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BY E-MAIL

January 26, 2018

Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto ON M4P 1E4

Dear Ms. Walli:

Re: Ontario Power Generation Inc.
2017-2021 Payment Amounts
Ontario Energy Board File Number EB-2016-0152

In accordance with the Decision and Order issued on December 28, 2017, please find attached OEB staff's submission on the draft payment amounts order. OPG and all intervenors have been copied on this filing.

Yours truly,

Original signed by

Violet Binette
Project Advisor, Applications

Attach

ONTARIO POWER GENERATION INC.

2017-2021 PAYMENT AMOUNTS

EB-2016-0152

Ontario Energy Board

Staff Submission on

Draft Payment Amounts Order

January 26, 2018

INTRODUCTION

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*, 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.

On December 28, 2017, the OEB issued its Decision and Order on OPG's application (the Decision).

In accordance with the Decision, OPG filed a draft Payment Amounts Order (DPAO) on January 17, 2018. The same day, OPG filed a notice of motion seeking a review and variance of the Decision as it pertains to the OEB's approval of an effective date of June 1, 2017 rather than January 1, 2017 as requested in the application. However, OPG has not asked for the Decision to be stayed or for the issuance of the final Payment Amounts Order to be delayed.

The following are OEB staff's comments regarding the DPAO.

COMMENTS ON DRAFT PAYMENT AMOUNTS ORDER

1. REVENUE REQUIREMENT - APPENDIX A

Based on OEB staff's review, the Decision, the approved settlement proposal and the correction for L-6.6-Staff-139 are reflected in the DPAO with the exception of the following:

1.1 Continuity of Approved PP&E

Depreciation Expense

OEB staff submits that the manner in which OPG calculated the depreciation expense reduction associated with the OEB's ordered 10% reduction to nuclear operations and support services capital additions does not properly reflect the intent of the Decision.

OPG calculated the depreciation impact of the required 10% reduction to the capital in-service additions entirely on the basis of the estimated remaining service life of the Darlington station (to December 31, 2052). OPG stated that this methodology is consistent with the fact that the forecast increase in the nuclear operations capital program relative to historical periods cited in the OEB's finding of the disallowance relates to the Darlington station.[1]

OEB staff notes that the OEB, in the Decision, applied the 10% reduction on an envelope basis to all categories of nuclear operations and support services capital additions.[2] The OEB clearly did not single out the Darlington assets as the only asset category to which the 10% in-service reduction would apply. OPG itself acknowledged this fact in the way it applied the 10% reduction to the in-service capital additions. As shown at Appendix A, Table 9, OPG simply summed all of the in-service addition amounts in a year for Darlington NGS, Pickering NGS and Nuclear Support Divisions and then applied a 10% reduction to that amount.

In the context of the envelope approach that was applied by the OEB with respect of the 10% reduction to nuclear operations and support services capital additions, OEB staff submits that the depreciation expense reduction should reflect the underlying asset mix to which the reduction applies (as opposed to the proposed methodology which reflects only the depreciation rate applicable to a single asset category). Therefore, OPG should use a weighted average depreciation rate based on the proportional asset mix that underpins the total non-Darlington Refurbishment Program (DRP) in-service amount[3] for each year in its calculation of the depreciation impact of the OEB's findings. OEB staff believes that this will reduce the depreciation expense relative to OPG's proposal set out in the DPAO.

Auxiliary Heating System (AHS) and Operations Support Building (OSB)

OEB staff has no concerns with OPG's calculation of the total disallowance for either the AHS or OSB. However, OEB staff submits that OPG's proposed allocation of the AHS and OSB disallowances as between the gross plant opening balance and the 2017 in-service amounts is not appropriate.

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[1] Draft Payment Amount Order, Appendix A, Table 10a, Note 3.
[2] Decision and Order EB-2016-0152 page 18.
[3] Net of the Auxiliary Heating System (AHS) and Operations Support Building (OSB) specific reductions.

