REPLY EVIDENCE

CONCENTRIC ENERGY ADVISORS, INC.

PREPARED FOR:

ONTARIO POWER GENERATION

BEFORE THE:

ONTARIO ENERGY BOARD

DOCKET NO. EB-2025-0297

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A. Introduction

My name is Daniel S. Dane, and I am the President of Concentric Energy Advisors, Inc. ("Concentric"). I submitted a pre-filed expert report ("Direct Report") on behalf of Ontario Power Generation ("OPG") in December 2025. That report addressed whether the application of the cost of capital approved by the Ontario Energy Board ("OEB" or the "Board") in EB-2020-0290 is an appropriate basis for setting payment amounts in OPG's rates application EB-2025-0297 and recommended, based on the analyses therein, an equity ratio of no less than 52% for OPG.

This Reply Evidence responds to the evidence of Christensen Associates Energy Consulting ("CAEC") on behalf of OEB Staff as it relates to the deemed capital structure for OPG in its payment amounts application for the 2027-2031 rate period (the "IR Term"). Nothing in the CAEC evidence causes Concentric to change its findings or recommendations in this proceeding.

This Reply Evidence identifies the principal areas of agreement between Concentric's and CAEC's evidence, findings, and recommendations, and explains the key areas of disagreement. Silence in this Reply Evidence regarding any other of CAEC's findings or conclusions does not indicate Concentric's agreement with CAEC on those issues.

B. Key Areas of Agreement

There are important areas of agreement between Concentric and CAEC. In the Direct Report, Concentric concluded that, taken as a whole, the shift in the Company's risk profile since the time of both EB-2016-0152 and EB-2020-0290 warrants a reassessment of OPG's deemed equity ratio.[1] CAEC agrees that an increase in OPG's equity thickness is warranted because OPG's risks have increased since OPG's 2020 payment amounts application, when the deemed equity ratio for OPG was established at 45%.[2] While Concentric and CAEC differ on the degree of change in the risks, both agree that OPG's risk has changed sufficiently to warrant revisitation of equity thickness. Specifically, CAEC found that OPG "will likely face elevated business risk relative to previous payment amounts periods,"[3] and CAEC recommends raising the equity ratio from 45% to a range of 47%–50%, with a

[1] Exhibit C1-1-1, at 12.
[2] Exhibit M-1, at 23.
[3] *Id*., at 38.

point estimate of 48.5%.[4] In other words, both Concentric and CAEC agree the status-quo 45% deemed equity ratio is no longer sufficient for OPG.

Concentric and CAEC agree that changes in the Company's risk include (1) that OPG's elevated capital expenditure program during the rate period increases the Company's operating risk,[5] (2) there is likely a shift in OPG's financial risk,[6] and (3) that OPG's cash flow related credit metrics at a 45% deemed equity ratio will not be sufficient during the rate period.[7] CAEC also recognizes that cyber-security risk and severe weather risk have increased for utilities.[8] Overall, CAEC concludes that OPG will likely face elevated business risk relative to prior payment amount periods.[9]

Concentric and CAEC also agree that a proxy group analysis assists the regulator with its obligation to meet the comparable return standard of the Fair Return Standard ("FRS"),[10] that utilities obtain capital from a global market of investors,[11] that similar risk U.S. companies should be included in the proxy group for OPG,[12] that, as a pure play generator, no peer companies perfectly match OPG's risk profile,[13] that the FRS applies to both the authorized ROE and the deemed equity ratio,[14] and that the stand-alone principle as defined by the OEB applies to the determination of OPG's capital structure.[15]

C. Key Areas of Disagreement

While CAEC and Concentric agree on many aspects of their respective analyses, Concentric disagrees with several key assumptions and analytical approaches that underlie CAEC's equity ratio analysis and recommendation. Those differences primarily concern: (1) CAEC's inclusion of Canadian crown corporations in its proxy group; (2) its reliance on minimum credit metrics to establish an equity thickness recommendation; (3) its exclusion of certain U.S. and Canadian investor-owned utility companies; (4) CAEC's conclusions regarding OPG's risk profile and nuclear concentration; and (5) other proxy group composition issues. Each of these differences is addressed below.

