panel acknowledged that an increase in the LCBF with no corresponding change in utility bond rates would result in a decrease in the credit spread and, consequently, the ROE; and accepted that the potential for downward bias existed.[9] The Commission Panel set the floor on the LCBF to attempt to address the issue of downward bias, and acknowledged that downward bias would continue if attention was not paid to setting appropriate base rates for the formula (presumably the base utility bond spread) and would seek submissions from the parties with respect to determining appropriate base levels.[10]

8 Concentric 2010 Report, *A Review of Automatic Adjustment Mechanisms for Cost of Capital* (November 29, 2010) at 33.
9 BCUC Order G-20-12 (May 10, 2013) at 91.
10 Ibid.

Concentric submits that the proper specification of the base utility bond spread is critical to the proper functioning of the proposed AAM to avoid bias. (The base utility bond spread is the spread that is subtracted from $UtilBondSpread_t$ to arrive at the change in utility bond spreads.) A formula that immediately yields a lower ROE, due to setting the base level too high, would be broken at the outset. To address these issues, Concentric proposes that the BCUC set the base utility bond spread at the time the AAM is triggered. For example, if the October 2013 Long Canada bond yield meets or exceeds 3.8 percent, the base utility bond spread component of the AAM formula should be established at the average of the daily spreads between the Canadian Utility A-rated bond and the 30-year Long Canada bond for the month of October 2013.[11] By setting the base utility bond spread at the time the AAM is triggered, the ROE produced by the formula would not be unduly affected by changes in utility bond spreads that may have occurred while the formula was inactive, i.e. before the formula trigger of 3.8 percent had been met or exceeded. Concentric sees this as the preferred solution as it would mitigate errant impacts of arbitrarily assigned base utility bond spreads and would allow the formula to deal with changes in bond spreads prospectively from its triggering point, rather than be bound to a utility bond spread that bears no relation to the bond yield upon which the formula was triggered.

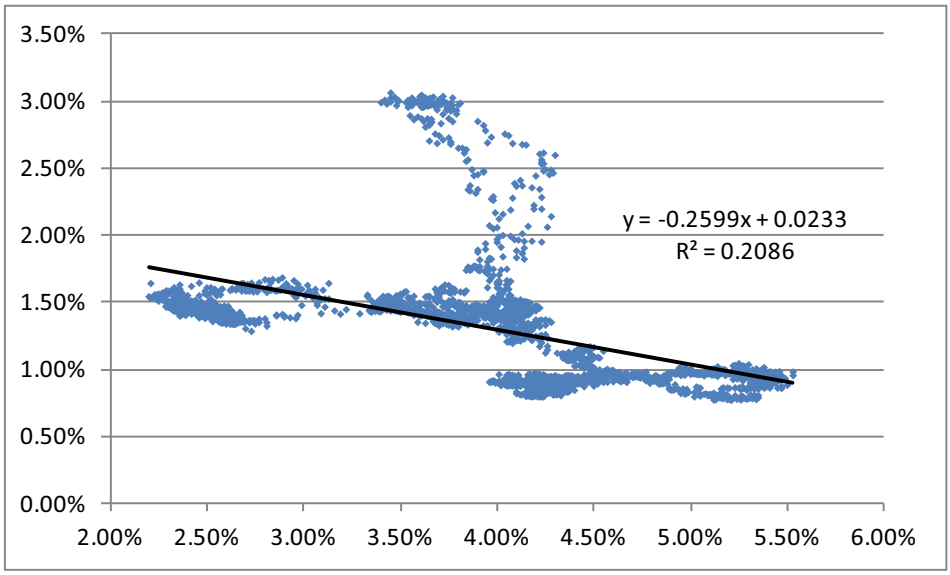
Alternatively, the Commission may consider establishing a hard-coded base at the inception of the formula for the utility corporate bond spread. If the Commission desires to adopt this approach, Concentric recommends that the base utility bond spread be set at a level consistent with the formula trigger of 3.8 percent. A regression of 10-years of daily utility bond spreads indicates that when the 30-year GOC bond yield is 3.8 percent, the A-rated utility bond spread should be 134 basis points, given by the regression equation:

$$BaseUtilBondSpread = [-0.2599 * (30CB \text{ of } 3.8\%)] + 2.33\% = 1.342\%$$

The base utility bond spread coefficient of -0.2599 is statistically significant with a t-statistic of -25.6731; as is the intercept of 2.33 percent with a t-statistic of 57.1383. The R^2 is low, however, indicating as expected that factors other than government bond yields impact utility bond spreads. The regression results are shown in Figure 2.

