OEB File No.: EB-2024-0063

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c.15 (Schedule. B);

AND IN THE MATTER OF a generic proceeding commenced by the Ontario Energy Board on its own motion to consider the cost of capital parameters and deemed capital structure to be used to set rates.

COMPENDIUM OF DOCUMENTS FOR CROSS EXAMINATION OF

CONCENTRIC ENERGY ADVISORS

(September 26, 2024)

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principle,"[18] and that "Provincial ownership will not be a factor to be considered by the Board in establishing capital structure."[19]

The BCUC reiterated its adherence to this principle in its most recent generic cost of capital decision:

> *In the BCUC's application of the Fair Return Standard, the utility must also be assessed based on the standalone principle. That principle provides that the utility should be regulated as if it were a standalone entity, raising capital on the merits of its own business and financial characteristics, regardless of affiliations within the holding company structure. The BCUC had noted the relevance of the standalone principle in past cost of capital decisions, and we continue to adhere to this principle to determine FEI and FBC's cost of capital in this proceeding.*[20]

In Concentric's view, it is consistent with both financial theory and regulatory practice to determine the cost of capital based on the *use* of funds and not the *source* of funds when determining just and reasonable rates. This principle is consistent with the application of the stand-alone principle. We discuss this point in more detail in response to **Issue #1** in Section IV of our Report.

B. Relationship Between Capital Structure and ROE

The equity ratio and equity rate of return must be considered together to determine whether the Fair Return Standard has been met. Other factors being equal, firms with lower common equity ratios require higher rates of return to compensate for the additional financial risks faced by their shareholders. Consequently, when a regulator approves a deemed capital structure, that decision impacts the required rate of return on equity. As fixed debt obligations increase, the equity buffer (unencumbered earnings available to shareholders) narrows, and the required equity return increases to compensate investors for the additional risk to earnings. The fair return, therefore, depends on both the equity return and capital structure. The exact tradeoffs between the ROE and equity ratio are difficult to quantify with precision, but widely used leverage models such as the Hamada equation (which is an extension of the Modigliani-Miller theorem on capital structure) are based on the fundamental premise that there is a link between the cost of equity and the capital structure – as the capital structure becomes more leveraged, the cost of equity increases.

18 EB-2007-0905, Decision with Reasons, November 3, 2008, p. 140.
19 Ibid, p. 142.
20 British Columbia Utilities Commission, Generic Cost of Capital Proceeding (Stage 1) Decision and Order G-236-23, September 5, 2023, p. i-ii.

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3. With regard to equity thickness, Concentric's primary finding within the context of this generic cost of capital proceeding is that Ontario equity ratios across all industry segments are lower than North American industry peers and fail to meet the comparable return standard component of the Fair Return Standard. While we continue to support the use of equity thickness to distinguish risk profiles among Ontario utilities, we have not recommended individual changes to each utility's equity thickness. Rather, we recommend that the deemed equity ratio be set at a minimum of 45.0 percent for *all* Ontario utilities, but that each utility have the option to retain its current equity ratio and/or propose differences from the "generic" equity thickness in its rates application. Concentric's recommendation of a minimum equity thickness of 45.0 percent reflects approximately the midpoint between the current deemed equity ratios in Ontario, which are generally consistent with the Canadian average deemed equity ratio for investor-owned utilities (see Figure 27), and the authorized equity ratios for U.S. electric and gas utilities. With respect to OPG, Concentric finds that its business risk is higher than the presented proxy group due to OPG's generation-only operations and recommends that the OEB accordingly determine an appropriate increase to the equity ratio in the company's next payment amounts proceeding.

4. Alternatively, if the OEB maintains the current deemed equity ratios of 38.0 percent for Enbridge Gas and 40.0 percent for Ontario's electric transmission and distribution utilities, then we recommend adjusting the authorized generic ROE for differences in financial leverage between the Ontario utilities and the proxy group companies. This would result in an upward adjustment of 138 to 163 basis points to our 10.0 percent ROE recommendation, based on the North American Electric, North American Gas and North American Combined proxy groups and the CAPM analysis using a historical market risk premium.

5. These recommendations meet the requirements of the Fair Return Standard and stand-alone principles the Board has embraced in the past and should provide sufficient financial support for the services provided by Ontario's utilities for the benefit of the province's energy consumers.

The current Ontario formula return of 9.21 percent is lower than the average, and lower than any of the results from the financial models and is not representative of the capital market environment and

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For the above reasons, Concentric has adjusted the results of our DCF and CAPM analyses by 50 basis points for flotation costs and financing flexibility.