[4] *Id.*, at 49.
[5] *Id.*, at 24.
[6] *Id.*, at 30.
[7] *Id.*, at 32.
[8] *Id.*, at 27.
[9] *Id.*, at 38.
[10] *Id.*, at 34.
[11] *Id.*, at 11.
[12] *Id.*, at 45.
[13] *Id.*, at 45.
[14] *Id.*, at 22.
[15] *Id.*, at 23.

1. Inclusion of Crown Corporations in the Proxy Group

First, Concentric disagrees with CAEC's inclusion of three crown corporations: British Columbia Hydro and Power Authority ("BC Hydro"), New Brunswick Power ("NB Power"), and Newfoundland and Labrador Hydro ("NL Hydro"), in the proxy group for OPG.[16] As shown in the figure below, removal of those companies results in a range of mean and median equity thicknesses that is consistent with Concentric's recommended 52% equity thickness.

Figure 1: CAEC Analysis with and without Crown Corporations

	Authorized Equity Ratio		**Actual Equity Ratio**	
Proxy Group	**Mean**	**Median**	**Mean**	**Median**
CAEC Proxy Group	46.95%	50.61%	45.27%	50.57%
CAEC Proxy Group – Excluding Crown Corporations	51.56%	51.99%	52.21%	52.54%

Concentric notes that, even on CAEC's own preferred proxy group (which includes the crown corporations), CAEC's median authorized equity ratio is 50.61% and its median actual equity ratio is 50.57%, both of which are above CAEC's 48.5% recommendation and within Concentric's 50% to 53% range. CAEC's central-tendency evidence therefore points to an equity ratio at or above 50%, not 48.5%. Nonetheless, Concentric finds that Canadian crown corporations are inappropriate for inclusion in the proxy group, as discussed below.

CAEC asserts that the addition of three Canadian crown corporations, each of which are integrated electric utilities, drives an increase in the average percentage of hydroelectric and nuclear generation for the proxy group companies.[17] CAEC acknowledges that including the crown corporations is a "drawback … given the Stand Alone Principle,"[18] though it concludes its analysis does not violate that principle. CAEC further identifies the absence of a government debt guarantee for OPG's debt issuances that the crown corporations have from their respective Provincial shareholders.[19] In Concentric's view, the inclusion of crown corporations does not provide a reliable basis for setting OPG's deemed capital structure. The cost of capital is a market-determined concept, and the FRS

[16] *Id*., at 43-44 and Table 6.4.
[17] *Id*., at 46.
[18] *Id*., at 44.
[19] Id. at 43 and 44.

requires that a utility's authorized return be benchmarked to investments of comparable risk based on market-tested data. A proxy group exists to supply that market evidence. This is supported by the fact that the OEB's generic ROE formula was established based on a proxy group of publicly-traded firms. To impose a legislatively-determined capital structure from a crown corporation on a market-derived ROE would be a mismatch. Importantly, the FRS applies both to the authorized ROE and the deemed capital structure.

The fact that OPG is provincially owned does not resolve this issue. As discussed in the Direct Report, at 19, the OEB has consistently endorsed the stand-alone principle in its findings regarding the deemed capital structure for OPG. For example, the OEB concluded that it would apply the stand-alone principle in establishing the capital structure for OPG, noting that "[t]he stand-alone principle is a long-established regulatory principle,"[20] and that "Provincial ownership will not be a factor to be considered by the Board in establishing capital structure."[21] The OEB found the same in EB-2024-0063, where it stated "the OEB is firmly of the view that the cost of capital should be determined based on the use of funds and the risk profiles of utilities, rather than their ownership type or capital source."[22]

The relevant regulatory question is therefore not whether other government-owned utilities exist, but whether their capital structures provide reliable market evidence for setting OPG's deemed capital structure under the FRS and the stand-alone principle.

