Ontario Energy Board

Commission de l’énergie de l’Ontario

Ontario

EB-2016-0152

Ontario Power Generation Inc.

Application for payment amounts for the period from January 1, 2017 to December 31, 2021

DECISION ON DRAFT PAYMENT AMOUNTS ORDER AND PROCEDURAL ORDER NO. 10

March 12, 2018

Ontario Power Generation Inc. (OPG) filed an application with the Ontario Energy Board (OEB) on May 27, 2016 under section 78.1 of the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15 (Schedule B), seeking approval for changes in payment amounts for the output of its nuclear generating facilities and most of its hydroelectric generating facilities. The request sought approval for nuclear payment amounts to be effective January 1, 2017 and for each following year through to December 31, 2021. The request sought approval for hydroelectric payment amounts to be effective January 1, 2017 to December 31, 2017 and approval of the hydroelectric payment amount setting formula for the period January 1, 2017 to December 31, 2021.

The OEB issued its Decision and Order (the Decision) on December 28, 2017. The OEB approved an effective date of June 1, 2017 for new payment amounts. The OEB directed OPG to file a draft payment amounts order that includes “… the final revenue requirement and final production forecast for the nuclear facilities, and the final hydroelectric rate setting mechanism and 2017 and 2018 parameters, as reflected in the findings made by the OEB in this Decision. OPG shall include supporting schedules and a clear explanation of all the calculations and assumptions used in deriving the amounts used, and final unsmoothed payment amounts.” OPG was directed to propose smoothing for three implementation date scenarios, and to propose recovery periods for disposition of deferral and variance accounts and forgone revenue.

The Draft Payment Amounts Order (DPAO) was filed on January 17, 2018. OEB staff, the Association of Major Power Consumers in Ontario (AMPCO), Canadian Manufacturers & Exporters (CME), School Energy Coalition (SEC), Sustainability-Journal and Vulnerable Energy Consumers Coalition (VECC) filed submissions on the DPAO on January 26, 2018. OPG filed its reply submission on February 5, 2018.

The OEB has reviewed the DPAO, including the appendices, the submissions of parties and OPG's reply. The OEB finds that revisions to nuclear revenue requirement appendices are required. The OEB does not accept OPG's smoothing proposal and requires further changes to the appendices. OPG shall re-file the DPAO and the appendices in accordance with the OEB's findings in this Decision on Draft Payment Amounts Order and Procedural Order No. 10 (Decision on DPAO). Following the OEB's review of the re-filing, a final payment amounts order will be issued.

A. Revenue Requirement and Payment Amounts

A.1 2017 Nuclear Revenue Requirement

At Table 1 of Appendix A of the DPAO, the OEB approved 2017 nuclear revenue requirement is listed as $2,973.0 million. SEC states that the approved revenue requirement is $266.1 million lower given the approved effective date of June 1, 2017. SEC submitted that OPG should be required to amend Table 1 of Appendix A (and any other related tables) with a footnote. In SEC's view, some of the Decision's adjustments must be applied on an annualized basis, but not all. VECC supported the SEC submission on 2017 revenue requirement.

OPG argued that the approval of a June 1, 2017 effective date is not a revenue requirement reduction, but a requirement that OPG forgo collection of that revenue requirement for five months. OPG noted that the effective date was determined independently of the findings on revenue requirement. Further, the effective date for the previous cost based proceeding, EB-2013-0321, was later than the date requested by OPG. The revenue requirement in the EB-2013-0321 payment amounts order was not adjusted to reflect the approved effective date.

Findings

The OEB finds that OPG has complied with the Decision regarding the June 1, 2017 effective date in the DPAO. In accordance with the Decision, OPG will forgo collection of the revenue requirement approved in the Decision for the period January 1, 2017 to May 31, 2017.

The OEB will not require OPG to revise the presentation of revenue requirement in Appendix A of the DPAO on the basis put forward by SEC. The approved effective date for the EB-2013-0321 proceeding was later than the date requested by OPG. In the case prior, EB-2010-0008, OPG applied for a March 1, 2011 effective date, which was approved. The revenue requirement in the payment amounts orders for both EB-2013-0321 and EB-2010-0008 is presented on a full year basis, with no adjustments and no footnotes. The OEB requires this presentation to continue for the payment amounts order for the current proceeding.

A.2 Continuity of Property, Plant and Equipment

The Decision directed a 10% reduction on the nuclear operations and support services in-service capital additions. OPG calculated the depreciation impact of the 10% reduction in DPAO on the basis of the remaining service life of Darlington. OEB staff submitted that the weighted average depreciation rate based on the proportional asset mix underpinning in-service additions, other than those related to the Darlington Refurbishment Program (DRP), should be used as the Decision did not specify that the 10% reduction would apply to Darlington only. OPG replied that the historical performance related to Darlington operations in-service capital is the driver of the OEB's findings and that Darlington operations in-service capital drives the capital additions in the test period. OPG further noted that it has less flexibility to adjust the Pickering capital plan as that station approaches end of life.

The OEB ordered permanent disallowances associated with in-service additions for the Auxiliary Heating System (AHS) and Operations Support Building (OSB). OEB staff observed that OPG allocated the majority of the disallowance to the gross plant opening balance, and the rest to the forecast 2017 in-service amount. OEB staff submitted that the disallowances should be allocated on a pro-rated basis across the in-service dates as that better reflects the OEB's findings that poor performance and management issues for the projects occurred across the entirety of the projects. OPG argued that the DPAO is aligned with the disallowance set out in the Decision. The DPAO reflects 50% of difference between the actual in-service amount and the amount identified in the first execution business case summary for 2016 and for 2017, for both the AHS and OSB.

