ONTARIO ENERGY BOARD
COST OF CAPITAL REVIEW
EB-2024-0063

VECC COMPENDIUM
PANEL 2 - M2 Concentric

September 27, 2024

TAB 1

experience, the FERC formula is used both by FERC-jurisdictional utilities as well as widely by regulators at the state level.

Many Canadian regulators also allow the accrual of AFUDC at the WACC as well. For example, British Columbia, Newfoundland and Labrador, Canada Energy Regulator, the AUC and Nova Scotia allow utilities to accrue carrying charges on CWIP at the WACC.[170] In fact, use of a debt-return only makes Ontario an outlier among North American regulatory jurisdictions, as described below. Concentric believes this approach would not be overly burdensome as each utility would be responsible for performing the calculation based on readily-available accounting data, and based further on that fact that it is so widely applied (and, generally, with little controversy), in the U.S. and other jurisdictions.

For the reasons outlined above, Concentric recommends that the OEB apply the WACC to CWIP for purposes of accruing carrying costs on construction balances. Since the OEB already considers short-term debt within the capital structure for many of the utility participants, the FERC specification of the AFUDC rate does not need to be specifically applied. Rather, the application of the WACC for Ontario utilities appropriately reflects the regulated capital structure, including short-term debt.

LEI's Recommendation and Concentric's Response

LEI recommends that, for DVAs, the OEB align the prescribed interest rates with LEI's proposal for the DSDTR, which is the average of 3-month CORRA futures rates for the next 12-month period plus the spread for a R1-low rated utility over CORRA, based on a confidential survey of 6-10 banks. For CWIP, LEI recommends continuing the current approach. In making these recommendations, LEI states that it is seeking to achieve the objectives of: (1) an internally-consistent cost of capital policy framework to align calculation methodologies where possible; and (2) consideration of previous OEB decisions. (LEI Report, p. 168)

Concentric agrees with LEI's recommendation for short-term DVAs (i.e., accounts that will clear within one year), but, as discussed above, recommends the Board apply each utility's WACC to long-term DVAs, consistent with corporate finance principles.

Concentric disagrees with LEI's recommendation regarding CWIP, as discussed above. Concentric rather recommends that the WACC be applied in order to provide for recovery of the utility's full

[170] See, e.g., Nova Scotia Power's "WACC and AFUDC Updates" application, November 30, 2016, p. 3-4; and FortisBC Inc.'s "Annual Review for 2023 Rates," August 5, 2022, p. 77.

financing cost, particularly given the need to attract significant capital in support of the Energy Transition. From an implementation perspective, this approach is not burdensome because the WACC for each utility is readily available.

B. Carrying Charges on the Cloud Computing Deferral Account

The OEB established a deferral account for incremental costs of cloud solution implementation that was effective December 1st, 2023, the disposition of which would be determined in utilities' next rates application proceeding.

The adoption of information technology ("IT") cloud services[171] and associated ratemaking and regulatory issues have risen in prominence in recent years in the regulated utility sector. Numerous industry organizations have highlighted the benefits of cloud computing and recognized current barriers to utility adoption of cloud services given traditional utility ratemaking approaches.[172] Cloud computing can provide many important and meaningful benefits for utilities and their customers. There is also an overall technology industry trend that on-premise versions of major platforms are being phased out. As such, Concentric believes it is important from a regulatory policy perspective that utilities are not disincentivized to pursue cloud computing solutions, and further that ensure that utility decisions consider the best operational outcomes (and therefore lowest long-term customer cost). Concentric finds that cloud solutions should be treated on par with in-house capitalized IT systems, appropriately removing the aforementioned disincentive. This is further warranted by the fact that DVAs more typically account for pass-through items or items that are beyond the control of the utility, while the Cloud Computing Deferral Account is differentiated

[171] Terminology regarding "the cloud" varies somewhat in utility industry publications and documents. For example, a 2016 National Association of Regulatory Utility Commissioners ("NARUC") Resolution on capitalizing the cloud describes: "state-of-the-art commercial cloud computing services, which is increasingly delivered via a "cloud-based" or "software-as-a-service" ("SAAS") model." NARUC, "Resolution Encouraging State Utility Commissions to Consider Improving the Regulatory Treatment of Cloud Computing Arrangements," 2016 ("NARUC Resolution"), p. 1. A recent report developed for the Canadian Electricity Association ("CEA") and Canadian Gas Association ("CGA") notes, "'cloud' refers to cloud-based computing arrangements: the on-demand availability of computer system resources — especially data storage and computing power — without direct active management or ownership by the user." CEA, CGA, "Capitalizing the Cloud - An Analysis of Challenges and Opportunities for the Canadian Utilities Sector," KPMG, March 2020 ("CEA/CGA Report"), p. 2.

[172] *See*, e.g., NARUC, "Resolution Encouraging State Utility Commissions to Consider Improving the Regulatory Treatment of Cloud Computing Arrangements," 2016 ("NARUC Resolution"), at 1; Electricity Canada, "Cloud Service in the Electricity Industry," May 22, 2024, p. 4.

