Témoignage de
M. James M. Coyne de Concentric Energy Advisors
sur l'application d'une formule
d'ajustement automatique

Formula for the Automatic Adjustment of ROE

Supplemental Direct Testimony of

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On behalf of Hydro-Québec Distribution

and Hydro-Québec TransÉnergie

Presented to the
Régie de l'énergie

August 27, 2013

Q. **What is the purpose of your supplemental testimony?**

A. Concentric Energy Advisors, Inc. ("Concentric") provides this testimony on behalf of Hydro-Québec Distribution ("HQD") and Hydro-Québec TransÉnergie ("HQT"). Concentric has been asked to evaluate the use of an automatic adjustment mechanism for determining ROE beyond the base year addressed in Concentric's Direct Testimony filed in this same proceeding.[1]

Q. **Have you examined the use of automatic adjustment mechanisms in other jurisdictions?**

A. Concentric has conducted research and analysis regarding the use of ROE formulas in other proceedings. Concentric also developed recommendations pertaining to formulas in Alberta, Ontario, and British Columbia. In putting forth our recommendations in this case, Concentric relied on the foundational research conducted for those prior cases.

Q. **Have you developed a set of guidelines for the establishment of automatic adjustment mechanism?**

A. Concentric studied the automatic adjustment mechanisms across different regulatory jurisdictions. Concentric's review encompassed a wide variety of automatic adjustment mechanisms both from a design and results standpoint. We are of the opinion that any formulaic approach should give consideration to the following criteria:

1. Tracks required utility equity returns
2. Easily administered

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[1] ROE and Risk Analysis, Prepared Direct Testimony of James M. Coyne and John P. Trogonoski, On behalf of Hydro-Québec Distribution and Hydro-Québec TransÉnergie, Presented to the Régie de l'énergie April 19, 2013.

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3. Based on commercially accessible inputs
4. Promotes regulatory transparency
5. Based on forward-looking inputs
6. Exhibits stability
7. Insulated from the effects of anomalous and transitory market conditions
8. Includes a specified timetable for periodic review and/or rebasing of the formula
9. Reflects the capital market conditions faced by the utility.

Q. Have you reviewed the current ROE setting mechanism used by the Régie for HQD and HQT?

A. Yes. The Régie first established authorized ROEs for HQD and HQT for rate years 2004 and 2001, respectively.[2] For both HQD and HQT, the Régie has established the authorized ROE according to the following formula:

Authorized ROE = Risk Free Rate + Company-specific Risk Premium

Each year, the Régie has adjusted the authorized ROEs according to the formula based on the latest forecasted risk free rate from *Consensus Forecasts*. Table 1 shows the authorized ROEs for HQD and HQT over time.

Table 1: Authorized ROEs for HQD and HQT

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
HQD	--	--	--	9.06	8.71	7.96	7.57	7.74	6.98	7.85	7.32	6.37
HQT	9.66	9.66	9.66	9.66	8.59	8.59	7.50	7.85	7.63	7.59	7.14	6.39

Q. Has the Régie made any modifications to the automatic adjustment mechanism it uses to determine the appropriate ROE for utilities in Québec?

A. The Régie adopted a revised automatic adjustment mechanism for Gaz Métro in 2011 (D-2011-182)[3] which followed a previous decision for Gazifère (D-2010-147). The revised formula incorporated a factor of 0.75 times the difference between projected Canada long-

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[2] Régie de l'énergie, Decisions D-2003-93 and D-2002-95.
[3] Régie de l'énergie, Decision D-2011-182/File R-3752-2011, English Version, Section 4.3 – Rate of return (November 25, 2011).

term bonds for the test year and the same figure for the base year. Additionally, the formula incorporated a 0.50 weighting factor to the change in A-rated Canadian utility bond credit spreads. The formula was expressed as:

$$\text{ROEt} = 8.90\% + 0.75* (\text{PYCLt} - 4.0\%) + 0.5* (\text{CSRCt} - 1.5\%)$$

where PYCLt	=	Projected yield on Canada long-term bonds for test year t.
and CSRCt	=	Credit spread between A-rated long-term bonds issued by Canadian regulated corporations and Canada long-term bonds for test year t.