In addition to CAEC's concerns regarding the stand-alone principle and the absence of a government debt guarantee for OPG's debt issuances, Concentric has several other concerns. The equity ratios of the crown corporations that CAEC proposes adding to the proxy group do not reflect market-determined or market-tested equity ratios. None of the three crown corporations issues debt on a basis analogous to OPG, which issues debt based on its own credit rating and without a provincial guarantee. OPG could not maintain its credit rating and attract capital with actual or deemed equity ratios at the levels shown by CAEC for New Brunswick Power or BC Hydro, which range from 9.67% to 40%, and average 23.26%.[23] In accordance with the FRS, the deemed equity ratio for OPG must be set at a level that enables the Company to attract capital on reasonable terms and ensures that OPG

[20] EB-2007-0905, Decision with Reasons, November 3, 2008, at 140.
[21] *Id*., at 142.
[22] EB-2024-0063, Decision and Order, March 27, 2025, at 18.
[23] Exhibit M-1, Table 6.5.

maintains its financial integrity. This is especially important when OPG has an elevated capital expenditure program, as CAEC recognizes, that requires access to external capital, as it will during the 2027-2031 rate period. The actual or deemed equity ratios of the crown corporations in CAEC's sample are not sufficient for OPG to maintain access to capital or its current investment grade credit rating.

Further discussion and analysis of each crown corporation in CAEC's proxy group is provided below.

a. **NB Power** (20% authorized equity ratio; 9.67% actual equity ratio[24])

NB Power does not have its own credit rating, nor does it issue its own debt.[25] For those reasons, it fails the basic screening criterion applied by both Concentric and CAEC that the utility have an investment grade credit rating, because NB Power has none. In addition, there is no direct market-based evidence regarding NB Power's perceived risk by investors or the adequacy of its capital structure or rate of return in offering a return relative to alternative investments of comparable risk.

Further, per information provided by CAEC in response to Exhibit N.M1.OPG-004, "NB Power's target minimum debt/equity ratio is 80/20 as prescribed in the Electricity Act [of New Brunswick],"[26] and "the rates charged by the [NB Power] Corporation for sales of electricity within the Province [of New Brunswick]… should provide sufficient revenue to the Corporation to permit it to earn a just and reasonable return, in the context of the Corporation's objective to earn sufficient income to achieve a capital structure of at least 20% equity."[27]

As such, there is little relevance from the perspective of a FRS analysis whether NB Power is risk comparable from a business risk perspective, because the inputs to the FRS analysis (i.e., the deemed and actual capital structures of NB Power) are fundamentally incomparable to OPG.

b. **BC Hydro** (40% authorized equity ratio; 23.35% actual equity ratio[28])

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24 *Ibid*. The authorized equity ratio was revised to 20% in Exhibit N.M1.OPG-004.
25 Exhibit N.M1.OPG-003.
26 Exh-N_M1-OPG-004, Att 1, at 55.
27 *Id*., Att 1, at 239.
28 Exhibit M-1, Table 6.5.

CAEC acknowledges that BC Hydro's debt is guaranteed by the province of British Columbia.[29] Per Fitch Ratings, "BC Hydro's Long-Term IDRs [issuer default ratings] are equalized with the province's Long-Term IDRs (AA-/Negative), because Fitch believes provincial support would be virtually certain if needed. BC Hydro is a government-related entity (GRE) of the province, and its ratings are equalized with the province's ratings under Fitch's GRE rating criteria."[30] As such, BC Hydro's actual capitalization represents a different risk profile than OPG's, even considering the implicit provincial support that credit ratings agencies recognize for OPG. BC Hydro's actual equity ratio of 23.35%, therefore, is not a reasonable or appropriate point of comparison for OPG for purposes of an FRS analysis.