OPG applied the disallowances to the two projects by first reducing the 2017 forecasted in-service amounts by 50% and then applying the remainder of the disallowance to the gross plant opening balances.[4] OEB staff submits that OPG's proposed methodology over-allocates the disallowances related to the AHS and OSB to the 2017 forecasted in-service amounts.

The total in-service amount for the AHS project is $98.7 million. Of the total in-service amount, $93.1 million (94%) was placed into service in 2016 (and is reflected in the gross plant opening balance) and $5.6 million (6%) was forecasted to be placed in service in 2017. The total disallowance for the AHS project is $27.6 million. OPG allocated $24.7 million (90%) of the disallowance to the gross plant opening balance and $2.8 million (10%) of the disallowance to the forecasted 2017 in-service amount.[5]

The total in-service amount for the OSB project is $60.6 million. Of the total in-service amount, $55.1 million (91%) was placed into service in 2015 (and is reflected in the gross plant opening balance) and $5.5 million (9%) was forecasted to be placed in service in 2017. The total disallowance for the OSB is $7.8 million. OPG allocated $5.0 million (64%) of the disallowance to the gross plant opening balance and $2.7 million (36%) of the disallowance to the forecasted 2017 in-service amount.[6]

OEB staff notes that the OEB's ordered disallowance for the AHS and OSB was due to findings of poor management and performance issues related to these projects.[7] OEB staff submits that the OEB's findings of poor management and performance issues for the AHS and OSB projects are applicable to the entirety of each project. There was no finding in the Decision that amounts that came into service later are somehow more impacted by the poor management and performance issues. This is the notional assumption that is reflected in OPG's methodology which over-allocates the disallowance to the 2017 in-service amounts when compared to the allocation of the disallowance that results from a proration of the disallowance on the same basis as the underlying in-service amounts.

In the context of the OEB's findings with respect to the specific disallowances applicable to the AHS and OSB, OEB staff submits that the disallowances should be allocated

[4] Draft Payment Amount Order, Appendix A, Table 9a, Note 2.
[5] Draft Payment Amount Order, Appendix A, Table 9a, Note 2. The numbers do not entirely reconcile due to rounding.
[6] Draft Payment Amount Order, Appendix A, Table 9a, Note 2. The numbers do not entirely reconcile due to rounding.
[7] Decision and Order EB-2016-0152 pages 21-22.

across the in-service dates (or more specifically, the gross plant opening balance and the 2017 in-service amount) on a pro-rated basis relative to the amounts of capital that went into service prior to 2017 and in 2017. This will better reflect the OEB's findings that there was poor performance and management issues across the entirety of each project and reduce nuclear revenue requirement.

That said, OEB staff recognizes that its submissions on this issue, if accepted, would result in a change to the overall revenue requirement that is below OPG's materiality threshold. However, on a principled basis, this change should be made. In another case, the methodology for the allocation of disallowances across in-service dates could have a larger impact on the revenue requirement.

1.2 Capitalization and Cost of Capital

Rates for long-term and short-term debt were agreed upon in the partial settlement, which the OEB previously accepted, as noted on page 111 of the Decision. The OEB rejected LPMA's submission regarding keeping the proportions of long-term and short-term debt constant, relative to each other, but submitted that the level of short-term debt does not change over the period based on the record, which would be held at a constant short-term debt principal of $37.1 million.[8] On page 112 of the Decision, the OEB directed OPG to determine the debt costs in accordance with the OEB's findings on this matter and also reflecting the finding for no change in the equity thickness.

OPG has referenced page 8 of Exhibit O1-1-1 (the Settlement Proposal). It states:

> As indicated in Ex. C1-1-2 and Ex. C1-1-3, OPG seeks to recover the costs of long-term and short-term debt associated with its regulated operations during the IR term. The Parties agree that the assumed interest rates used to calculate OPG's proposed debt costs are appropriate on the basis of its written evidence, subject to the following:
>
> - Given that the aggregate debt costs relate to OPG's capital structure and rate base, which are unsettled primary issues (see Issues 2.1, 2.2 and 3.1), the Parties agree that their acceptance in respect of Issue 3.2 is subject to the application of the agreed interest rates to the eventual debt financed component of rate base as determined by the OEB.