Findings

The OEB found that a 10% reduction each year (2017-2021) to the non-DRP nuclear operations and support services in-service capital additions was appropriate.[1] The

[1] Decision and Order, EB-2016-0152, page 18.

finding did not exclude Pickering operations. OPG shall revise the related nuclear revenue requirement tables in Appendix A to reflect the OEB's finding.

The OEB accepts OPG's explanation regarding the implementation of the permanent disallowances related to the AHS and OSB.

A.3 Capitalization and Cost of Capital

The short-term debt rates were agreed to by the parties in the settlement process and subsequently approved by the OEB. The Decision noted that the costs for debt components of the capital structure would depend on the final determination on capital structure and rate base. OEB staff observed that the short-term debt principal presented in the DPAO varied over the test period. OEB staff submitted that this was not consistent with the Decision. OPG replied that the allocation of short-term debt was to the total regulated operations. In determining the cost of capital for nuclear payment amounts, the short-term debt allocated to the regulated hydroelectric operations was deducted. The amount of short-term debt allocated to the nuclear operations was adjusted in the DPAO to reflect the Decision with respect to rate base and capital structure.

Findings

The OEB finds that OPG's explanation is sufficient and that the DPAO reflects the Decision with respect to capitalization and cost of capital.

A.4 Income Tax

SEC submitted that there is an issue with calculation of taxes and application of tax loss carryforwards given the June 1, 2017 effective date and a reduction in taxable income for 2017. SEC also sought further explanation of the impact of the Decision on depreciation and capital cost allowance.

OPG replied that no element of revenue requirement is based on actual results for 2017, including income taxes. Consistent with OPG's reply noted in section A.1, there was no revenue requirement reduction related to the June 1, 2017 effective date and there is no impact on the forecast of taxes or tax losses. OPG filed further detail on the calculation of test period capital cost allowance with the reply submission.

Findings

Consistent with section A.1, the OEB finds that OPG has complied with the Decision regarding income tax.

A.5 General

VECC noted differences between the Exh N3-1-1 proposed nuclear revenue requirement for the test period and the DPAO summary of proposed revenue requirement and submitted that the differences should be explained. OPG replied that the differences are explained in Table 6a of Appendix A of the DPAO which summarizes adjustments to revenue requirement including those arising from the approved settlement proposal. Tables 6 and 6a establish the revenue requirement on which the findings in the Decision are applied.

SEC stated that it was unclear why OPG's working capital was unchanged in the DPAO given the substantial changes in components of revenue requirement resulting from the Decision. OPG replied that the three components of nuclear working capital, materials and supplies, fuel inventory and cash working capital, are not affected by the Decision. SEC questioned the presentation of deferral and variance account balances in Tables 1 to 5 of Appendix A. SEC submitted that the tables should clearly state that the presentation is an OPG proposal.

Findings

The OEB finds that OPG's explanation regarding Table 6 of Appendix A general revenue requirement matters and working capital are sufficient.

The OEB notes that OPG's presentation of deferral and variance account balances in Tables 1 to 5 of Appendix A is consistent with the payment amounts orders of previous proceedings. However, OPG shall revise the deferral and variance account amortization to reflect the OEB's findings on smoothing in section D.

A.6 Payment Amounts

No submissions were filed regarding the determination of the base payment amounts for regulated hydroelectric operations for 2017 and 2018. The 2017 and 2018 base hydroelectric payment amounts, as set out in the DPAO on line 6 of Table 1 of Appendix B, are approved.

The OEB has considered all the submissions filed on test period nuclear revenue requirement. With the exception of the implementation of the 10% reduction to the non-DRP nuclear operations and support services in-service capital additions, the OEB finds that the nuclear revenue requirement presented in the DPAO on line 1 of Table 1 of Appendix C reflects the findings of the Decision.

The nuclear production forecast was approved in the Decision.[2] The OEB notes that the approved nuclear production forecast is used throughout the DPAO except for Appendix I (OPG's Rate Smoothing Proposal). In Appendix I, OPG uses production with two decimal places that results in a production forecast that is approximately 0.1 TWh lower in the test period than the approved production forecast. OPG shall use the approved nuclear production forecast, i.e. one decimal place, throughout the appendices.

B. Deferral and Variance Accounts

The Decision directed OPG to provide a full description of each deferral and variance account as part of the DPAO and to file accounting orders for the new accounts approved in the Decision.

B.1 Continuing Deferral and Variance Accounts

Descriptions for continuing deferral and variance accounts were provided in Appendix G of the DPAO. OEB staff proposed some revisions to account descriptions and submitted that it should be clear that the descriptions are effective June 1, 2017. SEC submitted that OPG should be required to provide the entries to the accounts for the period January 1, 2017 to May 31, 2017, as well as reference amounts for that period. SEC submitted that the impact of the June 1, 2017 effective date should be clear in the description for each individual account.

OPG filed revised descriptions of the continuing deferral and variance accounts with its reply submission. OPG replied that reference amounts are only applicable on and after the effective date. OPG argued that SEC's request for deferral and variance account information prior to the effective date is not an appropriate part of the current payment amounts order.

SEC questioned whether the reference amounts for the Capacity Refurbishment Variance Account (CRVA) for the hydroelectric facilities before and after the June 1,

[2] Decision and Order, EB-2016-0152, pages 11-12.