TAB 2

structure, we must assume that a separate element of the company's operations is funded by a different source or issuance. Such an approach is not practicable or, in many cases, even feasible. As noted by Professor James Bonbright, a widely recognized regulatory theorist and economist:

> *Rate base is defined as the: (1) net plant in service; (2) property held for future use; (3) working capital; and (4) construction work in progress (CWIP) – no AFUDC. The capital structure simply represents the funds used to finance the rate base.* ***The sources, not the uses, of funds (debt, equity, deferred taxes, and other capital structure components) are not easily traceable****.*[167]

Concentric recognizes that the timeframe over which a regulatory asset is accumulated and recovered is a historical consideration by the Board in assigning an appropriate carrying cost. At the same time, as described above, it is not practicable to trace one source of financing (e.g., long-term or short-term debt) to individual assets. In addition, disregarding the WACC for certain financings but applying it for others would double-count certain debt issuances in the cost of capital and undermine the overall regulatory financing assumptions upon which rates are determined and investors are compensated.

Concentric recommends, for the reasons discussed above, that the Board apply the WACC to DVA balances that are to remain on utilities' balance sheets for more than one year and retain a short-term rate for DVAs that are cleared within one year.[168] As symmetry is an important consideration, Concentric recommends the short-term rate or WACC (depending on the timeframe of the DVA's disposition) be applied to both positive and negative DVAs. Application of the WACC to long-term DVAs would be consistent with the BCUC's approach, as discussed by LEI.

In terms of CWIP, Concentric finds that the current approach that applies the long-term cost of debt to CWIP balances has the potential to significantly understate the cost of capital for utilities during the construction phase of projects. While certain smaller and more routine construction projects can be completed within a year, many are larger, long-term projects, and the period between when construction costs are first incurred and when those assets go into service can span multiple years. Over those periods, the utilities are financing construction on their balance sheets at the WACC,

[167] Bonbright, Danielsen, & Kamerschen, Principles of Public Utility Rates, Second Edition, Public Utilities Reports, Inc. p. 237.

[168] DVAs that clear within one year would be those that are disposed within 12 months of the deferral of costs.

TAB 3

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.

TAB 4

C. Selection of Proxy Companies

1. Proxy Group Selection

Because the ROE is a market-based concept, it is necessary to establish a group of companies that is both publicly traded and comparable to Ontario's utilities in fundamental business and financial respects to serve as a "proxy" for purposes of ROE estimation. Notwithstanding the care taken to ensure comparability, market expectations with respect to future risks and growth opportunities vary from company to company. Therefore, even within a group of similarly situated companies, it is common for analytical results to reflect a seemingly wide range. At issue, then, is how to select an ROE estimate in the context of that range. That determination must be based on an assessment of the company-specific risks relative to the proxy group and the use of informed judgment.

2. Proxy Group Screening

We developed six proxy groups for the ROE analysis to evaluate the results of multiple analytical approaches applied to different sectors and geographical groupings. In doing so, we note that OPG is unique as an electric generator. While several of the companies in our North American proxy group (described below) own regulated electric generation assets, they do not entirely capture the unique business and financial risks of OPG as a pure-play generator.

The first proxy group is comprised of publicly traded, regulated Canadian electric and natural gas utility companies. Recognizing there are few publicly traded companies in the utility sector in Canada, the only screening criterion was an investment grade credit rating, which all companies in the sector have. TC Energy (formerly TransCanada) has been excluded due to the risk profile of the TransCanada Mainline, which differs from gas distribution operations. Algonquin Power and Utilities Corp. was also excluded because the company did not have positive earnings growth rate forecasts from more than one source and announced a reduction of its dividend in January 2023.[54]

[54] Having positive earnings growth rate projections from at least two sources and consistently paying quarterly cash dividends are necessary for inclusion in the DCF model.

Figure 4: Canadian Proxy Group

Company	Ticker
AltaGas Limited	ALA
Canadian Utilities Limited	CU
Emera, Inc.	EMA
Enbridge, Inc.	ENB
Fortis, Inc.	FTS
Hydro One Ltd.	H

The second proxy group is comprised of like-risk U.S. electric utility companies. To obtain companies of comparable-risk, we performed a number of screens to determine a group of electric utilities with similar risk profiles to Ontario's electric utilities. We started with the 36 companies The Value Line Investment Survey ("Value Line") classifies as Electric Utility Companies. From that group, we further screened for companies that:

a) Have credit ratings of at least BBB+ from S&P Global or Baa1 from Moody's;

b) Consistently pay quarterly cash dividends with no reductions or eliminations in the past two years;

c) Have positive earnings growth rate projections from at least two sources;

d) Derived at least 70 percent of operating income from regulated operations in the period from 2021-2023;

e) Derived at least 80 percent of regulated operating income from electric utility service in the period from 2021-2023; and

f) Were not involved in a merger or other significant transformative transaction during the evaluation period.

The following U.S. electric utility companies meet our screening criteria:

Figure 5: U.S. Electric Proxy Group

Company	Ticker
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Eversource Energy	ES
Exelon Corp.	EXC
Evergy, Inc.	EVRG
NextEra Energy Corp	NEE
OGE Energy Corporation	OGE
Pinnacle West Capital Corp	PNW
Portland General Electric Company	POR
PPL Corporation	PPL
Southern Company	SO
Xcel Energy Inc.	XEL

The third proxy group is comprised of like-risk U.S. gas distributors. To obtain companies of comparable risk, we performed a number of screens to determine a group of gas utilities with similar risk profiles to Ontario's gas distribution utilities. Starting with the ten companies Value Line classifies as Natural Gas Distribution Companies, we further screened for companies that:

a) Have credit ratings of at least BBB+ from S&P Global or Baa1 from Moody's;

b) Consistently pay quarterly cash dividends with no reductions or eliminations in the past two years;

c) Have positive earnings growth rate projections from at least two sources;

d) Derived at least 65 percent of operating income from regulated operations in the period from 2021-2023;

e) Derived at least 90 percent of regulated operating income from natural gas distribution utility service in the period from 2021-2023; and

f) Were not involved in a merger or other significant transformative transaction during the evaluation period.