OPG's calculation of its cost of debt (and hence cost of capital) for nuclear payment amounts is not consistent with the evidence and Decision. The primary

[8] Decision and Order EB-2016-0152 pages 111-112, Exh O1-1-1 page 8, Exh C1-1-3 Tables 1-5.

concern is with respect to the short-term debt principal, which varies over the 2017-2021 period as shown in Tables 11-15 of the DPAO. The short-term principal from these tables is summarized below:

$million	2017	2018	2019	2020	2021
Short-term Debt Principal	10.4	10.6	10.6	17.8	18.3

These amounts are all different from, and lower than, the constant level of $37.1 million documented in the evidence and accepted by the OEB. The effect of lowering the short-term debt principal is to increase the long-term debt principal and the overall debt cost.

OEB staff has provided a spreadsheet with calculations of the cost of capital for nuclear payment amounts which reflect a constant short-term debt principal of $37.1 million as determined by the OEB in the Decision. OPG should confirm the calculations and reflect the corrections in its determination of the nuclear payment amounts in its reply submission.

1.3 Nuclear Liabilities

The OEB found that the impact of the most recent Ontario Nuclear Funds Agreement Contribution Schedule and year end adjustment to the asset retirement obligation should be reflected in revenue requirement. OEB staff confirms the implementation of the findings for the Bruce facilities, but was not able to confirm the full implementation of the impact of the OEB's findings on nuclear liability revenue requirement for the prescribed facilities. Those impacts are summarized below.

Nuclear Liability Revenue Requirement - Prescribed Facilites Only ($million)	2017	2018	2019	2020	2021	Total
Exh N1-1-1						
Pre-tax Revenue Requirement (Table 2)	167.1	162.6	173.4	158.2	89.1	750.4
Regulatory tax impact (Table 2)	55.7	54.2	57.8	52.7	29.7	250.1
Tax Impact of nuclear liab expenditures and seg fund disbursements (Chart 3.2.1)	-44.4	-47.4	-37.5	-43.9	-41.1	-214.3
Total Nuclear Liability Revenue Requirement - Prescribed Facilities: **(B)**	178.4	169.4	193.7	167	77.7	786.2
Undertaking J21-2, Chart 1						
Pre-tax Revenue Requirement	152.1	147.9	156.6	144.3	78.8	679.7
Regulatory Tax impact (incl impact of approved ONFA contributions)	16.5	15.1	18	13.9	-7.9	55.6
Tax Impact of nuclear liab expenditures and seg fund disbursements	-44.4	-47.4	-37.5	-43.9	-41.1	-214.3
Total Nuclear Liability Revenue Requirement for Prescribed Facilities: **(A)**	124.2	115.6	137.1	114.3	29.8	521.0

OEB staff submits that OPG should provide, in its reply submission, a summary of how the findings for the prescribed facilities have been reflected. The summary should have detailed references to tables in the DPAO.

2. PAYMENT AMOUNTS AND RIDERS - APPENDICES B-F

2.1 Hydroelectric Payment Amounts and Riders

OEB staff submits that OPG has correctly applied the IPI – 0.3% stretch factor adjustment for hydroelectric payment amounts for 2017 and 2018 in Table 1 of Appendix B of the DPAO.

The hydroelectric deferral and variance account amortization amount in Table 1 of Appendix D is consistent with the Decision. OPG proposes an amortization period from January 1, 2019 to December 31, 2021. OEB staff proposes recovery starting in 2018. The OEB staff submission with respect to timeframe for recovery and determination of the hydroelectric deferral and variance account rider is in section 4 of this submission.

