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

INTERROGATORY #1

Ref: Page 22

Preamble: Drs. Kryzanowski and Roberts forecast the 30-year Government of Canada bond yield at 3.85 percent for 2008 and 4.25 percent for 2009.

Interrogatory

a) Please explain, in detail, the basis for the expectation that the yield curve will flatten and reduce the average spread for April 1 - December 31, 2008 to 25 basis points.

b) Please confirm that the average 30-year Government of Canada bond yield during April 2008 was 4.1 percent, and was 4.2 percent at the end of April 2008.

c) Please confirm that in order for the 30-year Government of Canada bond yield to average 3.85 percent during the nine months of 2008 for which OPG's regulated payments would apply, the May - December average yield would have to be lower than during April 2008.

d) Please discuss the reasons Drs. Kryzanowski and Roberts believe the yield on 30-year Canada bond yields will decline during 2008.

e) Please explain why Drs. Kryzanowski and Roberts believe the forecast of 10-year Canada bond yields for March 2009 is a good proxy for all of 2009.

f) How does the 15 basis points forecast spread compare to the typical spread that has prevailed during similar points in the business or interest rate cycle.

INTERROGATORY #2

Ref: Page 25

Preamble: Drs. Kryzanowski and Roberts say theory teaches us to be suspicious of attempts to determine an appropriate equity ratio using a formula.

Interrogatory

a) Is it Drs. Kryzanowski and Roberts's view that an optimal capital structure does not exist for a utility? Please explain.

b) What, in Drs. Kryzanowski and Roberts's opinion, is the quantitative relationship between the equity ratio and the return on equity for a utility? For example, if the Board were to determine that OPG's regulated capital structure should contain a deemed equity ratio of 65 percent, what would Drs. Kryzanowski and Roberts recommend as an allowed ROE and how would they estimate it?

INTERROGATORY #3

Ref: Page 26 - 27

Preamble: Drs. Kryzanowski and Roberts set out three factors affecting the target debt ratio, including taxes.

Interrogatory

a) Would Drs. Kryzanowski and Roberts agree that, the lower the tax rate, the less the tax benefit from using debt, all other things equal?

b) When the "generic cost of capital" approach was first adopted by the NEB in 1995, what was the statutory combined federal/provincial income tax rate in Ontario?

c) What is the statutory combined income tax rate expected to be based on current legislation by 2010?

INTERROGATORY #4

Ref: Pages 29 - 42 and Schedule 3.1

Preamble: OPG would like to understand Drs. Kryzanowski and Roberts' framework for risk analysis better and to test its sensitivity to assumptions.

Interrogatory

a) Have Drs. Kryzanowski and Roberts' given equal weight to each of the nine dimensions of business risk? If yes, please explain why they believe each of the nine warrants similar weight and what evidence they rely on to support the implication that investors would give each dimension equal weight.

b) With respect to the (1) to (5) risk classifications, are these intended to apply solely to regulated companies? Please explain.

c) Based on Drs. Kryzanowski and Roberts' framework, would Hydro One's Transmission operations be assigned a risk rating of 1? Please explain why, or why not.

d) Did Drs. Kryzanowski and Roberts take into account the OEB's decisions to adopt deemed common equity ratios of 40 percent for Hydro One's Transmission operations and 40 percent for the Ontario electricity distributors in arriving at their recommended common equity ratios for OPG? If yes, please explain how, or if no, why not.

e) For each of the nine risk dimensions, please discuss what characteristics would lead a utility to be at the upper end of the (1) to (5) scale.

f) Is it Drs. Kryzanowski and Roberts' view that the business risks of OPG's regulated operations are the highest of all major regulated entities in Canada? If no, which regulated companies face higher business risks, on which of the nine dimensions are the risks higher? Please explain why the risks are higher.

g) Please discuss whether the risk rankings for each of the nine dimensions for OPG take into account both the probability of a negative event occurring and the cost of the negative event. If yes, please explain how. If no, please explain why not.

INTERROGATORY #5

Ref: Page 37

Preamble: Drs. Kryzanowski and Roberts' state, "These data strongly suggest that production shortfalls attributable to management issues (and not constituting a risk to be recognized in regulation) were a major concern for OPG Nuclear in the period 2005 - 2007."

