GROSS REVENUE CHARGE AND OTHER WATER AGREEMENT COSTS – REGULATED HYDROELECTRIC

1.0 PURPOSE

This evidence describes the gross revenue charges ("GRC") that OPG is required to pay the Province of Ontario pursuant to legislative and regulatory requirements. It also includes water rental charges and other water agreement costs payable to other governments, agencies, or companies (Parks Canada, Government of Quebec, St. Lawrence Seaway Management Corporation, Hydro Quebec, H2O Power LP) and funding contributions to the Lake of the Woods Control Board and the Ottawa River Regulation Planning Board (Government of Canada).

2.0 OVERVIEW

The GRC refers to the taxes and charges that are required to be paid by owners of hydroelectric generating stations under Section 92.1 of the *Electricity Act, 1998*. Details pertaining to GRC are available in the legislation and *Ontario Regulation 124/02*, and are unchanged from EB-2010-0008. A condensed description of GRC applicable to the regulated hydroelectric stations is provided in Section 3 below.

Water rental charges and other costs associated with leases, licences, or agreements with other governments, agencies, or companies are described in Section 4. OPG's share of costs for funding of Control Boards is described in Section 5.

The forecast GRC, including other water agreement costs, for the regulated hydroelectric facilities is $328.9M and $347.1M in 2014 and 2015, respectively, and forms part of the test period revenue requirement. Of this total, $253.3M in 2014, and $269.5M in 2015 are related to the Niagara Plant Group and R.H. Saunders, and $75.6M in 2014, and $77.5M in 2015 are related to the newly regulated hydro facilities. Exhibit F1-4-1, Table 1, presents the total of GRC and other water agreement costs for the years 2010 to 2015. Year over year changes in GRC are mostly related to annual changes in production, though the increase during the test period is related to an increase in production attributable to the Niagara Tunnel Project.

3.0 GROSS REVENUE CHARGE ON HYDROELECTRIC GENERATING STATIONS

The GRC consists of a property tax component and a water rental component. All fifty-four of the regulated hydroelectric facilities are subject to the GRC – Property component. Only those facilities where water power leases are held with the Ontario Ministry of Natural Resources are subject to the GRC – Water Rental component. Nineteen of the regulated hydroelectric facilities are not subject to GRC water rentals.

The GRC is determined by multiplying the station's annual energy production by the rate of $40 per MWh (as prescribed by O. Reg. 124/02) and then applying the appropriate GRC property and water rental tax rates. For three of the regulated hydroelectric stations located on the Ottawa River (Otto Holden GS, Des Joachims GS, and Chenaux GS), GRC is calculated based on one-half of each station's annual energy generation, with the other half of production subject to Quebec water rentals as described in Section 4 below. Water transactions with another utility are also included in the determination of the station's annual energy production that is subject to the GRC. (See Ex. G1-1-1 for a discussion of Water Transactions). The GRC property tax rates are graduated through four tiers of production, increasing from 2.5 per cent to 4.5 per cent, 6.0 per cent, and 26.5 per cent, as shown in Chart 1. The GRC water rental rates are fixed at 9.5 per cent.

Chart 1
Gross Revenue Charge Components

Station Production (GWh/yr)	Water Rental Rate (%)	Property Graduated Rate (%)	Total GRC Rate (%)
0 – 50	9.5	2.5	12.0
50 – 400	9.5	4.5	14.0
400 – 700	9.5	6.0	15.5
> 700	9.5	26.5	36.0

The GRC property tax applicable to forty-seven of the fifty-four regulated hydroelectric stations is payable to the OEFC. (Stations subject to subsection 92.1 (2) of the *Electricity Act, 1998.*) The GRC property tax applicable for the other seven regulated hydroelectric stations is payable to the Ontario Minister of Finance. (Stations subject to subsection 92.1 (1) of the *Electricity Act, 1998.*)

The GRC water rentals applicable to the thirty-five regulated hydroelectric sites which are operated under water power leases held with the Ontario Ministry of Natural Resources are payable to the Ontario Minister of Finance, with the exception of a portion of the GRC water rental payable with respect to the Sir Adam Beck Complex which is paid to the Niagara Parks Commission as required by O. Reg. 135/02 under the *Electricity Act, 1998*. (Stations subject to subsection 92.1 (5) and (5.1) of the *Electricity Act, 1998*.)

