

SCHOOL ENERGY COALITION

**CROSS-EXAMINATION
MATERIALS**

EB-2016-0152

OPG Panel 2Ai and 2B

Supplementary Materials

OPG Hydroelectric Cost Model

Component	Rebasing a	2016 b	2017 c	2018 d	2019 e	2020 f	2021 g	Totals h	Notes
1 Gross Assets	9,326.8	9,326.8	9,326.8	9,420.8	9,560.8	9,674.8	9,804.3		
2 Accum. Depreciation	1,814.1	1,957.6	2,101.1	2,244.6	2,389.5	2,536.6	2,685.5		From EB2013-0321 plus additions
3 Net Rate Base	7,512.7	7,369.2	7,225.7	7,176.2	7,171.3	7,138.2	7,118.8		From EB2013-0321 plus prior year depreciation
4 Implied Depreciation Rate	1.54%	1.54%	1.54%	1.54%	1.54%	1.54%	1.54%		Depreciation as a percentage of gross assets
5 Planned Capital Additions			94.0	140.0	114.0	129.5	138.5		SEC-95, net of CRVA amounts
6 Proposed I-Factor			1.80%	1.80%	1.80%	1.80%	1.80%		From 11-2-1
7 Rate Escalator Proposed			1.50%	1.50%	1.50%	1.50%	1.50%		
8 OM&A Escalation			1.50%	1.50%	1.50%	1.50%	1.50%		
Costs Associated with Operations									
9 GRC	350.5	350.5	355.9	355.9	355.9	355.9	355.9		Varies based only on production
10 OM&A	335.0	335.0	340.0	345.1	350.3	355.6	360.9		Increases at inflation less stretch
11 Total Ops Costs	685.5	685.5	695.9	701.0	706.2	711.4	716.8	3,531.4	Five years 2017-2021
Costs Associated with Capital									
12 Depreciation/Amortization	143.5	143.5	143.5	144.9	147.1	148.9	150.8		Increases as gross assets increase
13 Cost of Debt	199.5	195.7	191.9	190.6	190.4	189.6	189.0		Declines as rate base declines
14 ROE	315.0	309.0	303.0	300.9	300.7	299.3	298.5		Declines as rate base declines
15 PILs	79.8	78.3	76.8	76.2	76.2	75.8	75.6		Adj. rebasing to add \$12.3M per 11-2-1, Table 2
16 Total Capital Related Costs	737.8	726.4	715.1	712.6	714.4	713.5	714.0	3,569.6	
17 Total Costs	1,423.3	1,411.9	1,411.0	1,413.6	1,420.6	1,425.0	1,430.8	7,101.0	Five years 2017-2021
18 Less Other Revenues	85.7	85.7	85.7	85.7	85.7	85.7	85.7	428.5	EB-2013-0321 amount
19 Net Revenue Requirement	1,337.6	1,326.2	1,325.3	1,327.9	1,334.9	1,339.3	1,345.1	6,672.5	6,779.9 at 2015 rates
20 Payment Amount	\$41.09	\$41.09	\$41.71	\$42.34	\$42.97	\$43.62	\$44.27		
21 Production (TWh)	32.5	32.5	33.0	33.0	33.0	33.0	33.0		
22 Revenues	1,335.4	1,335.4	1,376.4	1,397.1	1,418.0	1,439.3	1,460.9	7,091.7	Five years 2017-2021
23 Excess Revenues			51.1	69.1	83.1	100.0	115.8	419.2	6.28% Average Excess revenues
24 Cost-Based Payment Amount		\$40.16	\$40.24	\$40.45	\$40.58	\$40.58	\$40.76		
25 Difference		\$1.55	\$2.09	\$2.52	\$3.03	\$3.51	\$3.51		
26 Excess Revenue from Customers		51.1	69.1	83.1	100.0	100.0	115.8		
27 Percent		3.86%	5.21%	6.23%	7.47%	7.47%	8.61%		

Summary Note: Comments on SEC Hydroelectric IRM Spreadsheet

MAJOR ISSUES WITH SEC Spreadsheet

OPG has reviewed the spreadsheet distributed by SEC on March 15, 2017 and has identified three major issues. OPG discussed these issues below and has addressed these issues in a revised spreadsheet provided as Attachment 1.