H. Risk Premium Analysis

In general terms, the Risk Premium approach recognizes that equity is riskier than debt because equity investors bear the residual risk associated with ownership. Equity investors, therefore, require a greater return (i.e., a premium) than would a bondholder. The Risk Premium approach estimates the ROE as the sum of the equity risk premium and the yield on a particular class of bonds.

$$ROE = RP + Y \quad [6]$$

Where:

RP = Risk Premium (difference between allowed ROE and the 30-Year Treasury Yield) and

Y = Applicable bond yield.

Since the equity risk premium is not directly observable, it is typically estimated using a variety of approaches, some of which incorporate ex-ante, or forward-looking, estimates of the ROE and others that consider historical, or ex-post, estimates. For our Risk Premium analyses, we have relied on authorized returns from a large sample of U.S. electric utilities and U.S. gas distribution companies. In addition, we have conducted a Risk Premium analysis based on authorized returns for Canadian electric and gas utility companies since 2000.

To estimate the relationship between risk premia and interest rates, we conducted a regression analysis using the following equation:

$$RP = a + (b \times Y) \quad [7]$$

Where:

RP = Risk Premium (difference between allowed ROEs and the 30-Year Treasury Yield);

a = Intercept term;

b = Slope term; and

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As illustrated by Figure 2323 and Figure 24, the risk premium varies with the level of the bond yield, and generally increases as the bond yields decrease, and vice versa. In order to apply this relationship to current and expected bond yields, we consider three estimates of the 30-year U.S. Treasury yield: the current 30-day average, a near-term Blue Chip consensus forecast for Q3 2024 – Q3 2025, and a long-term Blue Chip consensus forecast for 2025–2029. We find this five-year result to be most applicable because investors typically have a multi-year view of their required returns on equity. Based on the regression coefficients in Exhibits CEA-8.1 and 8.2, which enable the estimation of the risk premium at varying bond yields, the results of our Risk Premium analysis are shown in Figure 23 and Figure 24.

Figure 23: Risk Premium Results – U.S. Electric

	Using 30-Day Average Yield on 30-Year Treasury Bond	Using Q3 2024–Q3 2025 Forecast for Yield on 30-Year Treasury Bond[84]	Using 2025-2029 Forecast for Yield 30-Year Treasury Bond[85]
Yield	4.66%	4.40%	4.30%
Risk Premium	5.87%	6.01%	6.06%
Resulting ROE	10.53%	10.41%	10.36%

84 Blue Chip Financial Forecasts, Vol. 43, No. 5, May 1, 2024, at 2. We typically prefer to use Blue Chip as our source for interest rates forecasts in the U.S. However, Blue Chip does not provide a long-term forecast for Canada, so the risk-free rate in our CAPM analysis uses bond yields from Consensus Economics.

85 Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, p. 14.

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Figure 27: Comparison of Northern American Authorized Equity Returns

Operating Utility	ROE	Equity Ratio
Ontario (current)	**9.21%**	**38.0% - 45.0%**
Alberta Electric utilities[93]	9.28%	37.0%
FortisBC Inc.	9.65%	41.0%
Maritime Electric	9.35%	40.0%
Newfoundland Power	8.50%	45.0%
Nova Scotia Power	9.00%	40.0%
Canadian Electric Avg	**9.16%**	**40.6%**
Canadian Electric Median	**9.28%**	**40.0%**
U.S. Electric Mean[94]	**9.67%**	**50.2%**
Apex Utilities	9.28%	39.0%
ATCO Gas	9.28%	37.0%
Energir, Inc.[95]	8.90%	38.5%
FortisBC Energy Inc.	9.65%	45.0%
Gazifere	9.05%	40.0%
Canadian Gas Avg	**9.23%**	**39.9%**[96]
Canadian Gas Median	**9.28%**	**39.0%**
U.S. Gas Mean[97]	**9.65%**	**52.1%**

As discussed in Section VI of our report, the Ontario utilities have significantly greater financial risk than many other electric and gas distribution companies, especially those in the U.S. In particular, the Ontario utilities have a more highly leveraged regulatory capital structure, which contains 40 percent common equity for electric distributors and transmitters, 38 percent for Enbridge Gas and 45 percent for OPG. These equity ratios are low by comparison to the U.S. companies in the North American proxy groups. In addition to resetting the ROE as proposed, if the OEB does not increase the deemed equity ratios of Ontario's electric and gas utilities, as we recommend, then it is

93 Alberta Electric utilities includes ATCO Electric, Fortis Alberta, ENMAX, and EPCOR.
94 Source: Regulatory Research Associates, decisions from January 1, 2023, through May 31, 2024.
95 Deemed capital structure for Energir, Inc. includes 6.5 percent preferred equity, so that debt ratio is 55 percent.
96 The OEB Decision and Order for Enbridge Gas in EB-2022-0200 dated December 21, 2023, stated on page 66 that Enbridge Gas's reply argument documented that the customer weighted average equity ratio used by LEI for the Canadian peer group would increase to 40.5% when updated to include the 45% deemed equity ratio for FEI approved by the BCUC in September 2023. Concentric has used a simple average in this table.
97 Ibid.