2017 effective date are appropriate. OPG argued that the operation of the CRVA for the hydroelectric facilities prior to June 1, 2017 was unchanged. Beginning on June 1, 2017, and the implementation of IRM, the CRVA will record entries on a monthly basis relative to the monthly allocation of the annual reference amount, if the monthly allocation of the annual funding amount threshold has been exceeded.

Findings

The OEB has reviewed the deferral and variance account descriptions and finds that the revisions regarding the June 1, 2017 effective date are appropriate. The OEB notes that the revision at page 8 of Appendix G should state, "… on the effective date of new payment amounts established in this [proceeding] for each year from 2017 to 2021."

The OEB finds that the reference amounts in the description for the CRVA for the hydroelectric facilities are appropriate. The OEB notes that reference amounts have also been included in the reply submission for the CRVA for the nuclear facilities. The OEB directs OPG to provide the source information for these reference amounts in a footnote in Appendix G.

The Decision approved recovery of 2015 year end audited deferral and variance account balances, less the amortization amounts approved in previous proceedings. The deferral and variance account riders are reviewed in section D of this Decision on DPAO.

B.2 Pension and OPEB Cost Variance Account

The Pension and OPEB Variance Account was first approved in the motion proceeding, EB-2011-0090, to record the variance between pension and OPEB costs underpinning payment amounts and actual pension and OPEB costs, as determined on an accrual basis. In the EB-2012-0002 deferral and variance account proceeding, the OEB approved a settlement proposal to recover the year end 2012 balances. In the EB-2014-0370 deferral and variance account proceeding, the OEB approved a settlement proposal to recover the year end 2014 balances in the Pension and OPEB Cost Variance Account (Post 2012 Additions).

SEC noted that at page 9 of Appendix G of the DPAO, it states that the Pension and OPEB Cost Variance Account (Post-2012 Additions) was previously authorized by the OEB to be recovered by June 30, 2021. SEC submitted that OPG should explain how recovery of this account remains consistent with the original terms of the account.

OPG replied that in the normal course the balance in the Pension and OPEB Cost Variance Account (Post-2012 Additions) would have been recovered by June 20, 2021. The EB-2014-0370 settlement proposal set out recovery over 72 months commencing July 1, 2015. Under OPG's rate smoothing proposal, no portion of the balance would be recovered in 2017 and 2018. OPG argued that, "… while the total elapsed time period from July 1, 2015 may exceed 72 months, as a result of the 24-month 'break' in recovery, the actual recovery can still occur over the OEB-authorized recovery period of 72 months." The description of the account in the filing with the reply submission was revised to reflect recovery over 72 months, rather than by June 30, 2021.

Findings

The OEB notes that the settlement proposal approved by the OEB in EB-2014-0370 states that, "The Parties have agreed that the amounts in the Pension and OPEB Cost Variance Account that have accrued since December 31, 2012 are appropriate and shall be cleared over a 72-month period from July 1, 2015 to June 30, 2021." The OEB finds that the approved settlement proposal is clear. It contains a time period for clearance of balances, i.e. 72 months, including a clear end date. The signatories to the settlement proposal have not agreed to an extension as proposed by OPG and there is no guarantee that they would.

In the Decision, the OEB approved the disposition of $86.8 million from regulated hydroelectric deferral and variance accounts and $217.9 million from nuclear deferral and variance accounts. Those amounts include some disposition from the Pension and OPEB Cost Variance Account (Post 2012 Additions). The Decision did not approve a mid-term review, but stated that OPG may file to dispose of deferral and variance account balances at the same time as its application for 2019 hydroelectric payment amounts. The OEB expects OPG to set out a proposal in that application for the remaining balance in the Pension and OPEB Cost Variance Account (Post 2012 Additions) that is compliant with the EB-2014-0370 settlement proposal.

B.3 New Accounts

Accounting orders for the new accounts ordered in the Decision were provided in Appendix H of the DPAO: the Rate Smoothing Deferral Account, Fitness for Duty Deferral Account and SR&ED ITC Variance Account.

There were no submissions filed expressing any concern with the first two new accounts. SEC noted that there was no description in the accounting order for the

SR&ED ITC Variance Account of the method by which the net tax impact would be grossed up. OPG replied that it had revised the accounting order to include the information requested by SEC.

Findings

OPG revised the description of the SR&ED ITC Variance Account to state "including the tax on the difference". The OEB has no concerns with the description of the SR&ED ITC Variance Account.

In the DPAO, OPG provided accounting orders for two additional accounts that were not ordered in the Decision. These accounts are reviewed in section C of this Decision on DPAO.

C. Forgone Revenue

C.1 Production Basis

In the DPAO, OPG proposed that forgone revenue be determined using actual hydroelectric and nuclear production for the period June 1 to December 31, 2017 and forecast hydroelectric nuclear production for the period January 1 to February 28, 2018. OPG and the parties assumed an implementation date of March 1, 2018 for the submissions, however, OPG provided supporting information for implementation dates of April 1, 2018 and May 1, 2018 in Appendix I of the DPAO.

Under OPG's smoothing proposal, $21.1 million of hydroelectric forgone revenue and $700.6 million of nuclear forgone revenue will be recovered over the three year period 2019 to 2021.

While the Decision set out the determination of forgone revenue on the basis of forecast production, OEB staff submitted that it had no concerns with using actual production for 2017 and forecast production values for 2018. The use of actual production for the seven months of 2017 represents the real revenue that would have been generated had the payment amounts been in place on June 1, 2017 and is consistent with the determination in EB-2007-0905.[3]

[3] EB-2007-0905 Payment Amounts Order, December 2, 2008, page 3 – "...the Board directs that the new payment amounts be set using the forecast production for the test period and that the interim period shortfall be calculated using the actual production during the interim period".

