

July 21, 2008

BY COURIER (10 COPIES) AND EMAIL

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Ontario Energy Board
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Dear Ms. Walli:

**Re: Pollution Probe – Written Argument
EB-2007-0905 – Ontario Power Generation – 2008-09 Payments**

Please find enclosed the written argument of Pollution Probe for this matter.

Yours truly,



Basil Alexander

BA/ba

Encl.

cc: Applicant and Intervenors per Procedural Order No. 1

ONTARIO ENERGY BOARD

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

AND IN THE MATTER OF an Application by Ontario Power Generation Inc. pursuant to section 78.1 of the *Ontario Energy Board Act, 1998* for an Order or Orders determining payment amounts for the output of certain of its generating facilities (the “OPG 2008-2009 Payment Amounts Application”).

**WRITTEN ARGUMENT
on behalf of POLLUTION PROBE**

July 21, 2008

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Summary

Pollution Probe's submissions for this matter focus on two issues. In short, the Board should:

- approve separate and distinct cost-of-capital components for OPG's nuclear and hydro-electric assets for the purposes of cost-allocation and rate-design; and
- prefer and accept the recommendations of Dr. Kryzanowski and Dr. Roberts with respect to cost-of-capital.

Each of these issues will be discussed in turn.

The Need For Separate and Distinct Costs-of-Capital for OPG's Nuclear and Hydro-Electric Assets

Pollution Probe submits that the Board should approve separate and distinct cost-of-capital components for OPG's nuclear and hydro-electric assets *for the purposes of cost-allocation and rate-design*, particularly since the evidence indicates that the nuclear component is riskier and OPG does not appear to have any real philosophical or pragmatic objections. For the Board's reference, Dr. Kryzanowski's and Dr. Roberts' proposed costs-of-capital for OPG's nuclear and hydro-electric assets are provided in next section about their evidence.

It appears that there is no dispute between OPG and Pollution Probe that OPG's nuclear assets are riskier than its hydro-electric assets on a stand-alone basis.¹ Furthermore, OPG is proposing different charges per MWh for electricity produced by its nuclear and hydro-electric assets due to their separate and distinct costs of production.² However, these charges assume a single common cost-of-capital (rather than two separate costs-of-capital), even though Ms. McShane acknowledged that the cost-of capital for nuclear is greater than the cost-of-capital for hydro.³

Pollution Probe submits that, for the purposes of cost allocation and rate design, separate and distinct costs-of-capital should be used since: 1) the nuclear assets are riskier than the hydro assets; and 2) OPG is already proposing different charges per MWh for its nuclear and hydro-electric assets. Separate and distinct costs-of capital would better reflect the actual costs of producing electricity from each asset class, and should accordingly be

¹ See *e.g.* cross-examination of Ms. McShane by Mr. Klippenstein (Transcript, June 10, 2008, Vol. 10, at pg. 88); cross-examination of Dr. Kryzanowski and Dr. Roberts by Mr. Penny (Transcript, June 17, Vol. 13, at pg. 61) and OPG's Argument-in-Chief at pg. 25, lines 2-3.

² Cross-examination of OPG Panel 12 by Mr. Alexander (Transcript, June 20, 2008, Vol. 15, at pgs. 100-101).

³ Cross-examination of OPG Panel 12 by Mr. Alexander (Transcript, June 20, 2008, Vol. 15, at pg. 101).

reflected in the separate charges per MWh for nuclear and hydro electricity that OPG is proposing.

Pollution Probe notes that OPG apparently does not philosophically or pragmatically oppose separate costs-of-capital for the purpose of cost allocation and rate design:⁴

MR. ALEXANDER: **Does OPG have any philosophical or pragmatic objections to calculating its charges for its nuclear and hydroelectric supplies using different OEB-approved cost of capital?**

MR. BARRETT: **I don't think we have any principled objection. I think there is a pragmatic issue there, in terms of being able to do it, to calculate the right numbers in a robust fashion.** I guess at the end of the day, if we were able to recover the same amount of money to cover the pool of business and financial risks that we have in the regco business, then I don't see us having a principled objection.

