BRUCE GENERATING STATION - REVENUES AND COSTS

1.0 PURPOSE

The purpose of this evidence is to discuss the revenues earned by OPG under the Bruce Lease Agreement entered into on May 12, 2001 between Bruce Power L. P. (“Bruce Power”) and OPG, as further amended the “Bruce Lease” as well as revenues earned from agreements associated with the Bruce Lease, and the related costs OPG incurs with respect to the Bruce Generating Stations.

2.0 OVERVIEW OF BRUCE LEASE AND ASSOCIATED AGREEMENTS

Paragraphs 6 (2) 9 and 6 (2) 10 of O. Reg. 53/05 provide that the OEB shall ensure that OPG recovers all the costs it incurs with respect to the Bruce Generating Stations, and that any revenues earned from the Bruce Lease Agreement in excess of cost be used to offset the nuclear payment amounts.

Effective May 12, 2001, as part of a decontrol initiative, OPG leased its Bruce A and Bruce B Generating Stations and associated lands and facilities to Bruce Power. A description of the Bruce site and the facilities for which Bruce Power, as the tenant of the leased premises, assumed full care and control as well as those properties within the Bruce site boundaries that OPG retained, can be found at Appendix A.

The Bruce Lease sets out the main terms and conditions of the lease arrangement between OPG and Bruce Power (including lease payment). As the tenant of the leased premises, Bruce Power is responsible for full care and control of the Bruce site, except for those land and facilities within the site boundaries retained by OPG. The initial term of the Bruce Lease is to December 31, 2018.

In association with the Bruce Lease, OPG and Bruce Power have entered into a number of agreements in regard to the provision of services by OPG to Bruce Power, or from Bruce Power to OPG. The following summarizes the Lease Agreement and those related agreements which have revenue and/or cost implications for OPG:
1. Lease Agreement: Bruce Power, as the tenant of the leased premises, pays to OPG in monthly installments an annual rent consisting of a predetermined base component and a variable supplemental component. The base rent is set out in the Lease Agreement and fixed for each year of the lease. The supplemental unit rate is currently in the order of $28M per unit per year (in 2006 dollars) and is applied on the basis of the number of generating units operational in a given calendar year, currently four Bruce B and two Bruce A generating units. The supplemental unit rate is escalated annually by the consumer price index (Ontario). The base and supplemental lease payment amounts are set out in section 3.0 below.

In association with the closing of the lease transaction with Bruce Power, OPG received initial payments totaling $595M. The initial payments consisted of $370 million in cash proceeds and a $225 note receivable, which was subsequently collected by OPG in 2003. According to a directive from the Province, the proceeds from the note receivable and applicable interest were to be applied against OPG’s funding requirements under the Ontario Nuclear Funds Agreement (“ONFA”) with respect to its nuclear liabilities by March 2008. OPG made this one-time contribution in the amount of $334M (referred to as the “Bruce Extraordinary Payment”) in December 2007. The implications of this one-time contribution on ONFA are discussed in Ex. H1-T1-S1. The implications of this contribution on income taxes are discussed in Ex. F3-T2-S1.

The initial payments of $595M less the value of net assets transferred to Bruce Power under the lease agreement were recorded as deferred revenue in the amount of $213M. This deferred revenue is being amortized at an amount of $11.7M per year over the initial lease term of approximately 18 years and is recorded as revenue.

In October 2005, OPG was directed by its shareholder to make further amendments to the Bruce Lease in connection with the refurbishment and return-to-service of Bruce A Units 1, 2, and 3. Bruce A Units 1 and 2 are not currently in operational service, and have not been since Bruce Power assumed the control of the Bruce Generating Stations in May 2001. The October 2005 amendments to the Bruce Lease provide that upon
completion of the refurbishment and the declaration of operational service of Bruce A Unit 1 and/or Unit 2 in accordance with the terms of an agreement between Bruce Power and the Ontario Power Authority, the annual supplemental rent per unit per year will be approximately $5.6M (in 2002 dollars), to be escalated by the annual change in the consumer price index (Ontario). Bruce A Unit 3 is currently operational and will be shutdown some time in the future in order to be refurbished. Upon the future return-to-service of Unit 3, the supplemental rent will also be approximately $5.6M/year (in 2002 dollars), escalated by the annual change in the consumer price index (Ontario) following the first year that the refurbished Unit 3 is in operational service. The test year supplemental rent forecast assumes no revenue impact in 2008 or 2009 due to the refurbishment and return to service of the currently non-operational Units 1 and 2, and the shutdown for refurbishment of Unit 3.