SEC submitted that using either actual production or forecast production for the seven months of forgone revenue in 2017 can be justified. However, SEC submitted that whichever is chosen should be applied to consistently, e.g. the payment amounts for the interim period, as using different assumptions produces unfair results. OPG replied that there is no mismatch as its proposal is what would have happened if the payment amounts had been implemented on the effective date. The payment amounts would have been based on forecast production and revenue would have been determined on actual production.

Findings

The OEB accepts OPG's proposal to use actual production for 2017 to determine forgone revenue. Actual information where parties have it is the best information. The OEB accepts forecast production for 2018 in lieu of actual, since actual information is not available

The determination of forgone revenue and the forgone revenue riders are reviewed in section D of this Decision on DPAO.

C.2 Variance Accounts

OPG proposed two new variance accounts in the DPAO: the Hydroelectric Interim Period Shortfall Over/Under Recovery Variance Account and Nuclear Interim Period Shortfall Over/Under Recovery Variance Account. The variance accounts would record the difference between the approved amounts of forgone revenue and the amounts recovered based on actual production.

OEB staff submitted that the two new accounts should not be approved. While similar accounts were approved in the first OPG proceeding, EB-2007-0905, OEB staff noted that this is not the typical practice. OEB staff referred to five proceedings in which forgone revenue was not trued up. Without the accounts, OEB staff submitted that OPG would be at risk for recovery of forgone revenue in the same way it is at risk for revenue requirement in general.

In OPG's view, the variance accounts are fairer to customers in the event production exceeds forecast, and to OPG as the purpose of forgone revenue is to put OPG in the position it would have been in if new payment amounts had been implemented on the effective date. OPG stated that using actual production to calculate forgone revenue and to recover forgone revenue means that OPG is subject to production risk twice.

OPG argued that the variances could be significant as OPG's revenues are fully variable with production, the amount of forgone revenue is large and the recovery period will span several years.

OPG disagrees with the OEB staff comparison with other proceedings requiring forgone revenue. In OPG's view, none of the proceedings are equivalent to the circumstances for OPG. The forgone revenue amounts were not significant, i.e. less than $15 million, and the recovery period was usually in months but no more than one year. OPG also noted that Uniform Transmission Rates and electricity and gas distributor fixed rates mean that these utilities are subject to less revenue recovery risk than OPG. It is OPG's view that the OEB should approve the variance accounts, as it did in the EB-2007-0905 proceeding.

Findings

The OEB will not accept the creation of two additional accounts. The Decision did not approve the addition of these two accounts. With respect to the Nuclear Interim Period Shortfall Over/Under Recovery Variance Account, the Decision accepted OPG's nuclear production forecast on the basis that it was an accurate reflection of the production OPG stated that it would achieve. Nowhere in the discussion of nuclear production forecast did the OEB contemplate the use of new variance accounts as it related to production. The OEB also specifically rejected a mid-term review to deal with possible changes to the nuclear production forecast.

The OEB does not approve the Hydroelectric Interim Period Shortfall Over/Under Recovery Variance Account to true up the recovery of $21.1 million of hydroelectric forgone revenue. In order to establish a new account, causation, materiality and prudence criteria must be met. The OEB finds that the proposed account would not meet the materiality criterion.

D. Payment Amount Smoothing

D.1 OPG Payment Amount Smoothing Proposal

The smoothing proposal filed with the application on May 27, 2016 was based on nuclear payment amounts smoothing as required by O. Reg. 53/05. The regulation was subsequently amended on March 2, 2017 to require smoothing based on the weighted average payment amount (WAPA) as determined by base hydroelectric and nuclear payment amounts and deferral and deferral and variance account riders. OPG filed an amended smoothing proposal in Exh N2-1-1. That proposal was based on a constant 2.5% annual increase in WAPA.

With the implementation of the Decision findings in the DPAO, OPG filed a revised smoothing proposal. OPG adjusted its methodology for smoothing by allowing the change in WAPA to vary between years. OPG has also considered the total bill impact of the smoothing proposal, i.e. WAPA and the impact of the forgone revenue riders.[4] OPG proposes to defer implementation of deferral and variance account riders and forgone revenue riders to January 1, 2019 in order to minimize customer bill impacts in 2018. The OPG proposal targets a consistent $0.65 year over year change in residential customer bills. In OPG's view, the proposal satisfies the O. Reg. 53/05 requirement that WAPA be more stable. The test period additions to the Rate Smoothing Deferral Account (RSDA) would be $732 million, and carrying charges would be $21 million. OPG proposed straight line recovery of deferral and variance account riders and forgone revenue riders over the period 2019 to 2021. The forgone revenue has been determined to be $721.7 million. The OPG DPAO proposal is summarized in section A of Table 1.

D.2 OEB Staff Submission and Payment Amount Smoothing Proposal

In its submission, OEB staff set out an alternate smoothing proposal. Unlike OPG's proposal which sets smoothed nuclear payment amounts in 2017 and 2018 that are higher than the unsmoothed nuclear payment amounts, the OEB staff proposal did not adjust the unsmoothed nuclear payment amounts in 2017 and 2018. Only the 2019 and 2020 nuclear payment amounts are smoothed. OEB staff submitted that its proposal was more advantageous to ratepayers as the quantum of forgone revenue ($626.5 million) was lower, the test period additions to the RSDA were lower ($515 million) and the average bill impact for residential customers ($0.53) was lower. However, OEB staff did note that its proposal resulted in higher carrying charges ($40 million) in the test period. The OEB staff proposal starts deferral and variance account riders and forgone revenue riders on March 1, 2018. Instead of straight line recovery, the OEB staff proposal uses a 15%, 50% and 35% recovery over the 2018, 2019 and 2020 period. The OEB staff proposal is summarized in section B of Table 1.

