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July 26, 2013

Via Email
Original via Mail

British Columbia Utilities Commission
6th Floor, 900 Howe Street
Vancouver, BC
V6Z 2N3

Attention: Ms. Erica M. Hamilton, Commission Secretary

Dear Ms. Hamilton:

**Re: British Columbia Utilities Commission Generic Cost of Capital Proceeding
Stage 1 Decision dated May 10, 2013 Request for Written Submissions on
Automatic Adjustment Mechanism
Submissions of FortisBC Utilities (FBCU)**

The Generic Cost of Capital (GCOC) Stage 1 Decision dated May 10, 2013 reinstated an Automatic Adjustment Mechanism (AAM) for 2014 and 2015. The adopted AAM includes the use of a two variable model, incorporating the change in the long Canada bond yield and a variable to address the change in credit spread, specifically, that of A-rated Canadian utilities.

This letter responds to the Commission's June 27, 2013 request for further submissions on the specific inputs of the proposed AAM.

The FBCU have engaged Concentric Energy Advisors (Concentric), who are cost of capital experts that provided evidence on the subject of AAMs in Stage 1, to assess each of the formula inputs and provide their recommendation. Concentric's AAM report dated July 26, 2013 is attached as Appendix "A" to this letter. The FBCU submit that the Commission should accept Concentric's recommendations, which are summarized below.

1. ${}_{10}\text{CBF}_{3,t}/{}_{10}\text{CBF}_{12,t}$

- *Should data from Consensus Forecasts be used?*

Yes. There is precedent for using Consensus Forecasts, and it provides a reasonable data source.

- *Should the month of October, similar to the old BCUC AAM formula, be used?*

Yes. This accords with FEI's rate setting timelines and there is no reason to depart from past practice.

2. BaseUtilBondSpread

- *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, as noted on page 3 of Concentric's evidence, Dr. Booth's recommendation of 180 basis points is that of a Generic A-rated corporate bond spread. Given the bond indices specific to utilities are available, such as the Bloomberg Canadian A-rated Utilities Index Bloomberg, it makes better sense to use a Utility Index that captures characteristics unique to Canadian Utilities, i.e. regulation. The use of a Canadian Utility index is also consistent with the OEB formula and the intent of this formula to capture a utility specific bond spread.

If the AAM were employed today based on 180 basis points, it would result in an immediate downward bias to the credit spread component of the formula. As the Long Canada yield rate rises from its current low levels (2.89 percent as at July 19, 2013) to the trigger, FEU expects the credit spread may tighten even further, creating an even greater downward bias.

- *If not, what should be the preferred base value and why?*

The value should be set at the time the AAM formula is triggered by the actual long Canada bond yield meeting or exceeding 3.8 per cent. Setting the value at the time the formula is triggered will eliminate any estimation error or inherent bias in setting the value in advance of the trigger. A less favourable alternative is to establish the base value now. If that approach is to be taken, the selected value should be in the range of 131 to 135 basis points, consistent with Concentric's analysis.

3. UtilBondSpread_t

- *Should the source of information be Bloomberg L.P. [Series C29530Y] as used by the Ontario Energy Board?*

Yes. The Bloomberg data has a credible precedent in the Ontario Energy Board formula and is readily available.

- *If not, what other indexes should be used as an alternative? Why?*

N/A

- *Which month's index should be used?*

The month of October, as the data points should be drawn from the same period as with ${}_{10}\text{CBF}_{3,t}/{}_{10}\text{CBF}_{12,t}$.

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

FEI is capable of providing the information as it has access to the Bloomberg data set. FEI has also received permission from Bloomberg to provide the data.

4. ${}_{30}\text{CB}$ and ${}_{10}\text{CB}$

- *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?*

The Cansim Series should be used as it is readily available and easily corroborated given it is published by the Bank of Canada. Also, there is precedent for using the Cansim series in the Ontario Energy Board Formula.

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

October should be used. The data points should be drawn from the same period as with ${}_{10}\text{CBF}_{3,t}/{}_{10}\text{CBF}_{12,t}$ and UtilBondSpread_t .

5. AAM Trigger

- *Should the 3.8 per cent 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 should be based on the same calculation as the 30CB input.

6. ROE_t

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

Yes.

The FBCU respectfully submit that Concentric's analysis and recommendations regarding the AAM inputs are reasonable and should be accepted.

If you have any questions with respect to this filing, please contact Grant Hodgkins at (604) 443-6543.

Sincerely,

on behalf of the FORTISBC UTILITIES

Original signed by: Shawn Hill

For: Roger Dall'Antonia

Attachment

cc (email only): Registered Parties

Appendix A

CONCENTRIC ENERGY ADVISORS

**AUTOMATIC ADJUSTMENT MECHANISM
REPORT DATED JULY 26, 2013**



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:

$$ROE = \text{Base ROE (8.75\%)} + 0.50 \times (\text{LCBF}_t - \text{BaseLCBF}) + 0.50 \times (\text{UtilBondSpread}_t - \text{BaseUtilBondSpread})$$

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:

$$\text{LCBF}_t = \left[\frac{10\text{CBF}_{3,t} + 10\text{CBF}_{12,t}}{2} \right] + \left[\frac{\sum_i (30\text{CB}_{i,t} - 10\text{CB}_{i,t})}{I} \right]$$

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 $\text{BaseUtilBondSpread}$ 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 1.86³, 1.77⁴, and his

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



recommended spread of 180 basis points⁵ 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.

