

UNDERTAKING J10.11

Undertaking

To provide depreciation impacts for Pickering A at 2021, Pickering B at 2014, and Darlington at 2019, and investigate whether there is an alternative formulation that could be done in a briefer period of time.

Response

This undertaking presents the revenue requirement impact of four alternative end-of-life date scenarios for OPG's prescribed nuclear facilities. The base case for the analysis is the revenue requirement as filed in OPG's Application. The end-of-life dates in the base case and for each of the four scenarios are:

Base case:	Pickering A – 2021; Pickering B – 2014; Darlington – 2051
Scenario 1:	Pickering A – 2020; Pickering B – 2020; Darlington – 2051
Scenario 2:	Pickering A – 2014; Pickering B – 2014; Darlington – 2019
Scenario 3:	Pickering A – 2021; Pickering B – 2014; Darlington – 2019
Scenario 4:	Pickering A – 2014; Pickering B – 2014; Darlington – 2051

For each of Scenarios 1 through 4, the following tables are provided in Attachments 1 through 4, respectively¹:

- Table 1: Summary of Revenue Requirement Impact
- Table 2: Rate Base and Return on Rate Base Impact
- Table 3: Prescribed Facilities – Asset Retirement Obligation, Nuclear Segregated Funds, and Asset Retirement Costs
- Table 4: Bruce Facilities – Asset Retirement Obligation, Nuclear Segregated Funds, and Asset Retirement Costs
- Table 5: Assignment of ARO Adjustment and Allocation of ARC to Nuclear Stations
- Table 6: Revenue Requirement Impact of Adjustment to Nuclear Liabilities

Tables 1, 2 and 6 provide the impact of the scenarios on revenue requirement and rate base relative to the base case. These tables are in a format consistent with the evidence provided in Ex. D2-T2-S1 Table 2, Ex. D2-T2-S1 Table 1 and Ex C2-T1-S2 Table 4, respectively. Table 1 is the summary table for the total revenue requirement impact, whereas Tables 2 and 6 provide impacts related solely to changes in rate base and changes in nuclear liabilities, respectively.

Tables 3, 4 and 5 present the changes to the asset retirement obligation ("ARO") and asset retirement costs ("ARC") that would arise if the end-of-life dates were changed on January 1, 2010 to those assumed in the scenario. The changes are relative to the

¹ Scenario 3 does not result in a change to the asset retirement obligation or asset retirement costs relative to the balances reported by OPG on December 31, 2009 (i.e., all amounts in Table 5 are nil).

balances reported by OPG as of December 31, 2009 which were based on the current approved ONFA Reference Plan and the station end-of-life dates reflected in Scenario 3. These tables are in a format consistent with the evidence provided in Ex. C2-T1-S2 Tables 1, 2 and 3, respectively. Tables 3, 4 and 5 for each scenario provide inputs to Tables 1, 2 and 6 (subject to footnote 1 above).

The assumptions underpinning the analysis are provided in Appendix 1.

As indicated previously, Scenario 4 will not be completed until November 25, 2010. The results of Scenario 4 will be filed as an addendum to Undertaking J10.11.

The test period revenue requirement impact of each scenario, relative to the revenue requirement filed in OPG's Application, is as follows:

(\$M)	Revenue Requirement Impact – Prescribed Facilities	Revenue Requirement Impact – Bruce Facilities	Total Revenue Requirement Impact¹
Scenario 1	(6.0)	(4.6)	(10.5)
Scenario 2	405.1	153.0	558.1
Scenario 3	191.0	54.4	245.4

¹Amounts may not add due to rounding

The end-of-life dates in OPG's Application, the base case, result in the lowest revenue requirement with the exception of Scenario 1, which is essentially the same as the base case (within 0.2% of the total nuclear revenue requirement of \$5,473.9M included in OPG's Application).

OPG notes that although Table 1 disaggregates the various elements of revenue requirement impact for each of the prescribed and Bruce facilities, the various impacts are interconnected and should not be considered in isolation.

In OPG's view the end-of-life dates used in the Application are the appropriate ones for setting the nuclear payment amounts for the following reasons:

- The end-of-life dates in the Application have been determined in accordance with Generally Accepted Accounting Principles ("GAAP") and are consistent with OPG's audited financial statements. OPG's application of accounting principles related to end-of-life determination for nuclear stations is described in Undertaking J10.9 and has been found to be appropriate by OPG's auditors, including specifically the extension of the Darlington end-of-life date from 2019 to 2051, effective January 1, 2010.
- The end-of-life dates in the Application are consistent with the forecast of other significant elements of OPG's business plan for the test period underlying the

1 revenue requirement in the Application, such as program costs, generation forecasts
2 and nuclear segregated fund contributions.
3

- 4 • The end-of-life of 2051 for Darlington reflects OPG's high confidence that the
5 Darlington Refurbishment Project will be completed as approved by OPG's Board
6 of Directors in November 2009 and endorsed by the Province.
7
- 8 • The end-of-life dates for Pickering A and Pickering B are appropriate given the
9 current state of information with respect to Continued Operations. While OPG
10 anticipates having high confidence to determine an end of life decision for the
11 Pickering site in 2012, there are many possible outcomes from the technical
12 analysis and investigation (e.g., through the Fuel Channel Life Cycle
13 Management project) that may result in dates other than those proposed in the
14 four scenarios. Assuming new end-of-life dates for ratemaking purposes before
15 OPG has the increased confidence it anticipates having in 2012 with respect to
16 Pickering stations introduces the potential for unnecessary volatility in
17 depreciation expense and other elements of the revenue requirement.
18
- 19 • The end-of-life dates in OPG's Application result in Bruce Lease revenues and
20 costs that are consistent with OPG's actual GAAP accounting information
21 reflected in its financial statements. The Bruce Lease revenues and costs that
22 result in all other scenarios are inconsistent with OPG's GAAP accounting
23 information. This introduces significant uncertainty and complexity to the manner
24 in which the entries into the Bruce Lease Net Revenues Variance Account should
25 be calculated both for 2010 and the test period.
26
- 27 • The treatment of expenditures as capital versus OM&A in the Application is
28 consistent with OPG's proposed end-of-life dates. For example, OPG's high
29 confidence with respect to Darlington Refurbishment is reflected in both the
30 extended service life and the capital treatment of expenditures effective January
31 1, 2010. Should it be assumed that the Darlington end-life-date remains at 2019,
32 the expenditures on the project would need to be treated as OM&A in
33 determining payment amounts, as their capitalization would no longer be
34 supported by the high confidence of the project extending the station's life.
35 Conversely, the expenditures on the Pickering B Continued Operations initiative
36 during the test period currently do not meet the capitalization criteria (outlined in
37 Ex. A2-T2-S1, Section 5.1) given the current state of confidence with respect to
38 the initiative and the fact that the expenditures relate to maintenance and
39 inspection-type activities (Tr. Vol. 10, page 194, lines 5-12). Most of the
40 expenditures on the initiative will continue not to meet capitalization criteria even
41 if the end-of-life date is assumed to be 2020, because of the nature of the work
42 giving rise to the expenditures (Tr. Vol. 5, page 98).
43
- 44 • Any of the alternative scenarios quantified in this undertaking would introduce a
45 significant difference between the regulatory accounting and financial accounting
46 for OPG's prescribed assets. For example, different values for assets and asset
47 retirement obligation, and different depreciation and waste management
48 expenses would need to be tracked for regulatory purposes. This would require

1 OPG to manage a significant second set of financial information, which will lead
2 to increased administrative costs. There would be added uncertainties and
3 complexities when a future change to the asset retirement obligation is required,
4 as that change would be potentially measured against two reference points – the
5 actual accounting value used in OPG's financial statements and the regulatory
6 value.
7

APPENDIX 1 – Assumptions for Undertaking J10.11

Approach to Calculation

- The impact of each scenario has been calculated as though the change in the end-of-life assumptions and, consequently the ARO, occurs on January 1, 2010. The change in the ARO and ARC is computed relative to the set of assumptions in effect as of December 31, 2009 prior to the extension of the Darlington service life (i.e., as reflected in Scenario 3).

Station End-of-Life Dates

- For cost estimation purposes underlying the ARO calculations, end-of-life dates are established at the individual unit level. This is consistent with current cost estimating practice employed by OPG.
- For depreciation purposes, an average of the units' end-of-life dates is determined to be the overall station end-of-life date. This is consistent with OPG's depreciation policy.

Nuclear Waste Management System Plan

- The system plan was developed using the waste volume forecast underlying the Application, adjusted for the end-of-life dates for the four scenarios. As all stations are assumed to remain operational during the test period (2011 - 2012) under both the base case and the four scenarios, the waste volume forecast for the test period is unchanged from the base case for all scenarios.
- The shipping logistics for used fuel and low and intermediate level ("L&ILW") waste, the approach to life management of wet bays, and the capacity of used fuel dry storage facilities and low level storage buildings for all scenarios are assumed to be the same as those in the base case.