Ontario Regulation 124/02 allows deductions to GRC for eligible capacity of new, redeveloped, or upgraded stations. OPG is preparing an application to the Ministry of Natural Resources for a GRC deduction pertaining to production increases at the Sir Adam Beck plants as a result of the new Niagara tunnel that commenced operation in March 2013. This deduction has not been included in the calculation of GRC costs presented for the bridge year and test period of this application as the applicability and amount of any such deduction is dependent on Ministry review and approval. The timing of such approval is also uncertain. Until approval is received, generation at the Sir Adam Beck plants remains subject to GRC at the full rate. It is unlikely that a decision from the Ministry of Natural Resources will be received before the end of the bridge year and test periods.

4.0 OTHER WATER AGREEMENT COSTS

In addition to the GRC payable to the OEFC and Ontario Minister of Finance, land rentals are paid to the Ontario Ministry of Natural Resources for Crown Leases or Licences of Occupation associated with the regulated hydroelectric facilities. These nominal rentals are included in the GRC totals presented for each Plant Group in Ex. F1-4-1, Table 1.

Other water rental charges and costs are incurred pursuant to agreements with other government agencies and companies, as described below.

St. Lawrence Seaway Management Corporation Lease Agreement

OPG holds a lease agreement with the St. Lawrence Seaway Management Corporation ("SLSMC") pertaining to the conveyance of water from Lake Erie through the SLSMC's Welland Ship Canal to intakes at Allanburg, where water is withdrawn and diverted to the DeCew Falls plants (Niagara Plant Group) for power generation. Water conveyance charges payable to SLSMC are determined based on the monthly average diversion flow. Annual costs are projected to be about $5M for the test period, assuming that the current rate structure remains in effect. The SLSMC water conveyance costs have been included with the Niagara Plant Group's GRC totals presented in Ex. F1-4-1, Table 1.

Parks Canada Water Rentals (Trent-Severn Waterway and Rideau Canal)

The operation of seven of the regulated hydroelectric facilities, located on the Trent River or Rideau Canal (Central Hydro Plant Group), are subject to licences with Parks Canada. Annual water rentals prescribed by these licences are determined similar to the GRC Water Rental rate calculation. Annual station energy production is multiplied by the GRC energy rate ($40/MWh) prescribed in Ontario Regulation 124/02 and then an annual tax rate as prescribed by the Parks Canada licence is applied (9.1 per cent for 2013 and 2014; 9.25 per cent for 2015). The water rental cost for the seven sites is projected to total about $0.5M annually during the test period. The Parks Canada water rental costs have been included with the Central Hydro Plant Group's GRC totals presented in Ex. F1-4-1, Table 1.

Government of Quebec Water Rentals

The Governments of Ontario and Quebec ratified an Agreement dated January 2, 1943, pertaining to the development of water power on the Ottawa River. (Reference: *The Ottawa River Water Powers Act, 1943*.) Under terms of this agreement, water rentals are paid to the Government of Quebec based on one-half of station production from the upper three Ottawa River plants, Otto Holden GS, Des Joachims GS, and Chenaux GS (Ottawa-St. Lawrence Plant Group). Rental rates prescribed by the 1943 Agreement were revised by subsequent agreement between the parties for the twenty-five year period from 1993 - 2017. The rental rate applicable for the years from 2010 - 2014 is $25 per average yearly horsepower of energy. The rental rate increases to $30 per average yearly horsepower of energy for 2015. Annual water rental costs for the three Ottawa River plants are projected to be $7.8M in 2014 and $9.4M in 2015. The Quebec water rental costs have been included with the Ottawa-St. Lawrence Plant Group's GRC totals presented in Ex. F1-4-1, Table 1.