MR. ALEXANDER: **And that pragmatic concern, is that your only pragmatic concern?**

MR. HALPERIN: **I think so, at this point.**

MR. BARRETT: **That's all that we have, yes.** [emphasis added]

As shown from this excerpt, Pollution Probe submits that OPG's only concern is a pragmatic one that the "right numbers" can be calculated "in a robust fashion." Pollution Probe submits that since the Board actually can make this determination, based on the record before it, the Board should thus approve separate and distinct costs-of-capital for OPG's nuclear and hydro-electric assets for the purposes of cost-allocation and rate-design.

⁴ Cross-examination of OPG Panel 12 by Mr. Alexander (Transcript, June 20, 2008, Vol. 15, at pg. 102).

The Cost-of-Capital Evidence of Dr. Kryzanowski and Dr. Roberts Should Be Preferred and Accepted

Pollution Probe submits that the Board should prefer and accept the cost-of-capital evidence of Dr. Kryzanowski and Dr. Roberts.

For ease of reference, Pollution Probe reproduces below the summary of recommendations for Dr. Kryzanowski and Dr. Roberts as well as the recommendations of Ms. McShane:⁵

Dr. Lawrence Kryzanowski and Dr. Gordon Roberts Recommendations - REVISED

Scenario #1: Assuming 25% Fixed Charge for Nuclear Assets

	Equity as % of Rate Base	Return on Equity 2008	Return on Equity 2009
OPG – Hydro	40%	7.35%	7.40%
OPG – Nuclear	50%	7.35%	7.40%
OPG – Total	47%	7.35%	7.40%

Scenario #2: Assuming No Fixed Charge for Nuclear Assets

	Equity as % of Rate Base	Return on Equity 2008	Return on Equity 2009
OPG – Hydro	40%	7.35%	7.40%
OPG – Nuclear	53%	7.35%	7.40%
OPG – Total	49%	7.35%	7.40%

References: Ex. M, Tab 12, pages 7, 8 & 51 and June 15, 2008 Evidence Update.

Kathleen McShane Estimates - REVISED

Scenario #1: Assuming 25% Fixed Charge for Nuclear Assets

	Equity as % of Rate Base	Return on Equity 2008	Return on Equity 2009
OPG – Hydro	45% - 50%	10.5%	10.5%
OPG – Nuclear	60%	11-11.5%	11-11.5%
OPG – Total	55 to 60% (midpoint 57.5%)	10.5%	10.5%

Scenario #2: Assuming No Fixed Charge for Nuclear Assets

	Equity as % of Rate Base	Return on Equity 2008	Return on Equity 2009
OPG – Hydro	45% - 50%	10.5%	10.5%
OPG – Nuclear	60%	11.5% - 12.0%	11.5%-12.0%
OPG – Total	60%	10.5%	10.5%

References: Ex. L, Tab 12, Schedules 1, 2, 3 & 4 and Transcript for June 12, 2008 (Volume 10) at pages 80-84 and 90-92 and specifically at page 81, lines 5-7 and 14-18; page 83, lines 13-18; and page 92, lines 6-11.

⁵ Exhibit K13.1, Tab 4, pgs. 8-9.

Pollution Probe submits that the Board should prefer and accept the recommendations of Dr. Kryzanowski and Dr. Roberts for several reasons. These reasons are detailed fully in the evidence of Dr. Kryzanowski and Dr. Roberts,⁶ and some key reasons are summarized below.

First, Dr. Kryzanowski and Dr. Roberts obtain their recommended rate of return based on four methods for estimating the market equity risk premium (“MERP”) and two methods for estimating the risk of an average-risk utility relative to the market.⁷ Dr. Kryzanowski and Dr. Roberts primarily used the Equity Risk Premium (including CAPM) methodology for rate of return, which reflects current best practices, and the other three methods to determine the directional conservatism of their estimate from the Equity Risk Premium method.⁸ OPG itself acknowledges this methodology to be “now the dominant methodology in Canada”,⁹ and the evidence of Dr. Kryzanowski and Dr. Roberts details several problematic aspects with another test used by Ms. McShane (i.e. the comparable earnings method).¹⁰ It is thus not surprising that the Alberta Utilities Commission (formerly the Alberta Energy and Utilities Board) does not consider the comparable earnings method used by Ms. McShane to be appropriate and thus gives it no weight.¹¹ Further, the Evidence of Dr. Kryzanowski and Dr. Roberts enumerates a number of adjustments made by Ms. McShane in her CAPM tests that artificially inflate her rate of return estimate.¹² Dr. Kryzanowski also detailed a number of methodological shortcomings that invalidated the tests that Ms. McShane used to make her conclusion that the CAPM was not appropriate because she found a negative relationship between returns and risk.¹³