D.3 SEC Submission and Payment Amount Smoothing Proposal

SEC submitted that the OPG proposal does not consider the impacts on non-residential customers who do not have beneficial effects of the Fair Hydro Plan. SEC submitted

[4] O. Reg. 53/05 does not include forgone revenue riders in the determination of WAPA.

that actual 2017 WAPA was $50.67/MWh and actual January-February 2018 WAPA was $50.72/MWh. Using these actual WAPA instead of the 2016 WAPA of $60.97/MWh significantly changes the bill impacts. SEC determined that the effect of OPG's proposal is an increase of 27.05% in 2018 in the largest part of the non-residential customer bill, followed by increases of 1.96% in 2019, 10.64% in 2020 and 2.15% in 2021. In SEC's view this does not qualify as smoothing. SEC estimated that the Toronto District School Board will pay $1,880,000 more in 2018 than it did in 2017 under the OPG proposal. SEC acknowledges that the 2017 WAPA is lower than the 2016 WAPA, however, most companies and institutions are unlikely to have set those savings aside, and prepare budgets based on the most recent information.

SEC also submitted that OPG's smoothing proposal assumes no rate riders beyond those considered in this proceeding. In deferring riders from this application to 2019, and assuming no future riders, OPG's proposal will result in substantial rate increases in 2020.

SEC set out an alternate smoothing proposal in its submission. The proposal was supported by AMPCO and CME. The SEC smoothing proposal sets a smoothed 2018 nuclear payment amount of $63.00/MWh (vs. $83.10 in the OPG proposal). The SEC proposal starts the deferral and variance account riders and forgone revenue riders on March 1, 2018 and continues the riders on a straight line basis to December 31, 2019. SEC has determined that the impact of its proposal is to reduce the 2018 increase from 27.05% to 20.77%. SEC noted that there are consequences to it proposal, namely $2 billion of deferred revenue. SEC submitted that its proposal was more realistic and more in keeping with the intent of the regulation. The SEC proposal is summarized in section C of Table 1.

Table 1
Payment Amount Smoothing Proposals

	A. OPG Draft Payment Amounts Order	2016	2017	2018	2019	2020	2021	Total/Ave	Notes
1	Hydroelectric Payment Amount ($/MWh)	40.72	41.67	42.05	42.43	42.81	43.20		
2	Hydroelectric DVA Rider ($/MWh)	3.83			0.96	0.96	0.96		Amortization of $86.8M
3	Forgone HE Rider				0.23	0.23	0.23		Recovery of $21.1M
4	Nuclear Revenue Requirement ($M)		2973.0	3032.3	3116.7	3579.1	3173.8		
5	Production Forecast (TWh)	46.8	38.10	38.47	39.03	37.36	35.38		
6	Unsmoothed Nuclear Payment ($/MWh)	59.29	78.03	78.82	79.85	95.80	89.71		
7	Smoothed Nuclear Payment ($/MWh)	59.29	80.65	83.10	76.17	79.70	83.67		
8	Nuclear DVA Rider ($/MWh)	13.01			1.95	1.95	1.95		Amortization of $217.9M
9	Forgone Nuclear Rider				6.27	6.27	6.27		Recovery of $700.6M
10	WAPA Unsmoothed ($/MWh) - 1,2,6,8	60.97	61.16	61.85	64.21	72.44	68.74		
11	WAPA Smoothed ($/MWh) - 1,2,7,8	60.97	62.56	64.15	62.21	63.89	65.62		
12	Total (WAPA Smoothed + Forgone) ($/MWh) - 1,2,3,7,8,9	60.97	62.56	64.15	65.72	67.33	68.97		
13	Bill Impact of Total Payments ($/month)		0.65	0.65	0.65	0.65	0.65	0.65	
14	RSDA Additions - Smoothed ($M)		-62	-165	144	602	214	732	$21M interest in test period

Note: The production forecast at line 5 is reproduced from Appendix I of the DPAO. However, the Decision approved production forecast at the one decimal level which will affect the final determination of nulcear payment amounts and riders.

	B. OEB Staff Submission	2016	2017	2018	2019	2020	2021	Total/Ave	Notes
1	Hydroelectric Payment Amount ($/MWh)	40.72	41.67	42.05	42.43	42.81	43.20		
2	Hydroelectric DVA Rider ($/MWh)	3.83		0.52	1.44	1.01			Amortization of $86.8M
3	Forgone HE Rider			0.13	0.35	0.24			Recovery of $21.1M
4	Nuclear Revenue Requirement ($M)		2973.0	3032.3	3116.7	3579.1	3173.8		
5	Production Forecast (TWh)	46.8	38.10	38.47	39.03	37.36	35.38		
6	Unsmoothed Nuclear Payment ($/MWh)	59.29	78.03	78.83	79.85	95.80	89.71		
7	Smoothed Nuclear Payment ($/MWh)	59.29	78.03	78.83	77.00	85.00	89.71		
8	Nuclear DVA Rider ($/MWh)	13.01		1.05	2.79	2.04			Amortization of $217.9M
9	Forgone Nuclear Rider			2.90	7.76	5.67			Recovery of $605.4M
10	WAPA Unsmoothed ($/MWh) - 1,2,6,8	60.97	61.16	62.66	64.89	72.51	67.27		
11	WAPA Smoothed ($/MWh) - 1,2,7,8	60.97	61.16	62.66	63.34	66.78	67.27		
12	Total (WAPA Smoothed + Forgone) ($/MWh) - 1,2,3,7,8,9	60.97	61.16	64.27	67.70	69.90	67.27		
13	Bill Impact of Total Payments ($/month)		0.08	1.28	1.41	0.89	-1.03	0.53	
14	RSDA Additions - Smoothed ($M)		0	0	111	404	0	515	$40M interest in test period

