Ontario Power Generation Inc. ("OPG")
Interrogatories for Pollution Probe

INTERROGATORY # 1

Issue: 3.3

Ref: Page 27, Fuqua Industries Approach

Preamble: At page 27, Drs. Kryzanowski and Roberts state that "Fuqua Industries is a U.S. company with 20-plus divisions that has also developed a multi-stage approach for the estimation of divisional costs of capital that uses multidimensional screens." The article that Drs. Kryzanowski and Roberts cite referencing the Fuqua Industries method for estimating the divisional cost of capital is dated 1982. OPG would like to understand if this is a methodology that is still being used by Fuqua

Interrogatory

a) To Drs. Kryzanowski and Roberts's knowledge, does Fuqua Industries still use the methodology described in their report?

b) What is the current status of Fuqua Industries?

INTERROGATORY # 2

Issue: 3.3

Ref: Page 26, footnote 24, Drs. Kryzanowski and Roberts reference an article entitled "A note on estimating the divisional cost of capital for diversified companies: An Empirical evaluation of heuristic-based approaches, *The European Journal of Finance* 10 (February 2004), pages 68-80.

Preamble: OPG would like to understand the implications of the article as they relate to the estimation of technology-specific capital structures.

Interrogatory

a) Could Drs. Kryzanowski and Roberts please briefly describe, in layman's terms, what the objective of the analysis conducted in the article was, the analysis undertaken, and the conclusions reached by the authors?

INTERROGATORY # 3

Issue: 3.3

Ref: Page 20, ATWACC Approach

Preamble: At page 20, Drs. Kryzanowski and Roberts state that "This ATWACC approach invokes the unrealistic assumption that ATWACC (or the overall cost of

capital) is the same for each utility used in the estimation (even if their bond ratings vary from BBB- to A)." OPG would like to better understand how Drs. Kryzanowski and Roberts reach this conclusion.

Interrogatory

a) Could Drs. Kryzanowski and Roberts please explain in more detail why the assumption that the ATWACC is constant across a range of capital structures for a sample of companies would mean that the ATWACC is the same for each of the individual companies in the sample?

INTERROGATORY # 4

Issue: 3.3

Ref: Page 26, BCG's implementation of the heuristic-based approach

Preamble: At page 26, Drs. Kryzanowski and Roberts describe the Boston Consulting Group methodology. OPG would like to better understand how the Boston Consulting Group methodology would be applied.

Interrogatory

a) Could Drs. Kryzanowski and Roberts please explain what is meant by a linear extrapolation? For illustrative purposes, could Drs. Kryzanowski and Roberts please show what the implied divisional costs of capital are based on linear extrapolation if the firm-level cost of capital is 7% and the aggregate scores of two divisions are respectively 12 and 24 respectively (compared to the firm level score of 18)?

INTERROGATORY # 5

Issue: 3.3

Ref: Schedule 5.7, Business Risk Scores

Preamble: In Schedule 5.7 Drs. Kryzanowski and Roberts show the OPG Hydro, OPG Nuclear and OPG Regulated Business Risk Scores at 1.8, 2.6 and 2.1 respectively. In their Schedule 3.7, the corresponding Business Risk Scores were 1.8, 2.3 and 2.1. In EB-2007-0905, OPG would like to better understand the difference in the results between the two proceedings.

Interrogatory

a) Could Drs. Kryzanowski and Roberts please explain why the Business Risk Score of OPG Regulated would still be 2.1 if the Business Risk Score of OPG Nuclear has increased from 2.3 to 2.6?

INTERROGATORY # 6

Issue: 3.3

Ref: Page 55, Nuclear Liabilities

Preamble: At page 55, Drs. Kryzanowski and Roberts state, with reference to the Board's denial of the fixed payment and the setting of a lower accretion rate for nuclear liabilities, "As explained above, these denials are immaterial to the comparison of business risk since the Decision in EB-2007-0905." OPG would like to understand Drs. Kryzanowski and Roberts's position on the lower accretion rate for nuclear liabilities.