The following U.S. gas distribution companies meet our screening criteria:

Figure 6: U.S. Gas Proxy Group

Company	Ticker
Atmos Energy Corp	ATO
Northwest Natural Holding Company	NWN
ONE Gas, Inc.	OGS
Spire, Inc.	SR

In the current environment, gas and electric utilities face different risks, with gas distributors facing load risks from decarbonization, and electric utilities facing risks associated with the Energy Transition demand and associated capital needs, new requirements for electric transmission, and competition from distributed energy resources. This represents a shifting of relative risk profiles from prior periods, and the use of separate electric and gas proxy groups allows us to test the electric versus natural gas groups for any market-based differentials revealed in the results.

The fourth proxy group is a combined North American Electric proxy group that includes all Canadian and U.S. electric utility companies determined to be risk comparable to Ontario's electric utilities. As noted previously, OPG, as a generation-only utility, faces unique risks as compared to the electric proxy group, as the proxy companies that own generation also have lower risk transmission and distribution assets.

Figure 7: North American Electric Proxy Group

Company	Ticker
Canadian Utilities Limited	CU
Emera Corp.	EMA
Fortis, Inc.	FTS
Hydro One Ltd.	H
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Eversource Energy	ES
Exelon Corp.	EXC
Evergy, Inc.	EVRG
NextEra Energy Corp	NEE
OGE Energy Corporation	OGE
Pinnacle West Capital Corp	PNW
Portland General Electric Company	POR
PPL Corporation	PPL
Southern Company	SO
Xcel Energy Inc.	XEL

The fifth proxy group is a combined North American Gas proxy group that includes all Canadian and U.S. gas utility companies determined to be risk comparable to Ontario's gas distribution utilities.

Figure 8: North American Gas Proxy Group

Company	Ticker
AltaGas Ltd.	ALA
Canadian Utilities Limited	CU
Enbridge Inc.	ENB
Fortis Inc.	FTS
Atmos Energy Corp.	ATO
Northwest Natural Holding Company	NWN
ONE Gas, Inc.	OGS
Spire, Inc.	SR

Lastly, the sixth proxy group is a North American Combined proxy group that consists of all of the companies in the Canadian, U.S. Electric and U.S. Gas proxy groups. See Exhibit CEA-2 for our proxy group screening results.

3. Use of North American Proxy Groups

In its December 2009 Report, the OEB was among the first regulators in Canada to find that the use of U.S. companies and U.S. data to set the authorized returns for Canadian electric and gas utilities is appropriate. In support of this determination, the Board made a number of findings with regard to the proxy group that remain relevant today, including:[55]

> *First, "like" does not mean the "same". The comparable investment standard requires empirical analysis to determine the similarities and differences between rate-regulated entities. It does not require that those entities be "the same".*

> *Second, there was a general presumption held by participants representing ratepayer groups in the consultation that Canadian and U.S. utilities are not comparators, due to differences in the "time value of money, the risk value of money and the tax value of money." In other words, because of these differences, Canadian and U.S. utilities cannot be comparators. The Board disagrees and is of the view that they are indeed comparable, and that only an analytical framework in which to apply judgment and a system of weighting are needed. The analyses of Concentric Energy Advisors and Kathy McShane of Foster Associates Inc. are particularly relevant in this regard, and substantially advance the issue of establishing comparability to meet the requirements of the FRS.*

[55] Ontario Energy Board, EB-2009-0084, Report of the Board on the Cost of Capital for Ontario's Regulated Utilities, December 11, 2009, p. 21-23.

TAB 5

NORTH AMERICAN ELECTRIC GROUP

Company Name	Ticker	Owns Regulated Generation?	2023 Net Generation (MWh)	2023 Total Disposition of Energy (MWh)	Net Generation / Total Disposition of Energy (%)
Canadian Utilities Limited	CU	n/a	n/a	n/a	n/a
Emera Inc.	EMA	n/a	n/a	n/a	n/a
Fortis, Inc.	FTS	n/a	n/a	n/a	n/a
Hydro One, Ltd.	H	n/a	n/a	n/a	n/a
Alliant Energy Corporation	LNT	Yes	27,277,606	35,121,877	77.7%
Ameren Corporation	AEE	Yes	31,854,815	46,561,957	68.4%
American Electric Power Company, Inc	AEP	Yes	69,312,876	130,478,797	53.1%
Duke Energy Corporation	DUK	Yes	202,468,971	251,154,475	80.6%
Entergy Corporation	ETR	Yes	113,668,549	159,174,858	71.4%
Eversource Energy	ES	Yes	62,854	62,090,288	0.1%
Exelon Corporation	EXC	No	0	201,182,207	0.0%
Evergy, Inc.	EVRG	Yes	35,619,888	58,127,800	61.3%
NextEra Energy, Inc.	NEE	Yes	146,408,118	151,160,730	96.9%
OGE Energy Corporation	OGE	Yes	13,293,839	32,158,987	41.3%
Pinnacle West Capital Corporation	PNW	Yes	25,493,508	37,714,588	67.6%
PPL Corporation	PPL	Yes	29,426,245	71,160,367	41.4%
Portland General Electric Company	POR	Yes	16,234,024	28,024,600	57.9%
Southern Company	SO	Yes	135,590,483	177,430,574	76.4%
Xcel Energy Inc.	XEL	Yes	75,104,417	128,439,828	58.5%

Source: S&P Global; FERC Form 1 and EIA Form 861

TAB 6

Ontario Energy Association (OEA)

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition (VECC)

INTERROGATORY

Reference:

M2: CONCENTRIC Report, page 46

Preamble:

One of the screening criteria for US companies is:

"Have positive earnings growth rate projections from at least two sources."

