

K23.1

SCHOOL ENERGY COALITION

**CROSS-EXAMINATION
MATERIALS**

EB-2016-0152

OPG Rate Smoothing Panel

Ontario Energy Board	
FILE No.	<u>EB-2016-0152</u>
EXHIBIT No.	<u>K23.1</u>
DATE	<u>April 13, 2017</u>
08/99	

Comparison of Rate Smoothing Proposals

Original Proposal (updated to N1-1-1)

Ln	<i>Nuclear</i> <i>a</i>	<i>2016</i> <i>b</i>	<i>2017</i> <i>c</i>	<i>2018</i> <i>d</i>	<i>2019</i> <i>e</i>	<i>2020</i> <i>f</i>	<i>2021</i> <i>g</i>	<i>Totals</i> <i>h</i>
1	Production (Twh)	46.80	38.10	38.47	39.03	37.36	35.38	188.34
2	Rate	\$59.29	\$65.81	\$73.05	\$81.09	\$90.01	\$99.91	
3	Revenue (\$bil)	\$2.775	\$2.507	\$2.810	\$3.165	\$3.363	\$3.535	\$15.380
4	Deferred		\$0.694	\$0.412	\$0.145	\$0.462	-\$0.097	\$1.616
Hydroelectric								
5	Production (Twh)	33.00	33.00	33.00	33.00	33.00	33.00	165.00
6	Rate	\$41.09	\$41.71	\$42.33	\$42.97	\$43.61	\$44.27	
7	Revenue (\$bil)	\$1.356	\$1.376	\$1.397	\$1.418	\$1.439	\$1.461	\$7.091
8	Total Revenue	\$4.131	\$3.884	\$4.207	\$4.583	\$4.802	\$4.996	\$22.471
9	WAPA excluding rate riders	\$51.76	\$54.62	\$58.87	\$63.62	\$68.25	\$73.06	
10	Percent Increase		5.52%	7.77%	8.08%	7.27%	7.04%	

11	Revenue at Current Rates							\$17.947
12	Deficiency (5 years)							\$6.141
13	Deferred Component							\$1.616
14	Percentage							26.32%

Current Proposal (N3-1-1)

	<i>Nuclear</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>Totals</i>
15	Production (Twh)	46.80	38.10	38.47	39.03	37.36	35.38	188.34
16	Rate	\$59.29	\$76.39	\$78.60	\$84.83	\$88.21	\$92.02	
17	Revenue (\$bil)	\$2.775	\$2.910	\$3.024	\$3.311	\$3.296	\$3.256	\$15.796
18	Deferred		\$0.251	\$0.162	-\$0.038	\$0.488	\$0.142	\$1.005
Hydroelectric								
19	Production (Twh)	33.00	33.00	33.00	33.00	33.00	33.00	165.00
20	Rate	\$41.09	\$41.71	\$42.33	\$42.97	\$43.61	\$44.27	
21	Revenue (\$bil)	\$1.356	\$1.376	\$1.397	\$1.418	\$1.439	\$1.461	\$7.091
22	Total Revenue	\$4.131	\$4.287	\$4.421	\$4.729	\$4.735	\$4.716	\$22.887
23	WAPA excluding rate riders	\$51.76	\$60.29	\$61.85	\$65.65	\$67.29	\$68.97	
24	Percent Increase		16.48%	2.59%	6.14%	2.50%	2.50%	

25	Revenue at Current Rates							\$17.947
26	Deficiency (5 years)							\$5.946
27	Deferred Component							\$1.005
28	Percentage							16.90%

Ontario Energy Board Act, 1998
Loi de 1998 sur la Commission de l'énergie de l'Ontario

ONTARIO REGULATION 53/05
PAYMENTS UNDER SECTION 78.1 OF THE ACT

Consolidation Period: From January 1, 2016 to the e-Laws currency date.

Last amendment: O. Reg. 353/15.

This Regulation is made in English only.