The October 2005 amendments did not address the supplemental rent for Bruce A Unit 4, which is also currently operational. This was because Bruce A Unit 4 was not to be refurbished to the same extent as Bruce A Units 1, 2, and 3. In August 2007, Bruce Power and the OPA announced an amendment to their agreement to provide for a shutdown and full refurbishment of Bruce A Unit 4 to commence some time after the test period. However, there have been no further amendments to the Bruce Lease in respect of the Bruce A Unit 4 refurbishment.

2. Used Fuel Waste and Cobalt-60 Agreement: Under the Used Fuel Waste and Cobalt-60 Agreement, OPG provides used fuel management and storage services to Bruce Power for the used nuclear fuel generated in the Bruce A and Bruce B reactors. OPG holds the long-term responsibility for the used nuclear fuel, as well as the responsibility for the eventual decommissioning of the site and its facilities after the lease expires or is terminated. Also, OPG retains the obligation to provide the financial guarantees for the decommissioning of licensed facilities as required by the Canadian Nuclear Safety Commission (see Ex. H1-T1-S1). The base and supplemental rent payments under the Lease Agreement include compensation for the used fuel waste management/storage services and the decommissioning.
Under the Used Fuel Waste and Cobalt-60 Agreement, OPG has accepted liability for the interim storage and future disposal of Bruce Power’s spent cobalt-60, and in return OPG receives payments from Bruce Power as set out in section 3.0 below.

3. Low and Intermediate Level Waste Agreement: OPG has the obligation for managing (i.e., collecting, storing, and disposal) low-level and intermediate-level radioactive waste generated by Bruce Power and in return Bruce Power pays OPG a fee for the provision of low-level and intermediate-level radioactive waste services. The fee is volume based, escalated annually by the consumer price index (Ontario), and determined on the basis of OPG’s estimated future costs of managing the low-level and intermediate-level waste generated by Bruce Power.

In March 2007, a Supplemental Agreement To Low and Intermediate Level Waste Agreement (the “Supplemental Agreement”) was entered into between OPG and Bruce Power related to new waste generated during the refurbishment of Bruce A Units 1 and 2. The Supplemental Agreement requires OPG to manage low-level and intermediate-level radioactive waste (i.e., steam generators and pressure tubes) generated by Bruce Power as a result of the refurbishment. Bruce Power pays OPG a fee determined on the basis of OPG’s estimated future costs of managing the incremental volume of waste received under the Supplemental Agreement.

Revenues from the Low and Intermediate Level Waste Agreement and the Supplemental Agreement are set out in section 3.0 below.

4. Heavy Water and Associated Services Agreement: As discussed at Ex. G2-T1-S1, Bruce Power and OPG have entered into an agreement for the provision of heavy water detritiation services by OPG to remove radioactive tritium from the heavy water inventory in Bruce Power’s possession. Revenues (and related costs) associated with the provision of heavy water and associated services are discussed in detail as part of Nuclear Non-Energy Revenues found in Ex. G2-T1-S1.
5. Inspection and Maintenance Services ("IMS"): As discussed in Ex. G2-T1-S1, there is a Reactor Fuel Channel Inspection and Maintenance Services Agreement and the Steam Generator and Special Inspection and Maintenance Services Agreement for the provision of inspection and maintenance services to be provided by OPG, on a commercial basis, of the Bruce A and Bruce B station systems and equipment. These operating agreements are subject to termination by either party upon due notice. Revenues (and related costs) associated with the provision of IMS are discussed in detail as part of Nuclear Non-Energy Revenues found in Ex. G2-T1-S1.