Question(s):

19.1 Please explain why this criterion is necessary.

19.2 Would replacement of this criterion with one that only required "earnings growth projections from at least two sources" have resulted in additional companies being included in either the US Electric Proxy Group (Figure 5) or the US Gas Proxy Group (Figure 6)?

19.2.1 If yes, please identify the additional companies that would have been included.

19.2.2 If yes, please re-calculate the results for the Constant Stage DCF and the Multi-Stage DCF (similar to Figure 13) using proxy groups that include these additional companies.

19.2.3 If yes, please re-calculate the CAPM results (Figures 16 and 18) using the companies in the revised proxy groups to determine the beta values.

Response:

19.1 This criterion is necessary because investors would not choose to invest in a company if they believed it would not have positive EPS growth over the long-term. Because Concentric uses a DCF model to estimate the authorized ROE for its proxy group companies, we always exclude companies from the proxy group if they do not have positive EPS growth rate forecasts from at least two sources.

19.2 No, it would not.

TAB 7

Ontario Energy Association (OEA)

Answer to Interrogatory from
Canadian Manufacturers & Exporters (CME)

INTERROGATORY

Reference:

Exhibit M2

Question(s):

Concentric conducted an analysis of the comparable return standard.

a) In Concentric's view, does an entity need to earn at least the median or mean of the peer group of "entities of like risk" ROE's in order to meet the comparable investment standard?

b) If the answer to a) is yes, please provide Concentric' view on the possibility of an upward spiral of ROEs. In other words, every sample of companies will, definitionally, have entities which have ROEs below average and above average or above the median and below the median. If every single entity in a group of "like risk" companies is required to have at least the average/median ROE in order to satisfy the comparable return standard, wouldn't this, over time, continually increase the average ROEs as each entity with below average ROE has their ROEs increased at least to the previous average, thereby necessitating an increase to each other entities' ROE consistently upwards?

c) If the answer to a) is no, on what basis does an entity represent a comparable investment relative to entities of like risk?

Response:

a) Assuming the question means "be authorized" in place of "earn", no, not necessarily. While the peer group is "comparable" to the Ontario utilities, as stated in the 2009 Decision, "comparable" does not mean "the same". Therefore, one must look at the risk profiles of the individual companies making up the proxy group. In addition, an analysis of proxy companies will inevitably provide a range of results, and the median or mean results of proxy company analyses generally indicate average risk. The fair return for the subject utility depends on the business and financial risk of the company for which the return is being set as compared to the business and financial risks of the peer group companies to determine where, within the range of results,

the subject utility's cost of capital reasonably falls. The question of earned returns (as opposed to authorized) compared to the FRS is addressed in VECC-11.1.

b) N/A

c) In this context, companies that are of like risk are generally comparable investments. The companies in Concentric's North American proxy groups were screened to ensure that they, on the whole, have similar risks as, and therefore are comparable investments to, the Ontario utilities. However, specific proxy group company authorized returns may differ from Concentric's recommendation for the Ontario utilities due to company-specific differences in business and financial risks not captured in the wider North American proxy group.

TAB 8

Capital Asset Pricing Model - Average MRP

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
US Gas Proxy Group	Ticker	Bloomberg	Value Line	Average Beta	Risk Free Rate	Average Market Risk Premium	Basic CAPM Calculation	Flotation Cost	Total CAPM
Atmos Energy Corp.	ATO	0.83	0.85	0.84	4.14%	9.06%	11.75%	0.50%	12.25%
Northwest Natural Gas Company	NWN	0.74	0.85	0.80	4.14%	9.06%	11.37%	0.50%	11.87%
ONE Gas, Inc.	OGS	0.83	0.85	0.84	4.14%	9.06%	11.76%	0.50%	12.26%
Spire, Inc.	SR	0.86	0.85	0.86	4.14%	9.06%	11.90%	0.50%	12.40%
MEAN		0.82	0.85	0.83			11.70%		12.20%