SEC's Scenario Incorrectly Adjusts OM&A Under 4GIRM

Under 4GIRM, the OEB determines an annual inflationary adjustment using an index that combines sub-indices for capital and OM&A inflation. In line 10 of their scenario, SEC incorrectly escalates OPG's OM&A costs by the combined capital & OM&A inflation factor.

Notwithstanding OPG's view that it is inappropriate to project future costs in the context of an IRM adjustment application, the correct method to do so would be to escalate OM&A by the OM&A inflation sub-indices published by the OEB. OPG's corrected scenario (Attachment 1), escalates OPG's OM&A costs by 2.1% for 2016 and 2.3% for the IR period, less the proposed 0.3% stretch factor. These values were calculated using the OEB's published AWE and GDP-IPI_FDD values for the 2016 and 2017 years as set out in Charts 1 and 2 below.

Chart 1: 2016 OM&A Inflation Index Values

Inputs and Assumptions												
Year	Non-Labour GDP-IPI (FDD) - National							Labour AWE - All Employees - Ontario			Resultant Values - Annual Growth for	
	Q1	Q2	Q3	Q4	Annual	Annual % Change	Weight ¹	Annual	Annual % Change	Weight ¹	Annual	Annual % Change
2014	110.5	110.6	111.2	111.7	111			\$ 920.16			103.7	
2015	112.7	113.2	113.7	114.1	113.425	2.185%	37%	\$ 938.36	1.98%	63%	105.8536	2.0555%
							0.810%					2.06%
												2.10%

Note 1: As described in Ex. A1-3-2, Chart 3, OM&A Non-Labour and Labour costs account for 7% and 12% of the total I-factor. The weighting in this Chart reflects the same ratio between the Labour and Non-Labour sub-indices.

Chart 2: 2017 OM&A Inflation Index Values

Inputs and Assumptions												
Year	Non-Labour GDP-IPI (FDD) - National							Labour AWE - All Employees - Ontario			Resultant Values - Annual Growth for	
	Q1	Q2	Q3	Q4	Annual	Annual % Change	Weight ¹	Annual	Annual % Change	Weight ¹	Annual	Annual % Change
2014	112.5	113.2	113.7	114.1	113			\$ 938.27			103.7	
2015	114.4	114.8	115.6	116.1	115.225	1.632%	37%	\$ 962.73	2.61%	63%	106.0594	2.2497%
							0.600%					2.25%
												2.30%

Note 1: As described in Ex. A1-3-2, Chart 3, OM&A Non-Labour and Labour costs account for 7% and 12% of the total I-factor. The weighting in this Chart reflects the same ratio between the Labour and Non-Labour sub-indices.

SEC’s Scenario Incorrectly Excludes Capital Additions for CRVA-eligible Projects

The planned capital additions in line 5 of SEC’s scenario excludes expected in-service amounts for projects that may be eligible for inclusion in the Capacity Refurbishment Variance Account (“CRVA”) during the IR period. While OPG believes it is inappropriate to use forward-looking information in an annual adjustment proceeding under IRM, if the OEB does choose to consider these expected in-service amounts, they should not be excluded from the planned capital additions in this scenario.

In Attachment 1, OPG has included the expected in-service amounts for CRVA-eligible projects in line 5 (Expected Capital Additions), as set out in the updated response to Ex. L-11.1-15 SEC-095, Chart 1.

SEC’s Scenario Uses Incorrect Capital Input Values

SEC appears to have used incorrect Gross Assets and Accumulated Depreciation values in the “Rebasing” column of their scenario. The values used by SEC appear to be too high. OPG has corrected these amounts.

OPG has also included OEB-approved working capital amounts in line 3b.