Cost Estimates for the Five Decommissioning and Waste Management Programs

- The base line cost estimates in the approved 2006 ONFA Reference Plan are the basis for the cost estimates for the five decommissioning and waste management programs for each scenario.

Asset Retirement Obligation

- The escalation rate is per the approved 2006 ONFA Reference Plan.
- The discount rate is that derived on January 1, 2010 for the purposes of determining the ARO adjustment associated with Darlington Refurbishment as filed in the Application.
- For Scenarios 1, 2 and 4, variable rates for used fuel storage and disposal, and L&ILW management are the same as those in OPG's Application. For Scenario 3, variable rates for above programs differ due to the change in the discount rate used to determine the ARO effective January 1, 2010.

Nuclear Segregated Funds

- There are no changes to forecast nuclear segregated fund balances from the base case in the Application, including no changes to: the assumed rate of return of 5.15% per annum, the amount and station-level distribution of disbursements

1 from the funds; the amount and station-level distribution of contributions to the
2 funds.

- 3 • None of the scenarios are considered to be a “triggering event” under the ONFA.
4

5 **Asset Class Lives**

- 6 • Individual asset class lives for depreciation purposes are unchanged from those
7 underpinning OPG’s Application. Only overall station end-of-life dates are
8 assumed to change for depreciation purposes.
9

10 **Other Elements of Revenue Requirement/ Production Forecast/ Variance**
11 **Accounts**

- 12 • With the exception of the programs related to the nuclear waste management
13 and decommissioning obligations and depreciation end-of-life assumptions for
14 the prescribed nuclear assets, all programs, expenditures, nuclear production
15 levels, variance and deferral account balances, and accounting and regulatory
16 treatments are as proposed in OPG’s Application. This specifically includes the
17 costs and production impacts of the Pickering B Continued Operations initiative,
18 the costs for the Darlington Refurbishment Project, the proposal to include CWIP
19 in rate base for the Darlington Refurbishment Project, and the forecast balance in
20 the Bruce Lease Net Revenues Variance Account.
21

Table 1
Summary of Revenue Requirement Impact (\$M)

Line No.	Description	Note or Reference	Test Period Revenue Requirement Impact
			(a)
	PRESCRIBED FACILITIES		
	<u>Return on Rate Base:</u>		
1	Accretion Rate on Lesser of ARC and UNL	J10.11 Att 1 Table 2, col. (f)	3.5
2	Changes to Nuclear Station Service Life Impacts	J10.11 Att 1 Table 2, col. (f)	5.8
3	Total Return on Rate Base Impact		9.3
	<u>Depreciation Expense:</u>		
4	Asset Retirement Costs	Note 1, J10.11 Att 1 Table 6, col. (e)	25.5
5	Changes to Nuclear Station Service Life Impacts	Note 1, J10.11 Att 1 Table 2, col. (b)	(38.5)
6	Total Depreciation Expense Impact		(13.0)
	<u>Other Expenses:</u>		
7	Used Fuel Storage and Disposal Variable Expenses	Note 1, J10.11 Att 1 Table 6, col. (e)	0.0
	<u>Income Taxes:</u>		
8	Accretion Rate on Lesser of ARC and UNL	J10.11 Att 1 Table 2, col. (g)	1.2
9	Changes to Nuclear Station Service Life Impacts	J10.11 Att 1 Table 2, col. (g)	0.9
10	Depreciation Expense on Asset Retirement Costs	Note 1	8.8
11	Used Fuel Storage and Disposal Variable Expenses	Note 1	0.0
12	Depreciation Expense - Changes to Nuclear Station Service Lives	Note 1	(13.3)
13	Total Income Tax Impact		(2.3)
14	Total Revenue Requirement Impact - Prescribed Facilities (line 3 + line 6 + line 7 + line 13)		(6.0)
	BRUCE FACILITIES		
15	Rate Base		0.0
16	Depreciation Expense Impact: Asset Retirement Costs	J10.11 Att 1 Table 6, col. (e)	(1.7)
	<u>Other Expenses:</u>		
17	Accretion	J10.11 Att 1 Table 6, col. (e)	(2.8)
18	Used Fuel Storage and Disposal Variable Expenses	J10.11 Att 1 Table 6, col. (e)	0.0
19	Total Other Expenses Impact		(2.8)
	<u>Income Taxes:</u>		
20	Impact on Bruce Facilities' Income Tax Calculation	Note 2, Note 3, Note 4	1.2
21	Impact on Prescribed Facilities' Income Tax Calculation	Note 5	(1.2)
22	Total Income Tax Impact		(0.0)
23	Total Revenue Requirement Impact - Bruce Facilities (line 15 + line 16 + line 19 + line 22)		(4.6)
24	Total Revenue Requirement Impact (line 14 + line 23)		(10.5)

Notes:

- Amounts impact regulatory income taxes as they represent non-deductible expenses for regulatory tax purposes. Regulatory income taxes are determined using the pre-tax non-deductible expense x tax rate / (1 - tax rate). The tax rate is 25.75%, which is the average of the 2011 and 2012 tax rates as per Ex. F4-T2-S1 Table 5, line 31.
- Current Income Tax:
Depreciation, Accretion and Used Fuel Storage and Disposal Variable Expenses are not deductible for tax purposes. In determining taxable income for Bruce, the increase in Bruce earnings before tax is reduced by the non-deductible expenses; therefore there is no current tax impact.
- Future Income Taxes:
The non-deductible expenses represent temporary timing differences. The increase in net revenues resulting from these temporary timing differences will be taxed in the future. In accordance with GAAP, that increase in future tax is recognized in the test period.
- Tax Rate For Future Income Taxes:
The tax rate applicable to Depreciation Expense is 25.75%, which is the average of the current tax rate for 2011 and 2012 as per Ex. G2-T2-S1 Table 7, Line 34. The tax rate of 25.00% applicable to Other Expenses is the average of the long-term tax rates for 2011 and 2012 as per Ex. G2-T2-S1, Table 7, Line 38.
- Impact on Prescribed Facilities' Income Tax Calculation:
Changes in Bruce Lease Net Revenues impact regulatory earnings before tax and, therefore, regulatory taxable income of the prescribed facilities, as presented in Ex. F4-T2-S1 Table 5. The impact on prescribed facilities' income taxes is determined as: (line 15 + line 16 + line 19 + line 20) x tax rate / (1 - tax rate). The tax rate is 25.75%, which is the average of the 2011 and 2012 tax rates as per Ex. F4-T2-S1 Table 5, line 31.

Numbers may not add due to rounding.

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Attachment 1

Table 2
Rate Base and Return on Rate Base Impact (\$M)
Years Ending December 31, 2011 and 2012

Line No.	Description	Notes	Net Plant Opening Balance	Relative Change in Net Plant	(a)+(b) Closing Balance	((a)+(c))/2 Net Plant Rate Base Amount	Carrying Charges	(d) x (e) Pre-Tax Revenue Requirement	Income Tax	(f)+(g) Revenue Requirement Impact
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
				Note 3			Note 4		Note 5	
	2011 Plan:									
1	Asset Retirement Cost	1	44.2	(12.7)	31.4	37.8	5.58%	2.1	0.8	2.9
2	Changes to Nuclear Station Service Lives	2	19.2	19.2	38.5	28.8	7.56%	2.2	0.4	2.6
	2012 Plan:									
3	Asset Retirement Cost	1	31.4	(12.7)	18.7	25.1	5.58%	1.4	0.5	1.9
4	Changes to Nuclear Station Service Lives	2	38.5	19.2	57.7	48.1	7.59%	3.6	0.6	4.2
5	Combined Balance for 2012		69.9		76.4	73.1				
	Test Period Total:									
6	Asset Retirement Cost (line 1 + line 3)							3.5	1.2	4.7
7	Changes to Nuclear Station Service Lives (line 2 + line 4)							5.8	0.9	6.8
8	Total Revenue Requirement Impact							9.3	2.2	11.5

Notes:

- The ARC increases by \$56.9M effective January 1, 2010 (\$532.1M per J10.11 Attachment 1 Table 5, col. (d), line 8 less \$475.2M per Ex. C2-T1-S2 Table 3, col. (d), line 8). The annual depreciation expense impact on ARC for the prescribed facilities is an increase of \$12.7M as per J10.11 Attachment 1 Table 6. As the effective date of the change to ARC is assumed to be January 1, 2010, the 2011 opening balance of accumulated depreciation reflects a full year of depreciation expense. The ARC is always "lesser" than UNL as illustrated in Ex. C2-T1-S2 Table 1 and J10.11 Attachment 1 Table 3. Total rate base increases by ARC; therefore the rate base financed by the OEB's approved capital structure is unchanged. The OEB methodology requires that the accretion rate be used to finance the lesser of ARC and UNL.
- The total annual impact on depreciation expense on OPG's prescribed facilities is a decrease of \$6.5M. The annual depreciation expense impact resulting from the changes to nuclear station service lives is the net depreciation expense decrease of \$6.5M less the depreciation expense increase on ARC of \$12.7M described in footnote 1. As the effective date of the changes to nuclear station service lives is assumed to be January 1, 2010, the 2011 opening balance of accumulated depreciation reflects a full year of depreciation expense. Total Rate Base increases and the lesser of ARC and UNL amount is unchanged; therefore the rate base financed by the OEB approved capital structure increases by 100% of the change.
- A decrease (increase) in depreciation expense results in a decrease (increase) in accumulated depreciation and therefore an increase (decrease) in rate base.
- Weighted average cost of capital financing OPG's funded rate base and weighted average accretion rate per Ex C1-T1-S1 Table 1 (2012) and Table 2 (2011).
- Taxes on incremental taxable income calculated by applying: tax rate / (1 - tax rate). Tax rates from Ex. F4-T2-S1 Table 5.