	C. SEC Submission	2016	2017	2018	2019	2020	2021	Total/Ave	Notes
1	Hydroelectric Payment Amount ($/MWh)	40.72	40.72	42.05	42.43	42.81	43.20		
2	Hydroelectric DVA Rider ($/MWh)	3.83		1.50	1.50	2.45	2.45		SEC assumed riders 2020-2021
3	Forgone HE Rider			0.37	0.37				
4	Nuclear Revenue Requirement ($M)		2973.0	3032.3	3116.7	3579.1	3173.8		
5	Production Forecast (TWh)	46.8	38.10	38.47	39.03	37.36	35.38		
6	Unsmoothed Nuclear Payment ($/MWh)	59.29	78.03	78.82	79.85	95.80	89.71		
7	Smoothed Nuclear Payment ($/MWh)	59.29	59.29	63.00	67.00	75.00	80.00		
8	Nuclear DVA Rider ($/MWh)	13.01		3.05	3.05	7.93	7.93		SEC assumed riders 2020-2021
9	Forgone Nuclear Rider			9.65	9.65				
10	WAPA Unsmoothed ($/MWh) - 1,2,6,8	60.97	60.72	64.18	65.05	76.32	72.56		
11	WAPA Smoothed ($/MWh) - 1,2,7,8	60.97	50.67	55.66	58.09	65.27	67.53		
12	Total (WAPA Smoothed + Forgone) ($/MWh) - 1,2,3,7,8,9	60.97	50.67	61.25	63.49	65.27	67.53		
13	Bill Impact of Total Payments ($/month)							0.39	Lines 13&14 calculated by OPG
14	RSDA Additions - Smoothed ($M)							2,705	$313M interest in test period

D.4 OPG Reply Submission

OPG included a summary of the outcomes of the OPG smoothing proposal, the SEC proposal and the OEB staff proposal in Chart 3 of the reply submission. For the period beyond 2021, Chart 3 assumed an average WAPA increase of 8% in the 2022-2026 period for the alternative proposals, consistent with the OPG proposal. Chart 3 is reproduced in Table 2 below, with the addition of line numbers.

Table 2

	OPG Proposal	SEC Proposal	OEB staff Proposal
1-2017-2021 Average Change in WAPA	2.7%	9.2%	2.0%
2-2022-2026 Average Change in WAPA	8.0%	8.0%	8.0%
3-2027-2036 Average Change in WAPA	(1.5)%	(1.1)%	(2.4)%
4-Peak RSDA Balance ($B)	$2.7	$4.9	$1.9
5-2017 - 2021 RSDA Additions ($M)*	$732	$2,705	$515
6-2017 - 2021 Interest ($M)*	$21	$313	$41
7-Total Interest ($B)	$1.1	$2.7	$0.5
8-Interest Cost / Deferred Revenue Ratio	0.4	0.6	0.2
9-FFO Interest Coverage > = 3 (2017-2021) & (2022-2026)	4.3 / 4.6	2.6 / 3.9	4.2 / 5.0
10-DEBT to EBITDA < = 5.5 (2017-2021) & (2022-2026)	6.5 / 5.4	7.0 / 6.3	6.7 / 5.4
11-Nuclear Payment Amount Transition Impact ($/MWh)	($0.19)	($13.28)	$12.27
12-Average Annual Bill Impact (2017-2021) in %	0.4%	0.3%	0.3%
13-Average Annual Bill Impact (2017-2021) in $	$0.65	$0.39	$0.52
14-Average Annual Bill Impact (2017-2036) in %	0.3%	0.3%	0.2%
15-Average Annual Bill Impact (2017-2036) in $	$0.45	$0.45	$0.29

In OPG's view, the OPG proposal produces better value than the OEB staff proposal for customers by maintaining constant year over year increases in monthly bills for residential customers. OPG stated that the OEB staff proposal is a reasonable alternative that trades off lower overall cost, i.e. deferring less revenue requirement and incurring less interest (lines 4, 5, 6 and 7 of Table 2), for greater year over year volatility. OPG noted that the 2018 and 2019 residential customer impacts of the OEB staff proposal were twice as high as the OPG proposal (line 13 of sections A and B in Table

1). OPG also noted that the transition impact at the end of the recovery period in 2037 is $12/MWh and much greater than the OPG transition impact (line 11 of Table 2).

OPG replied that the long term costs of the SEC proposal more than outweigh the short term benefit of reducing 2018 bill impacts. OPG calculated that the total RSDA carrying costs for the SEC proposal will be $2.7 billion, an increase of $1.6 billion over the OPG proposal and $2.2 billion over the OEB staff proposal (line 7 of Table 2). In OPG's view, smoothing requires the OEB to consider a long-term view. The SEC proposal focuses on a small period of time around the implementation date of payment amounts and riders from this proceeding. OPG submitted that the SEC proposal results in poor value for customers in the long term.