Interrogatory

a) Please explain where this item was discussed by Drs. Kryzanowski and Roberts.

b) If not already discussed, please provide Drs. Kryzanowski and Roberts's understanding of the impact of the Board's decision on OPG's risk and why they conclude the denial is immaterial.

INTERROGATORY # 7

Issue: 3.3

Ref: Nuclear Liabilities

Preamble: In EB-2007-0905, the Board adopted a different treatment of nuclear liabilities than OPG requested. Drs. Kryzanowski and Roberts's evidence does not appear to refer to this element of the Board's decision. OPG wishes to understand Drs. Kryzanowski and Roberts's views on this issue.

Interrogatory

a) Please explain whether in making their capital structure recommendations in EB-2007-0905 Drs. Kryzanowski and Roberts assumed that the nuclear liabilities would be given rate base treatment as OPG had proposed. If not, please explain what their assumption was and provide any references to that assumption from their testimony, responses to information requests or cross-examination in EB-2007-0905

b) If Drs. Kryzanowski and Roberts assumed that that the nuclear liabilities would be given rate base treatment in EB-2007-0905, please explain how they have taken the Board's decision to alter the proposed treatment in arriving at their recommended capital structure for OPG Nuclear in this proceeding.

INTERROGATORY # 8

Issue: 3.3

Ref: Schedule 5.1

Preamble: In Schedule 5.1, Drs. Kryzanowski and Roberts provide business risk scores for each of the nine dimensions of risk for an integrated electric utility. OPG wishes to understand how the risk scores of an integrated electric utility were derived.

Interrogatory

a) Did Drs. Kryzanowski and Roberts assume that the business risk scores for the generation component of an integrated electric utility were equal to the scores that they had assigned to OPG Hydro? If no, please explain what the assumptions were. If yes, please explain why the business risk score for hydroelectric assets was used as the proxy for generation assets generally rather than a score that represents a diversified portfolio of generation assets.

INTERROGATORY # 9

Issue: 3.3

Ref: ROEs for Canadian Utilities, page 60

Preamble: At page 60, Drs. Kryzanowski and Roberts state, "A focus on the most recent year reveals that the actual ROEs earned by the parent holding company in 2009 exceeded ROE targets for 7 of the 11 regulated entities in Schedule 5.5 (i.e. all of the four ATCO regulated entities as well as Nova Scotia Power, Enbridge Gas and TransCanada Pipelines)." OPG wishes to understand Drs. Kryzanowski and Roberts's understanding of the ROEs.

Interrogatory

a) Please explain what Drs. Kryzanowski and Roberts mean by "ROE targets".

b) What proportion of the operating income of Enbridge Inc. is accounted for by Enbridge Gas Distribution?

c) What proportion of the operating income of Emera is accounted for by Nova Scotia Power?

d) What proportion of the operating income of ATCO is accounted for by the regulated operations of ATCO Electric Transmission and Distribution, ATCO Gas and ATCO Pipelines?

e) What proportion of the operating income of TransCanada Corporation is accounted for by TransCanada Pipelines and any other transmission operations governed by the allowed ROE of 8.57%?

f) Please explain why it is "instructive to compare actual earned ROEs against the allowed ROEs set by regulators" in light of the responses to parts a to e of the interrogatory?

INTERROGATORY # 10

Issue: 3.3

Ref: Sample Benchmarks

Preamble: At page 63, Drs. Kryzanowski and Roberts state, "The third estimate is the range from our recommendation to the equity thickness allowed by the AUC in 2009 for

ATCO Pipelines, a high-risk utility, of 42 to 45%." OPG wishes to understand the implications of this finding for OPG's regulated assets.

Interrogatory

a) Please confirm that Drs. Kryzanowski and Roberts appeared in that proceeding and did a business risk analysis for ATCO Pipelines.

b) What would the ATCO Pipelines business risk score have been using the nine risk dimensions, independent of the merger with NGTL cited at page 63 of Drs. Kryzanowski and Roberts's testimony?