North American Electric Proxy Group	Ticker	Bloomberg	Value Line	Average Beta	Risk Free Rate	Average Market Risk Premium	Basic CAPM Calculation	Flotation Cost	Total CAPM
Canadian Utilities Limited	CU	0.86	n/a	0.86	3.46%	9.06%	11.25%	0.50%	11.75%
Emera Inc.	EMA	0.72	0.75	0.73	3.46%	9.06%	10.12%	0.50%	10.62%
Fortis, Inc.	FTS	0.72	0.70	0.71	3.46%	9.06%	9.91%	0.50%	10.41%
Hydro One, Ltd.	H	0.69	n/a	0.69	3.46%	9.06%	9.73%	0.50%	10.23%
Alliant Energy Corporation	LNT	0.87	0.90	0.89	4.14%	9.06%	12.18%	0.50%	12.68%
Ameren Corporation	AEE	0.84	0.90	0.87	4.14%	9.06%	12.02%	0.50%	12.52%
American Electric Power Company, Inc.	AEP	0.84	0.80	0.82	4.14%	9.06%	11.59%	0.50%	12.09%
Duke Energy Corporation	DUK	0.82	0.90	0.86	4.14%	9.06%	11.95%	0.50%	12.45%
Entergy Corporation	ETR	0.97	0.95	0.96	4.14%	9.06%	12.86%	0.50%	13.36%
Eversource Energy	ES	0.90	0.95	0.93	4.14%	9.06%	12.53%	0.50%	13.03%
Exelon Corporation	EXC	0.98	NMF	0.98	4.14%	9.06%	13.04%	0.50%	13.54%
Evergy, Inc.	EVRG	0.89	0.95	0.92	4.14%	9.06%	12.49%	0.50%	12.99%
NextEra Energy, Inc.	NEE	0.91	1.05	0.98	4.14%	9.06%	13.03%	0.50%	13.53%
OGE Energy Corporation	OGE	1.02	1.05	1.03	4.14%	9.06%	13.51%	0.50%	14.01%
Pinnacle West Capital Corporation	PNW	0.94	0.95	0.94	4.14%	9.06%	12.68%	0.50%	13.18%
PPL Corporation	PPL	1.07	1.15	1.11	4.14%	9.06%	14.18%	0.50%	14.68%
Portland General Electric Company	POR	0.88	0.90	0.89	4.14%	9.06%	12.20%	0.50%	12.70%
Southern Company	SO	0.90	0.95	0.92	4.14%	9.06%	12.51%	0.50%	13.01%
Xcel Energy Inc.	XEL	0.83	0.85	0.84	4.14%	9.06%	11.75%	0.50%	12.25%
MEAN		0.88	0.92	0.89			12.08%		12.58%

North American Gas Proxy Group	Ticker	Bloomberg	Value Line	Average Beta	Risk Free Rate	Average Market Risk Premium	Basic CAPM Calculation	Flotation Cost	Total CAPM
AltaGas Limited	ALA	1.16	n/a	1.16	3.46%	9.06%	13.94%	0.50%	14.44%
Canadian Utilities Limited	CU	0.86	n/a	0.86	3.46%	9.06%	11.25%	0.50%	11.75%
Enbridge Inc.	ENB	0.93	0.85	0.89	3.46%	9.06%	11.55%	0.50%	12.05%
Fortis, Inc.	FTS	0.72	0.70	0.71	3.46%	9.06%	9.91%	0.50%	10.41%
Atmos Energy Corp.	ATO	0.83	0.85	0.84	4.14%	9.06%	11.75%	0.50%	12.25%
Northwest Natural Gas Company	NWN	0.74	0.85	0.80	4.14%	9.06%	11.37%	0.50%	11.87%
ONE Gas, Inc.	OGS	0.83	0.85	0.84	4.14%	9.06%	11.76%	0.50%	12.26%
Spire, Inc.	SR	0.86	0.85	0.86	4.14%	9.06%	11.90%	0.50%	12.40%
MEAN		0.87	0.83	0.87			11.68%		12.18%

TAB 9

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.

TAB 10

projected interest rates we are using in the table below are slightly higher than recent yields in Canada and somewhat lower than recent yields in the U.S.

Figure 15: Risk Free Rate[75]

30-Year Risk Free Yield	**CDN**	**U.S.**
Apr. 2024 Consensus Forecast Average 2025-2027 Forecast 10-Year bond yield	3.13%	3.67%
Average Daily Spread between 10-year and 30-year government bonds (10-year average)	0.33%	0.47%
Average	**3.46%**	**4.14%**

The recent divergence between Canadian and U.S. interest rates has caused some concern among economists focusing on downward pressure on the value of the Canadian dollar. But recent developments indicating lower inflation and easing of central bank policies on both sides of the border have mitigated those concerns. Characterizing these developments, the *Financial Post* reported:

> *Interest rate divergence swept onto the economic radar in the spring as the U.S. economy steamed ahead of its northern counterpart and economists began to forecast that the Bank of Canada would have to cut interest rates many more times than the Fed.*
>
> *Economists worried the resulting chasm between the two benchmark lending rates would bring about dire consequences for the loonie, since lower rates would result in the Canadian currency dropping in value, forcing investors to turn elsewhere for a better return.*
>
> ….
>
> *Now that inflation is apparently behaving, it could mean a narrower spread between the two central bank rates.*[76]

75 Consensus Economics Inc., Survey Date April 8, 2024; and Bloomberg for daily bond yields. Differences are due to rounding.

76 Posthaste: Economists breathe a bit easier over Canada, U.S. interest rate divergence and outlook for Loonie, *Financial Post*, July 17, 2024.

TAB 11

Figure 26: Risk Premium Results - Canada

	Using 30-Day Average Yield on 30-Year GOC Bond[90]	Using 2025–2026 Forecast for Yield on 30-Year GOC Bond[91]	Using 2025-2029 Forecast for Yield 30-Year GOC Bond[92]
Yield	3.55%	3.46%	3.55%
Risk Premium	5.89%	5.95%	5.89%
Resulting ROE	9.44%	9.41%	9.44%

I. Comparison to Other Authorized ROEs

As shown in Figure 27 the authorized ROE for Canadian investor-owned electric utility companies currently ranges from 8.50 percent (Newfoundland Power) to 9.65 percent (FortisBC Inc.), with an average of 9.16 percent. The authorized ROE for Canadian investor-owned gas distribution companies currently ranges from 8.90 percent (Energir) to 10.65 percent (Eastward Energy), with an average of 9.23 percent. The average authorized return for electric utilities in the U.S. is 9.67 percent since January 2023 and the average for U.S. gas distributors is 9.65 percent.

