

August 19, 2010

**Board Staff Questions for Technical Conference  
Ontario Power Generation Inc.  
2011-2012 Payment Amounts  
EB-2010-0008  
Non-Confidential**

The following questions relate to responses to Board Staff interrogatories, unless otherwise specified.

**Issue 2.1****What is the appropriate amount for rate base?**

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1. Ref: ExhL/Tab1/Sch2  
Please provide the specific calculations that OPG used to generate the revenue requirement impact amounts presented in each of the responses c) to f).

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2. Ref: ExhL/Tab1/Sch3  
OPG states that due to the relative stability of its sustaining capital requirements and the fact that OPG is able to finance its sustaining capital expenditures from operating cash flow, OPG has not been required to reprioritize its planned projects at the corporate level in response to funding shortages in the time period identified.
- a) Did OPG take into account its overall financial situation and requirements, and the impact on proposed Payment Amounts, when it was determining the number and level of capital projects that would be funded from operating cash flow in 2011 and 2012?
- b) Other than depreciation, please specify the primary source of operating cash flow.

Nuclear

3. Ref: ExhL/Tab1/Sch5  
The Post Implementation Review Report, re: Additional Feeder Cut and Weld Tooling, indicates (see p.2 Economic Value) "... since the approval of the BCS in 2007, OPG has significantly reduced the number of feeders to be replaced each year, thereby reducing the overall potential for revenue".

Please explain what prompted, the reduction in the number of feeders to be replaced. Please provide the timing of those events.

**Issue 2.2****Is OPG's proposal to include CWIP in rate base for the Darlington Refurbishment Project appropriate?**

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4. Ref: ExhL/Tab1/Sch11  
Does OPG view the Darlington Refurbishment project as an “electricity infrastructure” project?

**Issue 3.3**

**Should the same capital structure and cost of capital be used for both OPG’s regulated hydroelectric and nuclear businesses? If not, what capital structure and/or cost of capital parameters are appropriate for each business?**

5. Ref: ExhC1/Tab1/Sch1  
Ref: ExhL/Tab10/Sch15  
Exhibit C1/Tab1/Sch1/page 3/section 4.1 states that:

The Cost of Capital Report establishes a revised base ROE and a modified automatic ROE adjustment mechanism. Given that the revised base ROE and the refined automatic ROE adjustment mechanism represent the same concepts that were adopted for OPG’s prescribed assets in EB-2007-0905, both are applicable to OPG at the approved capital structure and appropriate to the business risks of the prescribed assets.

OPG has applied the adjusted ROE of 9.85 per cent as set by the OEB for use in 2010 cost of service applications in the OEB’s letter of February 24, 2010. When calculating the final payment amounts, OPG proposes that the ROE be updated using data for the month that is three months prior to the effective date of the new payment amounts as required by the Cost of Capital Report.

In its response to part a) of a Pollution Probe interrogatory at ExhL/Tab10/Sch15, OPG confirms that the ROE should be updated based on data three months prior to the effective date per the methodology in the Board’s Cost of Capital Report, but states that it is proposing different ROEs for 2011 and 2012. The ROE for 2011 would be calculated per the methodology documented in the Board’s Cost of Capital Report, which is documented in Appendix B of that Report. However, since the Consensus Forecasts forecast of the 10-year Government of Canada bond yield only goes out 12 months, OPG is proposing to use a 2-year forecast from Global Insights.

- a) Please confirm whether the proposal documented in ExhL/Tab10/Sch15 is a change from OPG’s pre-filed evidence. Otherwise, please identify where in the prefiled evidence OPG’s proposal is documented.
- b) OPG proposes to use the Global Insight forecast for estimating the 2012 ROE. One of the features of the Consensus Economics *Consensus Forecasts* estimates is that they represent a consensus of estimates from various forecasting and financial agencies. The resulting forecasts dampen

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the effect of optimistic or pessimistic forecasts of a specific firm or analyst. The resulting estimate also, inherently, makes use of the expertise and information available to all of the forecasting agencies used.

- i) Please provide OPG's views on the moderating attributes of the Consensus Forecasts estimate, as stated above, in contrast with a forecast from a single economic forecasting agency like Global Insights.
  - ii) Please provide Global Insight's 12-month and 24-month forecasts of the 10-year Government of Canada bond yield based on January 2010 data.
  - iii) If possible, please calculate the ROE for 2010 that would have resulted from using Global Insights data instead of Consensus Forecasts, based on January 2010 data. In other words, instead of the 9.85% ROE documented in the Board's letter of February 24, 2010, what ROE would have been calculated if Global Insight data was used instead?
  - iv) Please provide the most current estimates of the Global Insight data for the 10-year Government of Canada bond yield.
  - v) What other forecasting agencies is OPG aware of that provide forecasts beyond 12 months outlook?
  - vi) Please provide 12-month and 24-month forecasts of the 10-year Government of Canada bond yield from economic forecasting agencies, other than Global Insight, that OPG is aware of.
  - vii) Does OPG concur that forecasting error increases the further out the projection, and thus that it would be preferable to use forecasts from several agencies, rather than relying on a single agency's forecast, to develop the projected ROE?
- c) In part b) of ExhL/Tab10/Sch15, OPG documents that the Board's Cost of Capital Report established a 550 basis point equity risk premium "ERP". Please confirm OPG's understanding of whether the 550 basis point ERP documented in the Board's Cost of Capital Report pertains to the starting point ROE of 9.75%, and that the ERP for any ROE calculated based on the methodology documented in Appendix B will vary, depending on the data used in the calculations. If OPG views the 550 basis point ERP as being constant, please explain.

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.

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7. Ref: ExhL/Tab1/Sch14

In its response to this interrogatory from Board staff, OPG states that the Board's Cost of Capital Report, which was issued on December 11, 2009, supercedes the precedents of the Decisions cited, where the Board had stated that notional debt should attract the weighted average cost of long-term debt. OPG goes on to state that its understanding of page 54 of the Board's Cost of Capital Report is that: "if there is no actual debt underlying a component of the capital structure, then the deemed long-term debt rate should apply."

- a) Please confirm that OPG's proposal presumes that its "Other Long-term Debt Provision" is a separate component of its deemed capital structure. If not, please explain.
- b) Please provide copies of Decisions supporting OPG's proposal that notional debt, corresponding to OPG's "Other Long-term Debt Provision", would attract a deemed debt rate.

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.

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Written response

- 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.

**Issue 4.2**

**Are the capital budgets and/or financial commitments for 2011 and 2012 for the regulated hydroelectric business appropriate and supported by business cases?**

Hydroelectric

9. Ref: ExhL/Tab1/Sch11

OPG indicates that capital costs for the visitor centre at the Saunder's facility were not included in the capital expenditure evidence in the EB-2007-0905 proceeding.

Is the \$12 million visitor centre at the Saunder's hydroelectric facility a "value enhancing" or a "regulatory" or a "sustaining" capital project.

10. Ref: ExhL/Tab1/Sch 20

In part c) of the IR response, OPG's states that incremental benefits, and associated costs (from Niagara Plant Group projects approved since the start of the Niagara Tunnel Project), "have not been included in the Niagara Tunnel Project Net Present Value analysis since these decisions were taken after the approval of the tunnel project. However, business cases and other analyses for projects undertaken subsequent to approval of the tunnel that use the increased water made available by the tunnel include these incremental benefits".

Hydroelectric

- a) Please provide an estimate of the net impact of the projects approved since the start of the Niagara Tunnel Project on the Niagara Tunnel Project Net Present Value Analysis.
- b) Please clarify also what mechanisms or processes, if any, that have been adopted to ensure that the cost/benefits accruing from the increased diversion flows and related energy production that are forecast from the new tunnel are appropriately accounted for, i.e., not accounted for more than once.

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Hvdroelectric

11. Ref: ExhL/Tab1/Sch 21  
Does OPG continue to be at risk in its design-build contract with Strabag for Niagara Tunnel Project cost over-runs?