[11] This would be calculated by the daily average of the difference between the Bank of Canada, 30-year government bond yield series V39056 and the Bloomberg Canadian A-Rated, long-term utility bond series C29530Y for the applicable month.

Figure 2: Daily Utility Bond Spreads as a Function of Daily 30-Year GOC Bond Yields (2003-2013)



Source: Daily Bank of Canada 30-Year Government bond yields series V39056, and Bloomberg's Fair Value Canadian A-Rated Utility Bond Curve series C29530Y (Daily) from (7/7/2003 – 7/4/2013)

Ms. McShane's evidence indicated that a forward-looking credit spread would be 135 basis points, which is consistent with our estimate above.[12] If Dr. Booth's recommended credit spread of 180 basis points were used with a formula triggered at 3.8 percent, as described previously, the BC utilities would incur an immediate and unwarranted reduction in ROE (23 basis points using the regression result of 134 basis points, 22.5 basis points using Ms. McShane's estimate of 135 basis points, and 20 basis points using the current spread of 140 basis points). If Dr. Booth's utility bond spread of 180 basis points was instead established as a floor for the utility bond spread, it would deactivate the utility bond spread portion of the formula, as it would be unlikely that as interest rates rise to meet or exceed 3.8 percent, utility bond spreads would reach the level of 180 basis points.

In summary, in Concentric's view the preferable approach would be to set the base utility bond when the trigger is activated as discussed above. However, if the Commission desires to establish a utility bond spread at the outset of the formula, Concentric submits that the bond spread should be set relative to the trigger of 3.8 percent, at a value in the range of 131 to 135 basis points. This range is based on the average and median utility bond spread data depicted in Figure 1, of 131 and 135 basis points respectively; and on Concentric's above regression analysis indicating the appropriate utility bond spread is 134 basis points when GOC 30-year bonds are 3.8 percent. We would also note that Ms. McShane characterized this spread as 135 basis points.

[12] McShane Direct Evidence at 104.

UtilBondSpread$_t$

a) Should the source of information be Bloomberg L.P. [Series C29530Y] as used by the Ontario Energy Board? And b) If not, what other indexes should be used as an alternative? Why?

In Concentric's 2010 Report, we compared the Moody's, Bloomberg, and DEX bond yield series. In that Report, Concentric concluded that Bloomberg or DEX series were preferable to the Moody's bond yield series; and that the Bloomberg and DEX series were nearly identical and reasonable substitutes for one another. We note the utility-specific index is preferable to the generic corporate index as it captures the capital environment of the regulated utility as opposed to the unregulated corporate entity, and as shown in Figure 1, the two indices do tend to occasionally diverge. Further, we note that Bloomberg terminals are widely in use among utilities and cost of capital practitioners and thus the Bloomberg data may be more widely available at no incremental cost to practitioners. As such, the Bloomberg data may have a cost advantage over that of the DEX data. For these reasons, and since the Canadian utility Bloomberg data is already in use in Ontario, we believe the Bloomberg data is the preferable source for Canadian utility bond yield indices.

b) Which month's index should be used?

Concentric submits that the same month's index should be used as that used to calculate the spread between the 30-year and 10-year GOC bond yields. In Concentric's view, all data should be sourced to the same month (which would suggest that October is appropriate based on the discussion above) and otherwise sees no advantage to one month over another.

c) Should FEI provide the information (e.g., Bloomberg data) for the designated month for the purpose of applying the formula?

Yes, based on the advice from the FortisBC Utilities that Bloomberg has consented to the use of data for this purpose, Concentric sees no reason why FEI should not provide the Bloomberg data for the group of BC utilities.

30CB and 10CB

a) Should the statistics as published by the Bank of Canada (Cansim Series V39055 and V39056) be used? If not, which alternative source of information is preferred and why?

In Concentric's view, and in consultation with financial banking expert Aaron Engen of the Bank of Montreal, the Bank of Canada (Cansim Series V39055 and V39056) are appropriate series to use as benchmark indices for the 10 and 30-year GOC bond yields. We note that the Bank of Canada Cansim Series referenced above also provide identical results to the Bloomberg GCAN10YR and GCAN30YR indices, and could be used interchangeably. Though we understand that the Bloomberg and Bank of Canada indices may differ slightly from actual bond market pricing (where near-term bond yield data is interpolated to derive

pricing for a specific maturity), such differences would be unlikely to result in material differences for any given maturity.