Definition

0.1 (1) In this Regulation,

“approved reference plan” means a reference plan, as defined in the Ontario Nuclear Funds Agreement, that has been approved by Her Majesty the Queen in right of Ontario in accordance with that agreement;

“Darlington Refurbishment Project” means the work undertaken by Ontario Power Generation Inc. in respect of the refurbishment, in whole or in part, of some or all of the generating units of the Darlington Nuclear Generating Station;

“deferral period” means the period beginning on January 1, 2017, and ending when the Darlington Refurbishment Project ends;

“nuclear decommissioning liability” means the liability of Ontario Power Generation Inc. for decommissioning its nuclear generation facilities and the management of its nuclear waste and used fuel;

“nuclear facilities” means the nuclear generation facilities prescribed in paragraphs 3, 4 and 5 of section 2;

“Ontario Nuclear Funds Agreement” means the agreement entered into as of April 1, 1999 by Her Majesty the Queen in right of Ontario, Ontario Power Generation Inc. and certain subsidiaries of Ontario Power Generation Inc., including any amendments to the agreement. O. Reg. 23/07, s. 1; O. Reg. 353/15, s. 1.

(2) For the purposes of this Regulation, the output of a generation facility shall be measured at the facility’s delivery points, as determined in accordance with the market rules. O. Reg. 312/13. s. 1.

Prescribed generator

1. Ontario Power Generation Inc. is prescribed as a generator for the purposes of section 78.1 of the Act. O. Reg. 53/05, s. 1.

Prescribed generation facilities

2. The following generation facilities of Ontario Power Generation Inc. are prescribed for the purposes of section 78.1 of the Act:

1. The following hydroelectric generating stations located in The Regional Municipality of Niagara:
 - i. Sir Adam Beck I.
 - ii. Sir Adam Beck II.
 - iii. Sir Adam Beck Pump Generating Station.
 - iv. De Cew Falls I.
 - v. De Cew Falls II.
2. The R. H. Saunders hydroelectric generating station on the St. Lawrence River.
3. Pickering A Nuclear Generating Station.
4. Pickering B Nuclear Generating Station.
5. Darlington Nuclear Generating Station.

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Ontario Energy Board Act, 1998
Loi de 1998 sur la Commission de l'énergie de l'Ontario

ONTARIO REGULATION 53/05

PAYMENTS UNDER SECTION 78.1 OF THE ACT

Consolidation Period: From March 2, 2017 to the e-Laws currency date.

Last amendment: O. Reg. 57/17.

This Regulation is made in English only.

Definition

0.1 (1) In this Regulation,

“approved reference plan” means a reference plan, as defined in the Ontario Nuclear Funds Agreement, that has been approved by Her Majesty the Queen in right of Ontario in accordance with that agreement;

“calculation period” means each period for which the Board determines the approved revenue requirements under subparagraph 12 ii of subsection 6 (2) together with the year immediately prior to that period;

“Darlington Refurbishment Project” means the work undertaken by Ontario Power Generation Inc. in respect of the refurbishment, in whole or in part, of some or all of the generating units of the Darlington Nuclear Generating Station;

“deferral period” means the period beginning on January 1, 2017, and ending when the Darlington Refurbishment Project ends;

“hydroelectric facilities” means the hydroelectric generation facilities prescribed in paragraphs 1, 2 and 6 of section 2;

“nuclear decommissioning liability” means the liability of Ontario Power Generation Inc. for decommissioning its nuclear generation facilities and the management of its nuclear waste and used fuel;

“nuclear facilities” means the nuclear generation facilities prescribed in paragraphs 3, 4 and 5 of section 2;

“Ontario Nuclear Funds Agreement” means the agreement entered into as of April 1, 1999 by Her Majesty the Queen in right of Ontario, Ontario Power Generation Inc. and certain subsidiaries of Ontario Power Generation Inc., including any amendments to the agreement.

“OPG weighted average payment amount” for a year means the total production-weighted average payment amount that is used in the determination of the payments made under section 78.1 of the Act with respect to the generation facilities prescribed in section 2 of this Regulation, calculated according to the formula:

$$(((NPA + NPR) \times NPF) + (HPA + HPR) \times HPF) / (NPF + HPF)$$

where,

NPA is the Board-approved payment amount for the year in respect of the nuclear facilities,

NPR is the Board-approved payment amount rider for the year in respect of the recovery of balances recorded in the deferral accounts and variance accounts established for the nuclear facilities, excluding the deferral account established under subsection 5.5 (1),

NPF is the Board-approved production forecast for the nuclear facilities for the year,

HPA is the Board-approved payment amount for the year, or the expected payment amount resulting from a Board-approved rate-setting formula, as applicable, in respect of the hydroelectric facilities,

HPR is the Board-approved payment amount rider for the year in respect of the recovery of balances recorded in the deferral accounts and variance accounts established for the hydroelectric facilities, and

HPF is the Board-approved production forecast for the hydroelectric facilities for the year.