Second, Dr. Kryzanowski and Dr. Roberts used a qualitative ranking approach to better assess risk for this case, which they benchmarked against different sectors to determine capital structure.¹⁴ They felt that such an approach was “a step forward” as quantitative models sometimes fail to properly assess risks (as occurred in the recent sub-prime mortgage crisis), unlike their qualitative model.¹⁵ Although this was the first time they

⁶ See *e.g.* Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pgs. 104-153; Cross-examination of Ms. McShane by Mr. Klippenstein (Transcript, June 10, 2008, Vol. 10, at pgs. 97-161) and the Examination-in-Chief of Dr. Kryzanowski and Dr. Roberts by Mr. Alexander (Transcript, June 17, 2008, Vol. 13, pgs. 41-57)

⁷ Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pg. 6.

⁸ Cross-examination of Dr. Kryzanowski and Dr. Roberts by Mr. Penny (Transcript, June 17, 2008, Vol. 13, pgs. 113-114); Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pg. 6.

⁹ OPG Argument-in-Chief, page 20, line 3.

¹⁰ Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pg. 137-142.

¹¹ Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pg. 136.

¹² See *e.g.* Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pgs. 105 and 112-113.

¹³ Examination-in-Chief of Dr. Kryzanowski and Dr. Roberts by Mr. Alexander (Transcript, June 17, 2008, Vol. 13, pgs. 52-57).

¹⁴ Cross-examination of Dr. Kryzanowski and Dr. Roberts by Mr. Penny (Transcript, June 17, 2008, Vol. 13, pgs. 87-88, 90-91).

¹⁵ Cross-examination of Dr. Kryzanowski and Dr. Roberts by Mr. Penny (Transcript, June 17, 2008, Vol. 13, pgs. 90-91).

have used this model for a utility in a regulatory proceeding, Dr. Kryzanowski and Dr. Roberts also noted that the ranking model they employed is widely used in the finance industry.¹⁶

Third, the evidence before the Board does not indicate that OPG requires an A rating to access capital markets as stated by Ms. McShane. While a BBB rating may require a higher yield for bonds,¹⁷ the evidence of Dr. Kryzanowski and Dr. Roberts is that companies with a BBB or higher bond rating find that such a rating is sufficient to maintain good access to capital markets.¹⁸ In fact, as a comparator, Dr. Kryzanowski stated that a lot of bank debt would be categorized as BBB,¹⁹ which reinforces that an A rating is not required. Dr. Roberts also noted concerns about the conflict of interests associated with bond rating agencies since such agencies earn the bulk of their revenue from issuers.²⁰ It thus appears that little weight should be accorded to the alleged requirement that OPG would require a rating above a BBB.

Fourth, there are issues with respect to Ms. McShane's use of the DCF model. For example, Ms. McShane appears to not have adjusted for optimism bias in the forecasts of analysts.²¹ This bias is widely documented for samples that include utilities, and, absent evidence showing that the bias does not apply to utilities, there is no reason why an adjustment should not have also been made in this case. Furthermore, the evidence of Dr. Kryzanowski and Dr. Roberts details other issues with the DCF model explaining why it is more appropriately used at the level of the overall market and not at the firm or industry levels.²²

Fifth, when doing comparisons, the qualitative ranking of Dr. Kryzanowski and Dr. Roberts account for the fact that Canadian utilities have a lower business risk than US utilities, particularly due to deferral and variance accounts.²³ However, when using US and Canadian utilities, Ms. McShane's evidence does not comment on this issue, even though OPG is seeking the use of deferral and variance accounts.²⁴

Sixth, the analysis of Dr. Kryzanowski and Dr. Roberts shows that Ms. McShane's sample of 20 low risk Canadian industrials results in a substantial "free lunch" (i.e. the

¹⁶ Cross-examination of Dr. Kryzanowski and Dr. Roberts by Mr. Penny (Transcript, June 17, 2008, Vol. 13, pgs. 83-84).