In Concentric's view, any benefit derived from the more precise pricing of government bonds by using proprietary bond pricing data or by interpolating bond yield data, would be lost by the increased administrative burden to obtain and/or manipulate such data, and by the reduction of data transparency and ease of accessibility. Accordingly, Concentric believes that the Commission should continue to rely on either the Bank of Canada data or the similar data provided by Bloomberg. Concentric is indifferent as to which data source the BCUC use, but since the use of Bank of Canada data already has become precedent in Canada (i.e. both the Ontario and Quebec formulas rely on the Bank of Canada series), and since the Bank of Canada data is easily accessed free of charge, Concentric sees no reason to change.

b) Should the month of October be used? If not, which month's data should be used?

As indicated above, Concentric submits that all calculations for the formula should be sourced to the same month. If the October Consensus Forecast is used to derive the estimate of forecast 10-year GOC bond yields, then the October daily average should be used to calculate the spread between the 10-year and 30-year GOC bond yields, and the October Bloomberg fair value index should be used to calculate the spread between the utility A-rated bond and the 30-year GOC bond. As indicated previously, Concentric supports the practice of using October data.

AAM trigger

a) Should the 3.8 percent threshold be based on the same calculation (data source and time period) as the factor "30CB" in the AAM formula? If not, what other source and time period should be used to make that decision, and why?

Yes. It is Concentric's view that the 3.8 percent threshold should be directly tied to the calculation of the 30CB in the AAM formula. Further, Concentric proposes that upon triggering the formula, i.e. when the average actual GOC 30-year bond yield meets or exceeds 3.8 percent, the base utility bond spread component should also be established. Though there is much latitude in determining how the 3.8 percent trigger will be determined to be met, i.e. a single occurrence, an average, last day of the period, etc.; in Concentric's view, the 30-year bond yield that is used to evaluate whether the trigger has been met should be calculated by taking the average of the daily 30-year bond yields for the month in which the AAM is being formulated, i.e. if October data is used to determine the formula inputs, the same data should be used to arrive at the average for the 30-year GOC bond yield. Even if the 3.8 percent was exceeded in prior months, it must be met or exceeded by the average daily 30-year GOC bond yields in the month of measurement to trigger the formula.

In Concentric's view, this approach is preferable to allowing a single occurrence of a daily yield at or above 3.8 percent to trigger the formula, or a prior month's average, since the level of interest rates that occur in those periods may not be consistent with the level of interest rates that are prevalent when the formula inputs are determined as proposed in the month of October.

ROEt

a) Should the calculation of ROE be rounded to two decimal places as described in Letter L-43-01?

Yes. Rounding the calculation of ROE to two decimal places using normal rounding conventions (i.e. half rounds up) is appropriate.

III. Conclusions

In summary, Concentric recommends the continued use of the Consensus Economics forecasts to determine 10CBF3,t and 10CBF12,t. Further, for the computation of the $UtilBondSpread_t$, there is some advantage to using the same data series as that used in Ontario's AAM (the Bloomberg data series). The Bank of Canada Cansim series continues to be an appropriate source for the calculation of 30CB and 10CB and has enjoyed substantial precedent for use in the Ontario and Quebec AAMs, as well as previous formulations of the AAM in BC. Concentric finds that using data for the month of October continues to be appropriate and maintains that all formulaic inputs should be sourced to the same month.

With respect to setting the base utility bond spread, Concentric maintains that the Commission should strive to reduce bias in the formula by either setting the base utility bond spread when the trigger is activated, or if the Commission desires to set the base utility bond spread at the outset of the formula, it should set it at a value in the range of 131 to 135 basis points, the likely value of the utility bond spread when the formula trigger of 3.8 percent has been met or exceeded (per Concentric's regression analysis). Either approach would reduce the risk of setting the base utility bond spread too high and causing downward bias in the formula. Lastly, the trigger should be determined to have been met or exceeded when the average daily 30-year GOC bond yield (sourced to the same month and data series as 30CB) reaches the level of 3.8 percent.

August 12, 2013

FortisBC
10th Floor, 1111 West Georgia Street
Vancouver, BC V6E 4M4
Canada

Attention: Mr. Roger Dall'Antonia
Vice President, Strategic Planning, Corporate Development and Regulatory Affairs

Dear Roger:

Re: British Columbia Utilities Commission
Generic Cost of Capital Proceeding
Stage 1 Decision dated May 10, 2013
Automatic Adjustment Mechanism
Requests for Written Submissions

This letter provides Concentric's response to the submission of Dr. Laurence Booth on behalf of the AMPC, BCPSO and CEC, dated July 26, 2013, in regards to the above referenced letter requesting written submissions, dated June 27, 2013. Concentric has limited its response to the areas of difference with Dr. Booth, and otherwise, generally concurs with Dr. Booth on remaining aspects of the submission.