**Issue 4.5**

**Are the capital budgets and/or financial commitments for 2011 and 2012 for the nuclear business appropriate and supported by business cases?**

Nuclear

12. Ref: ExhL/Tab1/Sch 31  
This interrogatory and response relates to a Business Case Summary found at Ex. D2-T1-S2, Attachment 1, Tab 31.
- a) Based on the selected alternative (Alternative 1 as outlined on page 6 of the Business Case Summary), please confirm the extent to which continued operation of the Pickering A units 1 and 4 is dependent on the continued operation of the Pickering B units.
  - b) In particular please confirm whether Board staff's understanding as follows is correct with respect to:
    - i) the assumption that the nominal service lives of the Pickering B units will be extended to the period 2018-2020 as a result of the Pickering B Continued Operations Project, and that
    - ii) the shutdown of any of the Pickering B units during this period (starting as early as 2018) will affect the viability of the power supplies to the Pickering A Inter Station Transfer Bus (ISTB) capacity and thus in turn affect the continued operability of the Pickering A units with respect to meeting ISTB regulatory and/or other requirements.

Nuclear

13. Ref: ExhL/Tab1/Sch32  
What impact does the 3 year deferral of stage II of the Weld Overlay project have on 2011 and 2012 rate base?

**Issue 5.1**

**Is the proposed regulated hydroelectric production forecast appropriate?**

**Issue 5.2**

**Is the proposed nuclear production forecast appropriate?**

14. Ref: Ex. E2-T1-S1, page 12, lines 23-24  
In prefiled evidence and response in ExhL/Tab1/Sch038, OPG states that SBG conditions in 2008 and 2009 did not materially affect production at its nuclear facilities and does not expect that anticipated SBG conditions in 2011-2012 will affect nuclear production. However, SBG conditions do affect production at Bruce Nuclear facilities as indicated in OPG's response to Board Staff IR #035 and Energy Probe IR#025.

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Hydroelectric

- a) What threshold level of SBG could be expected to have a material impact on OPG's nuclear production?
- b) Based on projected revenues and costs for regulated hydroelectric and nuclear production, what is the relative impact on OPG's net revenues of 1 TWh reductions of production from both generation types as the result of SBG conditions?
- c) In response to Energy Probe IR#025, OPG states that spilling water at Sir Adam Beck G.S. is the preferred response to SBG conditions for "safety reasons". What are the specific safety reasons that govern this choice?
- d) Given a choice between curtailing production at hydroelectric or nuclear generating stations in response to SBG conditions, what decision factors other than the cited "safety reasons" – both financial and technical – would be considered when making this choice?

**Issue 6.3****Is the test period Operations, Maintenance and Administration budget for the nuclear facilities appropriate?**

Nuclear

15. Ref: ExhF2/Tab1/Sch1/ Attachment 1

In response to Board Staff IR#46, OPG notes "The interrogatory incorrectly refers to "refurbishment costs on Units 4 and 1". The Unit 1 and Unit 4 return to service project was not a refurbishment."

- a) Please explain why the above distinction is material.
- b) If the distinction is material, please explain why OPG referred to it as a refurbishment in various documents. For example:

"OPG News Release, July 29, 2005

....

Refurbished unit will deliver 515 MW of additional "clean air" electrical capacity

[Toronto]: Ontario Power Generation (OPG) today announced .... starting up the newly refurbished Pickering 'A' Unit 1 reactor..."

OPG 2004 Annual Report (p.31)

"OPG's top operational risks ....related to the refurbishment of the Pickering A nuclear facility."

16. Ref: ExhF2/Tab1/Sch1/ Attachment 1

With respect to OPG's response to part b) of Board Staff IR#46:

- a) Does OPG have a reference document detailing the extent and risks to future station and/or unit operation at Pickering A, Pickering B and Darlington associated with steam generation tube corrosion, feeder pipe wall thinning and pressure tube-calandria tube contact?

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- b) If the response to a) is affirmative, please provide a copy of the document.
- c) Of the identified issues (i.e., steam generation tube corrosion, feeder pipe wall thinning, and pressure tube-calandria tube contact), are any of these issues considered to be station and/or unit life-limiting relative to the average station service lives (Pickering A units 1 and 4 – 2021; Pickering B – 2014; Darlington – 2019) identified in the OPG 2008 Regulated Depreciation Review Report (provided as Attachment 1 to Board Staff IR#115)?

17. Ref: ExhF2/Tab3/Sch3

Board Staff IR#47 requested that OPG aggregate the contingency amounts (General and Specific) for all of the OM&A Business Case Summaries, for the 2008-2009 period, and identify how much of those contingency amounts were utilized by OPG. Board staff does not understand OPG's response in terms of how much of those contingency amounts were utilized.

- a) Of the \$39.8M in contingency amounts aggregated by OPG, please clarify in dollar terms how much was utilized.
- b) Please also clarify if the \$18.7M referred to as "Contingency Approved (AISC)" in the table is incremental to the \$39.8M in the BCSs.
- c) Please also clarify the distinction between a "General" and "Specific" contingency and why only certain projects have a "Specific" contingency.

**Issue 6.5**

**Has OPG responded appropriately to the observations and recommendations in the benchmarking report?**

18. Ref: ExhF5/Tab1/Sch2/p.26

In response to Board Staff IR#58, OPG explained its response to ScottMadden's piloted top-down staffing analysis using the OPGN Radiation Protection (RP) function.

- a) The response notes that 1 position was eliminated while ScottMadden recommended the elimination of 13 positions. Please elaborate on why only 1 position was eliminated.
- b) As also requested in Board Staff IR#58, please explain how "OPG plans to build on this pilot in terms of other segments of the organization".

19. Ref: ExhF5/Tab1/Sch2/p.37

In response to Board Staff IR#62, OPG explained "Of the original 33 initiatives ... three were either cancelled due to a low return on investment or in one case, directly incorporated into base work".

Please identify the two initiatives that were cancelled and the estimated return on investment for each that OPG refers to as "low".

Nuclear

Nuclear

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- 19 a. Ref: ExhF2/Tab3/Sch3/Attachment 1/Tab16  
Ref: ExhF2/Tab1/Sch1/Attachment1/p.22

In regard to OPG's response to Board Staff IR#52, please clarify when an operating life of 187,000 EFPH (Effective Full Power Hours) for the Darlington units is projected.

### Issue 6.6

#### Is the forecast of nuclear fuel costs appropriate?

20. Ref: ExhF2/Tab5/Sch1/p.7-8

In response to Board staff IR#65, OPG notes "OPG believes its purchasing strategy of procuring a portfolio of indexed and market priced contracts continues to be appropriate....OPG, which must regularly enter the uranium market for a portion of its supply needs, to mitigate the variations in extremes in market prices."

- a) OPG's response appears to indicate that all purchases are made under long term (indexed and market priced) contracts. OPG's [previous application \(F2-T5-S1, p.7\)](#) noted "OPG has recently implemented a revised spot market procurement process to facilitate potential future spot market purchasing."
- i) Please explain if OPG has made any short-term purchases on the spot market since the last application and please provide a breakdown of short term spot market vs. long term contract purchases for the period of 2007 to 2010.
- ii) If OPG has not made any short-term purchases on the spot market since the last application, please explain why the revised spot market procurement process discussed in the previous application was not utilized.
- b) In regard to regularly entering the uranium market for a portion of OPG's supply needs, Chart 3 in the current application (F2-T5-S1, p.9) shows a summary of the 4 existing uranium concentrate supply contracts and indicates 3 of the 4 existing contracts were all entered into in the 1<sup>st</sup> half of 2006 and the 4<sup>th</sup> contract in the 2<sup>nd</sup> half of 2007. Please elaborate on how this constitutes regularly entering the uranium market.

21. Ref: ExhL/Tab14/Sch20

In its response to the interrogatory from VECC, OPG states:

Contracts utilizing indexed pricing (base price escalation) will have a fixed price component which is subject to price escalation over the term of the contract based on changes in either (Consumer Price Index ["CPI"] for Canada – all items) or US Gross Domestic Product implicit price deflator for the base period specified in the contract.

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- a) Does the response to the interrogatory mean that contracts with Canadian suppliers in Canadian dollars use the Canadian CPI as the year-over-year price escalator, while contracts in U.S. dollars, and presumably with U.S. and maybe other international suppliers use the U.S. GDP-IPI (Gross Domestic Product – Implicit Price Index) as the price escalator? Please explain.
- b) If the answer to a) is in the affirmative, please provide OPG's views on why the Canadian CPI is preferred instead of other measures or proxies for inflation, such as the Canadian GDP-IPI. Please comment on the strengths and weaknesses of various indices for proxying inflation in input prices for businesses, particularly capital-intensive businesses like OPG.

