

RATE BASE

1.0 PURPOSE

This evidence presents a summary of the rate base for the regulated hydroelectric and nuclear facilities. In addition, this schedule provides a description of each of the components of the rate base and the methodology by which these components are determined.

2.0 OVERVIEW

OPG's rate base forecast is established from a forecast of net fixed assets and working capital. The rate base forecast for the regulated hydroelectric facilities is \$3,885.5M in 2008 and \$3,869.9M in 2009 (see Ex. B1-T1-S1 Table 1). The rate base forecast for OPG's nuclear facilities is \$3,509.4M in 2008 and \$3,460.5M in 2009 (see Ex. B1-T1-S1 Table 2).

OPG's forecast of net fixed asset in-service values is established from the property, plant, and equipment values in OPG's 2007 audited consolidated financial statements. These values were rolled forward based on forecast fixed asset additions, retirements, and depreciation on these assets to determine forecasts for 2008, and 2009. The determination of net fixed assets was performed separately for the regulated hydroelectric facilities and the nuclear facilities. The reconciliation of the net fixed asset in-service values presented in this exhibit to information provided in the 2007 audited consolidated financial statements is shown in Chart 1.

Exhibits D1-T1-S1, D2-T1-S1, and D3-T1-S1 present the capital expenditure forecasts for the regulated hydroelectric facilities, nuclear facilities, and corporate groups (for projects relating to the prescribed facilities) respectively. These forecasts are used to estimate the net fixed asset additions.

The depreciation forecasts for 2008 and 2009 were determined from the forecast net fixed asset values for the regulated hydroelectric facilities and the nuclear facilities and expected remaining life. The depreciation values for the regulated hydroelectric facilities and the

nuclear facilities are presented in Ex. F3-T2-S1 Table 1 and Ex. F3-T2-S1 Table 4 respectively.

The net fixed asset portion of rate base is determined using a mid-year average methodology. In-service additions are considered to occur at mid-year, essentially assuming these expenditures are incurred evenly throughout the year. This is consistent with the "Filing Guidelines for Ontario Power Generation, Setting Payment Amounts for Prescribed Generation Assets" issued by the OEB on July 27, 2007. For large projects coming into service during the test period where the capital expenditure is forecast to exceed \$50M, the expected in-service month is used instead of a mid-year average to improve accuracy. There are, however, no capital projects with forecast expenditures greater than \$50M coming into service during the test period.

OPG's working capital consists of cash working capital, fuel inventory, and materials and supplies. Details on the calculation of these items are provided in section 3.2 of this schedule.

3.0 COMPONENTS OF RATE BASE

OPG's rate base consists of fixed assets and working capital associated with its prescribed generating facilities. These are described in the sections below.

Details regarding fixed asset net book values are provided in the tables in Ex. B2-T1-S1 and Ex. B2-T4-S1 (Regulated Hydroelectric) and Ex. B3-T1-S1 and Ex. B3-T4-S1 (Nuclear). Continuity of property, plant and equipment is presented in the tables in Ex. B2-T3-S1 (Regulated Hydroelectric) and Ex. B3-T3-S1 (Nuclear).

3.1 Fixed Assets

The value of fixed assets in the rate base (net plant) is the average of the opening and closing balances of the net book value of fixed assets in-service during the period. The net plant for the regulated hydroelectric facilities is \$3,863.1M in 2008 and \$3,847.5M in 2009. For OPG's regulated nuclear facilities net plant is \$2,794.0M in 2008 and \$2,696.0M in 2009.

1 Fixed assets under construction are excluded from the rate base until declared in-service.
2 The value of fixed assets in-service is reduced by accumulated depreciation, retirements and
3 asset impairments to arrive at the net book value of fixed assets in-service.
4

5 The nuclear information in the Exhibit B tables is presented for Darlington, Pickering, Nuclear
6 Support Divisions, and Inspection and Maintenance Services. The nuclear organizational
7 units are described in Exhibit F2. The regulated hydroelectric information is presented for
8 Niagara Plant Group and R.H. Saunders. The regulated hydroelectric organizational units are
9 described in Exhibit F1. Fixed assets used by both the regulated and unregulated generation
10 business units are held centrally. These assets are not included in rate base. Instead, the
11 regulated business units are charged a service fee for the use of these assets, as discussed
12 in Ex. F3-T3-S1.
13