Table 3
Prescribed Facilities - Asset Retirement Obligation, Nuclear Segregated Funds, and Asset Retirement Costs (\$M)
Years Ending December 31, 2010, 2011 and 2012

Line No.	Description	Note	2010 Budget	2011 Plan	2012 Plan
			(a)	(b)	(c)
	ASSET RETIREMENT OBLIGATION				
1	Opening Balance	1	6,391.2	7,202.7	7,500.9
2	Nuclear Station End-of-Life Assumption Adjustment	2	561.2	0.0	0.0
3	Adjusted Opening Balance (line 1 + line 2)		6,952.4	7,202.7	7,500.9
4	Used Fuel Storage and Disposal Variable Expenses		23.0	26.6	28.5
5	Low & Intermediate Level Waste Management Variable Expenses		1.1	0.8	0.8
6	Accretion Expense		384.2	399.0	415.6
7	Expenditures for Used Fuel, Waste Management & Decommissioning	3	(158.0)	(128.3)	(127.6)
8	Consolidation Adjustment		0.0	0.0	0.0
9	Closing Balance (line 3 + line 4 + line 5 + line 6 + line 7 + line 8)		7,202.7	7,500.9	7,818.2
10	Average Asset Retirement Obligation ((line 3 + line 9)/2)		7,077.6	7,351.8	7,659.6
	NUCLEAR SEGREGATED FUNDS BALANCE				
11	Opening Balance	4	5,058.7	5,399.6	5,778.5
12	Reallocation Adjustment	4	0.0	0.0	0.0
13	Adjusted Opening Balance (line 11 + line 12)		5,058.7	5,399.6	5,778.5
14	Earnings (Losses)	4	262.6	280.6	299.7
15	Contributions	4	150.2	145.0	140.4
16	Disbursements	3, 4	(71.9)	(46.6)	(58.0)
17	Closing Balance (line 13 + line 14 + line 15 + line 16)		5,399.6	5,778.5	6,160.7
18	Average Nuclear Segregated Funds Balance ((line 13 + line 17)/2)		5,229.2	5,589.1	5,969.6
	UNFUNDED NUCLEAR LIABILITY BALANCE (UNL)				
19	Opening Balance (line 3 - line 13)		1,893.7	1,803.1	1,722.4
20	Closing Balance (line 9 - line 17)		1,803.1	1,722.4	1,657.6
21	Average Unfunded Nuclear Liability Balance ((line 19 + line 20)/2)		1,848.4	1,762.7	1,690.0
	ASSET RETIREMENT COSTS (ARC)				
22	Opening Balance	1	1,098.0	1,584.1	1,538.1
23	Nuclear Station End-of-Life Assumption Adjustment	2	532.1	0.0	0.0
24	Reclassification Adjustment		0.0	0.0	0.0
25	Adjusted Opening Balance (line 22 + line 23 + line 24)		1,630.0	1,584.1	1,538.1
26	Depreciation Expense		(46.0)	(46.0)	(46.0)
27	Closing Balance (line 25 + line 26)		1,584.1	1,538.1	1,492.2
28	Average Asset Retirement Costs ((line 25 + line 27)/2)		1,607.1	1,561.1	1,515.1
29	LESSER OF AVERAGE UNL OR ARC (lesser of line 21 or line 28)		1,607.1	1,561.1	1,515.1

Notes:

- 1 2010 opening balance as per Ex. C2-T1-S2 Table 1, col (c).
- 2 Adjustment associated with the changes to the nuclear station end-of-life date assumptions underlying the ARO calculation, assumed to be effective January 1, 2010.
- 3 Expenditures incurred by OPG relate to both short-term programs (Used Fuel Storage, L&ILW Storage) and long-term programs (Used Fuel Disposal, L&ILW Disposal and Decommissioning), whereas disbursements from Nuclear Segregated Funds cover long-term programs only.
- 4 Nuclear segregated funds figures for 2010 - 2012 are as per Ex. C2-T1-S2 Table 1.

Table 4
Bruce Facilities - Asset Retirement Obligation, Nuclear Segregated Funds, and Asset Retirement Costs (\$M)
Years Ending December 31, 2010, 2011 and 2012

Line No.	Description	Note	2010 Budget	2011 Plan	2012 Plan
			(a)	(b)	(c)
	ASSET RETIREMENT OBLIGATION				
1	Opening Balance	1	5,315.0	5,303.9	5,530.6
2	Nuclear Station End-of-Life Assumption Adjustment	2	(233.9)	0.0	0.0
3	Adjustment to Remove Cobalt Waste Management Provision		0.0	0.0	0.0
4	Adjusted Opening Balance (line 1 + line 2 + line 3)		5,081.1	5,303.9	5,530.6
5	Used Fuel Storage and Disposal Variable Expenses		16.7	17.0	24.0
6	Low & Intermediate Level Waste Management Variable Expenses		0.9	0.8	0.7
7	Accretion Expense		281.0	293.1	305.8
8	Expenditures for Used Fuel, Waste Management & Decommissioning	3	(75.9)	(84.2)	(84.8)
9	Consolidation Adjustment		0.0	0.0	0.0
10	Closing Balance (line 4 + line 5 + line 6 + line 7 + line 8 + line 9)		5,303.9	5,530.6	5,776.3
11	Average Asset Retirement Obligation ((line 4 + line 10)/2)		5,192.5	5,417.2	5,653.4
	NUCLEAR SEGREGATED FUNDS BALANCE				
12	Opening Balance	4	5,187.2	5,522.6	5,879.9
13	Reallocation Adjustment	4	0.0	0.0	0.0
14	Adjusted Opening Balance (line 12 + line 13)		5,187.2	5,522.6	5,879.9
15	Earnings (Losses)	4	268.8	286.2	304.6
16	Contributions	4	113.9	105.5	99.7
17	Disbursements	3, 4	(47.3)	(34.4)	(31.2)
18	Closing Balance (line 14 + line 15 + line 16 + line 17)		5,522.6	5,879.9	6,252.9
19	Average Nuclear Segregated Funds Balance ((line 14 + line 18)/2)		5,354.9	5,701.3	6,066.4
	ASSET RETIREMENT COSTS (ARC)				
20	Opening Balance	1	1,035.8	803.5	775.9
21	Nuclear Station End-of-Life Assumption Adjustment	2	(204.7)	0.0	0.0
22	Reclassification Adjustment		0.0	0.0	0.0
23	Adjusted Opening Balance (line 20 + line 21 + line 22)		831.1	803.5	775.9
24	Depreciation Expense		(27.6)	(27.6)	(27.6)
25	Closing Balance (line 23 + line 24)		803.5	775.9	748.3
26	Average Asset Retirement Costs ((line 23 + line 25)/2)		817.3	789.7	762.1

Notes:

- 2010 opening balance as per Ex. C2-T1-S2 Table 2, col. (c).
- Adjustment associated with the changes to the nuclear station end-of-life date assumptions underlying the ARO calculation, assumed to be effective January 1, 2010.
- Expenditures incurred by OPG relate to both short-term programs (Used Fuel Storage, L&ILW Storage) and long-term programs (Used Fuel Disposal, L&ILW Disposal and Decommissioning), whereas disbursements from Nuclear Segregated Funds cover long-term programs only.
- Nuclear segregated funds figures for 2010 - 2012 are as per Ex. C2-T1-S2 Table 2.

Numbers may not add due to rounding.