BaseUtilBondSpread

The first area of difference between Concentric's submission and Dr. Booth's pertains to the base utility bond spread. Dr. Booth selects the month of October 2012 for his formulation and arrives at an average daily utility bond spread of 145 basis points. Dr. Booth indicates that he recommends the use of October 2012 data since it is consistent with the evidentiary basis for the past GCOC proceeding.

Concentric differs on the use of the October 2012 data for two primary reasons. First, the October 2012 data is outdated and bears little relevance to either the current capital market environment or to the capital market environment and the associated level of spreads that may occur once the formula is ultimately triggered at 3.8 percent. Secondly, the Commission has already established that the current level of interest rates is well below the level of interest rates that would be consistent with normal cyclical lows, and that 3.8 percent is the lowest rate that should be considered consistent with a normal cyclical low.[1] Because the base utility bond spread is a function of the long

[1] BCUC Order, G-20-12 (May 10, 2013) at 91.

term government bond yield (i.e. it is the difference between the utility bond yield and the government bond yield), it follows that when government bond yields are abnormally low that utility bond spreads may be, correspondingly, abnormally high. Establishing a base utility bond spread that is abnormally high, such as the 145 basis points that Dr. Booth has recommended, would be inconsistent with normalizing the starting point trigger.

The Commission aptly determined in its Decision that it may not be appropriate to set a base utility bond spread using data from a period of abnormal interest rates, acknowledging that the use of such data may result in downward bias if risk free yields were to rise with no corresponding increase in utility bond yields (causing utility bond spreads to contract).[2] The Commission further acknowledged that in order to mitigate downward bias in the formula, care must be used in setting appropriate base rates.[3] In Concentric's view, it makes little sense to tie the base utility bond spread to a period (October 2012) that the Commission has already determined to be abnormal and allow the utility bond spread component to become disassociated from the prevailing bond yields before the formula becomes activated.

Concentric's analysis in its previous submission, dated July 26, 2013, demonstrated that the credit spread is negatively correlated to the level of long term GOC bond yields. Consequently, as long term GOC bond yields rise to 3.8 percent, utility bond spreads would be expected to contract. In our submission, we showed, based on ten years of daily data, that the historical relationship (as determined by linear regression) between GOC 30-year bonds and the utility bond spread, indicates a utility bond spread of 134 basis points for GOC 30-year bond yields averaging 3.8 percent.[4] These results incorporate cyclical highs and lows over the past ten years (including the global economic crisis) and still may prove to be substantially above the spread that prevails when actual long term government bond yields meet or exceed 3.8 percent.

Concentric maintains the best way to reasonably ensure that the base utility bond spread does not inadvertently create bias in the formula at the outset is to set the base utility bond spread at a level consistent with the utility bond spread at the time when the formula is triggered, i.e. when the average of the daily 30-year GOC bond yield meets or exceeds 3.8 percent for the given month of October. In this way, potential bias is eliminated by tying the base utility bond spread directly to the associated GOC bond yields used to establish the trigger. However, if the Commission determines that it should set the base utility bond spread component now, the 134 basis points determined by Concentric's regression analysis would provide a better estimate of the base utility bond spread than Dr. Booth's recommended 145 basis points.

AAM Trigger

Concentric also differs with Dr. Booth on the determination of the AAM trigger. Dr. Booth indicates that he envisioned using a one year-ahead 30-year forecast bond, i.e. the LCBF; whereas, the Commission has indicated that the trigger should be based upon the actual GOC bond yield.[5]

[2] Ibid. [paraphrased].
[3] Ibid. [paraphrased].
[4] Concentric Submission dated July 26, 2013, at 5.
[5] BCUC Order, G-20-12 (May 10, 2013) at 91.

Concentric has based its submission on the assumption that the trigger for the formula should be based on "actual," and has recommended that it be based on an average of the same daily GOC bond yield data used for the input "30CB" in the AAM formula. This starting point trigger would also coincide with the determination of the utility bond spread, providing a consistent starting point for both inputs.

Except as specifically addressed above, Concentric generally concurs with Dr. Booth on remaining respects of his submission.

Yours very truly,

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