14 3.1.1 Capitalization of Expenditures

15 Expenditures that are capital in nature are recorded by OPG as fixed assets. OPG's
16 capitalization policy is discussed in detail in Ex. A2-T2-S1.
17

18 3.1.2 Other Costs

19 In accordance with Generally Accepted Accounting Principles, the nuclear fixed assets
20 balance includes an amount related to the nuclear liabilities, which is the present value of the
21 committed costs for decommissioning of nuclear stations and nuclear waste management
22 programs as discussed in Ex. H1-T1-S2. The gross plant rate base amount for 2006 is based
23 on a 2006 closing balance that excludes the increase in the nuclear liabilities that occurred
24 on December 31, 2006, as shown in Ex. B3-T3-S1 Table 1. The increase in the nuclear
25 liabilities is described in Ex. H1-T1-S1, and the relationship between nuclear liabilities and
26 fixed asset values is discussed in Ex. H1-T1-S2.
27

28 3.1.3 Accumulated Depreciation

29 Depreciation of an asset commences once it is declared in-service. The accumulated
30 depreciation rate base amount is calculated as the average of the opening and closing
31 balances for the year. Details on continuity of accumulated depreciation are provided in the

tables in Ex. B2-T5-S1 (Regulated Hydroelectric) and Ex. B3-T5-S1 (Nuclear). OPG's depreciation methodology is discussed in Ex. F3-T2-S1.

3.1.4 Net Book Value

The net book value of fixed assets in the rate base is gross plant at cost less accumulated depreciation, as shown in the tables in Ex. B2-T1-S1 (Regulated Hydroelectric) and Ex. B3-T1-S1 (Nuclear). For 2005, 2006 and 2007, gross plant at cost is the average of the opening and closing balances of the gross plant for the period, as shown in Ex. B2-T3-S1 Table 1 (Regulated Hydroelectric) and Ex. B3-T3-S1 Table 1 (Nuclear). For 2008 and 2009, gross plant at cost is gross plant opening balance plus mid-year in-service additions less mid-year retirements and transfers, as shown in Ex. B2-T4-S1 Table 1 (Regulated Hydroelectric) and Ex. B3-T4-S1 Table 1 (Nuclear). As described in section 2.0 of this schedule, for large projects in excess of \$50M coming into service during the test period, the expected in-service month is used rather than a mid-year average.

3.1.5 Retirements

Ordinarily, when an asset within a class is retired, the remaining net book value of the asset, if any, continues to be depreciated over the assigned life of the asset class. An exception to this treatment is applied if an asset is retired significantly in advance of the end of the life of its asset class, in which case the remaining net book value is charged to depreciation. This approach is part of OPG's group depreciation method, which is used widely by regulated utilities, as discussed in Ex. F3-T2-S1.

3.2 **Working Capital**

OPG's working capital consists of cash working capital and fuel inventory as well as materials and supplies. Working capital for the regulated hydroelectric facilities is forecast to be \$22.4M in 2008 and in 2009. For OPG's regulated nuclear facilities working capital is forecast to be \$715.5M in 2008 and \$764.5M in 2009. Details regarding working capital as discussed below are provided in Ex. B2-T6-S1 Table 1 (Regulated Hydroelectric) and Ex. B3-T6-S1 Table 1 (Nuclear).

1 3.2.1 Cash Working Capital

2 The cash working capital reflects the average amount of capital provided by investors above
3 and beyond investments in plant and other separately identified rate base items, including
4 other components of working capital (e.g., materials and inventory), that bridges the gap
5 between the time expenditures are made to provide service and the time payment is received
6 for that service.

7
8 For regulatory purposes, cash working capital is calculated using net lag days, which is the
9 difference between when revenue is received by OPG and when expenses are paid. The
10 revenue lag is compared to expense lead and the net lag is applied to each of OPG's
11 expenses to determine the cash working capital amount.

12
13 OPG conducted a lead/lag study using 2006 data to determine cash working capital
14 requirements for the regulated hydroelectric and nuclear businesses (see Lead/Lag Study in
15 Ex. B4-T1-S1). The results from this study were used to calculate cash working capital for
16 the period 2005 - 2007. These are presented in Ex. B4-T1-S1. For simplicity, the 2007 cash
17 working capital is used for the test period (2008 and 2009) as well, given the similar level and
18 types of expenses in these years.

19
20 OPG reviewed the lead/lag methods used by a number of utilities (including Hydro One's
21 2005 Navigant Study and the 1993 Union Gas study) and concluded that the assessment
22 techniques to determine revenue lags and expense leads utilized by OPG are comparable to
23 the other companies.