**Issue 6.7****Are the proposed expenditures related to continued operations at Pickering B appropriate?**

Nuclear

22. Ref: ExhF2/Tab2/Sch3/Attachment 1, Attachment 2

Board Staff IR#67 requested an explanation regarding the various cost estimates provided by OPG for the Pickering B Continued Operations project. OPG's response regarding \$190.2M vs. \$184M is clear. However, the drivers underlying the difference of about \$110M between the \$190.2M and \$300M cost estimates is not clear to Board staff.

Please explain in detail the drivers underlying that difference of about \$110M. Please also explain if a contingency amount has been included in each of those estimates of \$190.2M and \$300M.

23. Ref: ExhF2/Tab2/Sch3/Attachment 1, Attachment 2

Board Staff IR#69 requested that OPG identify and explain the assumptions underlying this benefit estimate of \$1.1B.

- a) The response clarified that OPG did not use the current payment amounts of \$53/MWh unchanged to make the business case for Pickering Continued Operations. Board Staff IR#69 noted that if the current payment amounts had not been used "please identify the assumed payment amounts to make the Business Case and to estimate the benefits". OPG's response was "(ii) Not applicable." Board staff is of the view that the assumed payment amounts are quite applicable to such an estimate of the benefits, particularly in relation to the estimated cost of replacement generation. Please add a Table 3 (similar to the Table 1 format) showing the assumed payment amount for each year.
- b) OPG's response also noted replacement generation would be over 85% Ontario-based gas-fired, combined cycle generation and the remainder from a diverse set of fuel types, including other natural gas-fired and oil-fired generation. Please clarify how much of that remainder is assumed to be

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produced by Lennox and to what extent, if any, production is assumed to come from renewable generation under the FIT program.

- c) Given the assumption that virtually all of the replacement generation is gas-fired generation, the gas price forecast is relatively important. That gas price forecast was prepared some time ago by OPG and seems relatively bullish in terms of gas prices given recent price trends. For example, OPG has assumed 5.7 and 6.6 US\$/mmBTU for 2010 and 2011, respectively, while the current Henry Hub spot price is only about 4.3 US\$/mmBTU and the U.S. Energy Information Administration (EIA), in its [Short-Term Energy Outlook — August 2010](#) (p.1), is projecting that the Henry Hub natural gas spot price will not exceed 5 US\$/mmBTU through 2011 – average 4.69 US\$/mmBTU for 2010 and 4.98 US\$/mmBTU in 2011. Does OPG believe its gas price forecast remains reasonable or would OPG lower the gas prices in its forecast if OPG was preparing that forecast today?

24. Ref: Exh.F2/Tab2/Sch3, pages 5-6

In response to Board staff IR#71:

- a) OPG notes that a detailed cost estimate was not prepared associated with the independent operation of Pickering A (i.e., Pickering B operations cannot be extended) in making the decision that OPG would not continue to operate Pickering A as well as reaching the conclusion that the cost would equal or exceed the system value to do so.
- i) Please confirm that OPG has made that decision without any cost estimate at all (i.e., not necessarily “detailed”) after spending billions of dollars on returning to the Pickering A units to service;
  - ii) Please also confirm that decision has been approved by both the OPG Board and OPG’s Shareholder without any cost estimate requested or provided;
  - iii) If there was a ballpark cost estimate, please provide it;
  - iv) If there was not even a ballpark cost estimate, please explain how OPG can conclude with confidence that the cost would equal or exceed the system value.
- b) Please elaborate on why the dependency of Pickering A on Pickering B is more complex and please also explain why it is not just a matter of maintaining and continuing to operate the shared and common services if Pickering A continued to operate.

**Issue 6.9**

**Are the “Centralized Support and Administrative Costs” (which include Corporate Support and Administrative Service Groups, Centrally Held Costs and Hydroelectric Common Services) and the allocation of the same to the regulated hydroelectric business and nuclear business appropriate?**

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Hydroelectric

25. Ref: ExhF4/Tab4/Sch1/p.4  
Board staff IR#88 discusses the significant increase in IESO Non-Energy Charges, primarily due to the substantial increase in the Global Adjustment and requested a table summarizing IESO Non-Energy costs and kWh consumed for each OPG facility. In the tables in OPG's response, the IESO Non-Energy Charges for Pickering B are approximately equivalent to Darlington and Pickering A combined in each of the 3 years (2007-09) and Pickering B accounts for about half of the total nuclear station consumption. Please explain why Pickering B's consumption is so high relative to OPG's other nuclear stations.

Corporate

26. Ref: ExhF4/Tab4/Sch2/p.4  
In response to Board Staff IR#89 which discussed Nuclear Insurance costs almost doubling in 2012 relative to 2009, OPG notes that the increase is due to the proposed new Bill C-15 and that bill has passed first reading to date. If Bill C-15 does not ultimately receive Royal Assent, please clarify if there would be any change in nuclear insurance costs in the test years.

Corporate

27. Ref: ExhF3/Tab1/Sch1  
Ref: ExhL1/Tab1/Sch87  
Ref: OPG Correspondence of July 23, 2010  
In the correspondence, OPG states that it "has dedicated substantial resources to the development of a customized Sharepoint software system to assist in the interrogatory response process."

What is the cost of the substantial resources? Is this cost reflected in the Regulatory Affairs expenses?

Corporate

28. Ref: ExhL/Tab1/Sch 103  
The interrogatory requested OPG to complete a table which includes itemizing the Regulatory Affairs Budget. The table requested information for 2008 and 2009 Board-approved.

OPG responded that it would not be able to provide Board-approved amounts because"....OPG did not present, and therefore the OEB could not have approved, forecasts for the individual components of Regulatory Affairs costs in 2008 and 2009.

Please edit the table as follows: Replace the column headings titled "2008 Board Approved" and "2009 Board Approved" with "2008 Regulatory Affairs Budget per EB-2007-0905 and "2009 Regulatory Affairs Budget per EB-2007-0905". Please complete the table.

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**Issue 6.11**

**Are the amounts proposed to be included in the test period revenue requirement for other operating cost items, including depreciation expense, income and property taxes appropriate?**

Corporate

29. Ref: ExhL/Tab1/Sch112

To OPG's knowledge, are there any major differences in the nuclear equipment life assumed by OPG and that assumed by the other CANDU owners worldwide?

30. Ref: ExhF4/Tab2/Sch1/Table8  
Ref: ExhG2/Tab2/Sch1/Table9  
Ref: ExhL/Tab1/Sch120

Ratepayers have been responsible for the benefits and obligations of Bruce A and Bruce B since April 1, 2005. Since benefits follow costs, the Bruce regulatory tax losses should be available to reduce Bruce income taxes for the lives of those losses.

Losses that arose in 2005 can be carried forward for 10 years. Those incurred in 2006 and after can be carried forward 20 years.

In EB-2007-0905, OPG identified regulatory tax losses associated with Bruce operations. OPG also stated that actual tax losses were fully utilized on a corporate basis in 2007 when it made the offer of \$990 million of regulatory tax losses to shelter future regulatory taxable income. In EB-2010-0008, ExhF4/Tab2/Sch1/Table8, OPG has deducted \$390.0 million as the portion of the \$990.2 million in tax losses attributable to Bruce.

In ExhG2/Tab2/Sch1/Table9, Bruce tax losses were \$169.5 million for the period April 1 to December 31, 2008 and \$93.1 million for 2009. OPG recognizes the stand-alone treatment in Note 1 at the bottom of this exhibit.

While the calculations may have to be checked, the total regulatory tax losses available would be \$390.0 at December 31, 2007, some amount for the first quarter 2008, and \$262.6 for the 21 month period 2008-2009, or more than \$652.6 million. These regulatory tax losses would shelter the Bruce regulatory taxable income for many years to come.

Reductions in tax losses result from taxable income, not from net income calculated on a GAAP basis. The regulatory construct followed by OPG in the Bruce current income tax calculations in ExhG2/Tab2/Sch1/Table7 could be followed until the losses of over \$600 million were utilized.

- a) Does OPG agree with the method of calculating the Bruce regulatory tax losses available?

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- b) What tax loss was incurred for the first quarter 2008?
- c) Does OPG agree with the carry forward periods identified above?
- d) Since the regulatory tax losses are so large, OPG would not need to record regulatory CCA for several years in the future. What impact will this have on the future income tax calculations?
- e) Should regulatory CCA be restated for 2005-2007, 2008-2009, 2010-2012 given the size of the tax loss carry-forwards?