While the Decision sets out the determination of forgone revenue on the basis of pro-rating the 2015 actual hydroelectric production, the forgone revenue in Table 1 of Appendix F is based on actual hydroelectric production for the period June 1 to December 31, 2017 and pro-rating the 2015 actual hydroelectric production for the period January 1 to February 28, 2018. OEB staff has no concerns with using actual production for 2017 and a proxy production value for 2018 in the DPAO determination of $21.1 million of hydroelectric foregone revenue. 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.[9] However, OEB staff does not agree with the timeframe for recovery of the forgone revenue. OEB staff's submission with respect to the timeframe for recovery is in section 4 of this submission.

2.2 Nuclear Payment Amounts and Riders

As noted in section 1, OEB staff submits that test period nuclear revenue requirement in the DPAO, including Table 1 of Appendix C, should be adjusted for depreciation, in-service additions and cost of capital. Subject to OPG's reply submission, further adjustments related to nuclear liabilities may be required as well.

[9] 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".

The nuclear deferral and variance account amortization amount in Table 1 of Appendix E is consistent with the Decision. OPG proposes an amortization period from January 1, 2019 to December 31, 2021. OEB staff proposes recovery starting in 2018. The OEB staff submission with respect to timeframe for recovery and determination of the nuclear deferral and variance account rider is in section 4 of this submission.

OPG's determination of the nuclear forgone revenue and the nuclear forgone revenue rider is at Table 2 of Appendix F. As in section 2.1 of this submission. OEB staff has no concerns with the use of actual nuclear production for the period June 1 to December 31, 2017 and forecast nuclear production for the period January 1 to February 28, 2018.

The determination of the nuclear forgone revenue depends on the final smoothed nuclear payment amounts for 2017 and 2018. Based on OPG's smoothing proposal, the nuclear forgone revenue for the period June 1, 2017 to February 28, 2018 is $700.6 million. OEB staff's proposal with respect to smoothing and smoothed nuclear payment amounts in the test period is in section 4 of this submission. Based on that proposal, OEB staff estimates that the nuclear forgone revenue for the period June 1, 2017 to February 28, 2018 would be $605.4 million. OEB staff's submission with respect to the timeframe for recovery of forgone nuclear revenue is also in section 4 of this submission.

2.3 General

- Line 3 of Table 1 at Appendix C should be listed as Smoothed Nuclear Payment Amount ($/MWh).
- The units in footnote 4 of Table 1 at Appendix C should be TWh.
- The title for line 6 of Table 2 at Appendix F should be "… to DECEMBER 31, 2021).
- OPG has drafted a payments amounts order for the OEB's reference. OEB staff submits that the bill impacts, revenue requirement, rate base, payment amounts, riders, etc. are all subject to change. OEB staff submits that the structure of order number five should be the same as order number four, i.e., "Commencing on the effective date of June 1, 2017 to December 31, 2017, the payment amount for the nuclear facilities is $xx.xx/MWh. Effective January 1 of each year, $yy.yy/MWh in 2018, etc."

3. DEFERRAL AND VARIANCE ACCOUNTS - APPENDICES G AND H

3.1 Clearance of Deferral and Variance Accounts

OEB staff agrees with the debit amounts noted in Appendix G, but has proposed a different timeframe for recovery and a recovery that is not straight line in section 4 of this submission.

3.2 Continuing Deferral and Variance Accounts

Deferral and variance accounts are currently described by the EB-2014-0369 and EB-2015-0374 decisions and the EB-2014-0370 payment amounts order. OPG has provided a proposed description of each continuing deferral and variance account in Appendix G of the DPAO. The descriptions proposed for the continuing accounts are effective as of the effective date of the Decision, namely June 1, 2017. OEB staff submits that Appendix G should specifically state this.

As there is no Accounting Procedures Handbook equivalent for OPG, the descriptions of deferral and variance accounts are set out in payment amounts orders. The account descriptions differ from those provided in the application at Exh H1-1-1, and from the EB-2014-0370 payment amounts order. OEB staff observes that some descriptions have been significantly revised.