Further, BC Hydro's authorized capital structure is not relevant because the British Columbia Utilities Commission ("BCUC") does not approve one for BC Hydro. Specifically, per BCUC Decision and Order G-154-23, "BC Hydro does not have a deemed capital structure approved by the BCUC,"[31] but rather, as stated by CAEC, "BC Hydro is a unique utility in that the portion of the company's revenue requirement attributable to total return is established not by a cost of equity analysis, but rather by a required 'distributable surplus' that the utility provides to the province of British Columbia."[32]

c. **NL Hydro** (45% authorized equity ratio; 40.38% actual equity ratio[33])

Like BC Hydro, NL Hydro's debt is guaranteed by its provincial owner, and NL Hydro does not appear to have its own stand-alone credit ratings reports.[34] Furthermore, NL Hydro is unique in that it is statutorily permitted to "have the proportion of equity in its capital structure up to a maximum of the same approved for Newfoundland Power,"[35] which is currently 45%. However, NL Hydro generally uses its actual regulated capital structure in its revenue requirement, which, in its 2026 General Rate Application, was proposed to be 21.76% equity.[36] In addition, NL Hydro management has stated that it generally "targets a capital structure comprised of 75% debt and 25% equity" for its regulated

[29] Exhibit N.M1.OPG-003.
[30] Fitch Ratings, "Fitch Downgrades BC Hydro's Ratings to 'AA-'; Outlook Negative," April 20, 2026.
[31] Exh-N_M1-CCC-008, Att 3, at 6.
[32] Exhibit N.M1.CCC-008.
[33] Exhibit M-1, Table 6.5.
[34] Exhibit N.M1.OPG-003.
[35] Order in Council OC2009-063.
[36] Newfoundland and Labrador Hydro 2026 General Rate Application, Volume 1, Chapter 5: Revenue Requirement, Table 5-9.

operations.[37] Therefore, NL Hydro's actual capitalization represents a materially different risk profile than OPG's and is not a reasonable or appropriate point of comparison for OPG for purposes of an FRS analysis.

2. Minimum Credit Metrics

CAEC recognizes that OPG's current deemed equity ratio of 45% is likely not sufficient for the Company to maintain its key cash flow credit metrics during the 2027-2031 rate period. CAEC states that its analysis demonstrates that a deemed equity ratio of 48.5% is sufficient to maintain OPG's cash flow related credit metrics above the threshold level from the rating agencies, and that Concentric's proposed equity ratio of 52% is not necessary.[38]

Concentric disagrees with CAEC's reliance on minimum credit metrics to establish its 48.5% equity ratio recommendation. While credit metrics are relevant to the financial integrity component of the FRS, achievement of minimum credit metrics, by itself, does not satisfy the FRS. The OEB has previously found that bond metrics do not determine whether an authorized return meets the FRS for equity investors.[39] The deemed equity ratio should be based on the FRS analysis, which shows that comparable risk electric utilities have equity ratios of 50 to 53% on average, not solely on whether OPG can remain above specified downgrade thresholds.

Credit metrics remain relevant to an assessment of financial integrity, but they should not be used as a substitute for the broader FRS analysis. In particular, a deemed capital structure that results in the company's credit metrics merely avoiding a downgrade threshold may not provide a return comparable to returns available from investments of comparable risk and may not provide sufficient financial flexibility during a period of elevated investment requirements. The financial integrity component of the FRS is therefore necessary, but not sufficient, to determine the appropriate deemed equity ratio.

3. Consideration of OPG's Risk Profile and Nuclear Concentration

CAEC agrees that nuclear generation increases a utility's risk profile, finding, among other factors, that "because nuclear plants produce such a large amount of energy, a utility with a high proportion

[37] 2025 Newfoundland and Labrador Hydro Annual Report, at 29.
[38] Exhibit M-1, at 39 and 41.
[39] Exhibit C-1-1-1, at 45 of 109.

of nuclear generation plant is more likely to face concentration risk. An asset mix with a higher proportion of nuclear generation increases the risk profile of the utility, all else equal."[40]