The ROE formula adopted by the Régie for Gaz Métro was scheduled to take effect for the 2013-2015 rate years, with a base year of 8.9% for 2012. However, Gaz Métro subsequently filed evidence for its 2013 rate case, including supporting evidence prepared by Concentric, indicating that the estimated cost of equity for Gaz Métro was between 9.2 percent and 9.5 percent, but application of the Régie's formula would produce a 7.92 percent ROE. The Régie ultimately suspended the formula for both 2013 and 2014, and continued the existing 8.9% for these rate years.[4] Similarly, the formula the Régie set out for Gazifère in D-2010-147 was to take effect for the rate years 2012 and beyond. But in its latest decision for Gazifère, the Régie set the ROE at 9.1% without reliance on the formula (Décision D-2013-102). The formula has in effect been suspended by the Régie in its most recent decisions.

Q.   Please describe the recent developments regarding the use of an ROE formula in other provinces.

A.   The only other province currently applying a formula is Ontario, perhaps due to the large number of electricity distributors in the Province In December 2009, the Ontario Energy Board rebased and modified its AAM from a simple reliance on 75% of the change in the

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[4]   See: D-2013-085.

Canada Long Bond to 50% of the change in forecast long-term Canada bond yields and 50% of the change in observed A-rated utility bond index over the 30-year Canada Bond yield. The OEB continues to rely on its modified formula. The ROE adjustment formula is specified as:

$$ROE_t = 9.75\% + 0.5 \text{ x } (LCBF_t - 4.25\%) + 0.5 \text{ x } (UtilBondSpread_t - 1.415\%)$$

Based on the OEB's update to the ROE formula for May 2013 rates, the latest generic ROE is 8.98%.[5] The Régie formula is similar to that used in Ontario, with the exception of the larger parameter applied to the Long-Canada bond yield, and the starting base levels for ROE, the LCBF and utility bond spread.

In British Columbia, the BCUC recently reintroduced a formula ("AAM") in its Generic Cost of Capital Proceeding – Stage 1 Decision, issued May 10, 2013.[6] 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 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, the new AAM formula introduced a spread component which is appended to the previous formula to capture not only changes in the fundamental long term interest rates, but also changes in corporate costs of capital. Lastly, the new AAM establishes a floor LCBF of 3.8 percent, in recognition of the atypical relationship between

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[5]   Cost of Capital Parameter Updates for 2013 Cost of Service Applications for Rates Effective 5/1/13, per OEB's 2/14/2013 letter.
[6]   BCUC Order G-20-12 (May 10, 2013) at 89.

ROE and the cost of risk in periods of unusually low interest rates. The formula as approved by the BCUC is shown below:

$$ROE = \text{Base ROE } (8.75\%) + 0.50 \text{ x } (LCBFt - BaseLCBF) + 0.50 \text{ x}$$

$$(UtilBondSpreadt - BaseUtilBondSpread)$$

The new AAM is similarly specified to the currently established Ontario AAM formula, with the exception of a 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. In its letter dated June 27, 2013, the Commission sought stakeholder submissions on the specification of inputs for the newly reinstated annual AAM formula. In response, Concentric has submitted recommendations to the BCUC on specification of the input parameters required to estimate the formula.