O. Reg. 23/07, s. 1; O. Reg. 353/15, s. 1; O. Reg. 57/17, s. 1.

(2) For the purposes of this Regulation, the output of a generation facility shall be measured at the facility's delivery points, as determined in accordance with the market rules. O. Reg. 312/13, s. 1.

Prescribed generator

1. Ontario Power Generation Inc. is prescribed as a generator for the purposes of section 78.1 of the Act. O. Reg. 53/05, s. 1.

Prescribed generation facilities

2. The following generation facilities of Ontario Power Generation Inc. are prescribed for the purposes of section 78.1 of the Act:

1. The following hydroelectric generating stations located in The Regional Municipality of Niagara:

i. Sir Adam Beck I.

ii. Sir Adam Beck II.

iii. Sir Adam Beck Pump Generating Station.

iv. De Cew Falls I.

v. De Cew Falls II.

2. The R. H. Saunders hydroelectric generating station on the St. Lawrence River.

3. Pickering A Nuclear Generating Station.

4. Pickering B Nuclear Generating Station.

5. Darlington Nuclear Generating Station.

6. As of July 1, 2014, the generation facilities of Ontario Power Generation Inc. that are set out in the Schedule. O. Reg. 53/05, s. 2; O. Reg. 23/07, s. 2; O. Reg. 312/13, s. 2.

Prescribed date for s. 78.1 (2) of the Act

3. April 1, 2008 is prescribed for the purposes of subsection 78.1 (2) of the Act. O. Reg. 53/05, s. 3.

Numbers may not add due to rounding.

Filed: 2016-05-27
 EB-2016-0152
 Exhibit H1
 Tab 2
 Schedule 1
 Table 1

Table 1
 Calculation of Deferral and Variance Account Recovery Payment Rider - Regulated Hydroelectric (\$M)

Line No.	Account	Audited Year End Balance 2015 ¹	EB-2014-0370 OEB-Approved Amortization 2016 ²	(a)-(b) 2015 Balance Less 2016 Approved Amortization	Recovery Period (months)	Amortization Jan - Dec 2017	Amortization Jan - Dec 2018	(e)+(f) Amortization Jan 2017 - Dec 2018	(c)-(g) Unamortized Balance At Dec 31, 2018
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Hydroelectric Water Conditions Variance	(23.0)	(5.6)	(17.3)	24	(8.7)	(8.7)	(17.3)	0.0
2	Ancillary Services Net Revenue Variance - Hydroelectric	(24.2)	(11.0)	(13.2)	24	(6.6)	(6.6)	(13.2)	0.0
3	Hydroelectric Incentive Mechanism Variance	(1.7)	(1.7)	(0.1)	24	(0.0)	(0.0)	(0.1)	0.0
4	Hydroelectric Surplus Baseload Generation Variance	114.4	31.9	82.5	24	41.2	41.2	82.5	0.0
5	Income and Other Taxes Variance - Hydroelectric	(0.1)	(0.1)	(0.0)	24	(0.0)	(0.0)	(0.0)	0.0
6	Capacity Refurbishment Variance - Hydroelectric	83.2	79.9	3.3	24	1.6	1.6	3.3	0.0
7	Pension and OPEB Cost Variance - Hydroelectric - Future	9.5	1.1	8.4	96	1.1	1.1	2.1	6.3
8	Pension and OPEB Cost Variance - Hydroelectric - Post 2012 Additions	32.5	5.9	26.6	54	5.9	5.9	11.8	14.8
9	Pension & OPEB Cash Versus Accrual Differential Deferral - Hydroelectric ³	44.2	0.0	44.2	N/A	0.0	0.0	0.0	44.2
10	Pension & OPEB Cash Payment Variance - Hydroelectric	4.3	0.0	4.3	24	2.1	2.1	4.3	0.0
11	Hydroelectric Deferral and Variance Over/Under Recovery Variance	16.5	3.0	13.5	24	6.7	6.7	13.5	0.0
12	Total	255.5	103.4	152.1				86.8	65.2
13	Forecast Production ⁴ (TWh)							60.5	
14	Regulated Hydroelectric Payment Rider (\$/MWh) (line 12 / line 13)							1.44	