6. Bruce Site Services Agreement: This agreement provides for various support and maintenance services that are provided by OPG to Bruce Power, and by Bruce Power to OPG, on a cost recovery basis. The majority of the services are provided by Bruce Power to OPG. The services contemplated by this agreement are necessary to accommodate the joint occupancy and use of the Bruce site by OPG and Bruce Power. Some examples of site services provided by OPG to Bruce Power include landfill services, inventory and material storage, and transportation of non-waste radioactive material. Some examples of site services provided by Bruce Power to OPG include scaffolding services, sewage and storm sewer services, snow removal services, site security and emergency response services, radiation detection services, bus and winter storm transportation services, and maintenance of OPG transport and work equipment.

Site service revenues are set out in section 3.0 and related costs are discussed in section 4.1.

7. Nuclear Operations Support and Services and Transitional Technical Support and Services Agreement: During the initial transitional phase when Bruce Power commenced operations under the Bruce Lease, OPG provided engineering and other technical support services. While this agreement is still active, services and related revenues are minimal (less than $100K) and none are forecast in 2009.
8. Telephone, Public Address, and Fibre Optic Services Agreement: Under this agreement, Bruce Power procures, as agent for OPG, phone services from third parties and provides public address and fibre optic cable services to OPG within and between the OPG facilities at the Bruce site. The costs incurred under this agreement are discussed in section 4.2.

9. Construction Retube Building and Buildings B17/B21 Agreement: This memorandum of agreement relates to the relocation by Bruce Power of OPG’s IMS group from within a centralized Bruce A facility to alternate Bruce Power facilities and to an OPG building. To compensate OPG for incremental costs associated with the relocation, Bruce Power provides to OPG annual financial reimbursement as discussed in section 4.2.

10. Demolition and Clean-up Obligations: As the landlord, OPG has a contractual responsibility for the decommissioning, demolition and environmental remediation, as may be required, of certain structures and sites as specified within the Lease Agreement and particularly associated with the out of service Bruce Heavy Water Plant. OPG bears all costs of discharging these obligations, as discussed in section 4.2.

3.0 REVENUES FROM BRUCE LEASE AND ASSOCIATED OPERATING AGREEMENTS

There are actual and forecast revenue implications with respect to the Bruce Lease, the Used Fuel Waste and Cobalt-60 Agreement, the Low-Level and Intermediate-Level Waste Agreement (including the Supplemental Agreement), the Heavy Water and Associated Services Agreement, the Inspection and Maintenance Services Agreements, the Bruce Site Services Agreement, and the Nuclear Operations Support and Services and Transitional Technical Support and Services Agreement. Actual revenues earned by OPG for 2005 - 2007, and forecast revenues for 2008 and 2009, associated with the Bruce Lease and the associated agreements are summarized in Ex. G2-T2-S1 Table 1.
Revenues remain relatively stable over the period 2005 - 2009. The one exception is the increase in 2007 actual and 2008 forecast revenues for low and intermediate-level radioactive waste services being primarily due to revenues received under the Supplemental Agreement from Bruce Power related to the refurbishment of Bruce A Units 1 and 2. No waste and therefore no revenues are forecast under the Supplemental Agreement in 2009. The revenues associated with the Supplemental Agreement were also not included in the 2007 and 2008 budgeted amounts as per OPG’s business plan for years 2007 - 2009 established in 2006.

4.0 COSTS FROM BRUCE LEASE & ASSOCIATED OPERATING AGREEMENTS

As noted, section 6 (9) of O. Reg. 53/05 provides that the OEB shall ensure that OPG recovers all the costs it incurs with respect to the Bruce Generating Stations. The costs to be recovered in the test period with respect to the Bruce Generating Stations for the purpose of this exhibit have been separated between those cost components (“Bruce Direct Costs”) referenced in this exhibit for recovery in the nuclear revenue requirement, and those other costs incurred by OPG with respect to the Bruce Generating Station that are described elsewhere in the evidence for recovery in the nuclear revenue requirement (“Other Costs”).