OPG does not pay water rentals to the Government of Quebec for the fourth Ottawa River plant, Chats Falls GS. Ownership of Chats Falls GS is shared with Hydro Quebec. Water rentals payable to the Government of Quebec are paid by Hydro Quebec, based on one-half of station production. OPG pays GRC (property and water rental components) to Ontario based on one-half of Chats Falls annual production.

Hydro Quebec – Dozois Agreement and Cabonga Diversion Agreement

The Ottawa River Water Powers Act, 1943, prescribed that expenses for works that increase or regulate the flow of the Ottawa River are to be shared by the benefitting parties. Under an agreement with Hydro Quebec ("Dozois Agreement"), OPG shares in operation, maintenance and project refurbishment costs associated with Hydro Quebec's Bourque Dam and the Dozois Reservoir. These facilities enable diversion of water from Quebec to the Ottawa River basin (referred to as the "Cabonga diversion") where benefits from this additional water are realized at OPG's four generating stations on the Ottawa River. Annual costs pertaining to the Dozois Agreement are projected to be about $1.3M for the test period. These costs have been included with the Ottawa-St. Lawrence Plant Group's GRC totals presented in Ex. F1-4-1, Table 1.

One-half of the energy produced, that is attributable to the Cabonga diversion water, is returned to Hydro Quebec as per terms of the Cabonga Diversion Agreement. "Cabonga payback" averages about 40 GWh annually and is typically settled by scheduled transfers of energy via the R. H. Saunders interconnection.

Hydro Quebec – Bryson Agreement

Hydro Quebec's Bryson Generating Station is located immediately upstream of OPG's Chenaux GS on the Ottawa River. Raising the Chenaux GS forebay elevation to the maximum level authorized by the *Ottawa River Water Powers Act, 1943*, increases the Bryson GS tailwater elevation, resulting in production losses due to reductions in head. The Bryson Agreement prescribes the methodology for determining the production losses incurred at Bryson GS and the means of settlement. OPG compensates Hydro Quebec financially, with annual payments averaging $20k from 2010 - 2012. These costs have been included with the Ottawa-St. Lawrence Plant Group's GRC totals presented in Ex. F1-4-1, Table 1.

H2O Power LP Agreement (Whitedog Falls)

OPG's Whitedog Falls GS (Northwest Plant Group) is located on the Winnipeg River downstream of two power plants (Kenora and Norman Dam) owned and operated by H2O Power LP. Commencement of operation of Whitedog Falls in 1958 raised tailwater elevations at the two upstream generating stations, resulting in energy production losses. Consequently, the two parties at the time, the Hydro-Electric Power Commission of Ontario and the Ontario-Minnesota Pulp and Paper Company Ltd, executed an agreement dated February 27, 1961, whereby the latter was compensated for its losses caused by the former. The agreement was binding on the parties, as well as their successors or assigns, and terminates only when the Kenora and Norman Dam power houses cease to operate permanently. A letter agreement dated November 11, 2002, between OPG and Abitibi-Consolidated Company of Canada (successor companies at that time) defined the methodology for calculation of the financial credit following opening of the Ontario electricity market in May 2002. Monthly Ontario Market energy and demand related charges are applied to the energy and power losses incurred by the Kenora and Norman Dam power plants to determine the monthly financial credit. Costs pertaining to this agreement are projected to be about $0.4M annually during the test period. These costs have been included with the Northwest Plant Group's GRC totals presented in Ex. F1-4-1, Table 1.

5.0 CONTROL BOARD COSTS

OPG shares in costs associated with funding of the Ottawa River Regulation Planning Board and the Lake of the Woods Control Board and their respective Secretariats, as required by legislative agreements. (See Ex. A1-6-1, Section 7.1, and Ex. A1-4-2, Section 5.1.3) OPG's share in costs for the two Boards amounts to about $0.14M annually. These costs have been included in the Ottawa-St. Lawrence Plant Group and Northwest Plant Group totals presented in Ex. F1-4-1, Table 1.