31. Ref: ExhL/Tab1/Sch122  
This question relates to notices of assessment and has been filed in confidence.

Corporate

32. Ref: ExhF4/Tab2/Sch1  
Ref: ExhL/Tab1/Sch3  
OPG states the impact of the harmonized sales tax has been incorporated in the calculation of working capital effective July 1, 2010. OPG also states that it was exempt from PST on most machinery and equipment purchases and will be subject to the restriction on input tax credits for energy purchases for non-production purposes. OPG forecasted that the net cost reductions related to HST are relatively small, at less than approximately \$5M annually. Have the actual net cost reductions to date been minor?

### Issue 7.3

#### **Are the test period costs related to the Bruce Nuclear Generating Station, and cost and revenues related to the Bruce lease appropriate?**

Corporate

33. Ref: ExhG2/Tab1/Sch1, page 5, lines 19-26  
Board Staff IR#126 requested an estimate from OPG of the impacts on costs and revenues of Bruce Nuclear exercising its option to assume responsibility for low level radioactive waste. OPG's response was that it was not applicable because Bruce Nuclear had not exercised this option.

Assuming that Bruce Nuclear does exercise this option in 2011, what is the impact on OPG revenues and costs in 2011 and 2012?

34. Ref: ExhG2/Tab1/Sch1, page 4, lines 12-21  
Ref: ExhL/Tab1/Sch127  
OPG states that supplemental revenue from the Bruce Lease is subject to a market price limitation, i.e., if HOEP averages less than \$30/MWh, then supplemental revenue is reduced.

Corporate

- a) Explain the details of this market price limitation in the lease agreement.
- b) What is the probability that this market price limitation will take effect in 2011 or 2012 as it did in 2009?
- c) OPG is forecasting surplus baseload conditions (SBG) in 2011 and 2012. SBG is usually associated with low, sometimes negative, market prices. In

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2009, SBG conditions resulted in 0.6 TWh of total production losses for OPG with 0.19 TWh attributable to regulated hydroelectric facilities (Answer to AMPCO IR#019). OPG projects SBG impacts on regulated hydroelectric generation of 0.5 TWh in 2011 and 0.8 TWh in 2012. In 2009, supplemental rent was eliminated because of the market price limitation. Considering that the expected SBG levels in 2011 and 2012 exceed the 2009 levels, why does OPG expect no impact on supplemental rent revenues as a result of low market prices?

- d) Explain the entry in ExhG2/Tab2/Sch1-Table 3 for supplemental rent in 2009 of negative \$11.3 M. Did this represent a payment from OPG to Bruce Nuclear, i.e., a refund of supplemental rent? If so, under what lease provisions was this calculated? Could this situation recur in future years?
- e) What is the current average HOEP in 2010, year-to-date, measured as per the lease agreement?
- f) OPG states that the potential reduction in supplemental rent from this market price limitation is accounted for as a derivative. Please explain the nature of this derivative, the terms and conditions of this derivative and the variables that would affect the value of this derivative?

**Issue 8.1**

**Have any regulatory or other bodies issued position or policy papers, or made decisions, with respect to Asset Retirement Obligations that the Board should consider in determining whether to retain the existing methodology or adopt a new or modified methodology?**

Corporate

35. Ref: ExhL/Tab1/Sch129

OPG is continuing to investigate the impact of the Board approved revenue requirement treatment on its ability to fully recover its nuclear liabilities. OPG states that it is in the preliminary stages of a complex analysis and that there are no results to review. Does OPG have a terms of reference for this investigation? If affirmative, can OPG provide the terms of reference?

**Issue 8.2**

**Is the revenue requirement amount for nuclear liabilities related to nuclear waste management and decommissioning costs appropriately determined?**

36. Ref: ExhL/Tab1/Sch132

This interrogatory relates to impact of the Darlington refurbishment project on ARO and ARC.

- a) Please explain how OPG determined that a discount rate of 4.8 per cent was appropriate.
- b) Please provide a descriptive summary of how the Darlington refurbishment project creates reductions and/or increases in ARC among the other nuclear stations.

Corporate

August 19, 2010

**Issue 9.2****Is the hydroelectric incentive mechanism appropriate?**37. Ref: Ex. E1-T2-S1

The current design of the hydroelectric incentive mechanism is based on the value of energy as measured by HOEP. The current mechanism does not include payments from the Global Adjustment Mechanism (GAM) as part of the value of energy.

- a) How would the inclusion of GAM payments as part of the value of generation and the cost of pumping affect operation of the PGS?
- b) What would be the impact of including GAM payments on the forecasted price spreads between off-peak and on-peak prices in 2011 and 2012?
- c) In response to Board Staff IR#136, OPG states that one of the reasons that market price spreads are expected to decline from 2009 levels in 2011 and 2012 is the addition of more baseload generation from the re-commissioning of Bruce Power units and the addition of wind generation.
- d) Adding more baseload generation is likely to depress off-peak prices, particularly if SBG is expected to increase in 2011 and 2012 compared to 2009 (as per the response to AMPCO IR#019 and pre-filed evidence, Ex. E1-T1-S2-Table1). Would addition of more baseload generation not have the opposite effect and increase the market price spreads in 2011 and 2012, not reduce them compared to 2009 spreads?

Hydroelectric

**Issue 10.3****Is the disposition methodology appropriate?**38. Ref: ExhL/Tab1/Sch147

In response to this IR relating to approval of forecast balances in deferral and variance accounts, OPG stated that Purchase Gas Variance Accounts used by the regulated gas utilities was a precedent. Please explain the applicability in this case, as the Purchase Gas Variance Accounts are reviewed on a quarterly basis and represent just one of many accounts held by the gas utilities.

Corporate

**Issue 11.1****What reporting and record keeping requirements should be established for OPG?**39. Ref: ExhL/Tab1/Sch149

The Board requires audited financial statements for regulated businesses to be filed annually.

- a) Why does OPG believe it should be exempt from this requirement?

Corporate



August 19, 2010

Corporate

- b) Would OPG be able to file segment disclosure in its corporate audited financial statements? Possible segments are: regulated prescribed business, Bruce, and non-regulated business activities.

**Issue 12.2**

**What processes should be adopted to establish the framework for incentive regulation, or other form of alternative rate regulation, that would be applied in a future test period?**

40. Ref: ExhL/Tab1/Sch150

In the response to part d) of this interrogatory, OPG proposes that, following completion of this current proceeding, in 2011, it would file an application with its proposal for an incentive plan. Following its application, “[i]ntervenors, and potentially Board staff, would be provided an opportunity to file evidence seeking changes to OPG’s proposed methodology or proposing their own methodologies.”

Corporate

- a) OPG has not proposed any form of stakeholdering prior to filing its incentive regulation proposal. Please explain why OPG is not proposing to invite discussion with stakeholders prior to filing its application?
- b) Does OPG’s proposal not to stakeholder, and the timelines indicated in the response to d) of ExhL/Tab1/Sch150 (i.e. a Decision by the end of 2011 probably means that OPG would be filing its application in 2011 Q2) mean that OPG has already determined the form (or range of forms) of incentive regulation that it considers suitable for rate regulation of the prescribed assets? Please explain your response.

Question # 1

**Ref: Exhibit L/Tab 2/Schedule 8b**

Exhibit L/Tab 2/Schedule 8b asks for an explanation as to the schedule slippage for Beck 1 upgrades to G7, G9 and G10. The reply refers to lessons from the G7 upgrade, realigning the upgrade schedule to match the revised tunnel schedule and that the original schedule “was not preferable from a cost or resourcing perspective”.

- a) Please clarify with supporting documentation whether or not the G7 schedule slippage resulted from a planned or forced slowdown of the project.
- b) Please identify the cost and resource savings that resulted from the schedule changes.**

Hydroelectric

Question # 2

**Ref: Exhibit L/Tab 2/Schedule 10**

Exhibit L/Tab 2/Schedule 10 asks for the Post Implementation Review (PIR) for the SAB 1 G7 project, completed in June 2009.

Please indicate the process OPG used to determine that rather than complete the PIR in 6 months to one year as per normal practice, a year and a half would be allowed in this case.

Hydroelectric

Question # 3

**Ref: Exhibit L/Tab 2/Schedule 13**

**Ref: Exhibit L/Tab 2/Schedule 12/Table 2a**

Exhibit L/Tab 2/Schedule 13 seeks details on a conventional commercial renovation related to a cafeteria recently completed within Pickering. Exhibit L/Tab 2/Schedule 12 Table 2a shows that the project was completed in twice the originally scheduled time and the cost overrun was 46% above the original estimate. OPG’s explanation refers to the difficulty of working in a nuclear environment and that “the schedule of the project was driven by the location”.