INTERROGATORY # 11

Issue: 3.3

Ref: Sample Benchmarks

Preamble: At page 64, Drs. Kryzanowski and Roberts state, "We reinforce this view with our fourth benchmark of 42 to 53% equity recommended and generously allowed by the AUC for a high-risk Alberta utility." OPG wishes to understand the context of the 53% equity ratio cited.

Interrogatory

a) Please explain to what the 53% equity ratio cited in this sentence refers.

INTERROGATORY # 12

Issue: 3.3

Ref: Schedule 5.7, Relating the benchmarks

Preamble: At page 65, Drs. Kryzanowski and Roberts state that "Schedule 5.7 shows that this business risk rating for OPG Nuclear exceeds the rating for OPG Hydro (1.8). It also signals that OPG Nuclear bears higher business risk than generic integrated companies (rated 1.5) or generic distribution utilities rated (1.4). The higher business risk of OPG Nuclear should translate into a significant increase in its common equity ratio on the order of 5-10% over that for OPG Hydro producing a recommended equity ratio for OPG Nuclear of 45 to 50%. In the interests of conservatism and to ensure fairness to the shareholder, we stand by our 2008 recommendation of the higher number of 50% for the equity ratio." OPG needs a better understanding of these statements.

Interrogatory

a) Please explain how the risk ratings for OPG Hydro and OPG Nuclear translate into a 5 to 10 percentage point difference in equity ratios.

b) If the difference between scores of 1.8 and 2.6 translates to a 5 to 10 percentage point difference in equity ratio, what difference in equity ratio does the difference between risk scores of 1 (transmission) and 1.4 (distribution) translate into? What percentage point difference in equity ratios does a difference in risk scores of 1.4

(distribution) and 1.5 (integrated electric) translate into?

c) What percentage point difference in equity ratios does a difference in risk scores of 1.5 (integrated electric) and 1.8 (hydroelectric) translate into?

INTERROGATORY # 13

Issue: 3.3

Ref: Section 5.3 commencing page 39

Preamble: OPG would like to understand Drs. Kryzanowski and Roberts' framework for business risk analysis.

Interrogatory

a) Have Drs. Kryzanowski and Roberts made any changes in their framework for business risk analysis since EB-2007-0905?

b) If yes, please explain. Please explain why Drs. Kryzanowski and Roberts have given equal weight to each of the nine dimensions of business risk.

c) Have Drs. Kryzanowski and Roberts done any sensitivity analyses using other weighting schemes for each of the nine dimensions of business risk? If so, please provide, and explain how the different weightings tested would impact the conclusions that the scores for OPG Hydro and Nuclear are 1.8 and 2.6 respectively.

d) Please explain how Drs. Kryzanowski and Roberts took into account the OEB's decisions to adopt deemed common equity ratios of 40% for Hydro One's Transmission operations and 40% for the Ontario electricity distributors in arriving at their recommended common equity ratio for OPG Hydro given their conclusion that OPG Hydro is of higher business risk than both transmission and distribution.

INTERROGATORY # 14

Issue: 3.3

Ref: Page 59

Preamble: Drs. Kryzanowski and Roberts state that "from the vantage point of DBRS, Canadian Utilities, Enbridge, Newfoundland Power and TransCanada Corporation are the only companies which enjoy an A credit rating." and "As stated earlier, the typical company is rated A(low) by DBRS . . . ."

Interrogatory

a) Please provide the DBRS debt ratings of the following:

AltaLink

CU Inc.

Enbridge Pipelines

Gaz Métro

Nova Gas Transmission

Terasen Gas

Union Gas

b) If the sample of companies which Drs. Kryzanowski and Roberts is using relates only to those which are publicly traded and their subsidiaries, please explain why CU Inc., Enbridge Pipelines, Nova Gas Transmission and Terasen Gas were excluded from the sample.

c) As Gaz Métro is a publicly traded energy utility, please explain why it was not included in the sample of publicly traded companies.

INTERROGATORY # 15

Issue: 3.3

Ref: Page 59

Preamble: "We conclude that the experiences of the companies in Schedules 5.2 - 5.4 suggest that a bond rating of BBB or higher is sufficient to maintain good access to capital markets."