4.1 Bruce Direct Costs

The following summarizes the Bruce Direct Costs:

1. Depreciation: Depreciation is derived by reference to the fixed assets owned by OPG at the Bruce site. The Bruce fixed asset values of the leased facilities, as set out in Ex. G2-T2-S1 Table 2, include:
   • Assets leased to Bruce Power (e.g., the Bruce A and B Generating Stations) and the fixed asset value associated with the nuclear liabilities relating to these stations. For accounting and revenue requirement purposes the nuclear liabilities associated with the assets leased to Bruce Power have been treated in a fashion similar to the Nuclear Liabilities associated with other nuclear stations owned and operated by OPG (see Ex. H1-T1-S2 for a description of revenue requirement treatment of the nuclear liabilities).
   • Assets retained by OPG at the Bruce site include the lands and facilities associated
with both conventional industrial waste and radioactive waste storage, as well as the lands associated with the now demolished heavy water plant and that are being remediated or monitored in accordance with environmental regulations.

The depreciation forecast was determined based on the Bruce fixed asset values derived from the 2007 audited financial statements, adjusted for fixed asset additions to determine figures for 2008 and 2009. OPG applied the depreciation methodology described in Ex. F3-T2-S1 to derive the depreciation expense and related accumulated depreciation for each year.

Also, as noted at Ex. H1-T1-S2, variable expenses related to incremental volumes of nuclear low-level and intermediate-level waste are charged to depreciation expense. The forecast of depreciation expense set out in Ex. G2-T2-S1 Table 3 includes $11.3M in 2008 and $1.5M in 2009 for the variable costs of processing, storage and management of low-level and intermediate-level waste expected to be produced by Bruce Power.

Variable expenses related to incremental quantities of used nuclear fuel bundles generated by the Bruce Generating Stations are captured separately in Ex. G2-T2-S1 Table 3 as discussed below under used fuel waste storage and disposal costs.

2. Property Tax: Per the provisions of the Bruce Lease, OPG pays the property taxes for the Bruce site as a whole. OPG manages the annual tax assessment process and payments of municipal property taxes to the Municipality of Kincardine and payments in lieu of property tax to the Ontario Electricity Financial Corporation, as described in Ex. F3-T2-S1.

3. Ontario Capital Tax (“OCT”): OPG is subject to OCT at the applicable rate on its taxable capital subject to the general capital tax deduction. For revenue requirement purposes, average fixed asset values associated with the Bruce facilities, as set out in Ex. G2-T2-S1 Table 2, are used as the basis for calculating OCT related to the Bruce facilities, as
4. presented in Ex. G2-T2-S1 Table 4. A further description of OCT can be found at Ex. F3-T2-S1.

5. Interest: Interest is derived by reference to the net book value of fixed assets as set out in Table 2. The debt ratio and cost of debt used, as set out in Ex. G2-T2-S1 Table 5, is the same as for the prescribed assets.

6. Return on Equity (“ROE”): ROE is based on the book value of fixed assets (see Ex. G2-T2-S1 Table 2). The equity ratio and cost of equity used, as set out in Ex. G2-T2-S1 Table 5, are the same as for the prescribed assets.

7. Used Fuel Waste Storage and Disposal Costs: Set out in Ex. G2-T2-S1 Table 3, for recovery in the nuclear revenue requirement are the variable costs associated with storing and disposing incremental used nuclear fuel produced by Bruce Power. In that regard, Ex. H1-T1-S2 notes that variable costs associated with incremental quantities of used fuel generated by OPG’s other nuclear stations are recovered as a component of the fuel expense for the period. Similarly, variable costs associated with used nuclear fuel produced by the Bruce stations is being recovered in the period incurred.

4.2 Other Costs

Other costs related to the Bruce Generating Stations which are captured elsewhere in the evidence for purposes of determining the nuclear revenue requirement are:

1. Costs Related to Working Capital: Working capital related to the Bruce Lease and associated operating agreements are a component of OPG Nuclear’s overall working capital, as set out in the lead/lag study at Ex. B4-T1-S1.