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Attachment 1

Table 5
Assignment of ARO Adjustment and Allocation of ARC to Nuclear Stations (\$M)

Line No.	Description	Pickering A	Pickering B	Darlington	Prescribed Facilities Total	Bruce A	Bruce B	Bruce Facilities Total	Total
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Decommissioning Program	64.0	(39.2)	(504.9)	(480.2)	0.8	1.5	2.3	(477.9)
2	Intermediate Level Waste Program	(67.5)	(68.5)	179.7	43.7	(2.2)	(15.9)	(18.1)	25.6
3	Low Level Waste Program	11.8	19.6	51.6	82.9	7.2	(4.8)	2.4	85.3
4	Used Fuel Disposal Program	(192.8)	(15.6)	1,083.5	875.1	(188.3)	(117.5)	(305.9)	569.3
5	Used Fuel Storage Program	(22.7)	32.0	30.4	39.7	74.1	11.2	85.3	125.0
6	ARO Adjustment Assignment to Station Level	(207.3)	(71.8)	840.3	561.2	(108.4)	(125.5)	(233.9)	327.3
7	Reallocation of Negative Net Book Value of Stations ¹	(0.3)	(1.6)	(27.2)	(29.1)	(15.3)	44.5	29.1	0.0
8	Asset Retirement Cost Adjustment	(207.7)	(73.3)	813.1	532.1	(123.7)	(81.0)	(204.7)	327.3

- 1 Net Book Value of Bruce B at December 31, 2009 is \$81.0M. The value of Bruce B, after allocation of \$125.5M in negative ARC on January 1, 2010 would be negative \$44.5M. Per GAAP, the negative value is to be reallocated to other nuclear facilities. The basis of the reallocation is the proportionate net book value of the ARC by station as at January 1, 2010.

Numbers may not add due to rounding.

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Attachment 1

Table 6
Revenue Requirement Impact of Adjustment to Nuclear Liabilities (\$M)
Years Ending December 31, 2011 and 2012

Line No.	Description	Note or Reference (for Col. (a) and (b))	Modified Station End-of-Life Assumptions Per Undertaking J10.11		Note or Reference (for Col. (c) and (d))	As Filed in EB-2010-0008		(a)-(c)+(b)-(d) Revenue Requirement Impact
			2011	2012		2011	2012	
			(a)	(b)		(c)	(d)	(e)
	PRESCRIBED FACILITIES							
1	Depreciation of Asset Retirement Costs	J10.11 Att 1 Table 3	46.0	46.0	C2-T1-S2 Table 1	33.2	33.2	25.5
2	Used Fuel Storage and Disposal Variable Expenses	J10.11 Att 1 Table 3	26.6	28.5	C2-T1-S2 Table 1	26.6	28.5	0.0
3	Low & Intermediate Level Waste Management Variable Expenses	J10.11 Att 1 Table 3	0.8	0.8	C2-T1-S2 Table 1	0.8	0.8	0.0
	Return on ARC in Rate Base:							
4	Accretion Rate	Note 1	87.1	84.5	C1-T1-S1 Tables 1 and 2	85.0	83.1	3.5
5	Weighted Average Cost of Capital	Note 1	0.0	0.0	C2-T1-S2 Table 5	0.0	0.0	0.0
6	Total Revenue Requirement Impact - Prescribed Facilities (line 1 + line 2 + line 3 + line 4 + line 5)		160.5	159.8		145.7	145.7	29.0
	BRUCE FACILITIES							
7	Depreciation of Asset Retirement Costs	J10.11 Att 1 Table 4	27.6	27.6	C2-T1-S2 Table 2	28.5	28.5	(1.7)
8	Used Fuel Storage and Disposal Variable Expenses	J10.11 Att 1 Table 4	17.0	24.0	C2-T1-S2 Table 2	17.0	24.0	0.0
9	Low & Intermediate Level Waste Management Variable Expenses	J10.11 Att 1 Table 4	0.8	0.7	C2-T1-S2 Table 2	0.8	0.7	0.0
10	Accretion	J10.11 Att 1 Table 4	293.1	305.8	C2-T1-S2 Table 2	294.5	307.2	(2.8)
11	Less: Segregated Fund Earnings (Losses)	J10.11 Att 1 Table 4	286.2	304.6	C2-T1-S2 Table 2	286.2	304.6	0.0
12	Total Revenue Requirement Impact - Bruce Facilities (line 7 + line 8 + line 9 + line 10 - line 11)		52.3	53.5		54.5	55.8	(4.5)
13	Total Revenue Requirement Impact of Adjustment to Nuclear Liabilities (col. (e): line 6 + line 12)							24.4

Notes:

- Pre-tax Revenue Requirement impact on Return on ARC in Rate Base of modified nuclear station end-of-life assumptions is derived as follows:
If the forecast of average unfunded nuclear liabilities (ARO less nuclear segregated funds) is lower than the average unamortized ARC, then that difference is assumed to be the funded portion of the unamortized ARC. The funded portion earns a return at the weighted average cost of capital (WACC). During the test period, the average unamortized ARC is less than the unfunded average nuclear liability (UNL), so none of the unamortized ARC earns the WACC.

Line No.	Description	(J10.11 Att 1 Table 3, line 29) Lesser of Average UNL or ARC	Average Accretion Rate	(a) x (b) Pre-Tax Revenue Requirement
		(a)	(b)	(c)
	2011 Plan:			
1	Adjustment for Lesser of Average UNL or ARC	1,561.1	5.58%	87.1
	2012 Plan:			
2	Adjustment for Lesser of Average UNL or ARC	1,515.1	5.58%	84.5

Table 1
Summary of Revenue Requirement Impact (\$M)

Line No.	Description	Note or Reference	Test Period Revenue Requirement Impact
			(a)
	PRESCRIBED FACILITIES		
	<u>Return on Rate Base:</u>		
1	Accretion Rate on Lesser of ARC and UNL	J10.11 Att 2 Table 2, col. (f)	(88.3)
2	Changes to Nuclear Station Service Life Impacts	J10.11 Att 2 Table 2, col. (f)	(34.5)
3	Total Return on Rate Base Impact		(122.8)
	<u>Depreciation Expense:</u>		
4	Asset Retirement Costs	Note 1, J10.11 Att 2 Table 6, col. (e)	190.9
5	Changes to Nuclear Station Service Life Impacts	Note 1, J10.11 Att 2 Table 2, col. (b)	227.8
6	Total Depreciation Expense Impact		418.7
	<u>Other Expenses:</u>		
7	Used Fuel Storage and Disposal Variable Expenses	Note 1, J10.11 Att 2 Table 6, col. (e)	0.0
	<u>Income Taxes:</u>		
8	Accretion Rate on Lesser of ARC and UNL	J10.11 Att 2 Table 2, col. (g)	(30.6)
9	Changes to Nuclear Station Service Life Impacts	J10.11 Att 2 Table 2, col. (g)	(5.6)
10	Depreciation Expense on Asset Retirement Costs	Note 1	66.2
11	Used Fuel Storage and Disposal Variable Expenses	Note 1	0.0
12	Depreciation Expense - Changes to Nuclear Station Service Lives	Note 1	79.0
13	Total Income Tax Impact		109.1
14	Total Revenue Requirement Impact - Prescribed Facilities (line 3 + line 6 + line 7 + line 13)		405.1
	BRUCE FACILITIES		
15	Rate Base		0.0
16	Depreciation Expense Impact: Asset Retirement Costs	J10.11 Att 2 Table 6, col. (e)	96.4
	<u>Other Expenses:</u>		
17	Accretion	J10.11 Att 2 Table 6, col. (e)	56.0
18	Used Fuel Storage and Disposal Variable Expenses	J10.11 Att 2 Table 6, col. (e)	0.0
19	Total Other Expenses Impact		56.0
	<u>Income Taxes:</u>		
20	Impact on Bruce Facilities' Income Tax Calculation	Note 2, Note 3, Note 4	(38.8)
21	Impact on Prescribed Facilities' Income Tax Calculation	Note 5	39.4
22	Total Income Tax Impact		0.6
23	Total Revenue Requirement Impact - Bruce Facilities (line 15 + line 16 + line 19 + line 22)		153.0
24	Total Revenue Requirement Impact (line 14 + line 23)		558.1

Notes:

- Amounts impact regulatory income taxes as they represent non-deductible expenses for regulatory tax purposes. Regulatory income taxes are determined using the pre-tax non-deductible expense x tax rate / (1 - tax rate). The tax rate is 25.75%, which is the average of the 2011 and 2012 tax rates as per Ex. F4-T2-S1 Table 5, line 31.
- Current Income Tax:
Depreciation, Accretion and Used Fuel Storage and Disposal Variable Expenses are not deductible for tax purposes. In determining taxable income for Bruce, the increase in Bruce earnings before tax is reduced by the non-deductible expenses; therefore there is no current tax impact.
- Future Income Taxes:
The non-deductible expenses represent temporary timing differences. The increase in net revenues resulting from these temporary timing differences will be taxed in the future. In accordance with GAAP, that increase in future tax is recognized in the test period.
- Tax Rate For Future Income Taxes:
The tax rate applicable to Depreciation Expense is 25.75%, which is the average of the current tax rate for 2011 and 2012 as per Ex. G2-T2-S1 Table 7, Line 34. The tax rate of 25.00% applicable to Other Expenses is the average of the long-term tax rates for 2011 and 2012 as per Ex. G2-T2-S1, Table 7, Line 38.
- Impact on Prescribed Facilities' Income Tax Calculation:
Changes in Bruce Lease Net Revenues impact regulatory earnings before tax and, therefore, regulatory taxable income of the prescribed facilities, as presented in Ex. F4-T2-S1 Table 5. The impact on prescribed facilities' income taxes is determined as: (line 15 + line 16 + line 19 + line 20) x tax rate / (1 - tax rate). The tax rate is 25.75%, which is the average of the 2011 and 2012 tax rates as per Ex. F4-T2-S1 Table 5, line 31.