Please provide the original business case, the document upon which the budget overrun was approved, and any follow-up analysis performed related to lessons learned.

Nuclear

Question # 4

**Ref: Exhibit L/Tab 2/Schedule 6 Part F**

The above interrogatory response indicates that OPG's Construction Work In Progress (CWIP) expert, Mr. Luciani, has not performed a quantitative analysis for Ontario supporting his opinion that CWIP in rate base is "beneficial to Ontario ratepayers". The response indicates that his conclusion is based on the regulatory activity in the United States as discussed in the Charles River Associates paper in which CWIP in rate base has been deemed beneficial to customers in supporting the construction of significant capital investments.

Please provide any quantitative analysis Mr. Luciani relies upon in supporting his opinion of benefits to ratepayers.

Question # 5

**Ref: Exhibit L/Tab 2/Schedule 26 Attachment #1 (non-confidential version) Part C**

The above interrogatory response refers to the review and approval of the Pickering B Integrate Safety Report by the end of Q2/'10.

Please provide an update on the status of that approval.

Question # 6

**Ref: Exhibit L/Tab 2/Schedule 9 Part E**

The above noted question seeks to understand the distinction of the cost of power for the tunnel project calculated by way of LUEC vs. PPA.

Please provide the capital costs, discount rates, and tax rates that are used in the LUEC and PPA calculations.

Corporate

Nuclear

Hydroelectric

Ontario Power Generation (OPG) Inc.  
 2011-2012 Payment Amounts for  
 Prescribed Generating Facilities  
 EB-2010-0008

**AMPCO Technical Conference Questions – Part 2**

Question # 7

**Issue 4.5: Are the capital budgets and/or financial commitments for 2011 and 2012 for the nuclear business appropriate and supported by business cases?**

**Ref: Exhibit L/Tab 2/Schedule 17**

In part C of the above noted response, OPG indicates that the schedule for ordering long lead time items is now being developed in concert with the development of OPG's contracting strategies.

Please list the major categories of items that OPG expects will require long lead times and the range of order times that OPG is currently anticipating.

Question # 8

**Issue 6.3: Is the test period Operations, Maintenance and Administration budget for the nuclear facilities appropriate?**

**Ref: Exhibit L/Tab 2/Schedule 22**

In part C of the above noted response, OPG indicates that it does not accept that the Bruce definition of "All In" costs is comparable to the Production Unit Energy Cost (PUEC) definition used by OPG.

Please indicate OPG's view as to the differences between the definitions and whether the Bruce definition results in a finding higher or lower than OPG's finding.

Question # 9

**Issue 6.4: Is the benchmarking methodology reasonable? Are the benchmarking results and targets flowing from those results for OPG's nuclear facilities reasonable?**

**Ref: Exhibit L/Tab 2/Schedule 23**

OPG's reply to part A provides OPG's WANO NPI ranking as compared to other Candus and 15 US PWR stations for the period 2006-2008.

Please provide the numerical results underpinning the rankings and the NPI numerical results achieved by OPG in 2009.

Nuclear

Nuclear

Nuclear

By electronic filing and by e-mail

August 19, 2010

Kirsten Walli  
Board Secretary  
Ontario Energy Board  
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Dear Ms Walli,

**Ontario Power Generation Inc. (“OPG”)**  
**2011-2012 Payment Amounts Application**  
**Board File No.: EB-2010-0008**  
**Our File No.: 339583-000064**

Pursuant to paragraph 1 of Procedural Order No. 4, we are writing on behalf of our client, Canadian Manufacturers & Exporters (“CME”), to identify OPG’s Interrogatory Responses to Board Staff and to CME upon which we intend to seek clarification at the Technical Conference scheduled for August 26, 2010. These are set out below. The issues to which the clarifications we will seeking relate are identified in each of the interrogatories to which OPG has responded.

**Clarifications re: OPG’s Responses to Board Staff**

Corporate # 1	Issue 1.3	Board Staff #1	Are the Letters of Comment on the record? If not, then please produce them.
Corporate # 2	Issue 2.2	Board Staff #11	Is CWIP recovery allowed in other jurisdictions as an item of short term debt interest expense? If so, then provide examples of other jurisdictions that follow this approach.
Corporate # 3	Issue 3.2	Board Staff #16, Attachment 1	How frequently are these forecasts published by Global Insight? Please produce the most recent forecast.
Hydroelectric # 4	Issue 4.2	Board Staff #18	Please provide the revenue requirement reduction that results from excluding all capital and operating costs associated with the visitor centre.
Hydroelectric # 5	Issue 5.1	Board Staff #35	<p>We will be seeking clarification of the elements of and the manner in which OPG derives its forecast for baseload energy production, including the following:</p> <ul style="list-style-type: none"> <li>• The extent to which wind, solar and/or gas fired generation are included in the baseload forecast,</li> <li>• The threshold of SBG beyond which OPG assumes that market participants will take actions to manage the potential oversupply situation and how that threshold has been determined,</li> <li>• The actions market participants can or will take to manage the potential oversupply situation,</li> <li>• The assumptions OPG makes regarding the energy curtailment</li> </ul>

Hydroelectric # 5		<p>available from wind generators, export quantities and Bruce Power facilities and the facts from which these assumptions have been derived,</p> <ul style="list-style-type: none"> <li>• Details of the assumptions that have been made pertaining to the re-commissioning schedules for Bruce Power's Unit 1 and Unit 2;</li> <li>• Details of the assumptions that have been made about the impact of new wind power additions.</li> </ul>	
Nuclear # 6	Corporate Issue 5.2	Board Staff #40	Provide clarification of how "unforeseen events" can be forecast, and the extent to which the revenue requirement reduces if the adjustment made for "unforeseen events" is disallowed.
Corporate # 7	Issue 6.5	Board Staff #55	Please clarify the extent to which the revenue requirement changes if the capitalization threshold is reduced to from \$200,000 to \$100,000.
Nuclear # 8	Issue 6.5	Board Staff #55 to 64, and #105 to 107	Please clarify whether the person responsible for preparing the ScottMadden report will be presented by OPG as a witness at the hearing.
Corporate # 9	Issue 6.8	Board Staff #76	Please clarify the total human resource related cost averages for wages, salaries, benefits, incentive payments, FTEs and pension costs.
Corporate # 10	Issue 6.8	Board Staff #81	Please clarify whether an "estimate" as opposed to a "calculation" can be provided.
Corporate # 11	Issue 6.9	Board Staff #97 to 99	Please clarify whether OPG will be presenting a witness from Black & Veatch at the hearing.
Corporate # 12	Issue 6.10	Board Staff #108	Please clarify whether OPG will be presenting a witness from the Hackett Group at the hearing.
Corporate #13	Issue 6.11	Board Staff #117	Please provide clarification of "mitigation" in EB-2007-0905, including the distinction, if any, that OPG makes between the phrase "income tax PILs" used in the Board Staff interrogatory and the phrase "regulatory income tax" used by OPG in the response.
Corporate # 14	Issue 10.2	Board Staff #144 and 145	Please clarify the amounts recorded in the Tax Loss Variance Account for each of the years 2008, 2009 and 2010 separated between "taxes", "gross up" and other elements, if any.

### **Clarifications re: OPG's Responses to CME**

Corporate # 15	Issue 1.3	CME #2	Please clarify whether OPG is aware of any multi-year forward looking total bill analysis having been done by the OEB.
Corporate # 16	Issue 1.3	CME #3, 5, 7 and 8	Please clarify OPG's position on the relevance of overall bill impacts on consumers in determining the reasonableness of payment amounts.