OTHER ISSUES WITH SEC SCENARIO

OPG has also identified several smaller but still significant issues with SEC’s scenario, each of which has been corrected in the Attachment:

- i. SEC appears to have made an error in the production values for 2015 and 2016. SEC’s scenario assumes production of 32.5 TWh in those years. Based on the approach SEC takes to calculate other items in those years, the appropriate production value would be 33 TWh, which increases revenues assumed for OPG in the scenario.
- ii. SEC did not escalate OM&A costs in 2016. Although OPG’s payment amounts did not increase in 2016, costs were still subject to inflation.
- iii. In the past, OPG has incurred significant unusual or one-time costs that could cause costs to increase significantly in individual years. SEC’s scenario does not account for any such costs during the 2017-2021 period. Since this is not a rebasing application, there is no forecast on which to assume any such costs and OPG has not proposed any adjustment to the scenario. However, OPG expects that there will likely be unique events that drive result in increased costs during the IR period; SEC’s scenario does not account for the costs of these events.
- iv. PILs did not reflect the adjustment to correct for the one-time allocation of nuclear tax losses as proposed in the Settlement Agreement on Issue 11.2.
- v. The Other Revenues in line 18 did not reflect the Actual 2015 HIM revenues provided in Ex. L.9.3-1 Staff-214.

Attachment 1 - OPG Hydroelectric Cost Model

2014-2015

OEB

Approved

2017-2021

Totals

h

Notes

Comparison with SEC Scenario

i

Component	2016	2017	2018	2019	2020	2021	Totals
a	b	c	d	e	f	g	h
1 Gross Assets	9,290.2	9,418.6	9,600.6	9,778.6	9,964.6	10,175.6	10,370.6
2 Accum. Depreciation	1,813.9	1,958.9	2,106.6	2,257.0	2,410.3	2,566.9	2,726.5
3a Net Fixed Assets	7,476.3	7,459.8	7,494.1	7,521.6	7,554.3	7,608.7	7,644.2
3b Working Capital & Cash Working Capital	31.4	31.4	31.4	31.4	31.4	31.4	31.4
3c Net Rate Base	7,507.7	7,491.2	7,525.5	7,553.0	7,585.7	7,640.1	7,675.6
4 Weighted Average Depreciation Rate	1.54%	1.54%	1.54%	1.54%	1.54%	1.54%	1.54%

5 Expected Capital Additions	128.4	182.0	178.0	186.0	211.0	195.0	1,950.0
6 I-Factor	N/A	1.80%	1.80%	1.80%	1.80%	1.80%	1.80%
7 X-Factor	N/A	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%
8 OM&A Escalation Index	2.10%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%

Costs Associated with Operations

9 GRC	350.6	350.6	350.6	350.6	350.6	350.6	1,752.9
10 OM&A	334.9	342.0	348.8	355.8	362.9	370.2	1,815.3
11 Total Ops Costs	685.5	692.6	699.4	706.4	713.5	720.7	3,568.2

Costs Associated with Capital

12 Depreciation/Amortization	143.3	144.9	147.7	150.5	153.3	156.6	767.6
13 Cost of Debt	199.4	199.0	199.9	200.6	201.5	203.0	1,008.9
14 ROE	315.2	314.5	316.0	317.1	318.5	320.8	1,594.6
15 PILS	78.6	78.4	78.8	79.1	79.4	80.0	397.6
16 Total Capital Related Costs	736.5	736.9	742.4	747.3	752.7	760.3	3,768.7

Net Revenue Requirement

17 Total Costs	1,422.0	1,429.4	1,441.8	1,453.7	1,466.2	1,481.0	7,336.9
18 Less Other Revenues	85.7	57.7	57.7	57.7	57.7	57.7	288.5
19 Net Revenue Requirement	1,336.3	1,371.7	1,384.1	1,395.9	1,408.5	1,423.3	7,048.3

Insufficient/Excess Revenues

20 Payment Amount	\$41.09	\$41.09	\$41.71	\$42.33	\$42.97	\$43.61	\$44.27
21 Production (TWh)	33.0	33.0	33.0	33.0	33.0	33.0	33.0
22 Revenues	1,356.0	1,356.0	1,376.3	1,397.0	1,417.9	1,439.2	7,091.1
23 Insufficient/Excess Revenues	(15.7)	(7.7)	1.0	9.4	15.9	24.2	42.8