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results. While Concentric estimated the return on equity under various analytical approaches, we have narrowed the results to three models (i.e., the Multi-Stage DCF, the historical CAPM, and the Risk Premium approach) to develop our ROE rebasing recommendation in this proceeding. Those models provide a conservative (lower) estimate for Ontario utility ROEs relative to other models and are consistent with models that have been relied on in other jurisdictions evaluating a generic cost of capital to be applied across industry segments. Those models' results range from 9.7 percent to 10.3 percent, depending on the proxy group. It is important to emphasize that these results are based on conservative model inputs and, therefore, represent the lowest reasonable estimate of the required return for Ontario's electric and gas utilities as a whole.

Figure 1: Summary of ROE Results[6]

	CANADIAN PROXY GROUP	U.S. ELECTRIC PROXY GROUP	U.S. GAS PROXY GROUP	NORTH AMERICAN ELECTRIC PROXY GROUP	NORTH AMERICAN GAS PROXY GROUP	NORTH AMERICAN COMBINED
MULTI-STAGE DCF	10.38%	9.87%	9.60%	9.83%	10.21%	9.95%
CAPM – HISTORICAL MRP	9.36%	10.62%	10.00%	10.23%	9.89%	10.22%
RISK PREMIUM	9.44%	10.36%	10.30%	9.90%	9.87%	10.03%
AVERAGE	**9.7%**	**10.3%**	**10.0%**	**10.0%**	**10.0%**	**10.1%**

We also present a risk assessment of Ontario's utilities in relation to the proxy group companies for purposes of determining the appropriate deemed equity ratios for Ontario's utilities. Lastly, we assess whether our recommendations meet all three prongs of the Fair Return Standard.

Based on these results, we conclude that the current formula return of 9.21 percent in Ontario has diverged from a fair return for comparable risk companies, and changes to the authorized ROE and the deemed equity ratios for Ontario's utilities are required to meet the Fair Return Standard.

[6] The DCF and CAPM results include an adjustment of 50 basis points for flotation costs and financial flexibility.

E. Cost of Capital Recommendations

Our recommendations are based on a cost of capital analysis utilizing the aforementioned models and a combination of Canadian, U.S., and North American proxy groups. We have also considered Ontario's regulatory precedents and the foundational regulatory principles that guide the OEB on these matters. This broader analysis is then applied to Enbridge Gas, the CLD, OPG, and Upper Canada Transmission 2, Inc. with specific consideration of the business and financial risks of Ontario's utilities in relation to the proxy companies. Based on the foregoing, we recommend the following:

1. An authorized base ROE of **10.0** percent, up from the base ROE of 9.75 percent in the current OEB formula and up from the current ROE of 9.21 percent resulting from the formula. This ROE recommendation is based on the average results of the multi-stage DCF model, the CAPM using a historical market risk premium for the North American combined proxy group, and the Risk Premium model, which is the most conservative (lower) estimate of the required return. We further recommend that LEI's proposed 8.95 percent base ROE not be accepted by the Board. An 8.95 percent authorized ROE would be in the bottom decile of authorized ROEs among Canadian and U.S. utilities and would not satisfy the Fair Return Standard.

2. As discussed herein, OPG faces a different and heightened level of risk compared to distributors and transmitters. In addition, the OEB has previously found that there is a heightened risk of nuclear generation relative to hydroelectric generation,[7] which is important to consider as OPG embarks on first-of-a-kind nuclear projects in addition to refurbishing its existing nuclear units. As such, the base ROE recommendation of 10.0 percent understates the ROE needed to meet the Fair Return Standard for OPG. There are also no direct comparators in the proxy groups analyzed by Concentric for OPG's pure-play rate-regulated generation operations. Rather than set alternative generic ROEs in the proceeding, however, Concentric recommends that should OPG bring forward a proposal and evidence in its payment amounts application regarding whether and what amount of additional risk premium should be applied to its authorized ROE, the OEB consider that proposal at its discretion as part of that proceeding.[8]

[7] See, e.g., EB-2016-0152, Decision and Order, December 28, 2017, p. 102.
[8] Consistent with the OEB's finding in EB-2009-0084 Report of the Board, p. 13.

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5. Computation of Low, Average, and High Cost-of-Equity Results in Table 9

Throughout this analysis, we have described our weighted averages as well as our "low" and "high" figures. We average the results of the various methodologies (and datasets) together because no one methodology is likely to be perfect. All methodologies suffer from limitations. It is therefore useful to determine whether and to what extent the computed numbers are coalescing around a useful average.