Corporate # 17	Issue 1.3	CME #4	Please clarify whether or not OPG does prepare, for its internal use, five year forecasts of regulated hydroelectric and nuclear generation payment amounts.
Corporate # 18	Issue 1.3	CME #9	Please clarify the period for which OPG actually forecasts global adjustment changes.
Corporate # 19	Issue 1.3	CME #10 Ex.L-4-001 referenced therein	<p>We will be seeking clarification of the following items:</p> <ul style="list-style-type: none"> <li>• “the building of public concern over electricity prices” referenced in Attachment 2 to Non-Confidential Ex.L-4-001.</li> <li>• Each of the “alternatives” OPG considered that would further reduce the impact on customers referenced in Attachment 2 to Non-Confidential Ex.L-4-001.</li> <li>• OPG’s refusal to produce in confidence the materials requested in CME #10 (a).</li> <li>• The assertion in Non-Confidential Ex.L-4-001 that “the application has been prepared on a cost of service basis and must be considered by the OEB as such.”</li> <li>• Whether the implementation date of March 1, 2011, was a part of OPG’s initial plan presented to Stakeholders in late March and early April of 2010.</li> <li>• Statements reported in the Toronto Star on May 26, 2010, to have been made by Mr. Gruetzner pertaining to taxes.</li> <li>• “matters that relate to the determination of just and reasonable payment amounts” referenced in OPG’s response to CME #10 (d).</li> </ul>
Corporate # 20	Issue 1.3	CME #11 and 29	<ul style="list-style-type: none"> <li>• The estimate we are requesting OPG to provide in CME #11 (b) is a presentation of the revenue requirement for 2011 and 2012 in the format of the document attached to OPG’s response to CME #29, but with return on equity at 5% rather than 10%. We are requesting that OPG provide such a presentation so that it can be compared to the revenue requirement amounts for 2011 and 2012 that OPG asks the Board to approve.</li> <li>• Please clarify the “Government’s announcement” referenced in OPG’s response to CME #11 (a) and produce a copy thereof.</li> <li>• Please clarify each of the factors considered by OPG in taking the “decision to reduce the consumer impact of the application” referenced in its response to CME #11 (c).</li> </ul>
Corporate # 21	Issue 1.3	CME #13	<p>We will be seeking clarification of the following:</p> <ul style="list-style-type: none"> <li>• The steps one takes to derive the “return on equity” from the audited statements and an explanation of how the “comparison of revenue requirements” effectively results</li> </ul>

Corporate # 21		in some double counting.  • The “different information” and the “different basis” referenced in OPG’s response to CME #13 (c) that make it impossible to perform the requested reconciliation.
Hydroelectric & Nuclear # 22	Issues 4.2, 4.5	CME #15  Please clarify OPG’s response to include projects that begin or are on-going in 2011 or 2012 that end after 2012 so that the table will show all multi-year projects on-going during the test year and the costs related to those projects for the years beyond December 31, 2012.
Hydroelectric & Nuclear # 23	Issues 4.2, 4.5	CME #16  Please clarify to assure that all of the multi-year projects underway in 2011 and 2012 but not expected to be completed by December 31, 2012, are included therein.
Corporate # 24	<b>Issue 3.1</b>	<b>CME #20</b>  <b>Please clarify whether a corporate return on equity is to be derived in the manner that OPG describes and will clarify in response to CME #13.</b>
Corporate # 25	Issue 6.11	CME #23  Please clarify whether the information requested pertaining to the corporation for 2010 is available.
Hydroelectric # 26	Issue 5.1	CME #24  Please clarify the following:  • The reason why natural gas generation during off-peak periods exceeded forecast levels; and  • The times at which wind generation exceeded forecast and how those excesses, at that time, operate to produce increased SBG.
Corporate # 27	Issue 6.11	CME #32  Please clarify how the principles applied in the calculation of regulatory income and capital taxes differ from the principles that apply in determining the amounts of income and capital taxes OPG actually pays.
Corporate # 28	Issue 10.2	CME #37  Please clarify whether the difference between tax amounts paid by OPG and amounts recovered for taxes from ratepayers affects the net income of OPG, the corporation.
Corporate # 29	Issues 10.1, 16.2 & 10.3	CME #38  Please clarify whether OPG provided a response to CME #38 and, if so, where we can find that response.

Yours very truly,

Peter C.P. Thompson, Q.C.

PCT\slc

c. Barbara Reuber (OPG)

Carlton Mathias (OPG)

EB-2010-0008 Intervenors

Paul Clipsham (CME)

Vince DeRose

Jack Hughes

OTT01\4161680\1



**ONTARIO POWER GENERATION INC.  
DETERMINING PAYMENT AMOUNTS  
EB-2010-0008**

**ENERGY PROBE RESEARCH FOUNDATION  
TECHNICAL CONFERENCE QUESTIONS**

**Issue Number: 1.2**

**Are OPG's economic and business planning assumptions for 2011-2012 an appropriate basis on which to set payment amounts?**

**Energy Probe TC # 1**

**Ref: Energy Probe Interrogatory # 2 (Exhibit L, Tab 6, Schedule 002)**

The data provided in this response indicates that OPG uses a 25% tax rate in determining its WACC for project evaluation.

Why does OPG not use the tax rate shown in Exhibit F4, Tab 1, Schedule 1?

**Energy Probe TC # 2**

**Ref: Energy Probe Interrogatory # 3 (Exhibit L, Tab 6, Schedule 003)**

- a) **Energy Probe remains unclear about the way in which OPG also takes its long-term view of the financial markets into account when setting the discount rate. Please advise.**
- b) **OPG has not provided the requested document that Energy Probe would like to review, assuming it is not confidential. Among other concerns, Energy Probe expects that it would discuss the reasons why OPG applies the same discount rate to investment projects in nuclear and regulated hydro. Please advise.**
- c) **In the example, OPG used a 27% tax rate for 2011 and 2012. Energy Probe would like to know whether this tax rate was used in estimating the 7% WACC? If so, why does OPG use a 25% tax rate to calculate the WACC?**

Corporate

Corporate

**Issue Number: 2.1**

What is the appropriate amount for rate base?

**Energy Probe TC # 3**

Ref: Energy Probe Interrogatory # 5 (Exhibit L, Tab 6, Schedule 005)

OPG has not indicated its expectation for growth rate of the rate base beyond the test period.

What is the Applicant's best estimate of the growth in the rate base beyond the test period?

**Issue Number: 3.3**

Should the same capital structure and cost of capital be used for both OPG's regulated hydroelectric and nuclear businesses? If not, what capital structure and/or cost of capital parameters are appropriate for each business?

**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".

**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.**

**Energy Probe TC # 6**

**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. Please reconcile these responses.**
- b) **Energy Probe would like to pursue the implications of different betas for the costs of regulated hydro and nuclear. Please clarify.**

**Issue Number: 4.2**

**Are the capital budgets and/or financial commitments for 2011 and 2012 for the regulated hydroelectric business appropriate and supported by business cases?**

**Energy Probe TC # 7**

**Ref: Energy Probe Interrogatory # 12 (Exhibit L, Tab 6, Schedule 012)**

This IR deals with the Gross Revenue charge that appears to cover water rentals and property taxes.

Energy Probe would like to better understand the GRC holiday currently in place and its impact on local municipalities that might receive payments in lieu of property taxes through the GRC. Please clarify.

**Energy Probe TC # 8**

**Ref: Energy Probe Interrogatories # 20, # 21, # 22, #23 and # 24  
(Exhibit L, Tab 6, Schedules 020, 021, 022, 023 and 024)**

These IRs concern the inclusion in rate base of the capital costs associated with a new visitor information centre in Cornwall and the uses to be made of the centre.

**Energy Probe would like to better understand how the centre initiative originated, why ratepayers should bear the costs of this centre and how the centre will be used. Please clarify.**

## EB-2010-0008

Pollution Probe Questions for Technical Conference

**August 19, 2010**

**Issue 2.2**

1. Reference: Pollution Probe Interrogatory Nos. 1, 2, 4, and 6 (Ex. L, Tab 10, Sch. 1, 2, 4, and 6)

It is Pollution Probe's understanding that OPG's estimate of the capital cost of \$6 billion other words, it does not include capitalized interest during construction.

Please provide OPG's low and high estimate of the TOTAL capital cost of the Darlington refurbishment, including capitalized interest during construction. Pollution Probe notes that in response to Pollution Probe's interrogatories, OPG states that its LUEC estimates for Darlington are based on the total capital costs of Darlington, including capitalized interest during construction.

Nuclear

**Issue 3.3**

2. Reference: Pollution Probe Interrogatory No. 16 (Ex. L, Tab 10, Sch. 16)

Pollution Probe seeks clarification and further information in light of OPG's response to Pollution Probe Interrogatory No. 16. In that response, OPG states that:

OPG uses the same discount rate in its financial analysis for all investments with **Corporate**

This is consistent with the approach described to the OEB in EB-2007-0905. [emphasis added]

Please describe in detail, and with illustrative examples, how the differences in risk for two projects with different risks would be taken into account in the cash flows. For this purpose, please assume that the capital project with higher risk is for nuclear operations and the capital project with lower risk is for hydroelectric operations.