90 Bloomberg Professional, as of May 31, 2024.
91 Consensus Economics, April 2024, p. 29. We used the same forecast of government bond yields as in our CAPM analysis. See Figure 15 of this report.
92 Consensus Economics, April 2024, p. 29.

TAB 12

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.

Figure 24: Risk Premium Results – U.S. Gas

	Using 30-Day Average Yield on 30-Year Treasury Bond	Using Q3 2024–Q3 2025 Forecast for Yield on 30-Year Treasury Bond[86]	Using 2025-2029 Forecast for Yield 30-Year Treasury Bond[87]
Yield	4.66%	4.40%	4.30%
Risk Premium	5.79%	5.94%	6.00%
Resulting ROE	10.45%	10.34%	10.30%

We also conducted a risk premium analysis based on approximately 60 Canadian decisions for electric and gas utilities from 1994 through 2023. As in the U.S., the regression analysis for Canada shows an inverse relationship between interest rates and the equity risk premium. Figure 25 shows the regression equation produced by this analysis. See also Exhibit CEA-9 for the full risk premium analysis for Canada.

86 Blue Chip Financial Forecasts, Vol. 43, No. 5, May 1, 2024, p. 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.

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

TAB 13

- "U.S. Government Bond Yield" was the associated prevailing six-month trailing average 30-year U.S. government bond yield as of the rate case decision date;[102]

- "Utility Credit Spread" was the associated prevailing six-month trailing average Moody's A-rated utility bond yield spread over the 30-year U.S. government bond yield.[103]

The regression yielded a government bond yield coefficient of 0.3984 and a utility credit spread coefficient of 0.3340, with an R-squared of 0.5445. Based on this analysis, Concentric recommends lowering the LCBF adjustment factor from 0.50 to 0.40 and the utility credit spread adjustment factor from 0.50 to 0.33. These changes recognize that the relationship between ROEs and government bond yields has weakened slightly over the past fifteen years, while still maintaining the formula's ability to be sufficiently sensitive to changes in interest rates and utility credit spreads.

Using Concentric's recommended base ROE of 10.00 percent, a base LCBF as of May 31, 2024, an LCBF adjustment factor of 0.40, a base utility credit spread as of May 31, 2024, and a utility credit spread adjustment factor of 0.33, the annual OEB ROE formula would be as follows:

$$ROE = 10.00\% + 0.40 * (LCBF - \ 3.36\%) + 0.33 * (Utility\ Credit\ Spread - 1.371\ \%)$$

Concentric notes that the base LCBF (3.36%) and base utility credit spread (1.371%) noted above use data as of May 31, 2024. Concentric recommends updating these data closer to when a final decision is made in this proceeding.

K. Implied Equity Risk Premium

Figure 31 below provides a summary of the OEB's approach to determining an implied ERP based on the evidence of the experts in the 2009 proceeding. As shown in the table, the OEB derived the ERP based on either direct or derived estimates based on the model results provided by the experts, and

[102] Series "USGG30YR Index" from Bloomberg Professional, as of May 31, 2024.
[103] Series "MOODUA Index" from Bloomberg Professional, as of May 31, 2024.

TAB 14

Ontario Energy Association (OEA)

Answer to Interrogatory from
Ontario Energy Board Staff (OEB Staff)

INTERROGATORY

Reference:

Concentric Report, pp. 95 & 98 & 100

Question(s):

Concentric noted that its base LCBF (3.36%) and base utility credit spread (1.371%) use data as of May 31, 2024. Concentric recommended updating these data closer to when a final decision is made in this proceeding.

Concentric stated that it used the Alberta methodology.

In “Figure 32: ERP for Proxy Group Based on Model Results”, Concentric showed a long bond forecast of 3.80% and an average equity risk premium of 6.19% to calculate its recommended base ROE of 10.0%. The 6.19% is the average of 6.03%, 6.43%, and 6.10%.

a) Please provide Concentric’s supporting calculations for the base LCBF (3.36%) and base utility credit spread (1.371%) in Excel format and explain.

b) Please show Concentric’s supporting calculations for the long bond forecast of 3.80% in Excel format and explain.

c) Please explain why Concentric is using a LCBF of 3.36% in one instance and 3.80% in another instance.

d) At a high level, please provide Concentric’s supporting calculations of the equity risk premiums shown in Figure 32 of 6.03%, 6.43%, and 6.10% in Excel format and explain.