Interrogatory

a) Please provide any and all evidence to support this assertion.

INTERROGATORY #6

Ref: Page 41

Preamble: Drs. Kryzanowski and Roberts state that distribution companies are subject to operating level risk as they levy variable charges to cover fixed costs.

Interrogatory

a) Please explain Drs. Kryzanowski and Roberts' understanding of how electricity distribution rates are set in Alberta and Ontario and the extent to which the rates designed to recover fixed costs are variable or fixed in nature.

INTERROGATORY #7

Ref: Page 44

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 on the borderline between A(low) and BBB (high) by DBRS."

Interrogatory

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

AltaLink
CU Inc.
Enbridge Pipelines
Gaz Metro
Nova Gas Transmission
Terasen Gas
Union Gas

INTERROGATORY #8

Ref: Page 44

Preamble: "We conclude that the experiences of the companies in Schedules 3.2 - 3.4 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 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.

INTERROGATORY #9

Ref: Page 45 and Schedule 3.5

Preamble: "The average 2007 allowed return for this sample was 8.75 percent while the average actual ROE for the consolidated company was 12.03 percent. The difference, 328 basis points represents the out performance of allowed returns."

Interrogatory

a) How, in Drs. Kryzanowski and Roberts' view, do the higher (than allowed) consolidated ROEs impact the companies' debt ratings?

b) Please provide any and all analysis undertaken by Drs. Kryzanowski and Roberts to determine the extent to which the consolidated ROEs represent "overearning" by the regulated operations covered by those allowed ROEs.

INTERROGATORY #10

Ref: Page 48

Preamble: Drs. Kryzanowski and Roberts discuss the relative risk of ATCO Pipelines and AltaGas Distribution.

Interrogatory

a) Please provide a risk ranking for both ATCO Pipelines and AltaGas Distribution based on Drs. Kryzanowski and Roberts' understanding of the business risks using the nine dimension framework set out in Schedule 3.1 and explain the rationale for the ranking on each of the nine dimensions.

b) Please confirm that Drs. Kryzanowski and Roberts recommended equity ratios of 40 percent for both ATCO Pipelines and AltaGas in the EUB's generic cost of capital proceeding.

INTERROGATORY #11

Ref: Page 50

Preamble: Drs. Kryzanowski and Roberts state that the higher business risk of OPG Nuclear should translate into a significant increase in its common equity ratio on the order of 5 - 10 percent over that for OPG Hydro.

Interrogatory

Please explain in more detail how the differences in the risk rankings translate into the specific incremental common equity ratio of 5 - 10 percent.

INTERROGATORY #12

Ref: Pages 41 and 51

Preamble: On page 41, Drs. Kryzanowski and Roberts state that distribution companies are subject to operating leverage risk as they levy variable charges to cover fixed costs. On page 51, Drs. Kryzanowski and Roberts state that denying OPG's request for a 25 percent fixed charge would reduce risk mitigation, which, in their framework falls under the deferral account category.

Interrogatory

Please explain why denying the fixed charge request does not fit into the operating leverage category.

INTERROGATORY #13

Ref: Page 52 - 53 and Schedules 3.2 and 3.4

Preamble: Drs. Kryzanowski and Roberts conclude that there is no reason to believe that as a stand-alone company, and interest coverage of 2.1 times, OPG could not achieve a BBB rating with 47 percent common equity.

Interrogatory

a) Could Drs. Kryzanowski and Roberts please confirm that the debt rating agencies focus on cash flow metrics like FFO coverage and FFO to debt ratios rather than EBIT coverage?

b) Could Drs. Kryzanowski and Roberts please confirm that one of their four BBB companies, Pacific Northern Gas, is rate BBB (low) with a negative trend.

c) Please provide the quantitative detail for the calculation of Pacific Northern Gas's 2007 coverage ratio.

d) Please provide all evidence that Pacific Northern Gas could access 30-year debt in the current capital market environment.

e) Please provide Drs. Kryzanowski and Roberts's estimate of the spreads at which TransAlta Corporation could issue 10-and 30-year new debt in the current capital market environment.