Interrogatory

a) Please define "good access".

b) Please discuss the proportion of the debt outstanding for each of these companies that has actually been raised by the companies in the sample at the holding company level versus the operating company level.

c) Please discuss how access to debt capital by utilities in Canada might be impacted if the universe of utilities were attempting to access the debt market with BBB ratings.

d) Please quantify how much higher the cost of debt to a BBB credit (versus the cost of debt for an A credit) would have to be for Drs. Kryzanowski and Roberts to conclude that an A rating results in a lower cost of capital to ratepayers.

e) How would the cost of long-term debt for TransAlta or Pacific Northern Gas under current market conditions compare to the cost of long-term debt for Enbridge Gas Distribution or CU Inc.?

INTERROGATORY # 16

Issue: 3.3

Ref: Page 60 and Schedule 5.5

Preamble: "The average 2009 allowed return for this sample was 8.95% while the average actual ROE for the consolidated company was 11.64%. The difference of 269

basis points represents the out-performance of allowed returns." OPG wishes to explore the implications of the "out-performance".

Interrogatory

a) Would Drs. Kryzanowski and Roberts discuss whether, in their view, the level of consolidated ROEs have any impact, positive or negative, on the companies' debt ratings?

INTERROGATORY # 17

Issue: 3.3

Ref: Benchmark Equity Ratios

Preamble:

i) Page 63 "We summarize our discussion of utility industry benchmark equity ratios as falling into a range of 40% to 45%."
ii) Pages 63-64 "Our analysis of the business risk faced by OPG Hydro assesses this risk as low to moderate – higher than that of a distribution utility and somewhat above the business risk of an integrated electric utility. This suggests that a fair common equity ratio for OPG Hydro should be at 40%, at the middle of our generous range."
iii) Page 64 "...our fourth benchmark of 42 to 53% equity recommended and generously allowed by the AUC for a high-risk Alberta utility. Given OPG Hydro's level of business risk, we believe that its target equity ratio should fall toward the low end of this range."

Interrogatory

a) Please reconcile statements (i) and (ii) above.

b) Please reconcile statements (i) and (iii) above.

INTERROGATORY # 18

Issue: 3.3

Ref: Page 20

Preamble: "The Board appears to have agreed with the result of our judgmental approach in Decision EB-2007-0905 (pages 149-150)."

Interrogatory

a) Please confirm the following statement by the Board from pages 160-161 of Decision EB-2007-0905.

"However, the Board also finds that the evidence in this proceeding is not sufficiently robust to set separate parameters at this time. Drs. Kryzanowski and Roberts developed separate estimates, but concluded with a combined

recommendation. Ms. McShane developed separate estimates, but cautioned that she was not as confident with the analytical results because they had been derived from working backwards."

b) Please explain what analysis and evidence Drs. Kryzanowski and Roberts have performed and provided which is more robust than was presented in EB-2007-0905.

INTERROGATORY # 19

Issue: 3.3

Ref: Page 66, Footnote 60

Preamble: Drs. Kryzanowski and Roberts calculate the weights based on MWs as follows: "OPG states its total regulated capacities as 6,606 MW nuclear and 3,302 MW hydroelectric for a total of 9,908 MW… The weights are 66.67% nuclear and 33.33% hydro. "

Interrogatory

a) Please confirm that the 2011 and 2012 rate bases funded by capital structure (debt and equity) for OPG Hydro are approximately $3,800 million and for OPG Nuclear are approximately $2,600 million, so that, based on rate base funded by capital structure, the weights are approximately 60% hydroelectric and 40% nuclear. If this cannot be confirmed, please explain why not.

b) Please confirm that the Board approved an overall equity thickness for OPG of 47% in EB-2007-0905. If this cannot be confirmed, please explain why not.

c) Please confirm that the application of a 40% equity ratio to the actual regulated hydroelectric rate base as forecast by OPG and a 50% equity ratio to the portion of nuclear rate base funded by debt and equity as forecast by OPG will result in an overall equity ratio for OPG's prescribed assets financed by capital structure lower than the 47% approved in EB-2007-0905.

d) Please provide the revised equity ratios for each of the regulated hydroelectric and nuclear operations that would result in an equity ratio for OPG's total hydroelectric and nuclear rate base financed by capital structure of 47% assuming the rate base amounts for each are as forecast by OPG rather than using Drs. Kryzanowski's and Roberts' allocation of total rate base to nuclear and hydroelectric on the basis of capacity. Please explain the rationale for the revisions.