¹⁷ Cross-examination of Dr. Kryzanowski and Dr. Roberts by Mr. Penny (Transcript, June 17, 2008, Vol. 13, pg. 69).

¹⁸ Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pgs. 44-45, 108-109.

¹⁹ Cross-examination of Dr. Kryzanowski and Dr. Roberts by Mr. Penny (Transcript, June 17, 2008, Vol. 13, pg. 67).

²⁰ Examination-in-Chief of Dr. Kryzanowski and Dr. Roberts by Mr. Alexander (Transcript, June 17, 2008, Vol. 13, pgs. 49-50).

²¹ Examination-in-Chief of Dr. Kryzanowski and Dr. Roberts by Mr. Alexander (Transcript, June 17, 2008, Vol. 13, pgs. 42-43).

²² Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pgs. 44-45, 129-133.

²³ Cross-examination of Dr. Kryzanowski and Dr. Roberts by Mr. Penny (Transcript, June 17, 2008, Vol. 13, pgs. 92-94). See also *e.g.* Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pgs. 38 & 40.

²⁴ Cross-examination of Ms. McShane by Mr. Klippenstein (Transcript, June 12, 2008, Vol. 10, at pg. 145-147).

rate of return is excessive).²⁵ In fact, when common finance tests are applied, the rate of return in Ms. McShane's sample abnormally outperforms the S&P/TSX Composite, especially given that this sample represents firms with low risk relative to the market.²⁶

Seventh, with respect to regulatory risk, Dr. Kryzanowski and Dr. Roberts assess regulatory risk as being low in reality.²⁷ The Board is well-versed in regulating the energy sector, and, while it has not regulated OPG previously, it has extensive experience in regulating LDCs (including Hydro One) as well as natural gas utilities. This statement is in contrast to Ms. McShane's concerns, which do not seem that different from other conceptual issues that LDCs and natural gas utilities also deal with before the Board.²⁸

Finally, the recommendations of Dr. Kryzanowski and Dr. Roberts are consistent with the benchmarks that they compared their recommendations to. As shown by their Schedule 3.7,²⁹ the equity ratio recommendations are in the range of other comparators in their qualitative model taking into account that past regulatory decisions (which are often the outcome of an adversarial process) may have resulted in "generous" equity ratios in hindsight relative to the market.³⁰ Further, the return on equity recommendations also appears consistent with Canadian and US academic studies as well as surveys of investment professionals.³¹ Dr. Kryzanowski and Dr. Roberts also show that investors have historically obtained a "free lunch" from investing in Canadian utilities, which is inconsistent with the notion that regulatory awards have been too low in Canada.³²

Pollution Probe thus submits that the Board should prefer and accept the recommendations of Dr. Kryzanowski and Dr. Roberts with respect to the cost-of-capital issues.

²⁵ Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pgs. 143-144; Cross-examination of Ms. McShane by Mr. Klippenstein (Transcript, June 12, 2008, Vol. 10, at pg. 156-157).

²⁵ Examination-in-Chief of Dr. Kryzanowski and Dr. Roberts by Mr. Alexander (Transcript, June 17, 2008, Vol. 13, pgs. 45-46).

²⁶ Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pgs. 143-144.

²⁷ Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pgs. 33-34.

²⁸ Cross-examination of Ms. McShane by Mr. Klippenstein (Transcript, June 12, 2008, Vol. 10, at pgs. 99-111).

²⁹ Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pg. 207.

³⁰ Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pgs. 47-48.

³¹ Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pg. 74-77 & 80-82.


³² Evidence of Dr. Kryzanowski and Dr. Roberts, Ex. M, Tab 12, pgs. 145-147.

Costs

Pollution Probe respectfully requests that it be awarded 100% of its reasonably incurred costs of participating in this proceeding. Pollution Probe submits that its participation was responsible and assisted the Board in its consideration of the issues. In addition, Pollution Probe is a registered charity that has no pecuniary interest in the outcome of this proceeding, and its membership includes thousands of electricity consumers.

ALL OF WHICH IS RESPECTFULLY SUBMITTED

July 21, 2008


per: Murray Klippenstein, Counsel for Pollution Probe


Basil Alexander, Counsel for Pollution Probe

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