Numbers may not add due to rounding.

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Table 2
Rate Base and Return on Rate Base Impact (\$M)
Years Ending December 31, 2011 and 2012

Line No.	Description	Notes	Net Plant Opening Balance	Relative Change in Net Plant	(a)+(b) Closing Balance	((a)+(c))/2 Net Plant Rate Base Amount	Carrying Charges	(d) x (e) Pre-Tax Revenue Requirement	Income Tax	(f)+(g) Revenue Requirement Impact
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
				Note 3			Note 4		Note 5	
	2011 Plan:									
1	Asset Retirement Cost	1	(695.4)	(95.5)	(790.9)	(743.2)	5.58%	(41.5)	(15.0)	(56.4)
2	Changes to Nuclear Station Service Lives	2	(113.9)	(113.9)	(227.8)	(170.9)	7.56%	(12.9)	(2.2)	(15.1)
	2012 Plan:									
3	Asset Retirement Cost	1	(790.9)	(95.5)	(886.4)	(838.6)	5.58%	(46.8)	(15.6)	(62.4)
4	Changes to Nuclear Station Service Lives	2	(227.8)	(113.9)	(341.7)	(284.8)	7.59%	(21.6)	(3.4)	(25.0)
5	Combined Balance for 2012		(1,018.7)		(1,228.1)	(1,123.4)				
	Test Period Total:									
6	Asset Retirement Cost (line 1 + line 3)							(88.3)	(30.6)	(118.8)
7	Changes to Nuclear Station Service Lives (line 2 + line 4)							(34.5)	(5.6)	(40.1)
8	Total Revenue Requirement Impact							(122.8)	(36.1)	(158.9)

Notes:

- The ARC decreases by \$600.0M effective January 1, 2010 (decrease of \$124.8M per J10.11 Attachment 2 Table 5, col. (d), line 8 less \$475.2M per Ex. C2-T1-S2 Table 3, col. (d), line 8).
The annual depreciation expense impact on ARC for the prescribed facilities is an increase of \$95.5M as per J10.11 Attachment 2 Table 6. As the effective date of the change to ARC is assumed to be January 1, 2010, the 2011 opening balance of accumulated depreciation reflects a full year of depreciation expense.
The ARC is always "lesser" than UNL as illustrated in Ex. C2-T1-S2 Table 1 and J10.11 Attachment 2 Table 3. Total rate base decreases by ARC; therefore the rate base financed by the OEB's approved capital structure is unchanged. The OEB methodology requires that the accretion rate be used to finance the lesser of ARC and UNL.
- The total annual impact on depreciation expense on OPG's prescribed facilities is an increase of \$209.4M.
The annual depreciation expense impact resulting from the changes to nuclear station service lives is the total depreciation expense increase of \$209.4M less the depreciation expense increase on ARC of \$95.5M described in footnote 1. As the effective date of the changes to nuclear station service lives is assumed to be January 1, 2010, the 2011 opening balance of accumulated depreciation reflects a full year of depreciation expense. Total Rate Base decreases and the lesser of ARC and UNL amount is unchanged; therefore the rate base financed by the OEB approved capital structure decreases by 100% of the change.
- An increase in depreciation expense results in an increase in accumulated depreciation and therefore a decrease in rate base.
- Weighted average cost of capital financing OPG's funded rate base and weighted average accretion rate per Ex C1-T1-S1 Table 1 (2012) and Table 2 (2011).
- Taxes on incremental taxable income calculated by applying: tax rate / (1 - tax rate). Tax rates from Ex. F4-T2-S1 Table 5.

Table 3
Prescribed Facilities - Asset Retirement Obligation, Nuclear Segregated Funds, and Asset Retirement Costs (\$M)
Years Ending December 31, 2010, 2011 and 2012

Line No.	Description	Note	2010 Budget	2011 Plan	2012 Plan
			(a)	(b)	(c)
	ASSET RETIREMENT OBLIGATION				
1	Opening Balance	1	6,391.2	6,502.3	6,787.7
2	Nuclear Station End-of-Life Assumption Adjustment	2	(124.8)	0.0	0.0
3	Adjusted Opening Balance (line 1 + line 2)		6,266.4	6,502.3	6,787.7
4	Used Fuel Storage and Disposal Variable Expenses		23.0	26.6	28.5
5	Low & Intermediate Level Waste Management Variable Expenses		1.1	0.8	0.8
6	Accretion Expense		351.8	366.1	382.3
7	Expenditures for Used Fuel, Waste Management & Decommissioning	3	(139.9)	(108.3)	(107.3)
8	Consolidation Adjustment		0.0	0.0	0.0
9	Closing Balance (line 3 + line 4 + line 5 + line 6 + line 7 + line 8)		6,502.3	6,787.7	7,092.0
10	Average Asset Retirement Obligation ((line 3 + line 9)/2)		6,384.4	6,645.0	6,939.8
	NUCLEAR SEGREGATED FUNDS BALANCE				
11	Opening Balance	4	5,058.7	5,399.6	5,778.5
12	Reallocation Adjustment	4	0.0	0.0	0.0
13	Adjusted Opening Balance (line 11 + line 12)		5,058.7	5,399.6	5,778.5
14	Earnings (Losses)	4	262.6	280.6	299.7
15	Contributions	4	150.2	145.0	140.4
16	Disbursements	3, 4	(71.9)	(46.6)	(58.0)
17	Closing Balance (line 13 + line 14 + line 15 + line 16)		5,399.6	5,778.5	6,160.7
18	Average Nuclear Segregated Funds Balance ((line 13 + line 17)/2)		5,229.2	5,589.1	5,969.6
	UNFUNDED NUCLEAR LIABILITY BALANCE (UNL)				
19	Opening Balance (line 3 - line 13)		1,207.7	1,102.7	1,009.1
20	Closing Balance (line 9 - line 17)		1,102.7	1,009.1	931.3
21	Average Unfunded Nuclear Liability Balance ((line 19 + line 20)/2)		1,155.2	1,055.9	970.2
	ASSET RETIREMENT COSTS (ARC)				
22	Opening Balance	1	1,098.0	844.5	715.8
23	Nuclear Station End-of-Life Assumption Adjustment	2	(124.8)	0.0	0.0
24	Reclassification Adjustment		0.0	0.0	0.0
25	Adjusted Opening Balance (line 22 + line 23 + line 24)		973.1	844.5	715.8
26	Depreciation Expense		(128.7)	(128.7)	(128.7)
27	Closing Balance (line 25 + line 26)		844.5	715.8	587.1
28	Average Asset Retirement Costs ((line 25 + line 27)/2)		908.8	780.1	651.5
29	LESSER OF AVERAGE UNL OR ARC (lesser of line 21 or line 28)		908.8	780.1	651.5

Notes:

- 1 2010 opening balance as per Ex. C2-T1-S2 Table 1, col (c).
- 2 Adjustment associated with the changes to the nuclear station end-of-life date assumptions underlying the ARO calculation, assumed to be effective January 1, 2010.
- 3 Expenditures incurred by OPG relate to both short-term programs (Used Fuel Storage, L&ILW Storage) and long-term programs (Used Fuel Disposal, L&ILW Disposal and Decommissioning), whereas disbursements from Nuclear Segregated Funds cover long-term programs only.
- 4 Nuclear segregated funds figures for 2010 - 2012 are as per Ex. C2-T1-S2 Table 1.