INTERROGATORY # 20

Issue: 3.3

Ref: Schedule 5.7

Preamble: Drs. K and R categorize different utilities along with their regulated equity ratios by type, transmission, distribution and integrated. OPG would like to better understand what factors determine whether a utility is categorized as distribution or integrated.

Interrogatory

a) Drs. K and R categorize Newfoundland Power and Maritime Electric as integrated utilities. What are the criteria for categorizing utilities as integrated rather than distribution electricity utilities?

INTERROGATORY # 21

Issue: 3.3

Ref: Schedule 5.8 a

Preamble: On Schedule 5.8 a Drs. Kryzanowski and Roberts calculate coverage ratios for OPG's regulated hydroelectric operations for 2012, using their calculation of rate base of $2,162.1M, OPG's forecast cost of debt, the allowed ROE of 9.85%, OPG's forecast depreciation and amortization and OPG's forecast income tax for the hydroelectric operations. OPG would like to understand the implications of Drs. Kryzanowski and Roberts' assumptions on the calculation.

Interrogatory

a) Would Drs. Kryzanowski please confirm that the forecast income tax used in the calculation of the interest coverage ratio reflects the forecast 2012 rate base of $3,787.4M and the overall equity ratio of 47% approved for OPG in EB-2007-0905? If they cannot confirm, please explain why not.

b) Would Drs. Kryzanowski and Roberts please confirm that the income tax allowance they used to calculate the implied pre-tax interest coverage ratio of 2.56 and the FFO coverage ratio of 3.44 are inconsistent with the rate base and capital structure ratios used in the calculation? If they cannot confirm, please explain why not.

c) Would Drs. Kryzanowski and Roberts please confirm that the depreciation and amortization expense that they used to calculate the implied FFO and cash flow to debt coverage ratios are inconsistent with their calculation of the regulated hydroelectric rate base, i.e., that the depreciation expense reflects a forecast rate base of $3,787.4M, not $2,162.1M as calculated by Drs. Kryzanowski and Roberts? If they cannot so confirm, please explain why not.

INTERROGATORY # 22

Issue: 3.3

Ref: Schedule 5.8 c

Preamble: On Schedule 5.8 c Drs. Kryzanowski and Roberts calculate coverage ratios for OPG's nuclear operations for 2012, using their calculation of the rate base financed by capital structure of $4,350.54M. OPG would like to clarify Drs. Kryzanowski and Roberts' understanding of OPG's nuclear rate base.

Interrogatory

a) Would Drs. Kryzanowski and Roberts please confirm that the actual forecast 2012 nuclear rate base financed by capital structure is $2,660.7M equal to $4,150.8M as per Ex. B1-T1-S1 Table 2 less the adjustment for the lesser of UNL or ARC of $1,490.1 as per Ex. C1-T1-S1 Table 1? If they cannot confirm, please explain why not.

b) Please provide any and all precedents for estimating the rate base for OPG's nuclear and hydroelectric prescribed assets using the procedure used by Drs. Kryzanowski and Roberts, i.e., by allocating the total rate base between nuclear and hydroelectric operations on the basis of capacity.

INTERROGATORY # 23

Issue: 3.3

Ref: Page 68

Preamble: Drs. Kryzanowski and Roberts cite the December 2009 Alberta Utilities Commission Generic Cost of Capital decision regarding levels of interest coverage ratios sufficient to maintain A ratings, including the AUC's conclusion that there is "some indication that the lower end of the EBIT coverage range necessary to maintain a credit rating in the A range is approximately 1.8." OPG would like to understand better the relevance of the AUC's findings to OPG.