OPG argued that the SEC submission refers to WAPA and bill impacts as if they were equivalent, but they are not. Further, SEC cited an increase of 27.05% in the commodity portion of the non-RPP customers' bills. OPG provided year over year bill impacts for medium/large customers and industrial customers in three service areas in the DPAO at Appendix I. The bill impacts were presented on the basis of percent change on monthly bills. OPG argued that the SEC submission used selective annualized examples that do not reflect bill impacts on customers across Ontario and do not consider the impacts in the context of total bills. OPG also argued that SEC's method of calculating bill impacts ignores the decrease in payment amounts from which customers have benefitted since January 1, 2017.

The SEC smoothing proposal assumed riders for future recovery of deferral and variance account balances. In OPG's view, it is not appropriate or consistent with the definition of WAPA in O. Reg. 53/05 to determine deferral amounts on the basis of speculative riders for future periods. OPG submitted that the OEB will have the tools to address bill impacts of any future riders in the proceeding where they are approved.

D.5 Bill Impacts

The test period bill impacts for the typical residential customer are summarized for each smoothing proposal on line 13 in sections A, B and C of Table 1. The bill impacts for the test period as well as the full deferral and recovery period from 2017 to 2036 are summarized in lines 12 to 15 of Table 2.

As noted in section D.4, OPG disagreed with SEC's method of calculating bill impacts. The SEC approach focuses on the difference between payment amounts on February

28, 2018 and March 1, 2018. OPG argued that SEC creates the inaccurate impression that OPG's payment amounts are increasing by 27%.

OPG provided a bill impact analysis, under the OPG smoothing proposal, on a cumulative basis in Chart 4 of the reply submission. That chart is reproduced below.

Table 3

Line No.	Customer Class	Measure	2017	2018		2017 & 2018 Average Impact
				Jan - Feb	Mar - Dec	
1	Residential Customers	($/Month)	-$4.20	$0.00	$4.59	$0.65
2		(%)	**-2.8%**	**0.0%**	**3.0%**	**0.4%**
3	Non-RPP Customers	($/Month)	-$14,200	$0	$15,500	$2,200
4		(%)	**-3.3%**	**0.0%**	**3.6%**	**0.5%**

D.6 Findings

The OEB recognizes that the nuclear revenue requirement will change as a result of the findings in this Decision on DPAO. However, the changes are limited and do not affect the OEB's findings on smoothing.

O. Reg. 53/05 requires the OEB to determine the portion of nuclear revenue requirement for each year that is to be recorded in the RSDA with a view to making more stable the year-over-year changes in WAPA over each calculation period.

In reviewing the OPG proposal, the OEB staff proposal and the SEC proposal, the OEB has considered the cost of the proposals to ratepayers. In the OEB's view, the smoothing must be done at a reasonable cost. As noted in the Decision, rate stability is important to the OEB, but it does not necessarily follow that changes in WAPA, or total payment amounts, or bill increases need to be constant. The OEB considers that the OEB staff proposal meets the requirements of the regulation, does so at a more reasonable cost than the other proposals, and minimizes rate shock in 2017. On this basis, the OEB does not accept the proposals put forward by OPG or by SEC, but rather finds the rate smoothing proposal by OEB staff to be preferable.

Cost of Smoothing Proposals

As noted above, the OEB is required to determine the portion of nuclear revenue requirement for each year that is to be recorded in the RSDA. The regulation relates the

RSDA additions to changes in WAPA and requires that the RSDA balance earn interest at OPG's long-term debt rate compounded annually.

The OEB was assisted by the summary of outcomes prepared by OPG and included in this Decision on DPAO at Table 2. While there are assumptions underpinning the summary of outcomes, it is clear from lines 4 to 7 of the Table 2 that the SEC proposal results in significant cost to ratepayers. The test period interest costs of the SEC proposal are an order of magnitude higher than the other proposals. OPG estimates that the total interest costs for the SEC proposal are $2.7 billion and much higher than the total interest costs for the OPG proposal and OEB staff proposal. The OEB agrees with OPG that the short term bill impact benefits of the SEC proposal are dwarfed by the long term costs of the SEC proposal. While the increase from 2017 to 2018 is significant for commercial and industrial customers, it results from the 2017 rates being lower than historical trends. Given the much higher long term costs of SEC's proposal, the OEB finds that it is not reasonable to use the lowest point in several years as the base for smoothing.

With the exception of test period interest costs, the OEB staff proposal is less costly than the OPG proposal. The OEB finds that the lower total interest, $0.5 billion for the OEB staff proposal vs $1.1 billion for the OPG proposal, is a significant future saving for ratepayers. The OEB notes that OPG submitted that the OEB staff proposal is a reasonable alternative to the OPG proposal.

Stable Year-Over-Year Changes

O. Reg. 53/05 refers to WAPA, which does not consider the recovery of forgone revenue. As summarized in Table 1 at lines 11 and 12, the OEB staff proposal and the SEC proposal reflect increasing year-over-year smoothed WAPA and increasing total payment amounts (WAPA and forgone revenue riders) in the period 2017 to 2021.

The OPG proposal does not reflect increasing year-over-year smoothed WAPA, but does have increasing year-over-year total payment amounts. The OPG proposal results in a constant $0.65/month increase in monthly bills for residential customers. The OEB finds that all of the proposals have utilized additions to the RSDA and recovery mechanisms for deferral and variance account balances and forgone revenue in an effort to stabilize year-over-year changes. However, the OEB is of the view that recovery of deferral and variance account balances and forgone revenue should begin when the payment amounts order is implemented. Both the OEB staff proposal and the SEC proposal start riders on March 1, 2018, while the OPG proposal starts riders on

January 1, 2019. Further, the OEB finds that constant year over year increases in monthly bills, as proposed by OPG, is not a strict requirement for smoothing.

