

**Ontario Power Generation Inc.
2011-2012 Payment Amounts
EB-2010-0008**

**K. C. McShane
Responses to Technical Conference Questions**

Board Staff 6. Ref: ExhL/Tab10/Sch21

In the response to part c) of this interrogatory from Pollution Probe, Ms. McShane documents various factors or opportunities that a diversified firm could take advantage of and which investors would value as part of a firm's diversification.

- (a) Does Ms. McShane view that all of these factors apply, or are available to OPG?
- (b) If not, please identify which factors documented would not pertain to OPG because of its line of business and structure and/or because of legislative or regulatory constraints or the structure and operation of the Ontario electricity market.

Response:

- (a) No, not all of these factors would apply to OPG as a corporation.
- (b) Of the factors listed, the following would not pertain to OPG:
 - 1. Enhanced ability to coordinate operations across industry segments, as OPG operates only in the generation segment, not distribution or transmission.
 - 2. The creation of value through the ability to bundle service packages, as OPG sells power into the wholesale market.
 - 3. The ability to apply management expertise in other geographic markets.

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Board Staff 8: **Ref: ExhL/Tab1/Sch16**
 Ref: ExhL/Tab10/Sch35

In the response to part b) iii) of ExhL/Tab1/Sch16, in support of the sharp increases in short-term rates based on Global Insights' data, OPG states:

Global Insight states in its forecast that it expects a strong recovery in the Canadian economy in 2010 and expects the Bank of Canada to begin raising rates toward the end of 2010. Rate increases are expected to continue into future periods "since rates cannot stay at low levels as the economy heats up".

In the response to a Pollution Probe interrogatory at ExhL/Tab10/Sch35, Ms. McShane states:

The capital markets have improved markedly since early 2009 and capital market indicators (e.g., the MVX) point to lower market volatility at the present time (mid-2010). The TSX Composite has recovered from its financial crisis trough (having lost 50 per cent of its value between mid-June 2008 and early March 2009), but at the end of July 2010, it was still over 20 per cent below its 2008 peak. There are still significant risks of a significant market correction, given the persistence of global imbalances, the potential for a double-dip recession and the sovereign debt crisis in Europe.

It appears that Ms. McShane is expressing caution about the rate and level of recovery coming out of the 2008 economic downturn, while such caution is not apparent in the Global Insights' forecasts from December 2009.

- (a) Please reconcile the economic outlooks expressed in these interrogatory responses.
- (b) If Ms. McShane's perspectives are more realistic, please provide OPG's views on whether the short-term rate forecasts based on the Global Insights December 2009 forecast remain current.

- (c) Please provide any update of the Global Insights' Canadian Forecast Summary to the December 2009 copy provided as Attachment 1 to ExhL/Tab1/Sch16.

Response to (a)

- (a) Ms. McShane's response to L-10-35, which was focused on the downside risks to the equity markets, was prepared in early August 2010, subsequent to the development of the sovereign debt crisis in Europe and a weaker economic outlook for Europe and the U.S., expected to spill over into Canada. At the time the Global Insight forecast was prepared in December 2009 both the Canadian and global economic outlooks were stronger than at present; the sovereign debt crisis in Europe had yet to surface.
- (b) OPG has not decided whether it will update its application for more recent forecasts. However, despite the more muted growth outlook currently, the December 2009 Global Insight forecast for Treasury bill rates that formed the basis for OPG's forecasts of bankers' acceptance rates remain reasonable when compared to actual yields that have been experienced and most recent Consensus Economics, *Consensus Forecasts*. The December 2009 Global Insight estimated the three-month Treasury bill rate for 2010 at 0.27%; the actual average three-month Treasury bill rate to date during 2010 has averaged 0.37% and is currently 0.62%. The August 2010 *Consensus Forecasts* expects the three-month Treasury bill rate to be 1.1% by November 2010 and 2.1% by August 2011. By comparison the December 2009 Global Insight forecast is for an average three-month Treasury bill rate of 1.59% for 2011. The December 2009 Global Insight forecast of three-month Treasury bill yields for 2011 is in line with the August 2010 Consensus Forecasts data.
- (c) The August 2010 Global Insight forecast is provided by OPG in response to Technical Conference questions Board Staff #5 and CME #3.

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Energy Probe TC # 4 Ref: Energy Probe Interrogatory # 6 (Exhibit L, Tab 6, Schedule 006)

- (a) Energy Probe is interested in OPG's view of the risks of regulated hydro and nuclear that might justify different capital structures. OPG's response does not indicate these risks or why such risks justify different capital structures. Please expand your response.
- (b) Energy Probe's question arises from a financial perspective. Why does OPG believe that risks, which can be diversified away, should nonetheless be taken into consideration in capital structure?
- (c) Energy Probe finds OPG's answer unresponsive and would like clarification whether weather and regulatory risk are properly regarded as business-specific risks of regulated hydro and nuclear respectively for the purpose of estimating costs of equity.
- (d) Energy Probe requests OPG to clarify the significance of the proposed relationship in light of Ms. McShane's statistical analysis that finds no relationship between beta and "average market value".

Response:

- (a) The risks that might justify different capital structures are:
 - (1) The regulated nuclear operations face higher production and operating risks compared to the regulated hydroelectric operations. As stated at pages 27-28 of Exhibit 3-1-1, "Specifically, nuclear technology is more complex than other types of generation and is subject to higher risks of unanticipated costs of repair and loss of production. While the forecast costs and production from the nuclear facilities include a provision for both planned and unplanned outages, the operating environment and the technological characteristics of OPG's nuclear generation fleet are such that the extent of required maintenance, repair or refurbishment is 1) forecast with a higher degree of uncertainty than for other types of generation, 2) can result in materially longer than anticipated outages and more frequent and longer than could be expected forced outages, 3) can result in higher than anticipated costs of repair or remediation, and 4) potentially lead to permanent loss of production either as a result of derating or a premature end of the economic life of the plant." The regulated hydroelectric operations, by comparison, operate with a Water Conditions Variance Account, which mitigates their production risks.