24
25 3.2.2 Fuel Inventory

26 The hydroelectric generating stations do not require any fuel inventory.

27
28 Nuclear generating stations maintain a nuclear fuel inventory as well as an inventory of fuel
29 oil for standby generators.

30
31 The nuclear fuel inventory includes the following:

- Uranium concentrate
- Uranium dioxide
- Manufactured fuel bundles

As described in Ex. F2-T5-S1, the nuclear fuel supply chain consists of the purchase of uranium concentrate, the purchase of services to convert the uranium concentrate into uranium dioxide and the purchase of services to manufacture fuel bundles that contain the uranium dioxide. OPG maintains inventories at each stage of the nuclear fuel supply chain and maintains ownership of the work-in-process throughout the supply chain. A discussion on the levels and rationale for the various components of the nuclear fuel inventory supply chain can be found at Ex. F2-T5-S1.

Fuel inventory is valued using the weighted average costing method. The rate base inventory value is the average of the opening and closing inventory balances during the period.

3.2.3 Materials and Supplies

Materials and supplies consist of consumable supplies and spare parts. The rate base material and supplies value, which is net of a provision for accumulated obsolescence, is the average of the opening and closing balances during the period. OPG's inventory management system records materials and supplies inventory based on orders, receipts, issuances and returns using an average costing basis. The total cost of materials and supplies is calculated based on the average cost of each item.

OPG's audited financial statements include both a current materials and supplies inventory and a long-term materials and supplies inventory. In accordance with Generally Accepted Accounting Principles, materials and supplies are valued at the lower of average cost and net realizable value. The determination of net realizable value of the materials and supplies takes into account various factors including technological obsolescence, the remaining life of the related facilities in which the materials and supplies are expected to be used, and adjustments required as a result of performing physical inventory counts. Charges incurred as a result of valuing nuclear materials and supplies at the lower of cost and net realizable

1 value are reflected in the inventory adjustments recorded in Nuclear OM&A, as discussed in
2 Ex. F2-T2-S1, and reduce the inventory balance in rate base.

3
4 Materials and supplies could be consumed in the production process or utilized as part of
5 OM&A or capital projects. Materials and supplies consumed in the production process or
6 utilized in OM&A projects are included in OM&A expense as incurred. Materials and supplies
7 utilized in capital projects that meet the capitalization criteria outlined in Ex. A2-T2-S1 are
8 included either in construction-in-progress or in-service fixed assets depending on whether
9 the related asset has been declared in-service.

11 **4.0 RATE BASE TREND**

12 Nuclear rate base increased at the end of 2006 due to an increase in the nuclear liabilities
13 associated with an approved reference plan under the Ontario Nuclear Funds Agreement, as
14 discussed in Ex. H1-T1-S1. Small changes in the nuclear rate base later in the 2005 - 2009
15 period and in the regulated hydroelectric rate base throughout the 2005 - 2009 period are the
16 result of a combination of continued depreciation of in-service fixed assets and additions of
17 new in-service assets. The increase in nuclear fuel inventory during 2007 and continuing
18 through 2008 and 2009 is mainly due to increased market prices for uranium. Additional
19 detail regarding in-service additions and retirements is provided in Exhibit D (Capital
20 Projects).

Chart 1

**Reconciliation of Net Plant In Service to Audited Financial Statements
As of December 31, 2007**

Line No.	Reconciliation Item	Regulated Hydroelectric	Nuclear
		(a)	(b)
1	Segmented Assets Net Plant in Service from Note 18 in 2007 OPG Audited Financial Statements	3,871	4030
Calculation of Net Plant in Service from Schedules Provided in the Application			
2	2007 Closing Balance of Property, Plant and Equipment - from Ex. B2-T3-S1 Table 1 (Regulated Hydroelectric) and Ex. B3-T3-S1 Table 1 (Nuclear)	4,410	4,419
3	Less: 2007 Closing Balance of Accumulated Depreciation - from Ex. B2-T5-S1 Table 1 (Regulated Hydroelectric) and Ex. B3-T5-S1 Table 1 (Nuclear)	539	1,593
4	Plus: Bruce Net Fixed Assets Closing Book Value - from Ex. G2-T2-S1 Table 2	N/A	1,195
5	Plus: Other Adjustments	0	9
6	Net Plant In-Service	3,871	4,030
Note: Minor differences are due to rounding			