INTERROGATORY #14

Ref: Page 59

Preamble: Drs. Kryzanowski and Roberts refer to the Daubert criteria for evaluating the admissibility of expert testimony adopted by federal and state courts.

Interrogatory

a) Please provide any evidence that the Daubert criteria have ever been applied for the purpose of evaluating the fair return for a utility.

b) Please provide evidence that the Daubert test and criteria are applied in Canada either by any court or any regulatory tribunal.

c) Please provide any references in regulatory decisions or court decisions that have determined that the Daubert criteria are useful for the purpose of selection of methodologies or other indicators of a fair return for a regulated utility.

INTERROGATORY #15

Ref: Page 71

Preamble: Drs. Kryzanowski and Roberts begin their assessment of the market risk premium with an examination of the 57-year time period 1951 - 2007 which they claim is "not contaminated by the first few years of rapid economic and equity market exuberance resulting from the satisfaction of pent-up consumer demand and very low administered interest rates after World War II."

Interrogatory

Please provide the scientific criteria applied to determine that the years following World War II should be excluded but that none of the sub-periods within the period 1951 - 2007 contaminate the measurement of the returns.

INTERROGATORY #16

Ref: Page 72 and Schedule 4.3

Preamble: Drs. Kryzanowski and Roberts conclude "The major observation that we draw from this analysis is that the MERP has been declining in Canada over time, and that using the historical MERP over the longest available time period as a going-forward MERP estimate is not appropriate."

Interrogatory

a) Please confirm that Schedule 4.3 shows no evidence that stock returns are declining. If this cannot be confirmed, please explain why.

b) Please confirm that Schedule 4.3 demonstrates that the reason the measured equity risk premium has declined is because the calculated bond returns increased.

c) Please explain, given that Drs. Kryzanowski and Roberts are forecasting long-term Canada bond yields of 3.85 percent and 4.25 percent, why historic risk premiums that reflect average bond returns as high as 10.47 percent are relevant to investors' future expected risk premiums.

INTERROGATORY #17

Ref: Footnote 7

Preamble: Drs. Kryzanowski and Roberts reference several forecasts.

Interrogatory

Please provide copies of the referenced forecasts.

INTERROGATORY #18

Ref: Footnotes 50 and 52

Preamble: Drs. Kryzanowski and Roberts reference an article of which Dr. Kryzanowski was a co-author.

Interrogatory

Please provide a copy of the article.

INTERROGATORY #19

Ref: Page 66

Preamble: Drs. Kryzanowski and Roberts state that it is preferable to use real returns to estimate the MERP when using historical data and that MERP estimates that include high inflation periods include an extra risk premium that grows with the rate of inflation to compensate investors for a loss in the purchasing power of the risk premium.

Interrogatory

a) Since the MERP reflects the differential between stock and bond returns, does the preference to use real returns refer to both stock and bond returns? Please explain.

b) Does the extra risk premium that grows with the rate of inflation to compensate investors for a loss in purchasing power grow equally for stocks and bonds? Please provide support for the response.

c) If Drs. Kryzanowski and Roberts are claiming that it is the MERP, rather than the required returns on stocks and bonds, that grows with the rate of inflation, please explain why that would be the case, and provide all evidence in support of that claim.

INTERROGATORY #20

Ref: Footnote 75

Preamble: Drs. Kryzanowski and Roberts reference an article of which Dr. Kryzanowski is a co-author.

Interrogatory

Please provide a copy of the article.

INTERROGATORY #21

Ref: Page 84

Preamble: "Based on a subjective consideration of the estimates from the above four estimation methods and balancing the other considerations just discussed above with providing an allowance for estimation error, we are forecasting a MERP of 5.00 percent for an average-risk utility for 2008 and 2009."