However, despite CAEC's finding that nuclear generators face concentration risk and CAEC's acknowledgement that OPG's proportional nuclear rate base has increased significantly and will continue to do so over the IR Term, CAEC states that it is "ambiguous" whether OPG will face greater nuclear-related risk in the near-term, stating that "*according to OEB precedent*, OPG will face lower risks as the proportion of nuclear power in OPG's generation mix decreases," but that "the dollar value per MWh produced by nuclear will increase, increasing the Company's concentration risk."[41]

CAEC's reliance on declining nuclear output to conclude that the Company's current risk is "ambiguous," however, is internally inconsistent. CAEC recognizes that OPG will face "a form of concentration risk"[42] as Pickering goes offline, nuclear output falls, and each MWh of nuclear generation becomes more financially valuable. If CAEC discounts OPG's risk on the basis that nuclear units are offline, it is inconsistent to simultaneously ignore that the same reduction in output concentrates more of OPG's nuclear revenue requirement on the remaining operating units, which would increase, not decrease, relative risk. CAEC identifies this as a countervailing "increased risk," but concludes that the offset is "not clear."

In the Direct Report, Concentric found that relative changes in OPG's nuclear and hydroelectric rate bases represent a clear and material shift in OPG's asset base to nuclear generation, which is significantly riskier than hydroelectric generation. Concentric further found that from an investment risk perspective, the primary basis on which to assess the relative business risk of OPG's regulated business segments, particularly during a construction cycle, is on invested capital and the earnings that it generates.

CAEC's risk-reducing argument depends on the output metric that, as discussed below, is not the appropriate measure of business risk during a construction cycle. Concentric disagrees that "OEB precedent" dictates that OPG's risk level will decrease as nuclear output decreases, because, as stated in the Direct Report, the OEB has previously evaluated this nuclear/hydroelectric split in two different ways, based on the proportionate share of rate base amounts (i.e., asset-based

[40] Exhibit M-1, at 24-25.
[41] *Id*., at 25.
[42] *Id*., at 26.

considerations) and based on the ratio of generation output (i.e., revenue-based considerations). Based on the current factors discussed in the Direct Report regarding the relative contribution of nuclear and hydroelectric generation to OPG's risk profile, Concentric continues to find that OPG's continuing shift towards a materially higher proportion of nuclear rate base indicates a significant shift in OPG's risk profile.

Concentric also finds that CAEC did not adequately consider other important aspects of OPG's risk profile that support a higher deemed equity ratio as compared to the proxy group companies. To begin with, OPG has greater exposure to variability associated with nuclear generation output, and does not have a regulatory mechanism to mitigate that risk.

In addition, OPG's risk profile must be considered in the context of the proxy group's composition. The proxy group companies are generally integrated utilities with transmission and distribution operations in addition to generation. Those lower-risk activities affect the overall risk profile of the proxy companies. OPG's status as a pure play generator therefore supports placing OPG toward the upper end of the proxy group range rather than at or below the midpoint of that range. CAEC finds that jurisdictional/proxy analysis is of "somewhat more limited value" for OPG because no regulated peer in North America focuses solely on power generation, as does OPG.[43] This acknowledgement also supports placing OPG at the upper end of the range.

However, it is important to note that, despite Concentric finding that OPG falls at the upper end of the risk spectrum when compared to the proxy group, Concentric conservatively recommended an equity thickness of no less than 52%, which approximates the mean and median of the proxy group results. This recommendation is 13% below the high end of the proxy group range of 65%.