Notes:

- 1 From Ex. H1-1-1 Table 1, col (b)
- 2 From EB-2014-0370 Payment Amounts Order App. A Table 1, col (f).
- 3 Account not proposed for disposition in this application as discussed in Ex. H1-1-1
- 4 2015 Actual Production of 30.2 TWh (divided by 12 months multiplied by 24 months)

Numbers may not add due to rounding.

Filed: 2016-05-27
 EB-2016-0152
 Exhibit H1
 Tab 2
 Schedule 1
 Table 2

Table 2
 Calculation of Deferral and Variance Account Recovery Payment Rider - Nuclear (\$M)

Line No.	Account	Audited Year End Balance 2015 ¹	EB-2014-0370 OEB-Approved Amortization 2016 ²	(a)-(b) 2015 Balance Less 2016 Approved Amortization	Recovery Period (months)	Amortization Jan - Dec 2017	Amortization Jan - Dec 2018	(e)+(f) Amortization Jan 2017 - Dec 2018	(c)-(g) Unamortized Balance At Dec 31, 2018
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Nuclear Liability Deferral	190.5	190.5	0.0	24	0.0	0.0	0.0	0.0
2	Nuclear Development Variance	3.3	1.6	1.7	24	0.9	0.9	1.7	0.0
3	Ancillary Services Net Revenue Variance - Nuclear	2.1	1.2	1.0	24	0.5	0.5	1.0	0.0
4	Capacity Refurbishment Variance - Nuclear - Capital Portion	(32.5)	5.0	(37.6)	24	(18.8)	(18.8)	(37.6)	0.0
5	Capacity Refurbishment Variance - Nuclear - Non-Capital Portion	(30.8)	0.8	(31.6)	24	(15.8)	(15.8)	(31.6)	0.0
6	Bruce Lease Net Revenues Variance - Derivative Sub-Account	(4.5)	64.1	(68.6)	24	(34.3)	(34.3)	(68.6)	0.0
7	Bruce Lease Net Revenues Variance - Non-Derivative Sub-Account - EB-2012-0002	18.7	18.7	0.0	24	0.0	0.0	0.0	0.0
8	Bruce Lease Net Revenues Variance - Non-Derivative Sub-Account - Post 2012 Additions	103.1	82.5	20.6	24	10.3	10.3	20.6	0.0
9	Income and Other Taxes Variance - Nuclear	(13.1)	(8.8)	(4.3)	24	(2.2)	(2.2)	(4.3)	0.0
10	Pension and OPEB Cost Variance - Nuclear - Future	193.2	21.5	171.7	96	21.5	21.5	42.9	128.8
11	Pension and OPEB Cost Variance - Nuclear - Post 2012 Additions	622.0	113.1	508.9	54	113.1	113.1	226.2	282.7
12	Pension & OPEB Cash Versus Accrual Differential Deferral - Nuclear ³	271.1	0.0	271.1	N/A	0.0	0.0	0.0	271.1
13	Pension & OPEB Cash Payment Variance - Nuclear	23.4	0.0	23.4	24	11.7	11.7	23.4	0.0
14	Pickering Life Extension Depreciation Variance	5.2	5.2	0.0	24	0.0	0.0	0.0	0.0
15	Nuclear Deferral and Variance Over/Under Recovery Variance	81.7	37.6	44.1	24	22.1	22.1	44.1	0.0
16	Total	1,433.4	533.0	900.5				217.9	682.6
17	Forecast Production ⁴ (TWh)							76.6	
18	Nuclear Payment Rider (\$/MWh) (line 16 / line 17)							2.85	

Notes:

- From Ex. H1-1-1 Table 1, col (b)
- From EB-2014-0370 Payment Amounts Order, App. A, Table 2, col (f).
- Account not proposed for disposition in this application as discussed in Ex. H1-1-1
- From Ex. E2-1-1 Table 1, line 3, col. (e) plus col. (f).