Table 4
Bruce Facilities - Asset Retirement Obligation, Nuclear Segregated Funds, and Asset Retirement Costs (\$M)
Years Ending December 31, 2010, 2011 and 2012

Line No.	Description	Note	2010 Budget	2011 Plan	2012 Plan
			(a)	(b)	(c)
	ASSET RETIREMENT OBLIGATION				
1	Opening Balance	1	5,315.0	5,929.0	6,165.0
2	Nuclear Station End-of-Life Assumption Adjustment	2	380.4	0.0	0.0
3	Adjustment to Remove Cobalt Waste Management Provision		0.0	0.0	0.0
4	Adjusted Opening Balance (line 1 + line 2 + line 3)		5,695.4	5,929.0	6,165.0
5	Used Fuel Storage and Disposal Variable Expenses		16.7	17.0	24.0
6	Low & Intermediate Level Waste Management Variable Expenses		0.9	0.8	0.7
7	Accretion Expense		310.0	322.4	335.4
8	Expenditures for Used Fuel, Waste Management & Decommissioning	3	(93.9)	(104.2)	(105.2)
9	Consolidation Adjustment		0.0	0.0	0.0
10	Closing Balance (line 4 + line 5 + line 6 + line 7 + line 8 + line 9)		5,929.0	6,165.0	6,419.9
11	Average Asset Retirement Obligation ((line 4 + line 10)/2)		5,812.2	6,047.0	6,292.4
	NUCLEAR SEGREGATED FUNDS BALANCE				
12	Opening Balance	4	5,187.2	5,522.6	5,879.9
13	Reallocation Adjustment	4	0.0	0.0	0.0
14	Adjusted Opening Balance (line 12 + line 13)		5,187.2	5,522.6	5,879.9
15	Earnings (Losses)	4	268.8	286.2	304.6
16	Contributions	4	113.9	105.5	99.7
17	Disbursements	3, 4	(47.3)	(34.4)	(31.2)
18	Closing Balance (line 14 + line 15 + line 16 + line 17)		5,522.6	5,879.9	6,252.9
19	Average Nuclear Segregated Funds Balance ((line 14 + line 18)/2)		5,354.9	5,701.3	6,066.4
	ASSET RETIREMENT COSTS (ARC)				
20	Opening Balance	1	1,035.8	1,339.5	1,262.9
21	Nuclear Station End-of-Life Assumption Adjustment	2	380.4	0.0	0.0
22	Reclassification Adjustment		0.0	0.0	0.0
23	Adjusted Opening Balance (line 20 + line 21 + line 22)		1,416.2	1,339.5	1,262.9
24	Depreciation Expense		(76.7)	(76.7)	(76.7)
25	Closing Balance (line 23 + line 24)		1,339.5	1,262.9	1,186.2
26	Average Asset Retirement Costs ((line 23 + line 25)/2)		1,377.9	1,301.2	1,224.5

Notes:

- 2010 opening balance as per Ex. C2-T1-S2 Table 2, col. (c).
- Adjustment associated with the changes to the nuclear station end-of-life date assumptions underlying the ARO calculation, assumed to be effective January 1, 2010.
- Expenditures incurred by OPG relate to both short-term programs (Used Fuel Storage, L&ILW Storage) and long-term programs (Used Fuel Disposal, L&ILW Disposal and Decommissioning), whereas disbursements from Nuclear Segregated Funds cover long-term programs only.
- Nuclear segregated funds figures for 2010 - 2012 are as per Ex. C2-T1-S2 Table 2.

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Table 5

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Numbers may not add due to rounding.

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Attachment 2

Table 6
Revenue Requirement Impact of Adjustment to Nuclear Liabilities (\$M)
Years Ending December 31, 2011 and 2012

Line No.	Description	Note or Reference (for Col. (a) and (b))	Modified Station End-of-Life Assumptions Per Undertaking J10.11		Note or Reference (for Col. (c) and (d))	As Filed in EB-2010-0008		(a)-(c)+(b)-(d) Revenue Requirement Impact
			2011	2012		2011	2012	
			(a)	(b)		(c)	(d)	(e)
	PRESCRIBED FACILITIES							
1	Depreciation of Asset Retirement Costs	J10.11 Att 2 Table 3	128.7	128.7	C2-T1-S2 Table 1	33.2	33.2	190.9
2	Used Fuel Storage and Disposal Variable Expenses	J10.11 Att 2 Table 3	26.6	28.5	C2-T1-S2 Table 1	26.6	28.5	0.0
3	Low & Intermediate Level Waste Management Variable Expenses	J10.11 Att 2 Table 3	0.8	0.8	C2-T1-S2 Table 1	0.8	0.8	0.0
	Return on ARC in Rate Base:							
4	Accretion Rate	Note 1	43.5	36.4	C1-T1-S1 Tables 1 and 2	85.0	83.1	(88.3)
5	Weighted Average Cost of Capital	Note 1	0.0	0.0	C2-T1-S2 Table 5	0.0	0.0	0.0
6	Total Revenue Requirement Impact - Prescribed Facilities		199.7	194.4		145.7	145.7	102.7
	(line 1 + line 2 + line 3 + line 4 + line 5)							
	BRUCE FACILITIES							
7	Depreciation of Asset Retirement Costs	J10.11 Att 2 Table 4	76.7	76.7	C2-T1-S2 Table 2	28.5	28.5	96.4
8	Used Fuel Storage and Disposal Variable Expenses	J10.11 Att 2 Table 4	17.0	24.0	C2-T1-S2 Table 2	17.0	24.0	0.0
9	Low & Intermediate Level Waste Management Variable Expenses	J10.11 Att 2 Table 4	0.8	0.7	C2-T1-S2 Table 2	0.8	0.7	0.0
10	Accretion	J10.11 Att 2 Table 4	322.4	335.4	C2-T1-S2 Table 2	294.5	307.2	56.0
11	Less: Segregated Fund Earnings (Losses)	J10.11 Att 2 Table 4	286.2	304.6	C2-T1-S2 Table 2	286.2	304.6	0.0
12	Total Revenue Requirement Impact - Bruce Facilities		130.6	132.2		54.5	55.8	152.5
	(line 7 + line 8 + line 9 + line 10 - line 11)							
13	Total Revenue Requirement Impact of Adjustment to Nuclear Liabilities							255.1
	(col. (e): line 6 + line 12)							

Notes:

- Pre-tax Revenue Requirement impact on Return on ARC in Rate Base of modified nuclear station end-of-life assumptions is derived as follows:
If the forecast of average unfunded nuclear liabilities (ARO less nuclear segregated funds) is lower than the average unamortized ARC, then that difference is assumed to be the funded portion of the unamortized ARC. The funded portion earns a return at the weighted average cost of capital (WACC). During the test period, the average unamortized ARC is less than the unfunded average nuclear liability (UNL), so none of the unamortized ARC earns the WACC.

Line No.	Description	(J10.11 Att 2 Table 3, line 29) Lesser of Average UNL or ARC	Average Accretion Rate	(a) x (b) Pre-Tax Revenue Requirement
		(a)	(b)	(c)
	2011 Plan:			
1	Adjustment for Lesser of Average UNL or ARC	780.1	5.58%	43.5
	2012 Plan:			
2	Adjustment for Lesser of Average UNL or ARC	651.5	5.58%	36.4

Table 1
Summary of Revenue Requirement Impact (\$M)

Line No.	Description	Note or Reference	Test Period Revenue Requirement Impact
			(a)
	PRESCRIBED FACILITIES		
	<u>Return on Rate Base:</u>		
1	Accretion Rate on Lesser of ARC and UNL	J10.11 Att 3 Table 2, col. (f)	(73.2)
2	Changes to Nuclear Station Service Life Impacts	J10.11 Att 3 Table 2, col. (f)	(7.3)
3	Total Return on Rate Base Impact		(80.6)
	<u>Depreciation Expense:</u>		
4	Asset Retirement Costs	Note 1, J10.11 Att 3 Table 6, col. (e)	181.1
5	Changes to Nuclear Station Service Life Impacts	Note 1, J10.11 Att 3 Table 2, col. (b)	48.5
6	Total Depreciation Expense Impact		229.6
	<u>Other Expenses:</u>		
7	Used Fuel Storage and Disposal Variable Expenses	Note 1, J10.11 Att 3 Table 6, col. (e)	(8.2)
	<u>Income Taxes:</u>		
8	Accretion Rate on Lesser of ARC and UNL	J10.11 Att 3 Table 2, col. (g)	(25.3)
9	Changes to Nuclear Station Service Life Impacts	J10.11 Att 3 Table 2, col. (g)	(1.2)
10	Depreciation Expense on Asset Retirement Costs	Note 1	62.8
11	Used Fuel Storage and Disposal Variable Expenses	Note 1	(2.8)
12	Depreciation Expense - Changes to Nuclear Station Service Lives	Note 1	16.8
13	Total Income Tax Impact		50.2
14	Total Revenue Requirement Impact - Prescribed Facilities (line 3 + line 6 + line 7 + line 13)		191.0
	BRUCE FACILITIES		
15	Rate Base		0.0
16	Depreciation Expense Impact: Asset Retirement Costs	J10.11 Att 3 Table 6, col. (e)	40.2
	<u>Other Expenses:</u>		
17	Accretion	J10.11 Att 3 Table 6, col. (e)	18.3
18	Used Fuel Storage and Disposal Variable Expenses	J10.11 Att 3 Table 6, col. (e)	(4.2)
19	Total Other Expenses Impact		14.1
	<u>Income Taxes:</u>		
20	Impact on Bruce Facilities' Income Tax Calculation	Note 2, Note 3, Note 4	(13.9)
21	Impact on Prescribed Facilities' Income Tax Calculation	Note 5	14.0
22	Total Income Tax Impact		0.1
23	Total Revenue Requirement Impact - Bruce Facilities (line 15 + line 16 + line 19 + line 22)		54.4
24	Total Revenue Requirement Impact (line 14 + line 23)		245.4