4. Proxy Group Nuclear and Hydroelectric Generation Threshold

Concentric does not agree with CAEC's decision to increase the nuclear and hydroelectric generation screen from 5% to 15%. The purpose of that screen is to select companies that have risk associated with the ownership of regulated nuclear and hydroelectric generation. CAEC's increased threshold excludes companies like American Electric Power ("AEP," 12% combined nuclear and hydroelectric generation as a percentage of total generation), Evergy, Inc. (10% combined nuclear and

[43] Exhibit M-1, at 42.

hydroelectric generation), NextEra Energy (9% combined nuclear and hydroelectric generation), and Xcel Energy Inc. ("Xcel," 9% combined nuclear and hydroelectric generation). As provided in Appendix B to the Direct Report, companies with less than 15% nuclear generation exposure still have material nuclear exposure that is explicitly considered by the investment community. For instance, S&P states that AEP has "[h]eightened operational risk stemming from its ownership of the Cook nuclear plant… The company's exposure to nuclear generation introduces higher operational risks and plant retirement responsibilities."[44] Further, S&P states that Xcel's nuclear portfolio "increases operational risks and carries long-term nuclear fuel storage concerns, but it provides generation free of emissions."[45] In addition, as also discussed in the Direct Report, Florida, in which one of NextEra's larger utilities (Florida Power & Light, or "FP&L") operates has legislation and regulatory rules that have enabled nuclear construction, and under which FP&L has pursued major nuclear generating station refurbishments, making NextEra highly comparable to OPG in certain respects. As such, CAEC's increased threshold is arbitrary and serves only to exclude relevant comparators from the proxy group.

5. Exclusion of Concentric Proxy Group Companies

CAEC modifies the composition of Concentric's proxy group but otherwise agrees with Concentric's general approach for selecting risk comparable companies.[46] Concentric disagrees with CAEC's exclusion of certain U.S. and Canadian investor-owned utility companies. Concentric continues to find that it is appropriate to include Canadian investor-owned utilities such as Emera Inc., Fortis Inc., and Algonquin Power & Utilities Corporation in the proxy group for OPG. These companies are more comparable to OPG than the crown corporations that CAEC recommends adding to the proxy group, and all three own regulated generation.

The inclusion of Canadian investor-owned utilities also provides useful market evidence. Although there are limited publicly traded Canadian regulated utility companies, the Canadian companies included by Concentric are investor-owned and have regulated utility operations with exposure to generation-related risks. In Concentric's view, that makes them more informative comparators than crown corporations whose capital structures are not market tested in the same manner.

[44] S&P Ratings Direct, "American Electric Power Co. Inc.," September 19, 2023.
[45] S&P Ratings Direct, "Xcel Energy Inc.," July 2, 2025.
[46] CAEC states "Other than these modifications, we agree with the approach to the proxy group analysis presented by Concentric." Exhibit M-1, at 37.

D. Conclusion

CAEC and Concentric agree that OPG's risk has increased and that an increase in OPG's deemed equity ratio is warranted for the IR Term. Concentric continues to support an increase in the deemed equity ratio for OPG within a range from 50 to 53%, with 52% as the point estimate, based on an FRS analysis for a proxy group of risk-comparable integrated electric utilities. While Concentric believes OPG falls toward the upper end of the risk spectrum, reasonably supporting an equity ratio of 53% or higher, Concentric conservatively recommends an equity ratio of no less than 52% for OPG.

Concentric's recommendation is grounded in the same analytical framework used in its Direct Report. The proxy group evidence supports a range of 50 to 53% for comparable-risk electric utilities. OPG's pure generation profile, elevated capital expenditure program, increased financial risk, and exposure to nuclear output variability support a conclusion that OPG is not below the risk level reflected by that range.

This recommendation is somewhat higher than Concentric's recommended equity ratios of no less than 50% in EB-2020-0290 and 49% in EB-2016-0152, reflecting current peer group data and Concentric's assessment that OPG's risks have increased since those proceedings. Concentric's recommendation balances OPG's heightened risk profile and proxy group position with the Board's findings in EB-2016-0152 and EB-2024-0063.

For these reasons, Concentric reaffirms that the appropriate deemed equity ratio for OPG is no less than 52%. That recommendation appropriately recognizes the areas of agreement with CAEC, accounts for the key areas of disagreement that affect CAEC's lower recommendation, and remains consistent with the FRS, the stand-alone principle, and the market evidence for comparable-risk electric utilities.