Interrogatory

a) Would Drs. Kryzanowski and Roberts agree that the levels of interest coverage ratios that would be sufficient to maintain A credit ratings would generally be higher for higher risk utilities? If not, please explain why not.

b) Could Drs. Kryzanowski and Roberts please confirm that the AUC's conclusion was drawn from the observation of achieved interest coverage ratios of mainly electricity transmission and distribution utilities with rated debt? If not, please explain.

c) Could Drs. Kryzanowski and Roberts confirm that the AUC's observation that there is some indication that the lower end of the EBIT coverage range necessary to maintain a credit rating in the A range is approximately 1.8 refers to interest coverage ratios that were achieved by electricity transmission utilities?

d) Would Drs. Kryzanowski and Roberts confirm that in their view electricity transmission utilities are at the low end of their business risk scale, accorded a business risk score of 1.0 in a range of 1.0 to 5.0?

INTERROGATORY # 24

Issue: 3.3

Ref: Pages 69 and 70

Preamble: Drs. Kryzanowski and Roberts compare their estimates of the FFO interest coverage for OPG Hydro and OPG Nuclear to the ratios cited in the December 2009 Alberta Utilities Commission Generic Cost of Capital decision regarding levels of FFO

interest coverage ratios sufficient to maintain A ratings. OPG would like to understand better whether Drs. Kryzanowski and Roberts' calculations for OPG are comparable to those of the AUC.

Interrogatory

a) Could Drs. Kryzanowski and Roberts confirm that the FFO (Free Cash Flow) coverage ratios that they calculated for OPG are EBITDA coverage ratios, that is, the ratios are calculated pre-tax? If not, please explain why not.

b) Could Drs. Kryzanowski and Roberts please confirm that the AUC's estimates of FFO coverage ratios were made after-tax, as indicated at page 69 of Dr. Kryzanowski and Roberts' testimony?

c) Could Drs. Kryzanowski and Roberts please confirm that their calculations of FFO coverage for OPG are systematically higher than those estimated by the AUC due to their inclusion of income tax expense in the coverage calculation?

d) At pages 69 and 70 of their testimony Drs. Kryzanowski and Roberts state that "we see that, compared to the AUC's benchmark of 3 times FFO coverage for credit ratings in the lower A range, the OPG Hydro values are 3.4 and 3.5 times in 2012 and 2011, respectively, and the OPG Nuclear values are 5.5 times and 5.2 times in 2012 and 2011, respectively." Could Drs. Kryzanowski and Roberts please revise their calculations for OPG Hydro and OPG Nuclear to be consistent with the AUC's 3 times after-tax FFO coverage benchmark.

INTERROGATORY # 25

Issue: 3.3

Ref: Schedule 5.7, Drs. Kryzanowski's and Roberts' Recommended Capital Structures

Preamble: Drs. Kryzanowski and Roberts provide some of their recommended capital structures in prior proceedings in which they have appeared. OPG would like to understand better how Drs. Kryzanowski and Roberts' recommendations have compared to the equity ratios adopted by regulators.

Interrogatory

a) Could Drs. Kryzanowski and Roberts please provide a table showing:
   (1) the recommended capital structure in each case in which Drs. Kryzanowski and Roberts have appeared since 2002;
   (2) the date of the testimony;
   (3) the client on whose behalf the testimony was prepared;
   (4) the regulatory jurisdiction;
   (5) the date of the decision;
   (6) the awarded capital structure.

INTERROGATORY # 26

Issue: 3.3

Ref: Section 3.3.1.

Preamble: On Page 18 Drs. Kryzanowski and Roberts discuss their concerns with OPG's approach to reflecting project specific risks in cash flows. OPG wishes to understand whether Drs. Kryzanowski's and Roberts' concerns are already addressed in OPG's approach.

Interrogatory

a) Drs. Kryzanowski and Roberts state that there is a tendency of Monte Carlo simulations to underweight tail observations. Please provide the rationale for this conclusion.

b) Do Drs. Kryzanowski and Roberts agree that if contemporaneous interrelationships (more commonly called correlation) are appropriately modeled that the above issue would be taken care of? If not, why not?

c) Drs. Kryzanowski and Roberts argue that a Monte Carlo simulation should be done using the risk free rate to determine the appropriate discount rate. Please explain how this discount rate is then used.

d) If the risk profile/uncertainty in an input variable changes, would that result in a different discount rate for the project?

e) Would this not result in a different discount rate for each project? If not, why not?