Notes:

- Amounts impact regulatory income taxes as they represent non-deductible expenses for regulatory tax purposes. Regulatory income taxes are determined using the pre-tax non-deductible expense x tax rate / (1 - tax rate). The tax rate is 25.75%, which is the average of the 2011 and 2012 tax rates as per Ex. F4-T2-S1 Table 5, line 31.
- Current Income Tax:
Depreciation, Accretion and Used Fuel Storage and Disposal Variable Expenses are not deductible for tax purposes. In determining taxable income for Bruce, the increase in Bruce earnings before tax is reduced by the non-deductible expenses; therefore there is no current tax impact.
- Future Income Taxes:
The non-deductible expenses represent temporary timing differences. The increase in net revenues resulting from these temporary timing differences will be taxed in the future. In accordance with GAAP, that increase in future tax is recognized in the test period.
- Tax Rate For Future Income Taxes:
The tax rate applicable to Depreciation Expense is 25.75%, which is the average of the current tax rate for 2011 and 2012 as per Ex. G2-T2-S1 Table 7, Line 34. The tax rate of 25.00% applicable to Other Expenses is the average of the long-term tax rates for 2011 and 2012 as per Ex. G2-T2-S1, Table 7, Line 38.
- Impact on Prescribed Facilities' Income Tax Calculation:
Changes in Bruce Lease Net Revenues impact regulatory earnings before tax and, therefore, regulatory taxable income of the prescribed facilities, as presented in Ex. F4-T2-S1 Table 5. The impact on prescribed facilities' income taxes is determined as: (line 15 + line 16 + line 19 + line 20) x tax rate / (1 - tax rate). The tax rate is 25.75%, which is the average of the 2011 and 2012 tax rates as per Ex. F4-T2-S1 Table 5, line 31.

Numbers may not add due to rounding.

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Attachment 3

Table 2
Rate Base and Return on Rate Base Impact (\$M)
Years Ending December 31, 2011 and 2012

Line No.	Description	Notes	Net Plant Opening Balance	Relative Change in Net Plant	(a)+(b) Closing Balance	((a)+(c))/2 Net Plant Rate Base Amount	Carrying Charges	(d) x (e) Pre-Tax Revenue Requirement	Income Tax	(f)+(g) Revenue Requirement Impact
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
				Note 3			Note 4		Note 5	
	2011 Plan:									
1	Asset Retirement Cost	1	(565.7)	(90.6)	(656.3)	(611.0)	5.58%	(34.1)	(12.3)	(46.4)
2	Changes to Nuclear Station Service Lives	2	(24.2)	(24.2)	(48.5)	(36.4)	7.56%	(2.7)	(0.5)	(3.2)
	2012 Plan:									
3	Asset Retirement Cost	1	(656.3)	(90.6)	(746.8)	(701.6)	5.58%	(39.1)	(13.0)	(52.2)
4	Changes to Nuclear Station Service Lives	2	(48.5)	(24.2)	(72.7)	(60.6)	7.59%	(4.6)	(0.7)	(5.3)
5	Combined Balance for 2012		(704.8)		(819.6)	(762.2)				
	Test Period Total:									
6	Asset Retirement Cost (line 1 + line 3)							(73.2)	(25.3)	(98.6)
7	Changes to Nuclear Station Service Lives (line 2 + line 4)							(7.3)	(1.2)	(8.5)
8	Total Revenue Requirement Impact							(80.6)	(26.5)	(107.1)

Notes:

- The ARC decreases by \$475.2M effective January 1, 2010 (nil per J10.11 Attachment 3 Table 5, col. (d), line 8 less \$475.2M per Ex. C2-T1-S2 Table 3, col. (d), line 8). The annual depreciation expense impact on ARC for the prescribed facilities is an increase of \$90.6M as per J10.11 Attachment 3 Table 6. As the effective date of the change to ARC is assumed to be January 1, 2010, the 2011 opening balance of accumulated depreciation reflects a full year of depreciation expense. The ARC is always "lesser" than UNL as illustrated in Ex. C2-T1-S2 Table 1 and J10.11 Attachment 3 Table 3. Total rate base decreases by ARC; therefore the rate base financed by the OEB's approved capital structure is unchanged. The OEB methodology requires that the accretion rate be used to finance the lesser of ARC and UNL.
- The total annual impact on depreciation expense on OPG's prescribed facilities is an increase of \$114.8M. This amount is discussed in Ex. F4-T1-S1, page 6. The annual depreciation expense impact resulting from the changes to nuclear station service lives is the total depreciation expense increase of \$114.8M less the depreciation expense increase on ARC of \$90.6M described in footnote 1. As the effective date of the changes to nuclear station service lives is assumed to be January 1, 2010, the 2011 opening balance of accumulated depreciation reflects a full year of depreciation expense. Total Rate Base decreases and the lesser of ARC and UNL amount is unchanged; therefore the rate base financed by the OEB approved capital structure decreases by 100% of the change.
- An increase in depreciation expense results in an increase in accumulated depreciation and therefore a decrease in rate base.
- Weighted average cost of capital financing OPG's funded rate base and weighted average accretion rate per Ex C1-T1-S1 Table 1 (2012) and Table 2 (2011).
- Taxes on incremental taxable income calculated by applying: tax rate / (1 - tax rate). Tax rates from Ex. F4-T2-S1 Table 5.

Table 3
Prescribed Facilities - Asset Retirement Obligation, Nuclear Segregated Funds, and Asset Retirement Costs (\$M)
Years Ending December 31, 2010, 2011 and 2012

Line No.	Description	Note	2010 Budget	2011 Plan	2012 Plan
			(a)	(b)	(c)
	ASSET RETIREMENT OBLIGATION				
1	Opening Balance	1	6,391.2	6,621.0	6,898.0
2	Nuclear Station End-of-Life Assumption Adjustment	2	0.0	0.0	0.0
3	Adjusted Opening Balance (line 1 + line 2)		6,391.2	6,621.0	6,898.0
4	Used Fuel Storage and Disposal Variable Expenses		19.5	22.6	24.3
5	Low & Intermediate Level Waste Management Variable Expenses		1.0	0.8	0.8
6	Accretion Expense		357.5	371.3	386.9
7	Expenditures for Used Fuel, Waste Management & Decommissioning	3	(148.2)	(117.7)	(116.4)
8	Consolidation Adjustment		0.0	0.0	0.0
9	Closing Balance (line 3 + line 4 + line 5 + line 6 + line 7 + line 8)		6,621.0	6,898.0	7,193.7
10	Average Asset Retirement Obligation ((line 3 + line 9)/2)		6,506.1	6,759.5	7,045.9
	NUCLEAR SEGREGATED FUNDS BALANCE				
11	Opening Balance	4	5,058.7	5,399.6	5,778.5
12	Reallocation Adjustment	4	0.0	0.0	0.0
13	Adjusted Opening Balance (line 11 + line 12)		5,058.7	5,399.6	5,778.5
14	Earnings (Losses)	4	262.6	280.6	299.7
15	Contributions	4	150.2	145.0	140.4
16	Disbursements	3, 4	(71.9)	(46.6)	(58.0)
17	Closing Balance (line 13 + line 14 + line 15 + line 16)		5,399.6	5,778.5	6,160.7
18	Average Nuclear Segregated Funds Balance ((line 13 + line 17)/2)		5,229.2	5,589.1	5,969.6
	UNFUNDED NUCLEAR LIABILITY BALANCE (UNL)				
19	Opening Balance (line 3 - line 13)		1,332.5	1,221.4	1,119.5
20	Closing Balance (line 9 - line 17)		1,221.4	1,119.5	1,033.0
21	Average Unfunded Nuclear Liability Balance ((line 19 + line 20)/2)		1,276.9	1,170.5	1,076.3
	ASSET RETIREMENT COSTS (ARC)				
22	Opening Balance	1	1,098.0	974.2	850.4
23	Nuclear Station End-of-Life Assumption Adjustment	2	0.0	0.0	0.0
24	Reclassification Adjustment		0.0	0.0	0.0
25	Adjusted Opening Balance (line 22 + line 23 + line 24)		1,098.0	974.2	850.4
26	Depreciation Expense		(123.8)	(123.8)	(123.8)
27	Closing Balance (line 25 + line 26)		974.2	850.4	726.6
28	Average Asset Retirement Costs ((line 25 + line 27)/2)		1,036.1	912.3	788.5
29	LESSER OF AVERAGE UNL OR ARC (lesser of line 21 or line 28)		1,036.1	912.3	788.5