Corporate

EB-2010-0008

**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.

## **POWER WORKERS' UNION TECHNICAL CONFERENCE QUESTIONS**

### **PWU Question 1**

**Issue 2.2: Is OPG's proposal to include CWIP in rate base for the Darlington Refurbishment Project appropriate?**

Ref (a): Exhibit L, Tab 7, Schedule 2, Page 1:

#### **Interrogatory**

Page 8 quotes the Louisiana PSC to the effect that "the recovery of a current cash return on CWIP may be needed... to maintain an acceptable credit rating...."

a) Does Mr. Luciani believe that this consideration applies to OPG? If so, please provide any evidence that a cash return on CWIP is required in that OPG or the Province would not "maintain an acceptable credit rating" in the absence of CWIP in rate base.

#### **Response**

a) Yes, OPG understands that Mr. Luciani believes this consideration applies to OPG. A credit rating agency takes into account a number of items in determining utility credit ratings and a current cash return on CWIP is one of those items. Credit rating agencies, as part of their review, will look at a publicly-supported commercial entity such as OPG on a stand-alone basis in evaluating credit risk. As such, a cash return on CWIP will be helpful to OPG, on an incremental basis, in such a review and maintaining an acceptable credit rating.

Ref (b): Dominion Bond Rating Service Report Dated: August 12, 2009. Exhibit A2, Tab 3, Schedule 1, Attachment 1, Page 1:

**DBRS has confirmed the Unsecured Debt and Commercial Paper ratings of Ontario Power Generation Inc. (OPG or the Company) at A (low) and R-1 (low), respectively, with Stable trends.**

Ref (c): Standard & Poor's, Summary Report Dated: April 30, 2010. Exhibit A2, Tab 3, Schedule 1, Attachment 2, Page 2:

We base the 'A-' rating on OPG's stand-alone credit profile (SACP) on our opinion that there is "high" likelihood that the province would provide timely and sufficient extraordinary support in the event of financial distress. We assess the company's stand-alone credit profile at 'BBB'.

Corporate

- (i) Is there a risk that OPG's current debt rating may be downgraded as a result of the higher financial risk that may be underpinned by future increasing needs of funding to finance large nuclear projects (e.g. Darlington Refurbishment Project and New Darlington)?
- (ii) If the response to (i) is "yes", please provide OPG's assessment as to how many basis points would be added to OPG's current debt cost?
- (iii) Could OPG's revenue requirement be materially impacted by the higher debt cost?
- (iv) If the response to (i) is "yes", please indicate whether or not OPG's CWIP proposal would mitigate potential financial risk associated future increasing needs of funding to finance large nuclear projects?

## PWU Question 2

**Issue 4.5: Are the capital budgets and/or financial commitments for 2011 and 2012 for the nuclear business appropriate and supported by business cases?**

Ref (a): Exhibit L, Tab 11, Schedule 7, Page 1, Lines 32-38:

The Project Execution Plan (Ex. D2-T2-S1, Attachment 2) provides additional details of the project objectives, work scope and schedule, performance measurement and evaluation, and risk management and contingency plan. The Project Execution Plan provides a list of deliverables required in each phase. This project management approach reduces project risk by mandating a gated process of 'check points' at each major project phase in order to ensure the project is on track in its development regarding scope, cost, quality and schedule.

Ref (b): Darlington Nuclear Refurbishment Project, Exhibit D2, Tab 2, Schedule 1, Attachment 2

Ref (c): Exhibit L, Tab 7, Schedule 35, Page 1, Lines 39-43 and Page 2, Lines 1-3

OPG anticipates entering into some limited number of contracts during the Preliminary Planning phase to meet the deliverables for that phase, i.e., contracts to design and construct the Training and Mock-up Building. OPG may also enter into contracts with key vendors for major component work programs such as Retube and Feeder Replacement, Fuel Handling, Turbines and Generators.

Nuclear

It is anticipated that during the Engineering and Detailed Planning phase, certain contracts will be partially or fully released in recognition of the long lead time required for certain aspects of the work.

- (i) Please describe how OPG's project management approach will be applied in entering into some limited number of contracts during the Preliminary planning phase.

### PWU Question 3

**Issue 5.1: Is the proposed regulated hydroelectric production forecast appropriate?**

Ref (a): Exhibit L, Tab 1, Schedule 36, Page 1, Lines 28-32:

**Response**

a) In 2009, the median hourly output of the Niagara Plant Group (Sir Adam Beck and DeCew Falls Generating Station) was approximately 1,500 MW. The approximate equivalent number of hours of the Niagara Plant Group operation, based on 2009 median hourly output and the Surplus Baseload Generation ("SBG") estimates, are 130 hours in 2010, 330 hours in 2011 and 525 hours in 2012.

- (i) Please describe inputs and the methodology underpinning SBG estimate of 130 hours in 2010, 330 hours in 2011 and 525 hours in 2012.
- (ii) Please indicate on what basis the median hourly output of 1,500 MW for the Niagara Group has been calculated. Is the calculated median hourly output related to the total annual hours (i.e. 8,760) or to annual off peak hours?

### PWU Question 4

**Issue 6.3: Is the test period Operations, Maintenance and Administration budget for the nuclear facilities appropriate?**

Ref (a): Exhibit L, Tab 11, Schedule 15, Page 2, Lines 27-29:

c) No, 'cost-focused reductions' does not imply that those cost reductions were made in isolation of their impact on net value. As outlined in Ex. D2-T1-S1, Section 3.1, it is the role of the Asset Investment Screening Committee ("AISC") to prioritize project work to provide highest value. This is done on the basis of the project Part A screening forms (characterizing the issue, operational and financial impact, and relative ranking of potential impact) supplemented by the broad senior management experience of the AISC members. Lower priority work is deferred until it can be accommodated within planned portfolio funding. The work that will potentially be deferred beyond



the test period due to project portfolio funding levels is the “Listed Work to be Released” (Ex. D2-T1-S2 Table 5a, 5b and Ex. F2-T3-S3 Table 4a and 4b). As indicated above, any such judgments will be made on the basis of AISC assessment of project value. Critical work will not be deferred.

- (i) Please describe what OPG considers as “critical work”?
- (ii) Does OPG agree that project funding reductions that result in deferral of work will lead to a lower net value, taking into account the achievement of targeted performance metrics, over the station life cycle?
- (iii) How does OPG measure value?
- (iv) How does OPG incorporate non-monetary performance metrics in its determination of value?
- (v) How will OPG maintain backlogs created by deferrals at acceptable levels (e.g. levels that provide for sustainable levels of performance) in an environment of ongoing cost cutbacks?

## PWU Question 5

**Issue 6.9: Are the “Centralized Support and Administrative Costs” (which include Corporate Support and Administrative Service Groups, Centrally Held Costs and Hydroelectric Common Services) and the allocation of the same to the regulated hydroelectric business and nuclear business appropriate?**

Ref (a): Exhibit F4, Tab 4, Schedule 1, Page 3, Lines 15-18 and Page 4, Lines 18-22:

**IESO non-energy costs are charges that are applied to withdrawals of energy from the IESO controlled grid. The charges include transmission charges, the debt retirement charge, the rural or remote electricity rate protection charge, charges associated with IESO administration fees, OPA fees, uplift charges and the Global Adjustment. These charges are not discretionary and apply to all withdrawals from the IESO-controlled grid. These charges are directly assigned to the specific regulated facilities.**

**The various constituents that make up the IESO non-energy charge can be difficult to accurately forecast. As a result, the aggregate total of these charges is extremely difficult to accurately forecast. Accordingly, OPG is seeking approval of a new variance account to protect both itself and ratepayers from over or under collection of IESO non-energy charges. See Ex. H1-T3-S1, section 4.1 for additional details.**

Ref (b): Ontario Energy Board, EB-2010-0191. Decision with Reasons, July 22, 2010:

Ontario Regulation 330/09 requires that the Ontario Energy Board (the "Board") determine the Renewable Generation Connection Rate Protection ("RGCRP") compensation amount for 2010 and subsequent years in accordance with the Green Energy and Economy Act, 2008...

For 2010, pursuant to the Board's Decision with Reasons in the Hydro One Distribution Rates case EB-2009-0096, issued on April 9, 2010, the Board has calculated the amount of RGCRP compensation eligible consumers will receive in 2010: \$3,666,667...