Cost-Based Payment Amount

24 Cost-Based Payment Amount	\$41.94	\$42.30	\$42.68	\$43.13	\$43.53	\$43.93	\$44.33
25 Difference	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.73
26 Insufficient/Excess Revenues	-7.7	1.0	9.4	15.9	24.2	33.0	70.2
27 Percent	-0.56%	0.07%	0.67%	1.11%	1.69%	2.30%	3.00%

OPG finances Working Capital, which impacts ROE and interest expense

Applied SEC approach to revised rate base

2017-2021 in-service additions as shown in Ex. L.11.1.1 SEC-095, 2016 in service reflects average 2014 (\$77.5M) and 2015 (\$136.4M) per EB-2013-0321 page 21, escalated by Compound Annual Growth Rate of 20%.

EB-2016-0152 Ex II-2-1, Table 1, line 1

EB-2016-0152 Ex II-2-1, Table 1, line 5

Based on OEB published index values for labour and non-labour OM&A and OPG input factor weightings

Varies based on production (SEC used in correct 2014-2015 production)

SEC uses price cap index and stretch. OPG uses OM&A index and stretch

Applies SEC approach to revised rate base

Applies SEC approach to revised rate base

Applies SEC approach to revised rate base

Applies SEC formula to revised ROE - includes property tax and annual impact of \$21.7M tax loss

Five years 2017-2021

Adjusted for 2015 HIM shortfall. HIM shortfall will continue 2017-2021

Higher Net Costs than projected by SEC

EB-2016-0152 Ex II-2-1, Table 1, line 8

EB 2013-0321 Payment Amount Order, Appendix A, Line 1, Col (b) and (e)

Higher Revenue than projected by SEC

Attachment 1 - OPG Hydroelectric Cost Model (OPG Version Revised)