Response:

a) Please see OEB Staff-7(a), Attachment 1 for the base LCBF calculation and Attachment 2 for the base credit utility spread.

b) The long bond forecast of 3.80% in Figure 32 is based on the simple average of the forecast bond yield for Canada of 3.46% and for the U.S. of 4.14% as shown in Figure 15.

c) Concentric's CAPM analysis is based on the risk-free rate shown in Figure 15 of Concentric's report, Exhibit M2. This value is derived using the standard approach in most Canadian jurisdictions, which is to use the Consensus Economics' forecast of the 10-year bond yield plus the 10/30 spread to derive a 30-year bond yield forecast. Concentric used this 3.80% value in Figure 32 to compute the implied equity risk premium of its three ROE models for the Canadian Electric proxy group. However, in discussing the method for determining the LCBF in the Ontario formula, Concentric mentions two possible approaches. The first method is to use the approach described above based on the Consensus Economics' forecast of the 10-year government bond yield plus the 10/30 spread, and the second method is to use a forecast of the 30-year government bond, as was recently done by the Alberta Utilities Commission. Concentric's recommendation is to use the latter approach in setting the base LCBF in the Ontario formula.

d) The equity risk premia shown in Figure 32 were calculated by subtracting the long bond forecast of 3.80% from the results of each ROE model (Multi-Stage DCF, CAPM using historical MRP, and Risk Premium model) for the North American Combined proxy group. Please see OEB Staff-7(d), Attachment 1 for the supporting calculations in Excel.

Canadian Risk-Free Rate

	Q1 2025	Q2 2025	Q3 2025	Q4 2025	Weight	
RBC	3.00%	3.05%	3.10%	3.15%		
TD Bank	3.45%	3.35%	3.25%	3.20%		
Scotia Bank	3.50%	3.50%	3.50%	3.50%		
Average				3.296%	75%	2.472%
Current 30-day average yield as of May 31, 2024				3.553%	25%	0.888%
Weighted Average Bond Yield						**3.360%**

Notes:

Bank forecasts as of early June 2024

Current average Canadian 30-year GOC yield from Bloomberg Professional

TAB 15

ONTARIO ENERGY BOARD

FILE NO.:	**EB-2024-0063**	**Generic Proceeding - Cost of Capital and Other Matters**

VOLUME:	**Presentation Day**	
DATE:	**September 5, 2024**	
BEFORE:	**Michael Janigan**	**Presiding Commissioner**
	Lynne Anderson	**Commissioner**
	Pankaj Sardana	**Commissioner**

want to put a partial quote in.

MS. ANDERSON: I got it.

MR. DANE: But I could see that would be confusing.

MS. ANDERSON: Yeah, okay, No, thank you. That's it, from me.

MR. JANIGAN: Thank you. Commissioner Mr. Sardana has one more question.

MR. SARDANA: Sorry, I should have asked this earlier. Clearly OPG is in a construction cycle and a refurbishing cycle right now; it is probably going to last a few more years. But once that cycle is over and they are operating these new refurbished reactors and perhaps the SMRs as well, would your view of their risk change at that point, when they turn from a construction -- you know, where there's a lot of risk in your view, and others, to more of an operational company now, for the next 30 or 40 years?

MR. DANE: Yes. No, it's a good question, and I think ultimately we would want to assess their risk at that time. And I think that's part of our recommendation about revisiting cost of capital every five years, rate setting plans being generally made for five years.

So certainly, if OPG is through its -- through this capital plan time period, that would affect their risk. But things change over time, so I wouldn't want to necessarily commit that it would change as an overall picture. But certainly we would want to take that into consideration.

MR. JANIGAN: Thank you, very much. Panel, I have no

TAB 16

Figure 19: Hamada Equation – Adjustment to CAPM Results in Basis Points

Proxy Group	Average MRP	Forward-looking MRP	Historical MRP
Electric T&D (40%)	+194	+251	+138
Electric Generation (45%)	+91	+117	+64
Gas Distribution (38%)	+231	+298	+163

Concentric performed these calculations using the Hamada equation to analyze the effect of financial leverage on returns, but our ROE recommendation is based in part on CAPM results that are not adjusted for such differences in leverage.

G. Flotation Costs and Financing Flexibility

It is common practice for Canadian regulators to approve an adjustment for flotation costs and financing flexibility, with 50 basis points being the norm (as discussed below). The OEB included this adjustment in the 2009 Report; however, LEI is recommending that the authorized ROE for Ontario's utilities should not be adjusted for flotation costs and financial flexibility.

The adjustment for flotation costs compensates the equity holder for the costs associated with the sale of new issues of common equity. These costs include out-of-pocket expenditures for the preparation, filing, underwriting and other costs of issuance of common equity including the costs of financial flexibility such that there is adequate cushion to raise equity in challenging capital market conditions. As the purpose of the allowed rate of return in a regulatory proceeding is to estimate the cost of capital the regulated company would incur to raise money in the "primary" markets, an estimate of the returns required by investors in the "secondary" markets must be adjusted for flotation costs in order to provide an estimate of the cost of capital that the regulated company requires. The adjustment also takes into account the need for financial flexibility, meaning that utilities are capital intensive businesses and must be able to access capital markets at all necessary times regardless of conditions in capital markets or the economy. The adjustment is particularly necessary because authorized ROEs in Canada tend to be lower and Canadian utilities are more thinly capitalized than US utilities, as discussed in Section VII of our report.

The practice of allowing a 50 basis point adjustment for flotation costs and financing flexibility is widespread across Canada. As shown in Figure 20, of the ten jurisdictions examined, seven have

TAB 17

Ontario Energy Association (OEA)

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition (VECC)

INTERROGATORY

Reference:

M2: CONCENTRIC Report, page 71

Preamble:

The Report states:

"It is common practice for Canadian regulators to approve an adjustment for flotation costs and financing flexibility, with 50 basis points being the norm."