The OEB also accepts that a three year recovery period (from March 1, 2018 to December 31, 2020), as proposed by OEB staff is a reasonable time period over which to collect deferral and variance account balances and forgone revenue. The OEB is not of the view that it should be on a straight line basis, but rather as proposed in the OEB staff submission, with a significantly lesser amount in year 1 to alleviate rate shock.

While the bill impacts of the OEB staff proposal are more variable (line 13 of Table 1), the average bill impact of the OEB staff proposal is lower than the other proposals (lines 12 to 15 of Table 2). The OEB accepts this variability as there is a smoothing component to the OEB staff proposal, and the cost outcomes for the ratepayer are more positive. The OEB also notes that the OEB staff proposal resulted in lower forgone revenue than the OPG proposal.

O. Reg. 53/05 refers to stable year-over-year changes in WAPA over each calculation period. The calculation period "means each period for which the Board determines the approved revenue requirement under subparagraph 12ii of subsection 6(2) together with the year immediately prior to that period;" In the OEB's view, bill impacts according to this definition (with the addition for forgone revenue) are summarized on line 13 of Table 1.

SEC submitted that the bill impact for non-RPP customers on March 1, 2018 should be considered. The OEB is assisted by the total bill impact analysis filed by OPG and included as Table 3 in this Decision on DPAO. This analysis is based on the OPG smoothing proposal. The bills of non-RPP customers decreased by 3.3% in 2017, were unchanged in January and February of 2018, and will increase by 3.6% in the period March to December of 2018. The average 2017 and 2018 impact is 0.5%. Non-RPP customers have benefitted from lower bills since January 1, 2017. The OEB finds that the long-term cost to keep those bills low, as proposed by SEC, is unreasonable.

The SEC submission and smoothing proposal also included estimates of future riders for deferral and variance accounts. The OEB agrees with OPG that future disposition of deferral and variance accounts and the impacts of the disposition will be considered in those applications and not in the current proceeding.

Implementation of Smoothing Findings and Implementation Date

OPG shall re-file the DPAO and appendices in accordance with the findings in this Decision on DPAO. OPG shall reflect the smoothing findings as follows:

- There will be no RSDA additions for 2017, 2018 and 2021.
- The nuclear payment amounts for 2019 and 2020 shall be smoothed in accordance with the OEB staff smoothing proposal, subject to any minor variations to account for the minor revisions to the unsmoothed amounts that may result from the OEB's findings in Section A.2 of this Decision on DPAO (concerning the 10% reduction on the nuclear operations and support services in-service capital additions). That is, the smoothed amounts may be slightly more or less than the $77.00/MWh for 2019 and $85.00/MWh for 2020 proposed by OEB staff, so long as the variance from OEB staff's proposed numbers is reasonably proportional to any variance to the underlying unsmoothed amounts.
- The deferral and variance account balances and the forgone revenue will be recovered in riders over the period March 1, 2018 to December 31, 2020. In the first 10 months 15% will be recovered, in the next 12 months 50% will be recovered and in the last 12 months 35% will be recovered.

The OEB approves an implementation date of March 1, 2018. The OEB is making provision for re-filing of DPAO appendices in accordance with the findings in this Decision on DPAO, as well as a brief period for submissions on the re-filing. The submissions on the re-filing will be limited to comments on the compliance with the OEB's findings. It will not be an opportunity to argue for a different smoothing proposal. It is the OEB's understanding that, with the timelines set out in this Decision on DPAO, the IESO will be able to implement March 1, 2018 through its billing processes.

THE ONTARIO ENERGY BOARD THEREFORE ORDERS THAT:

1. OPG shall file with the OEB, with a copy to the intervenors, a revised draft Payment Amounts Order and appendices that reflect the OEB's findings in this Decision on Draft Payment Amounts Order by **March 19, 2018**.

2. OEB staff and intervenors shall file with the OEB, with a copy to OPG, any comments on the revised draft Payment Amounts Order and appendices by **March 21, 2018**.

3. OPG shall file with the OEB, with a copy to the intervenors, a response to any comments by **March 23, 2018**.

All filings to the OEB must quote the file number, **EB-2016-0152** and be made electronically through the OEB's web portal at http://www.pes.ontarioenergyboard.ca/eservice/ in searchable/unrestricted PDF format. Two paper copies must also be filed at the OEB's address provided below. Filings must clearly state the sender's name, postal address and telephone number, fax number and e-mail address. Parties must use the document naming conventions and document submission standards outlined in the RESS Document Guideline found at https://www.oeb.ca/oeb/_Documents/e-Filing/RESS_Document_Guidelines_final.pdf. If the web portal is not available parties may email their documents to the address below. Those who do not have internet access are required to submit all filings on a USB flash drive in PDF format, along with two paper copies. Those who do not have computer access are required to file seven paper copies.

All communications should be directed to the attention of the Board Secretary at the address below, and be received no later than 4:45 p.m. on the required date.

With respect to distribution lists for all electronic correspondence and materials related to this proceeding, parties must include the Case Manager, Violet Binette at violet.binette@oeb.ca and OEB Counsel, Michael Millar at michael.millar@oeb.ca and Ian Richler at ian.richler@oeb.ca.

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DATED at Toronto, **March 12, 2018**

ONTARIO ENERGY BOARD

Original signed by

Kirsten Walli
Board Secretary