OEB staff agrees with the majority of the descriptions, but provides comments on the following:

Pension & OPEB Cash Versus Accrual Differential Deferral Account

At page 11 of Appendix G, the description refers to a variance account. It should state, "OPG shall continue to separately track amounts recorded in this **deferral** account …"

Bruce Lease Net Revenues Variance Account

The definition of this account has been revised significantly. The description of the purpose and general operation of the account has been deleted. OEB staff submits that the description should be revised.

At page 13 of Appendix G, the description of the Derivative Sub-Account should state, "The remaining balance in the account is a credit balance that largely represents the amount that the OEB authorized …"

3.3 Accounting Orders for New Deferral and Variance Accounts

OPG has filed accounting orders in Appendix H of the DPAO for the new deferral and variance accounts set out in the Decision at page 118:

- Rate Smoothing Deferral Account
- Fitness for Duty Variance Account
- SR&ED ITC Variance Account

OEB staff has no concerns with these accounting orders.

In the DPAO, OPG has proposed two additional accounts. The proposed hydroelectric and nuclear accounts (Interim Period Shortfall Over/Under Recovery Variance Accounts) would record the difference between approved forgone revenue and actual forgone revenue recovery. OPG notes that the accounts are symmetrical and that they would operate in a manner to keep customers and OPG whole. OPG noted that the EB-2007-0905 proceeding also established these accounts.

OEB staff submits that the OEB should not approve these shortfall over/under variance accounts to true up the recovery of forgone revenue. While the EB-2007-0905 proceeding approved true up accounts, this is not the typical practice. The OEB approved the recovery of forgone revenue in the following proceedings but did not approve accounts to true up the recovery:

- Enbridge Gas Distribution Inc. (EB-2011-0354)
- Union Gas Limited (EB-2011-0210)
- PowerStream Inc. (EB-2015-0003)
- Hydro One Networks Inc. (EB-2016-0160)
- Five Nations Energy Inc. (EB-2016-0231)

Without the true up accounts, OPG would be at risk for recovery of the forgone revenue in the same way that it is at risk for revenue requirement in general.

4. RATE SMOOTHING – APPENDIX I

O. Reg. 53/05 stipulates that the OEB must determine how much of the nuclear revenue requirement should be deferred, “with a view to making more stable the year-over-year changes in the OPG weighted average payment amount over each calculation period”. The deferred amounts are recorded in a rate smoothing deferral account (RSDA) which earns compound interest at the OEB-approved long-term debt rate for OPG.

Schedule A of this submission summarizes the OPG rate smoothing proposal as set out in the DPAO, and the OEB staff rate smoothing proposal set out in this submission. Both proposals are based on March 1, 2018 implementation of payment amounts. The smoothing proposals are also graphed in Schedule A.

4.1 OPG Rate Smoothing Proposal

OPG’s rate smoothing proposal at the close of record (Exh N3-1-1) resulted in a WAPA that increased at a constant 2.5% per year during the test period. The additions to the RSDA would be $1,005 million with $116 million of carrying charges in the test period. The 2015 year end deferral and variance account balances were proposed to be cleared in riders over 2017 and 2018. The bill impact for a typical residential customer would be an average annual increase of $0.65 on the monthly bill during the test period.

OPG has revised its rate smoothing proposal pursuant to the Decision. In the current proposal, WAPA does not increase at a constant rate. OPG has considered the deferral and variance account riders as well as the forgone revenue riders in developing the smoothing proposal. OPG’s smoothing proposal delays the riders to the period 2019 to 2021.

The revised proposal set out in the DPAO would result in RSDA additions of $732 million in the test period. OPG did not provide the RSDA carrying charge impact of their proposal. OEB staff has estimated the net carrying charges to be $21 million and submits that OPG should provide the test period carrying charge impacts of its proposal and any subsequent proposal it may develop when it files its reply submission.

4.2 OEB Staff Rate Smoothing Proposal

OEB staff submitted in section 1 of this submission that some changes to nuclear revenue requirement are warranted. However, OEB staff submits that any changes are unlikely to have a significant impact on the WAPA and have proposed rate smoothing using the nuclear revenue requirement set out in the DPAO.