Component	2014-2015 OEB					2017-2021 Totals			Comparison with SEC Scenario	Notes
	Approved	2016	2017	2018	2019	2020	2021	h		
1 Gross Assets	9,290.2	9,369.2	9,463.2	9,603.2	9,717.2	9,846.7	9,985.2			
2 Accum. Depreciation	1,813.9	1,958.1	2,103.7	2,251.4	2,401.0	2,552.5	2,706.1			
3a Net Fixed Assets	7,476.3	7,411.1	7,359.5	7,351.8	7,316.3	7,294.3	7,279.2			
3b Working Capital & Cash Working Capital	31.4	31.4	31.4	31.4	31.4	31.4	31.4		OPG finances Working Capital, which impacts ROE and interest expense	
3c Net Rate Base	7,507.7	7,442.5	7,390.9	7,383.2	7,347.7	7,325.7	7,310.6		Applied SEC approach to revised rate base	
4 Weighted Average Depreciation Rate		1.54%	1.54%	1.54%	1.54%	1.54%	1.54%		2017-2021 in-service additions as shown in Ex. L.11.1-1 SEC-095. 2016 in service reflects average 2014 (\$77.5M) and 2015 (\$136.4M) per EB-2013-0321 page 21, escalated by Compound Annual Growth Rate of 20%. EB-2016-0152 Ex 11-2-1, Table 1, line 1 EB-2016-0152 Ex 11-2-1, Table 1, line 5 Based on OEB published index values for labour and non-labour OMB&A and OPG input factor weightings	
5 Expected Capital Additions		79.0	94.0	140.0	114.0	129.5	138.5			
6 I Factor		N/A	1.80%	1.80%	1.80%	1.80%	1.80%			
7 X-Factor		N/A	0.30%	0.30%	0.30%	0.30%	0.30%			
8 OMB&A Escalation Index		2.06%	2.25%	2.25%	2.25%	2.25%	2.25%			
<i>Costs Associated with Operations</i>										
9 GRC	350.6	350.6	350.6	350.6	350.6	350.6	350.6	1,752.9	(26.6)	
10 OMB&A	334.9	325.0	331.3	337.8	344.4	351.1	357.9	1,722.6	(29.3)	
11 Total Ops Costs	685.5	675.6	681.9	688.4	695.0	701.7	708.5	3,475.5	(55.9)	
<i>Costs Associated with Capital</i>										
12 Depreciation/Amortization	143.3	144.2	145.6	147.8	149.5	151.5	153.6	748.0	12.8	
13 Cost of Debt	199.4	197.7	196.3	196.1	195.2	194.6	194.2	976.5	25.0	
14 ROE	315.2	312.5	310.3	310.0	308.5	307.6	306.9	1,543.3	41.0	
15 PILS	78.6	77.9	77.4	77.3	76.9	76.7	76.5	384.8	4.2	
16 Total Capital Related Costs	736.5	732.3	729.6	731.2	730.1	730.4	731.3	3,652.6	83.0	
17 Total Costs	1,422.0	1,407.8	1,411.5	1,419.5	1,425.1	1,432.0	1,439.8	7,128.0	27.0	
18 Less Other Revenues	85.7	57.7	57.7	57.7	57.7	57.7	57.7	288.5	(140.0)	
19 Net Revenue Requirement	1,336.3	1,350.1	1,353.8	1,361.8	1,367.4	1,374.3	1,382.1	6,839.5	(167.0)	
20 Payment Amount	\$41.09	\$41.09	\$41.71	\$42.33	\$42.97	\$43.61	\$44.27			
21 Production (TWh)	33.0	33.0	33.0	33.0	33.0	33.0	33.0			
22 Revenues	1,356.0	1,356.0	1,376.3	1,397.0	1,417.9	1,439.2	1,460.8	7,091.1	(0.6)	
23 Insufficient/Excess Revenues	5.8	22.5	35.1	35.1	50.5	64.8	78.6	251.6	(167.6)	
24 Cost-Based Payment Amount		\$41.03	\$41.27	\$41.44	\$41.65	\$41.88	\$42.11			
25 Difference		\$0.68	\$1.06	\$1.53	\$1.96	\$2.38	\$2.80			
26 Insufficient/Excess Revenues		22.5	35.1	50.5	64.8	78.6	93.5			
27 Percent		1.66%	2.58%	3.70%	4.72%	5.69%	6.77%			

(5) Hydroelectric Total Generating Cost per MWh is used to measure the cost performance of OPG's hydroelectric generating assets. Hydroelectric TGC per MWh is defined as OM&A expenses of the Regulated – Hydroelectric segment and the hydroelectric facilities included in the Contracted Generation Portfolio segment (excluding generation development project costs, the impact of regulatory variance and deferral accounts, and expenses ancillary to the hydroelectric electricity generation business), hydroelectric gross revenue charge and water rental payments (excluding the impact of regulatory variance and deferral accounts), and capital expenditures of the Regulated – Hydroelectric segment and the hydroelectric facilities included in the Contracted Generation Portfolio segment (excluding expenditures related to the Peter Sutherland Sr. GS and other hydroelectric generation development projects) incurred during the period, divided by total hydroelectric electricity generation plus hydroelectric electricity generation forgone due to SBG conditions during the period. OPG reports hydroelectric gross revenue charge and water rental payments as fuel expense.

Hydroelectric TGC per MWh is calculated as follows for the 12-month period ended December 31:

<i>(millions of dollars – except where noted)</i>	2016	2015
Hydroelectric TGC		
Regulated – Hydroelectric Generation OM&A expenses	325	340
Regulated – Hydroelectric Generation fuel expense	353	345
Contracted Generation Portfolio OM&A expenses	178	185
Contracted Generation Portfolio fuel expense	58	39
Regulated – Hydroelectric Generation and Contracted Generation Portfolio capital expenditures	330	311
Less: Regulated – Hydroelectric Generation and Contracted Generation Portfolio generation development project capital and OM&A costs	(158)	(197)
Less: Thermal OM&A, fuel expenses, and capital expenditures in the Contracted Generation Portfolio	(177)	(163)
(Less) Add: Regulated – Hydroelectric Generation OM&A and fuel expenses deferred in regulatory variance and deferral accounts	(24)	18
Add: Hydroelectric gross revenue charge and water rental payments for electricity generation forgone due to SBG conditions	49	34
Other adjustments	(1)	-
	933	912
Adjusted hydroelectric electricity generation (<i>TWh</i>)		
Regulated – Hydroelectric Generation electricity generation	29.5	30.4
Contracted Generation Portfolio electricity generation	3.1	3.1
Adjust for hydroelectric electricity generation forgone due to SBG conditions and non-hydroelectric electricity generation of the Contracted Generation Portfolio	4.0	2.6
	36.6	36.1
Hydroelectric TGC per MWh (\$/MWh)¹	25.49	25.26

¹ Amounts may not calculate due to rounding.

(6) Gross margin is defined as revenue less fuel expense.

Property, plant and equipment as at December 31 consist of the following:

<i>(millions of dollars)</i>	2016	2015
Nuclear generating stations	11,057	11,999
Regulated hydroelectric generating stations	9,430	9,351
Contracted generation portfolio generating stations	3,751	3,713
Other property, plant and equipment	1,595	1,839
Construction in progress	3,482	2,567
	29,315	29,469
Less: accumulated depreciation		
Generating stations	7,948	7,359
Other property, plant and equipment	1,369	1,515
	9,317	8,874
	19,998	20,595

In December 2015, OPG received a Shareholder Declaration and a Shareholder Resolution that requires the Company to sell its head office premises and associated parking facility located at 700 University Avenue and 40 Murray Street in Toronto, Ontario. An active program to locate a buyer was initiated in October 2016. As such, in the fourth quarter of 2016, OPG reclassified the net book value of \$96 million (December 31, 2015 – \$96 million) for these assets out of PP&E of the Services, Trading, and Other Non-Generation segment into Other current assets. Depreciation on the assets ceased in the fourth quarter of 2016. In December 2016, a purchase and sale agreement was executed, and the sale is expected to be completed during the second quarter of 2017. An estimated after-tax gain on sale in excess of \$200 million is expected to be recognized upon completion of the transaction. Pursuant to the December 2015 Shareholder Declaration and Shareholder Resolution, and as prescribed in the *Trillium Trust Act 2014*, OPG is required to transfer the proceeds, net of prescribed deductions under the act, from this disposition into the Province's Consolidated Revenue Fund.

Construction in progress as at December 31 consists of the following:

<i>(millions of dollars)</i>	2016	2015
Darlington Refurbishment	2,563	1,868
Peter Sutherland Sr. GS	236	95
Other	683	604
	3,482	2,567

Interest capitalized to construction and development in progress at an average rate of five percent during 2016 (2015 – five percent) was \$141 million (2015 – \$102 million).

Segment Income (Loss) for the Year Ended December 31, 2016 <i>(millions of dollars)</i>	Regulated			Unregulated			Total
	Nuclear Generation	Nuclear Waste Manage- ment	Hydro- electric	Contracted Generation Portfolio	Services, Trading, and Other Non- Generation	Elimination	
Revenue	3,481	138	1,527	573	68	(134)	5,653
Fuel expense	315	-	353	58	1	-	727
Gross margin	3,166	138	1,174	515	67	(134)	4,926
Operations, maintenance and administration	2,210	146	325	178	22	(134)	2,747
Depreciation and amortization	925	-	225	75	32	-	1,257
Accretion on fixed asset removal and nuclear waste management liabilities	-	912	-	9	8	-	929
Earnings on nuclear fixed asset removal and nuclear waste management funds	-	(746)	-	-	-	-	(746)
Income from investments subject to significant influence	-	-	-	(37)	-	-	(37)
Property taxes	26	-	1	7	12	-	46
Restructuring	-	-	-	-	6	-	6
Other losses (gains)	1	-	(19)	1	-	-	(17)
Income (loss) before interest and income taxes	4	(174)	642	282	(13)	-	741