INTERROGATORY # 27

Issue: 3.3

Ref: Schedule 5.7, Relating the benchmarks

Preamble: At page 65, Drs. Kryzanowski and Roberts state that "Schedule 5.7 shows that this business risk rating for OPG Nuclear exceeds the rating for OPG Hydro (1.8). It also signals that OPG Nuclear bears higher business risk than generic integrated companies (rated 1.5) or generic distribution utilities rated (1.4).

Interrogatory

a) Please confirm that the following table reflects the risk assessment of Drs. Kryzanowski and Roberts in EB-2007 -0905, and that the sole difference in their assessment in this case is that the OPG nuclear rating for deferral accounts should be 3.0 instead of 1.0 to reflect the fact the OEB determined that no fixed cost recovery should be allowed for OPG's regulated operations, and that the overall result is that OPG's Nuclear operations are rated as a 2.6 in the opinion of Drs. Kryzanowski and Roberts.

Risk Type	Transco	Disco	Integrated	OPG Hydro	OPG Nuclear
Market					
Competition	1	2	1.3	1	1
Credit	1	2	1.3	1	1
Operational					
Leverage	1	3	2.6	3	4
Technology	1	1	1.5	2	4
Capacity	1	1	2	3	3
Asset Retire/construct	1	1	1.5	2	3
Deferral Accounts	1	1	1	1	1
Regulatory					
Primary Regulatory	1	1	1	1	1
Environmental/Safety	1	1	1.5	2	3
OVERALL	1	1.4	1.5	1.8	2.3
Linear AVERAGE	1	1.44	1.52	1.77	2.33

b) Drs. Kryzanowski and Roberts state that capital structures for regulated utilities are all established on a heuristic basis without reliance on a formula. Has the above scoring model been used to establish a utility capital structure or cost of capital for any regulated party? If so, please provide copies of the testimonies in which this scoring model was used.

c) Drs. Kryzanowski and Roberts assert that OPG's nuclear operations rate a 2.6 on their scale of 1 to 5. They also state on page 40 that their scale of 1 to 5 represents risks for utilities. They also state that transmission utilities rate as 1.0 across all dimensions of their risk assessment as they are the least risky. Is there any Canadian utility that faces higher business risk than OPG's regulated nuclear component of its regulated operations? If so, please provide the utilities and the associated risk analysis using the 1 to 5 rating scale.

d) Drs. Kryzanowski's and Roberts' scoring of each risk reflected in Schedule 5.1 of Page 86 reflect moderate risk as 3.0, moderate-high risk as 4.0, and presumably high risk as 5.0. Please provide the nuclear capital structure that would result if the linear average for all nine risk criteria resulted in an overall assessment that OPG's nuclear operations were moderately risky (e.g. 3.0), moderately-highly risky (4.0) and highly risky (5.0).

e) In EB-2007-0905, OEB staff's witness defined "Risk Exposure" as a function of probability and cost (EB-2007-0905 page 13 of Ex. M Tab 1 Evidence of London Economics International, "Development of an Overall Framework to Determine an Appropriate Capital Structure and Return on Equity for Ontario Power Generation's Prescribed Facilities," by A.J. Goulding). Do Drs. Kryzanowski and Roberts agree with that definition?

f) If Drs. Kryzanowski and Roberts do not agree with this definition, should factors whose score is identical among the comparators, e.g., primary regulation, be excluded from a comparative financial analysis? If no, please explain why not.

g) If Drs. Kryzanowski and Roberts agree that the assessment of relative risk should be derived from the main drivers of absolute risk, should factors that are inconsequential (in terms of the probability and cost as defined by Goulding) be eliminated from the analysis in the table provided in part a)?

h) Please provide an adjusted risk assessment table similar to that summarized in Part a) that eliminates the factor “primary regulation” and the market factors of “competition/demand” and “credit”.