2. Regulatory Income Taxes: Earnings from the Bruce Lease and related operating agreements are taxable. The revenues and costs from the Bruce Lease and associated agreements are included in the calculation of income taxes attributed to the prescribed assets and income taxes are included in the determination of Nuclear’s revenue requirement Ex. F3-T2-S1.
3. Corporate Support Costs: OPG corporate groups provide support services related to the management of the Bruce Lease and associated agreements. The costs of such support services are captured within the allocation of corporate support costs to Nuclear as discussed at Ex. F3-T1-S1. Examples of support services would include Real Estate Services, Contract Administration and Billing Services provided by OPG's corporate functions. Other contract management services (e.g., contract interpretation, negotiation, and amendments) of the Bruce Lease and associated agreements are included in nuclear base OM&A (i.e., within Nuclear Generation Development and Services - Commercial Services in Ex. F2-T2-S1).

4. Heavy Water Sales and Associated Services/IMS Services Agreement: Costs incurred by OPG with respect to the provision of services to Bruce Power under the Heavy Water and Associated Services Agreement and the IMS Agreements are discussed and set out in the section on non-energy revenues Ex. G2-T1-S1.

5. Bruce Site Services Agreement: As noted above, OPG both provides to and receives from Bruce Power services under the Bruce Site Services Agreement on a cost recovery basis. Costs incurred by OPG to provide site services to Bruce Power are captured in the budgets of those departments providing such services. Depending upon the nature of the costs incurred by OPG for the receipt of site services from Bruce Power, costs are (1) incurred by corporate functions (i.e., Real Estate) to be allocated to Nuclear using the corporate cost allocation methodology described in Ex. F3-T1-S1, (2) directly charged against the nuclear liabilities, or (3) directly incurred by a specific business division in Nuclear (e.g., some Bruce site service costs are recorded as IMS indirect costs as set out in Ex. F2-T2-S1 Nuclear base OM&A).

6. Telephone, Public Address, and Fibre Optic Services Agreement: Bruce Power invoices for the provision of telephone and data transmission services are paid directly by OPG's Chief Information Office and are a component of the corporate support costs allocated to nuclear as discussed at Ex. F3-T1-S1.
7. Construction Retube Building and Buildings B17/B21 Agreement: Bruce Power credits related to this agreement are captured within the Real Estate corporate function as an offset to annual on site operating and maintenance costs and are a component of the corporate support costs allocated to nuclear as discussed at Ex. F3-T1-S1.

8. Demolition and Clean-up Obligations: The costs incurred for demolition and environmental remediation of the unused buildings and sites are minimal and recovered through the Bruce depreciation expense described in Section 4.1 above.

4.3 Bruce Direct Costs and Variance Explanations 2005 - 2009

Ex. G2-T2-S1 Table 3 sets out actual Bruce Direct Costs incurred by OPG for 2005 - 2007 and forecast Bruce Direct Costs for 2008 and 2009.

The main drivers for the variances in Bruce Direct Costs over the period 2005 - 2009 are:

- Depreciation: The derivation of depreciation expense for the Bruce facilities is impacted by the fixed asset value, the expected service life of the asset and variable expenses related to low-level and intermediate-level waste. As shown in Ex. G2-T2-S1 Table 3, OPG experienced a significant increase in depreciation expense between 2006 and 2007 actuals primarily due to the higher variable expenses related to nuclear low-level and intermediate-level waste (discussed below). The higher variable expenses were partially offset by the impact of the extension in the expected service life, for accounting purposes, of the Bruce B Generating Station effective January 1, 2007 (discussed in Ex. F3-T2-S1).

The increase in the fixed asset values of the Bruce facilities on December 31, 2006 (shown in Ex. G2-T2-S1 Table 2), which resulted from the net increase in the nuclear liabilities on December 31, 2006 did not have a significant impact on depreciation expense for the Bruce facilities in 2007. The net increase in the nuclear liabilities associated with the Bruce facilities comprised an increase for the Bruce A Generating Station and a reduction for the Bruce B Generating Station. The impacts on depreciation expense of the Bruce A increase and the Bruce B reduction were largely offsetting.
For 2008 and 2009, depreciation expense is expected to decrease as a result of lower variable expenses related to nuclear low-level and intermediate-level waste (as discussed below) and the extension of estimated service lives, for accounting purposes, of both Bruce A and Bruce B Generating Stations effective January 1, 2008 (discussed in Ex. F3-T2-S1).