- (2) The regulated nuclear operations face higher operating leverage relative to the regulated hydroelectric operations (see pages 30 and 31 of Exhibit 3-1-1);
 - (3) The regulated nuclear operations face higher financial risk than the regulated hydroelectric operations' due to the nuclear liabilities (see pages 31 and 32 of Exhibit 3-1-1), a responsibility which the hydroelectric operations do not have.
- (b) While the risks might be diversifiable from the point of view of an equity investor who holds a diversified portfolio of equities, they are not diversifiable from the point of view of a company which must access the capital markets and which must maintain the financial strength to do so. The debt rating agencies and bond investors are concerned with company-specific risks that could impair an individual company's ability to meet its debt obligations, including such factors as weather, production risks, and regulatory risk.
 - (c) Weather risk is a business-specific risk, not a market (or systematic risk). Regulatory risk is also a business-specific risk, although regulation can impact market risk. For example, a utility with a rate design that fully recovers all costs irrespective of sales would have lower market risk arising from exposure to the business cycle than a utility whose revenues were 100% dependent on sales. Business-specific risks would be properly accounted for in the cost of equity if they have not been fully accounted for in the capital structure.
 - (d) In L-06-006, Energy Probe asked if there were any empirical support for the conclusion in the Foster Associates report that:

“Average market value – All other things equal, larger firms have the benefit of diversification of assets and greater financial resources to weather economic downturns. Therefore, the larger the market value of the firm, the lower is the expected beta.” The statement from the Foster Associates report referred to the anticipate outcome from the analysis as other empirical studies such as the one cited in response to L-06-006 had documented. The Foster Associates analysis did not observe that relationship in the data that were tested.

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Energy Probe TC # 5: Ref: Energy Probe Interrogatory # 7 (Exhibit L, Tab 6, Schedule 007)

- (c) Energy Probe questions whether OPG's answer properly distinguishes between diversifiable and non-diversifiable risks and the implications for cost of equity and capital structure. Please advise.

Response:

- (c) Yes, OPG's answer properly distinguishes between diversifiable and non-diversifiable risks and the implications for cost of equity and capital structure. In a CAPM context, regulatory risk, for example, should be a diversifiable risk. By investing in regulated companies that operate in multiple jurisdictions, investors should be able to diversify away the risks attributable to potential negative regulatory decisions (unless, as discussed above, the regulatory framework itself causes a regulated company to be more exposed to non-diversifiable market risks). In theory, all other things equal, companies operating in different regulatory jurisdictions should have similar betas and CAPM costs of equity. In a discounted cash flow context, where the cost of equity is estimated as the dividend yield plus expected long-term growth, an investor might not be willing to pay as high a price for a utility stock (Stock A) for a utility that operates in a regulatory environment with a history of unsupportive regulatory decisions as for one which operates in a regulatory environment with a history of supportive regulatory decisions (Stock B). In the context of the discounted cash flow approach, all other things equal, the DCF cost of equity for Stock B would be higher than for Stock A.

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Energy Probe TC # 5: Ref: Energy Probe Interrogatory # 26 (Exhibit L, Tab 6, Schedule 026)

- (a) Energy Probe would like to pursue OPG's response that the beta for nuclear should be higher than the beta for regulated hydro. This conclusion is at variance with the OPG response to the previous interrogatory at L-6-025 (Energy Probe Interrogatory #025) above where OPG agreed that regulated hydro is more sensitive to market risk than nuclear, in which case the beta for nuclear would be lower than the beta for hydro.
- (b) Please reconcile these responses. Energy Probe would like to pursue the implications of different betas for the costs of regulated hydro and nuclear. Please clarify.

Response:

- (a) OPG disagrees that the responses are at odds with each other. The response to Ex. L-06-025 only dealt with one aspect of market risk. The response stated that "If the term "market risk" is intended to refer to capital market risk, then yes, regulated hydroelectric generation is more exposed to market (systematic) risk than nuclear generation **on this specific element of market risk.**" (emphasis added). The last sentence of the response stated "Please see the response in Ex. L-6-026 for a more detailed discussion of the market risks related to nuclear and hydroelectric generation." In Ex. L-6-026, market risks in addition to the market risk related to dispatch risk were detailed. Specifically, Ex. L-06-26 stated: "Factors that would point to a higher beta for nuclear generation than for hydroelectric generation include: (1) the findings in other instrumental variables analyses that earnings variability was a significant explanatory of market betas (Ex. C3-T1-S1, see pages 43 and 44 of Ms. McShane's report); (2) the higher operating leverage of nuclear generation, which results in greater sensitivity of the earnings to unanticipated changes in costs and revenues; (3) the higher risks of unanticipated costs of repair for nuclear operations, which would result in higher sensitivity to changes in inflation; (4) the uncertainty of costs of nuclear construction, which would result in higher sensitivity to inflation and interest rates; (5) higher decommissioning costs of nuclear generation, which are sensitive to inflation; and (6) the sensitivity of the returns on decommissioning trusts to market returns."
- (b) The implication of a higher beta for nuclear operations is a higher cost of equity for nuclear operations. The higher cost of equity would reflect the fact that the higher business risk of nuclear operations had not been offset by a higher common equity ratio.