In Alberta, the AUC established a generic cost of capital proceeding to set ROE for its affected utilities for 2011 and to consider whether it should reintroduce a formula by which ROE would be adjusted on an annual basis beyond 2011. In its consideration of potential alternative formulas, the Commission noted that all parties to the proceeding had found that a formula that incorporated both changes in government bond yields and changes in utility bond spreads was preferable to the previous formula's sole reliance on government bond yields (similar to what had been determined in Ontario and Québec).[7]

When reflecting upon its rationale for discontinuing the formula, the Alberta Commission stated it had "found that in times of adverse market conditions, the expected relationship between interest rates and the required return on equities does not necessarily hold."[8] Though the evidence in the case recognized that financial markets had improved since the

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[7] Alberta Utilities Commission Decision 2011-474, 2011 Generic Cost of Capital, December 8, 2011 at 164.
[8] Ibid. at 163.

formula was discontinued in 2009, it was determined that credit markets still remained volatile. As a result, the AUC decided not to employ an adjustment formula for 2012, but indicated that it "was not prepared to preclude a return to some form of formula-based adjustment mechanism in the future, once the capital markets [had] stabilized and [were] once again considered reasonably predictable."[9] Instead, the AUC authorized a generic return for its regulated utilities for 2011 and 2012 and additionally set an allowed ROE for 2013 on an interim basis. The Commission plans to initiate a proceeding to revisit the matter of a return to a formula for setting the allowed ROE on a going forward basis.[10]

Q.   What are your concerns with respect to an automatic adjustment mechanism in Québec?

A.   Regulators across Canada have recognized that ROE cannot be reliably estimated through simple relationships to government bond yields. In response, provincial regulators and the NEB have either abandoned the formulaic approach or adjusted the formula. The revised Ontario formula and recently adopted BC formulas use forecast government bond yields while also incorporating utility bond spreads (over government bonds), as Québec has done in its prior Gazifère and Gaz Métro decisions. Incorporating a term for the credit spread between the utility bond and the long Canada bond yield may mitigate one fatal weakness in the legacy formula: sole reliance on the variable Canadian long bond yield. We view this methodology as preferable to the prior models relying solely on government bond yields. A remaining concern we have with these revised formulas is the lack of any specific link to the cost of equity, other than that conveyed by bond yields. As seen in the recent case of Gaz

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[9]   Ibid. at 166.
[10]   Ibid. at 305.

Métro, required equity returns can vary considerably from those based on a formula, even those with a utility bond yield component, over a relatively short interval.

Q.   What are your recommendations to the Régie for HQD and HQT?

A.   Concentric has researched and evaluated alternative ROE automatic adjustment mechanisms.   In doing so, we primarily examined formulas used in North American jurisdictions and also researched selected overseas jurisdictions and considered other alternatives. We have identified attributes to be considered in constructing ROE formulas and examined alternative inputs and parameters used to construct formulas, and compared how formulas perform over time against non-formulaic results and under varying market conditions. The formulaic approaches evaluated varied in terms of their complexity and ease of administration.

Based on our analysis and assessment, we conclude that all formulaic approaches run the risk of deviation from a fair return.   Fluctuations in financial markets are inevitable, and relationships between bond and utility equity securities cannot be fully anticipated by historical relationships, leading formulaic automatic adjustment mechanism results to deviate from required equity returns. Consequently, periodic rate hearings remain the most reliable method for determination of utility ROEs.

Given that this case represents a fresh start for HQD and HQT in terms of setting allowed ROE outside of the previous formula, and most would agree that capital markets remain influenced by abnormally low bond yields, Concentric recommends the Régie establish ROE through periodic rate hearings and not adopt a formulaic approach at this time.   When market conditions change, the parties will have the opportunity to present fresh evidence that may not be captured in a formula. Ultimately, Concentric prefers this approach because

it substantially improves the likelihood that the resulting ROE will more closely track required returns for utility investors and satisfy the Fair Return Standard. As financial markets return to historic norms, it may be possible to re-introduce a formula, after due consideration, for setting ROE between review periods. The formulaic result must be periodically tested against fair returns (Concentric would recommend every three years) to ensure that the formula is adequately tracking market based equity returns for comparable utilities.

Q. **Does this conclude your supplemental testimony?**

A. Yes.