As discussed in section 3.0 and noted in Ex G2-T2-S1 Table 3, depreciation expense includes variable nuclear low-level and intermediate level waste management expenses. OPG incurred additional waste management expenses in 2007 and forecasts further expenses in 2008 due to the receipt of low-level and intermediate-level waste from Bruce Power related to the refurbishment of Bruce A Units 1 and 2 under the Supplemental Agreement to Low and Intermediate Level Waste Agreement discussed in section 2.0. No waste is currently expected to be received beyond 2008. The variable expenses associated with the Supplemental Agreement were also not included in the 2007 and 2008 budgeted amounts as per OPG’s business plan for years 2007 - 2009 established in 2006.

- Property Tax: Actual and forecast property tax expense remains relatively consistent over the period 2005 - 2009. The 2007 budgeted property tax expense was higher than the 2007 actual property tax expense primarily due to the 2007 budget incorporating increases in anticipation of an amendment to O. Reg. 224/00 under the *Electricity Act 1998* (discussed in Ex. F3-T2-S1), which did not occur.

- Ontario Capital Tax: The actual 2007 OCT is higher compared to the 2006 actual primarily as a result of the increase in the fixed asset value of the leased facilities as shown in Ex. G2-T2-S1 Table 2, partially offset by the reduction in the applicable OCT rate in 2007. The OCT is expected to remain relatively consistent in 2008 and 2009.

- Interest Expense: The increase in 2007 actual interest compared to 2006 actual interest is due to impact of the increase in the fixed asset value for the leased facilities as a result of the increase in the nuclear liabilities associated with Bruce Generating Stations.
The decline in 2008 budget interest compared to 2007 actual interest reflects: 1) a decline from 55 percent to 42.5 percent in the debt ratio for the prescribed assets as set out in Ex. C1-T2-S1, 2) a slight decline in the fixed asset value of the leased facilities due to depreciation, and 3) an offsetting increase in the forecast interest rate to 5.76 percent.

Return on Equity: The increase in 2007 actual ROE compared to 2006 actual ROE is due to impact of the increase in the fixed asset value for the leased facilities as a result of the increase in the nuclear liabilities associated with Bruce Generating Stations.

The increase in the 2008 budget ROE compared to 2007 actual ROE reflects: 1) the increase in OPG’s requested return on equity from five percent to the proposed 10.50 percent for the prescribed assets, 2) an increase in the equity ratio from 45 percent to 57.5 percent, consistent with the capital structure and ROE used for the prescribed assets, and 3) an offsetting slight decline in the fixed asset value of the leased facilities for depreciation.
Appendix A: Description of Bruce Site
APPENDIX A

Bruce Site

The Bruce site consist of two nuclear generating stations and associated lands and facilities leased by OPG to Bruce Power as of May 12, 2001, together with certain lands and facilities that have been retained by OPG for its nuclear waste management operations. The Bruce site is located approximately 200 kilometers northwest of Toronto in the Municipality of Kincardine on the shore of Lake Huron.

The two generating stations are the Bruce B Generating Station consisting of four operational units and the Bruce A Generating Station also consisting of four units, two of which (Units 3 and 4) are operational and two of which (Units 1 and 2) are currently undergoing a major refurbishment.

Bruce Power assumed operations of the Bruce A Generating Station and the Bruce B Generating Station, the associated lands and facilities required to support and service the two generating stations, and the perimeter security fence that encompasses the Bruce site as a whole. Within the site perimeter fence, the lands and facilities associated with conventional waste storage and radioactive waste handling and storage were retained by OPG. OPG also retained care and control of the lands and facilities associated with an out of service heavy water plant which has been partially demolished and is presently in a state of environmental remediation and/or monitoring in accordance with regulatory requirements. Hydro One has assigned easements to provide for access to and maintenance of its switchyards and transmission corridors located on both the Bruce Power leased premises and the OPG retained lands. The division of the site property, including all easement rights, is detailed with reference to registered land survey plans within the Bruce Lease.