⁴ Dr. Booth IR Response to BCUC IR 44.4.

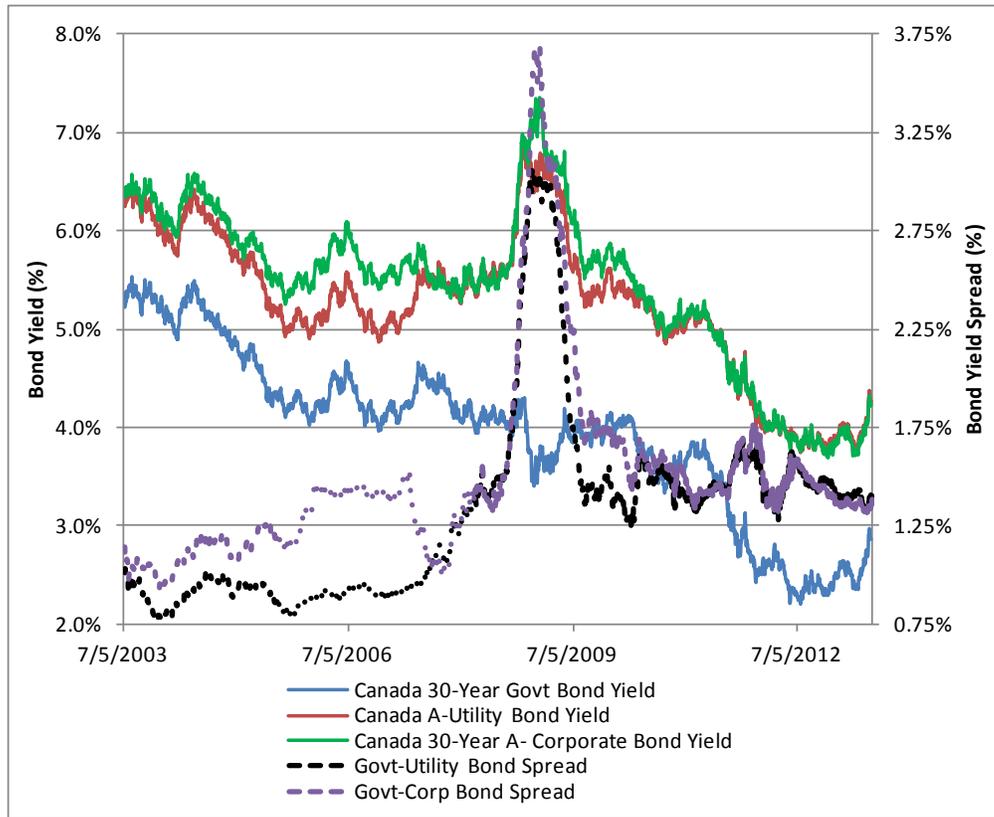
⁵ Ibid.

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:

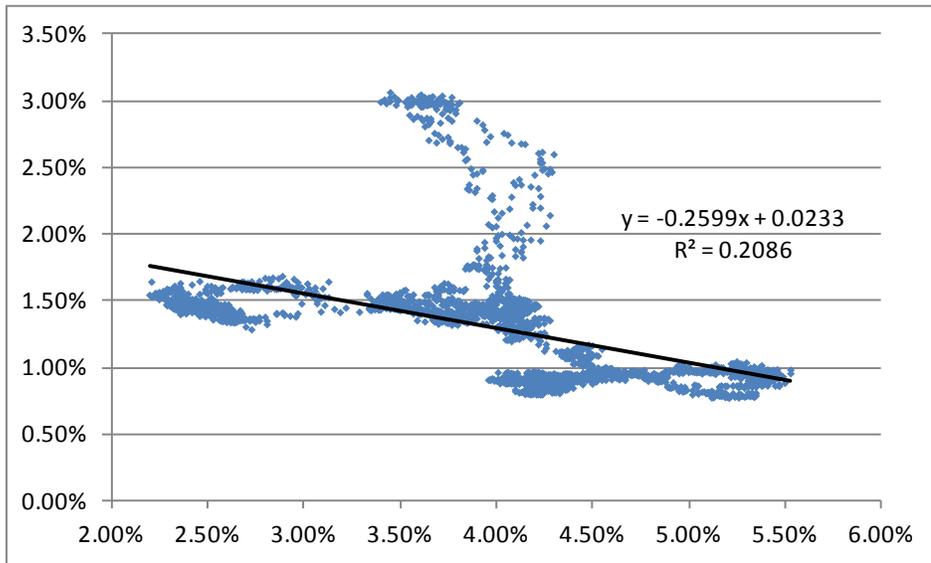
$$\text{BaseUtilBondSpread} = [-0.2599 * (30\text{CB of } 3.8\%)] + 2.33\% = 1.342\%$$

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 R² 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

- 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.

ROE_t

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 $10CBF_{3,t}$ and $10CBF_{12,t}$. 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.