And

"The adjustment for flotation costs compensates the equity holder for the costs associated with the sale of new issues of common equity. These costs include out-of-pocket expenditures for the preparation, filing, underwriting and other costs of issuance of common equity."

And

"The adjustment also takes into account the need for financial flexibility, meaning that utilities are capital intensive businesses and must be able to access capital markets at all necessary times regardless of conditions in capital markets or the economy. The adjustment is particularly necessary because authorized ROEs in Canada tend to be lower and Canadian utilities are more thinly capitalized than US utilities"

Question(s):

27.1 For utilities that actually issue common equity, can Concentric provide an estimate as to the portion of the 50 basis points that would be required to compensate the equity holder for the costs associated with the sale of new issues of common equity?

27.2 For those Ontario-regulated utilities that do not issue common equity (e.g., where the equity is held by the municipality), why is appropriate to include in the ROE an allowance designed to compensate the equity holder for the costs associated with the sale of new issues of common equity?

Response:

27.1 Please see the response to M2-10-OEB Staff-16. Flotation costs typically are in the range of 25 basis points for the companies in Concentric's North American Combined proxy group.

27.2 All utilities incur costs associated with raising debt and equity, even if from a municipal shareholder that incurs these costs on behalf of its utility. The 50 basis points is designed to approximate these costs and provide for financial flexibility. See response to M2-10-OEB Staff-16.

TAB 18

Ontario Energy Association (OEA)

Answer to Interrogatory from
Ontario Energy Board Staff (OEB Staff)

INTERROGATORY

Reference:

Concentric Report, pp. 148, 149, 150

Question(s):

Concentric stated that changes in the cost of capital parameters (ROE, long-term debt and short-term debt rates) should take effect for all utilities in the rate year following the OEB's decision in this proceeding (subject to any settlement agreements and each utility submitting a compliance filing demonstrating how the change would be implemented within the context of its specific IR plan), and in subsequent periods where the parameters are updated.

Concentric stated that all other elements and incentives of existing rate plans would remain in effect.

Concentric stated that it is not necessary to wait for rebasing, and any delays in implementation would not serve the public interest or meet the Fair Return Standard if the OEB determines that updated parameters are justified.

Concentric noted that depending on the magnitude of change in the deemed capital structure, the OEB may want to consider changes in capital structure implemented over a period of up to three years. This incremental approach would serve two purposes: 1)to allow the utility treasury functions to manage the transition (e.g., retiring debt and investing new equity as appropriate), and 2) to mitigate the effects of any rate impacts. Concentric stated that unlike ROE and debt rates, changes in the capital structure can require time to implement.

Concentric stated that it sees no basis for the limitations recommended in LEI's twoprong test, or a determination of "rate shock". Concentric suggested that the FRS has no provision for "rate shock", or a 100 basis point differential (i.e., LEI's noted level of deviations in the cost of capital parameters). Concentric stated that the cost of capital is a true cost that should be recognized in customer rates as soon as reasonably possible.

a) Please provide Concentric's views on how it would be practical to implement any changes in the cost of capital parameters or capital structure resulting from a

decision in the current proceeding, in a utility's subsequent rate year. Also, how does Concentric propose to mitigate any regulatory burden that may result?

b) If changes in the cost of capital parameters or capital structure resulting from a decision in the current proceeding are effective and implemented in a utility's subsequent rate year, does Concentric propose that only the revenue requirement impacts of such changes should impact the subsequent rate year rate impacts? In Concentric's view, what would be the best way to implement?

c) Although Concentric stated that the cost of capital is a true cost that should be recognized in customer rates as soon as reasonably possible, how does this differ from other costs that may be incorporated into rates only at rebasing?

d) What basis point differential does Concentric suggest that should be used to implement changes to cost of capital parameters, in the event that the OEB does not approve changes related to cost of capital during a utility's rate term?

Response:

a) Concentric recommends that each utility prepare a compliance filing incorporating the results of the Board's determinations regarding the cost of capital parameters for the next effective rate year. The compliance filing would demonstrate how the changes will be implemented within the context of its specific IR plan (e.g., Custom IR or I-X plan). This is no greater regulatory burden than the annual adjustments made for changes in the inflation rate ("I"), clearing of DVA balances, and other rate changes implemented between rebasing periods.

b) Yes, Concentric recommends that only the revenue requirement changes resulting from changes in the cost of capital parameters be implemented in the subsequent rate year. Concentric's proposed implementation is outlined in response to M2-18-OEB Staff-25 (a).

c) Costs that are locked in for the duration of the rate plan, or subject to changes in "I", "Y" or "Z" factors, should not be impacted by changes in the cost of capital parameters. The difference is that changes in the cost of capital parameters are justified by updated evidence and analysis indicating that these changes are necessary to meet the Board's legal requirement to set cost of capital parameters that meet the Fair Return Standard.

d) Concentric assumes that this question refers to the second prong of LEI's recommendation that a two-factor test must be met to change cost of capital parameters prior to rebasing: (i) the utility should have more than 60% of its rate term remaining, and (ii) deviations in the cost of capital parameters should be

material (100 bps or more). (LEI Report, p. 163). Concentric's view is that 100 basis points is a substantial deviation considering its application to invested capital for Ontario's utilities. If the Board were to set such a threshold, Concentric would recommend a 25 basis point differential for debt (both short term and long term) and 50 basis points for ROE, given the relative magnitude of debt and equity costs.

TAB 19