Consistent with the submission filed on May 19, 2017, it is OEB staff's view that WAPA smoothing is not required in every year of the test period. Unlike OPG's proposal which sets smoothed nuclear payment amounts in 2017 and 2018 that are higher than the unsmoothed payment amounts, OEB staff has not adjusted the unsmoothed nuclear payment amounts in 2017 and 2018. OEB staff's proposal smooths nuclear payment amounts in 2019 and 2020 only, and starts recovery of deferral and variance account riders and forgone revenue riders on March 1, 2018. While OPG's proposal results in nuclear forgone revenue of $700.6 million, the OEB staff proposal reduces the amount of nuclear forgone revenue to $605.4 million, and reduces the RSDA additions to $515 million from $732 million. While the calculated bill impacts for a typical residential customer are variable in the test period, the OEB staff proposal has an average monthly bill impact in each year of the test period of $0.53, which is lower than the OPG proposal at $0.65. OEB staff makes no attempt to straight line the trend for nuclear payment amounts or WAPA as the Decision expressly states on page 155 that OPG "should not consider itself constrained by a straight line increase", and provides that OPG may apply to clear deferral and variance accounts during the test period.

Further details on OEB staff's smoothing proposal with respect to test period amortization of deferral and variance account balances and recovery of forgone revenue are provided below and in Schedule A. While the test period carrying charges of $40 million for OEB staff smoothing proposal are higher than the estimated $21 million for the OPG smoothing proposal, OEB staff submits that its smoothing proposal is more advantageous for ratepayers. The quantum of forgone revenue is lower, the test period additions to the RSDA are lower and the average bill impact for a typical residential customer is lower.

OEB staff submits that OPG should identify in reply submission whether there are any significant calculation errors in the OEB staff proposal.

Deferral and Variance Account Recovery

OEB staff submits that the riders to clear the approved 2015 year end hydroelectric and nuclear deferral and variance account balances should start in 2018, and not be delayed to 2019 as proposed by OPG. OEB staff proposes that riders to recover the deferral and variance account balances start on March 1, 2018 (or the final implementation date if different than March 1, 2018). This will eliminate the need for forgone recovery. OEB staff notes that in the second OPG payment amounts proceeding, EB-2010-0008, the OEB ordered riders for the amortization of the approved deferral and variance account balances that were effective March 1, 2011 until December 31, 2012.

OPG has proposed that the deferral and variance account balances be amortized over a three year period 2019 to 2021. For the purposes of smoothing, OEB staff agrees that the amortization period should be longer than two years. However OEB staff proposes that the amortization period should be March 1, 2018 to December 31, 2020. As the OEB staff smoothing proposal does not adjust the unsmoothed nuclear payment amounts in 2017 and 2018, the amortization of deferral and variance account balances can start earlier.

OPG has proposed straight line recovery of the deferral and variance account balances over the three year period. As noted in the OEB staff submission filed on May 19, 2017, different disposition weightings could be considered to facilitate smoothing. In the EB-2012-0002 OPG deferral and variance account proceeding, the OEB approved a settlement proposal that weighted disposition into 60% in 2013 and 40% in 2014. In this submission, OEB staff proposes that the 2015 year-end balances be disposed on the following basis: 15% in the period March 1 to December 31, 2018, 50% in 2019 and 35% in 2020.

Forgone Revenue Recovery

OEB staff agrees with the DPAO determination of hydroelectric forgone revenue. However, as noted in sections 2.2 and 4.2 of this submission, the OEB staff rate smoothing proposal results in lower nuclear forgone revenue.

OPG has proposed straight line recovery of the hydroelectric and nuclear forgone revenue over the three year period 2019 to 2021. OEB staff submits that, for the purposes of smoothing, the riders to recover the hydroelectric and nuclear forgone revenue should follow the pattern proposed by OEB staff for deferral and variance account amortization. OEB staff proposes that forgone revenue be recovered on the following basis: 15% in the period March 1 to December 31, 2018, 50% in 2019 and 35% in 2020.