Notes:

- 1 2010 opening balance as per Ex. C2-T1-S2 Table 1, col. (c).
- 2 Adjustment associated with the changes to the nuclear station end-of-life date assumptions underlying the ARO calculation, assumed to be effective January 1, 2010.
- 3 Expenditures incurred by OPG relate to both short-term programs (Used Fuel Storage, L&ILW Storage) and long-term programs (Used Fuel Disposal, L&ILW Disposal and Decommissioning), whereas disbursements from Nuclear Segregated Funds cover long-term programs only.
- 4 Nuclear segregated funds figures for 2010 - 2012 are as per Ex. C2-T1-S2 Table 1.

Table 4
Bruce Facilities - Asset Retirement Obligation, Nuclear Segregated Funds, and Asset Retirement Costs (\$M)
Years Ending December 31, 2010, 2011 and 2012

Line No.	Description	Note	2010 Budget	2011 Plan	2012 Plan
			(a)	(b)	(c)
	ASSET RETIREMENT OBLIGATION				
1	Opening Balance	1	5,315.0	5,536.9	5,761.8
2	Nuclear Station End-of-Life Assumption Adjustment	2	0.0	0.0	0.0
3	Adjustment to Remove Cobalt Waste Management Provision		0.0	0.0	0.0
4	Adjusted Opening Balance (line 1 + line 2 + line 3)		5,315.0	5,536.9	5,761.8
5	Used Fuel Storage and Disposal Variable Expenses		14.8	15.1	21.6
6	Low & Intermediate Level Waste Management Variable Expenses		0.9	0.8	0.7
7	Accretion Expense		291.9	303.8	316.2
8	Expenditures for Used Fuel, Waste Management & Decommissioning	3	(85.7)	(94.8)	(96.1)
9	Consolidation Adjustment		0.0	0.0	0.0
10	Closing Balance (line 4 + line 5 + line 6 + line 7 + line 8 + line 9)		5,536.9	5,761.8	6,004.2
11	Average Asset Retirement Obligation ((line 4 + line 10)/2)		5,426.0	5,649.4	5,883.0
	NUCLEAR SEGREGATED FUNDS BALANCE				
12	Opening Balance	4	5,187.2	5,522.6	5,879.9
13	Reallocation Adjustment	4	0.0	0.0	0.0
14	Adjusted Opening Balance (line 12 + line 13)		5,187.2	5,522.6	5,879.9
15	Earnings (Losses)	4	268.8	286.2	304.6
16	Contributions	4	113.9	105.5	99.7
17	Disbursements	3, 4	(47.3)	(34.4)	(31.2)
18	Closing Balance (line 14 + line 15 + line 16 + line 17)		5,522.6	5,879.9	6,252.9
19	Average Nuclear Segregated Funds Balance ((line 14 + line 18)/2)		5,354.9	5,701.3	6,066.4
	ASSET RETIREMENT COSTS (ARC)				
20	Opening Balance	1	1,035.8	987.3	938.7
21	Nuclear Station End-of-Life Assumption Adjustment	2	0.0	0.0	0.0
22	Reclassification Adjustment		0.0	0.0	0.0
23	Adjusted Opening Balance (line 20 + line 21 + line 22)		1,035.8	987.3	938.7
24	Depreciation Expense		(48.5)	(48.5)	(48.5)
25	Closing Balance (line 23 + line 24)		987.3	938.7	890.2
26	Average Asset Retirement Costs ((line 23 + line 25)/2)		1,011.6	963.0	914.5

Notes:

- 1 2010 opening balance as per Ex. C2-T1-S2 Table 2, col. (c).
- 2 Adjustment associated with the changes to the nuclear station end-of-life date assumptions underlying the ARO calculation, assumed to be effective January 1, 2010.
- 3 Expenditures incurred by OPG relate to both short-term programs (Used Fuel Storage, L&ILW Storage) and long-term programs (Used Fuel Disposal, L&ILW Disposal and Decommissioning), whereas disbursements from Nuclear Segregated Funds cover long-term programs only.
- 4 Nuclear segregated funds figures for 2010 - 2012 are as per Ex. C2-T1-S2 Table 2.

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Attachment 3

Table 5

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Numbers may not add due to rounding.

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Table 6
Revenue Requirement Impact of Adjustment to Nuclear Liabilities (\$M)
Years Ending December 31, 2011 and 2012

Line No.	Description	Note or Reference (for Col. (a) and (b))	Modified Station End-of-Life Assumptions Per Undertaking J10.11		Note or Reference (for Col. (c) and (d))	As Filed in EB-2010-0008		(a)-(c)+(b)-(d) Revenue Requirement Impact
			2011	2012		2011	2012	
			(a)	(b)		(c)	(d)	(e)
	PRESCRIBED FACILITIES							
1	Depreciation of Asset Retirement Costs	J10.11 Att 3 Table 3	123.8	123.8	C2-T1-S2 Table 1	33.2	33.2	181.1
2	Used Fuel Storage and Disposal Variable Expenses	J10.11 Att 3 Table 3	22.6	24.3	C2-T1-S2 Table 1	26.6	28.5	(8.2)
3	Low & Intermediate Level Waste Management Variable Expenses	J10.11 Att 3 Table 3	0.8	0.8	C2-T1-S2 Table 1	0.8	0.8	(0.0)
	Return on ARC in Rate Base:							
4	Accretion Rate	Note 1	51.1	44.2	C1-T1-S1 Tables 1 and 2	85.0	83.1	(72.9)
5	Weighted Average Cost of Capital	Note 1	0.0	0.0	C2-T1-S2 Table 5	0.0	0.0	0.0
6	Total Revenue Requirement Impact - Prescribed Facilities		198.3	193.0		145.7	145.7	100.0
	(line 1 + line 2 + line 3 + line 4 + line 5)							
	BRUCE FACILITIES							
7	Depreciation of Asset Retirement Costs	J10.11 Att 3 Table 4	48.5	48.5	C2-T1-S2 Table 2	28.5	28.5	40.2
8	Used Fuel Storage and Disposal Variable Expenses	J10.11 Att 3 Table 4	15.1	21.6	C2-T1-S2 Table 2	17.0	24.0	(4.2)
9	Low & Intermediate Level Waste Management Variable Expenses	J10.11 Att 3 Table 4	0.8	0.7	C2-T1-S2 Table 2	0.8	0.7	(0.0)
10	Accretion	J10.11 Att 3 Table 4	303.8	316.2	C2-T1-S2 Table 2	294.5	307.2	18.3
11	Less: Segregated Fund Earnings (Losses)	J10.11 Att 3 Table 4	286.2	304.6	C2-T1-S2 Table 2	286.2	304.6	0.0
12	Total Revenue Requirement Impact - Bruce Facilities		82.1	82.5		54.5	55.8	54.2
	(line 7 + line 8 + line 9 + line 10 - line 11)							
13	Total Revenue Requirement Impact of Adjustment to Nuclear Liabilities							154.2
	(col. (e): line 6 + line 12)							

Notes:

- Pre-tax Revenue Requirement impact on Return on ARC in Rate Base of modified nuclear station end-of-life assumptions is derived as follows:
If the forecast of average unfunded nuclear liabilities (ARO less nuclear segregated funds) is lower than the average unamortized ARC, then that difference is assumed to be the funded portion of the unamortized ARC. The funded portion earns a return at the weighted average cost of capital (WACC). During the test period, the average unamortized ARC is less than the unfunded average nuclear liability (UNL), so none of the unamortized ARC earns the WACC.

Line No.	Description	(J10.11 Att 3 Table 3, line 29) Lesser of Average UNL or ARC	Average Accretion Rate	(a) x (b) Pre-Tax Revenue Requirement
		(a)	(b)	(c)
	2011 Plan:			
1	Adjustment for Lesser of Average UNL or ARC	912.3	5.60%	51.1
	2012 Plan:			
2	Adjustment for Lesser of Average UNL or ARC	788.5	5.60%	44.2