Table 9 –Nexus Economics Cost of Equity Results (Table 5 Reproduced for Convenience)

		Lower Confidence Limit	Average	Weight [b]	Upper Confidence Limit
1	Single Stage DCF	9.92%	10.92%	**38%**	11.93%
2	Growth Rates - Yahoo Finance	9.76%	10.69%	12%	11.63%
3	Growth Rates - Zacks	9.27%	10.11%	14%	10.95%
4	Growth Rates - CapIQ	10.37%	11.86%	5%	13.36%
5	Growth Rates - StockAnalysis	11.08%	12.22%	8%	13.37%
6	CAPM	9.73%	10.19%	**49%**	10.65%
7	Risk Premium (Authorized Returns)	10.19%	11.09%	**13%**	11.98%
8	**WEIGHTED AVERAGE [b]**	9.86%	**10.58%**	100%	11.31%
9	Transactions Costs	0.50%	0.50%	100%	0.50%
10					
11	Total	10.36%	**11.08%**		11.81%

[a] Results are relevered to a Debt-to-Equity Ratio of 1.50 and taxes of 26.5%.

[b] Weights are determined by the inverse of the standard deviation of the mean result.

Table 9 shows our results based on different methodologies and data sources.[98] Each approach examines multiple firms using multiple datasets, so we seek here to provide ranges of reasonableness. We do so by computing a 95 percent confidence interval on our computed average. In contrast to the mean (or average), which is a point estimate of the unknown parameter value (in this case, the "true" cost of equity), the confidence interval quantifies an interval estimate around that value. The 95 percent confidence interval basically states that if one were to run the experiment multiple times and compute the average in each experiment, and then computed the standard deviation of all of these

[98] Not every data provider offered information on the same firms.

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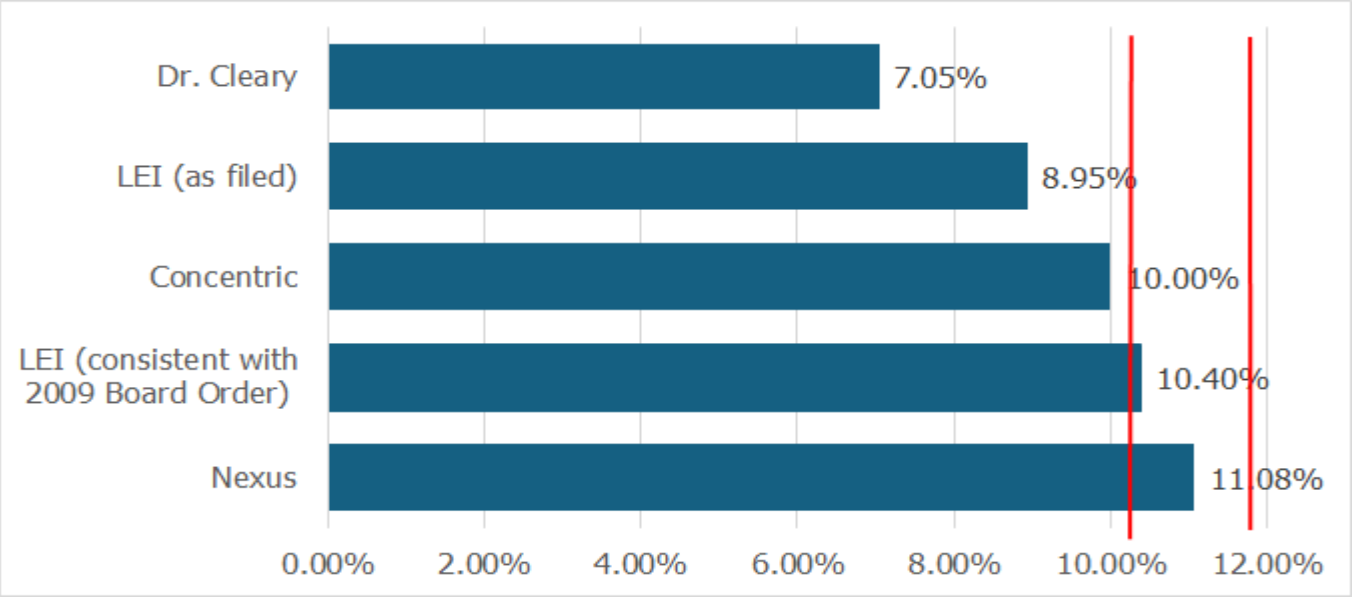
Implementing the 2009 Board Guidelines Helps Reconcile the Different ROEs

- **Multiple** methods
- **Flotation Costs**
- **Comparability** in operating & financial risks (including US electric utilities)



Concentric, LEI (consistent with 2009 Board) and Nexus are clustered in or near the 95% confidence interval. LEI (as filed) and Dr. Cleary are outliers.

LEI (consistent with 2009 Board Order) = Averages LEI's **multiple ROE approaches** and adds **flotation costs**. (next slide)