Segment Income (Loss) for the Year Ended December 31, 2015 <i>(millions of dollars)</i>	Nuclear Generation	Regulated Nuclear Waste Manage- ment	Hydro- electric	Contracted Generation Portfolio	Unregulated Services, Trading, and Other Non- Generation	Elimination	Total
Revenue	3,245	122	1,619	535	73	(118)	5,476
Fuel expense	301	-	345	39	2	-	687
Gross margin	2,944	122	1,274	496	71	(118)	4,789
Operations, maintenance and administration	2,196	132	340	185	48	(118)	2,783
Depreciation and amortization	717	-	282	72	29	-	1,100
Accretion on fixed asset removal and nuclear waste management liabilities	-	880	-	8	7	-	895
Earnings on nuclear fixed asset removal and nuclear waste management funds	-	(704)	-	-	-	-	(704)
Income from investments subject to significant influence	-	-	-	(39)	-	-	(39)
Property taxes	26	-	1	7	11	-	45
Restructuring	-	-	-	-	6	-	6
Other losses	3	-	3	1	7	-	14
Income (loss) before interest and income taxes	2	(186)	648	262	(37)	-	689

Selected Consolidated Balance Sheet Information as at December 31, 2016	Regulated Nuclear Waste Manage- ment			Unregulated Services, Trading, and Other Non- Generation		
<i>(millions of dollars)</i>	Nuclear Generation		Hydro- electric	Contracted Generation Portfolio		Total
Segment property, plant and equipment in-service, net	5,653	-	7,355	3,282	226	16,516
Segment construction in progress	2,988	-	166	301	27	3,482
Segment property, plant and equipment, net	8,641	-	7,521	3,583	253	19,998
Segment intangible assets in-service, net	7	-	2	4	66	79
Segment development in progress	3	-	-	1	16	20
Segment intangible assets, net	10	-	2	5	82	99
Segment fuel inventory	276	-	-	34	-	310
Segment materials and supplies inventory, net:						
Current	99	-	-	1	-	100
Long-term	340	-	1	4	-	345
Nuclear fixed asset removal and nuclear waste management funds (current and non-current portions)	-	15,984	-	-	-	15,984
Fixed asset removal and nuclear waste management liabilities	-	(19,103)	-	(160)	(221)	(19,484)

Selected Consolidated Balance Sheet Information as at December 31, 2015	Regulated			Unregulated		Total
	Nuclear Generation	Nuclear Waste Manage- ment	Hydro- electric	Contracted Generation Portfolio	Services, Trading, and Other Non- Generation	
<i>(millions of dollars)</i>						
Segment property, plant and equipment in-service, net	6,972	-	7,413	3,319	324	18,028
Segment construction in progress	2,289	-	99	141	38	2,567
Segment property, plant and equipment, net	9,261	-	7,512	3,460	362	20,595
Segment intangible assets in-service, net	8	-	1	3	58	70
Segment development in progress	-	-	4	-	24	28
Segment intangible assets, net	8	-	5	3	82	98
Segment fuel inventory	304	-	-	40	-	344
Segment materials and supplies inventory, net:						
Current	95	-	-	1	-	96
Long-term	333	-	1	3	-	337
Nuclear fixed asset removal and nuclear waste management funds (current and non-current portions)	-	15,136	-	-	-	15,136
Fixed asset removal and nuclear waste management liabilities	-	(19,792)	-	(151)	(226)	(20,169)

Selected Consolidated Cash Flow Information	Regulated			Unregulated		Total
	Nuclear Generation	Nuclear Waste Management	Hydro- electric	Contracted Generation Portfolio	Services, Trading, and Other Non- Generation	
<i>(millions of dollars)</i>						
Year ended December 31, 2016 Investment in property, plant and equipment, and intangible assets	1,338	-	132	198	36	1,704
Year ended December 31, 2015 Investment in property, plant and equipment, and intangible assets	1,023	-	89	222	42	1,376