Interrogatory

In their evidence in the matter of UtiliCorp Networks Canada (Alberta) Ltd. (UNCA) 2002 Distribution Tariff Application (DTA) No. 1250392, April 2002 (page 59), Drs. Kryzanowski and Roberts recommended a market risk premium of 3.7 - 4.1 percent. In response to ALP-CG-Kryzanowski/Roberts-5 in the Alberta Generic Cost of Capital (October 2003), Drs. Kryzanowski and Roberts agreed that while their initial risk premium estimate was 4.7 percent, their "best estimate" was below 4.5 percent. In their March 2007 evidence (page 59) filed on behalf of the Hydro Communities in Northwest Territories Power Corporation 2006/07 and 2008/09 General Rate Application, Drs. Kryzanowski and Roberts recommended a market risk premium of 4.9 percent. In the current case they are recommending an MERP of 5.0 percent. Given that Drs. Kryzanowski and Roberts argue that the market risk premium has declined, please explain why their estimates of the MERP have increased since 2002.

INTERROGATORY #22

Ref: Page 94

Preamble: Drs. Kryzanowski and Roberts estimate "bare-bones" costs of equity of 6.35 percent and 6.75 percent for the 2008 and 2009 test years.

Interrogatory

a) Can Drs. Kryzanowski and Roberts confirm that their bare-bones costs of equity are similar to the current yields on long-term (30-year) BBB rated utility debt? If not, please explain why not.

b) Please explain why a pension fund would invest in utility equity at returns of 6.35 percent and 6.75 percent if they can invest in those utilities' debt at the yields provided in response to a).

INTERROGATORY #23

Ref: Page 101

Preamble: Drs. Kryzanowski and Roberts state that the automatic adjustment formulas are based on limited, old peer-reviewed scientific evidence on what are the determinants of changes in equity risk premiums.

Interrogatory

a) Please identify the evidence to which the witnesses are referring.

b) Please provide support for the conclusion that the formulas are based on that evidence.

INTERROGATORY #24

Ref: Page 101

Preamble: Drs. Kryzanowski and Roberts state that the peer-reviewed scientific literature identifies other variables as being better predictors of risk premia.

Interrogatory

a) When Drs. Kryzanowski and Roberts say "other variables", what is their understanding of the variable(s) that currently are being used to predict changes in risk premia?

b) Please discuss the potential weaknesses in only using changes in the long-term Government of Canada bond yield to predict the cost of equity.

c) If, for example, the NEB had initially relied on the "other variables" to which Drs. Kryzanowski and Roberts are referring when they implemented an automatic adjustment formula in 1995, what would the allowed ROE for Group 1 pipelines likely be today assuming the initial ROE were unchanged at 12.25 percent? Please explain in detail.

INTERROGATORY #25

Ref: Page 107

Preamble: Drs. Kryzanowski and Roberts state that their approach to estimating the spread is more consistent with regulatory practice.

Interrogatory

Please provide support for that conclusion.

INTERROGATORY #26

Ref: Schedule 3.3

Preamble: Drs. Kryzanowski and Roberts calculate the 2007 common equity ratio for ATCO Ltd at 31.75 percent.

Interrogatory

a) Please explain the calculation, including how the non-recourse debt and the non-controlling interests were treated.

b) Please confirm that S&P estimated the 2006 debt ratio for ATCO at 51.3 percent compared to the witnesses' 66.97 percent.

INTERROGATORY #27

Ref: Schedule 3.2

Preamble: Drs. Kryzanowski and Roberts present debt ratings for a number of companies.

Interrogatory

a) Please describe the criteria for the selection of the companies included in Schedule 3.2.

b) Which of the companies are holding companies and which are operating subsidiaries?

c) Please explain how S&P rates companies with holding company structures.

d) Do Drs. Kryzanowski and Roberts believe that the capital structures and credit metrics of leveraged holding companies are appropriate benchmarks for the stand-alone regulated operations of OPG, and if so, why?

e) Would Drs. Kryzanowski and Roberts confirm that DBRS' assessment of the credit metrics of holding companies like Enbridge Inc. include an evaluation on a non-consolidated basis? If not, please explain why not.

INTERROGATORY #28

Interrogatory

Please provide a table showing:

a) the recommended returns on equity and capital structure in each case in which Drs. Kryzanowski and Roberts have appeared since 2000

b) the date of the testimony

c) the client on whose behalf the testimony was prepared

d) the regulatory jurisdiction

e) the date of the decision

f) the awarded returns on equity and capital structures – if the case resulted in a settlement, please so indicate.

Please provide copies of all testimonies and accompanying schedules for each of the proceedings listed in the table.