The Board has determined that effective May 1, 2010, the RGCRP charge to be collected by the IESO from all electricity market participants shall be \$458,333 per month. Regulation 330/09 sets out that collection of these amounts by the IESO will be in the form of a monthly amount charged to all Market Participants, based on their actual kWh consumption withdrawn from the IESO controlled grid each month. As a result, the monthly charge for each market participant will vary with the actual consumption in that month...

In determining this charge, the Board acknowledges that distributors will be passing on this charge to their electricity distribution customers through the Wholesale Market Service Charge ("WMSC") currently approved by the Board at \$0.0052 per kWh. It is the Board's view that at its current level, the RGCRP will have a minimal impact on balances in the WMSC variance account (Account 1580) and will not adjust the WMSC at this time. Therefore the WMSC shall remain at its current level of \$0.0052 per kWh.

- (i) Please confirm that IESO non-energy costs paid by OPG include Wholesale Market Service Charge.
- (ii) Is OPG aware that the OEB may approve increasing costs to be incurred by electricity LDCs related to investments enabling to connect renewable generation?
- (iii) If the response to (i) is yes, please indicate whether or not OPG's IESO non-energy Charges forecast for the test period incorporates an estimate of RGCRP and WMSC charges? Does OPG have an estimate of RGCRP and WMSC charges?

## Ontario Power Generation 2011-2012 Payment Amounts for Prescribed Facilities

EB-2010-0008

## Technical Conference Questions from the Vulnerable Energy Consumers' Coalition ("VECC")

VECC TC #1

Reference: Interrogatories L-14-003 and L-1-002

## Issue Number 2.1

Issue: What is the appropriate amount for rate base?

Please confirm that the "Board Approved" figures filed in response to L-1-002 are in fact identical to OPG's forecasted amounts for each year. If unable to so confirm, please clarify.

VECC TC #2

Reference: Interrogatories L-14-004, including Attachment 1, and L-07-002

## Issue Number 2.2

Issue: Is OPG's proposal to include CWIP in rate base for the Darlington Refurbishment Project appropriate?

- a) Is it OPG's opinion that if the OPG rejects the CWIP proposal and OPG undertakes this project, then OPG's credit rating will be or is expected to be adversely affected? Please explain.
- b) Given that the response to L-14-004 c) indicates a lower PV recovered from ratepayers under the current regulatory treatment in both scenarios, why is the CWIP proposal better for ratepayers than the current regulatory treatment?
- c) Re the response to L-14-004 d), please explain how CWIP amounts put into rate base over a number of years could be wholly or partially disallowed after the fact – without raising questions of retroactivity and inter-generational equity – in the event that the OEB did not find the expenses or project management to have been prudent?
- d) Re the response to L-14-004 d) and assuming that there had been some level of imprudence on OPG's part in managing the project, please explain how intervenors will be able to

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demonstrate imprudence on OPG's part after the fact given that they will have to rely on OPG for any project-specific information?

### VECC TC #3

Reference: Interrogatory L-14-011

#### Issue Number 6.2

**Issue:** Is the benchmarking methodology reasonable? Are the benchmarking results and targets flowing from those results for OPG's hydroelectric facilities reasonable?

- a) Please provide the historical annual calculations and targets for the EPI?
- b) For categories which include a weighting of "Meet," what happens to the EPI if the target is not met?

Hydroelectric

### VECC TC #4

Reference: Interrogatory L-14-020 (Non-Confidential Version)

#### Issue Number 6.6

**Issue:** Is the forecast of nuclear fuel costs appropriate?

- a) Regarding the response to L-14-020 a), please explain what each of the two long-term price indicators are intended to represent and provide the most recent copy available (for the same month) of each of "The Ux Weekly" and the "Nuclear Market Review."
- b) Regarding the response to L-14-020 c), please indicate generally under what circumstances the Canadian CPI would be used for indexing and under what circumstances the US GDP IPD would be used for indexing. Also, please indicate under what circumstances an exchange rate calculation would be required.
- c) Regarding the response to L-14-020 d), please indicate the conditions under which OPG would expect to be at risk of a Board finding of imprudence with respect to costs arising from OPG's nuclear fuel costs hedging strategy.
- d) Regarding the response to L-14-020 d), please elaborate with respect to OPG's hedging philosophy indicating the relative weights it attaches to (i) hedging price risk, (ii) reduction in cost volatility, and (iii) supply security.

Nuclear

Corporate

VECC TC #5

Reference: Interrogatory L-14-021

**Issue Number 6.8**

**Issue:** Are the 2011 and 2012 human resource related costs (wages, salaries, benefits, incentives, FTEs, and pension costs) appropriate?

Please confirm that in OPG's response for the years 2010, 2011, and 2012, there is an assumption of 4% increases in each year for each compensation component (base salary, overtime, incentives, and other) for the PWU, an assumption of 4% increases in each year for each compensation component for the Society, and an assumption of 3% increases in each year for each compensation component for management. If unable to so confirm, please explain.

Corporate

VECC TC #6

Reference: Interrogatory L-14-022 d)

**Issue Number 6.8**

**Issue:** Are the 2011 and 2012 human resource related costs (wages, salaries, benefits, incentives, FTEs, and pension costs) appropriate?

Given that OPG indicated that Chart 4 only reflects actual base pay, how is OPG certain that its total compensation package is in line with or below its comparators?

Corporate

VECC TC #7

Reference: Interrogatory L-14-023 a)

**Issue Number 6.8**

**Issue:** Are the 2011 and 2012 human resource related costs (wages, salaries, benefits, incentives, FTEs, and pension costs) appropriate?

- a) Please identify the occupations and the number of management positions that OPG had difficulty in (i) attracting and (ii) retaining as a result of the base pay program not having been adjusted since 2002.

- b) Please confirm that other factors such as level of base pay, benefits packages, incentive programs, job security, and work environment are significant factors in attracting and retaining employees.
- c) Please indicate the extent to which non-base pay benefits were adjusted during the period 2002-2007.

**VECC TC #8**

Reference: Interrogatory L-14-024, Attachment 1

**Issue Number 6.8**

**Issue:** Are the 2011 and 2012 human resource related costs (wages, salaries, benefits, incentives, FTEs, and pension costs) appropriate

Given the results provided for OPG's position to market in respect of "Total Remuneration Position to Market" for 2008 and 2009 (i.e., below for all except for Band H and Band L in 2009), how has OPG managed to retain or attract any mobile, management group employees?

**VECC TC #9**

Reference: Interrogatory L-14-037

**Issue Number 6.8**

**Issue:** Is the hydroelectric incentive mechanism appropriate?

- a) Please provide monthly historical information, similar to that which was provided in the table in response to part a), for December 1, 2006 through November 30, 2008.
- b) Please provide monthly historical information, similar to that which was provided in the table in response to part a), for the period January 1, 2010 to the most recently available monthly information available.
- c) Please indicate when the rider shown in the response to a) became effective.
- d) Per pages 4 and 5 of the "Design of Payment Amounts: Hydroelectric" presentation at the March 29, 2010 Stakeholder Meeting, please confirm that the total payments received under the HIM are given by the formula

$$\text{Total Payment} = \text{MWavg} \times \text{Regulated Rate} + (\text{MWh} - \text{MWavg}) \times \text{MCP}$$

where  $MW_{avg}$  = Average monthly net energy production,

$MCP$  = Market Clearing Price

$MWh$  = Hourly net energy production, and

- e) Regarding the response to b), please confirm that OPG believes that, in principle, the regulated rate may be expected to be (i) above, (ii) below, or (iii) equal to the HOEP for extended periods of time now and going forward.
- f) Please confirm that the total payments received under the HIM are also given by the formula
- $$\text{Total Payment} = MW_{avg} \times (\text{Regulated Rate} - MCP) + (MWh \times MCP)$$
- g) Regarding the response to d), please explain why pump generation stations exist if not to pump water during the off-peak period in order to utilize the energy stored in a subsequent peak period.
- h) Regarding the response to d), please confirm that OPG's response indicates that absent an incentive mechanism – designed to incent operation of the pump generation station in the manner for which it was designed and installed – OPG might choose to not pump water during the off-peak period even though it would be in the public interest.
- i) Please provide OPG's views as to the extent to which the response to part d) of this interrogatory is consistent with the response received to a similar question at the Stakeholder Meeting on March 29, 2010.