4.3 Bill Impacts

Residential Customers

OEB staff has no concerns with the method that OPG uses to calculate the residential customer bill impacts of OPG's proposal in dollars. However, the percentage bill impact calculations are not current. In its application filed May 2016, OPG assumed an average residential monthly bill of $150. In the OEB staff submission filed in May 2017, it was noted that the average residential monthly bill that could be calculated from public sources was closer to $140. The current average monthly residential bill that can be calculated from publicly available data is $120. That $120 average does not reflect the full impact of the July 2017 commodity cost reductions related to the Fair Hydro Plan. Regardless of the monthly average bill reference, the year over year impacts of the OPG proposal are less than 1% for the typical residential customer, and less than 1.5% for the OEB staff proposal.

The Fair Hydro Plan limits bill increases to the rate of inflation for residential customers and some other customers. Any bill impact analysis for residential customers in this proceeding is for illustrative purposes only, and does not take into account the rate smoothing built into the Fair Hydro Plan.

Non-RPP Customers

Bill impacts for typical medium and large business customers and typical large industrial customers are provided in Appendix I of the DPAO. The bill impacts are provided for customers of Alectra PowerStream, Hydro One and Toronto Hydro. OPG has calculated that the increase in customer bills is approximately 0.5% in each year. In determining the bill impacts for residential customers and non-RPP customers OPG has referred to the O. Reg. 53/05 definition for the calculation period:

> each period for which the Board determines the approved revenue requirements under subparagraph 12ii of subsection 6(2) together with the year immediately prior to that period.

The bill impact over the period 2016 to 2017 is based on a 2016 WAPA of $60.97/MWh. That WAPA includes deferral and variance account riders that ended on December 31, 2016. However, as new payment amounts were not implemented on January 1, 2017, the actual WAPA on January 1, 2017 was \$50.67/MWh.[10] On the basis of Tables 1b, 1c and 1d in Appendix I of the DPAO, OEB staff estimates that the bills of non-RPP customers dropped by 3% on January 1, 2017.

The bills for non-RPP customers were underpinned by a WAPA of \$50.67/MWh in 2017 and will continue to be underpinned by the WAPA of \$50.72/MWh in 2018 until the new payments amounts are implemented. Assuming an implementation date of March 1, 2018, under OPG's rate smoothing proposal, non-RPP customers' bills will be underpinned by a WAPA of \$50.72/MWh on February 28, 2018 and by a WAPA of \$64.15/MWh on March 1, 2018. OEB staff estimates that the bill increase for non-RPP customers will be 4%. For the balance of the test period, OEB staff agrees with OPG that the increase will be 0.5% per year under the OPG proposal. The OEB staff smoothing proposal would also increase bills for non-RPP customers by 4% on March 1, 2018.

While there is some bill volatility for the non-RPP customers in the early years of the test period (a roughly 3% reduction in January 2017 and then an increase of 4% in March 2018), these impacts are not sufficiently significant to warrant mitigation. The impacts are much lower than the 10% threshold that the OEB normally applies for triggering mitigation for electricity distributors.

5. REVENUE REQUIREMENT WORK FORM – APPENDIX J

OEB staff submits that the appendices of the DPAO and the RRWF should be updated to reflect any corrections, and filed with OPG's reply submission.

[10] Decision and Order EB-2016-0152 page 154.

6. IMPLEMENTATION DATE

As set out in the Decision, OPG will file a reply submission on February 5, 2018. Pending the OEB's determinations on the implementation of the Decision and on rate smoothing for the test period, the OEB may need to require OPG to file further documentation to implement those determinations. However, should there be some minor delays in issuing the final payment amounts order, it is OEB staff's understanding that the IESO can accommodate an implementation date of March 1, 2018 through its billing processes without the necessity for further forgone revenue.[11]

All of which is respectfully submitted

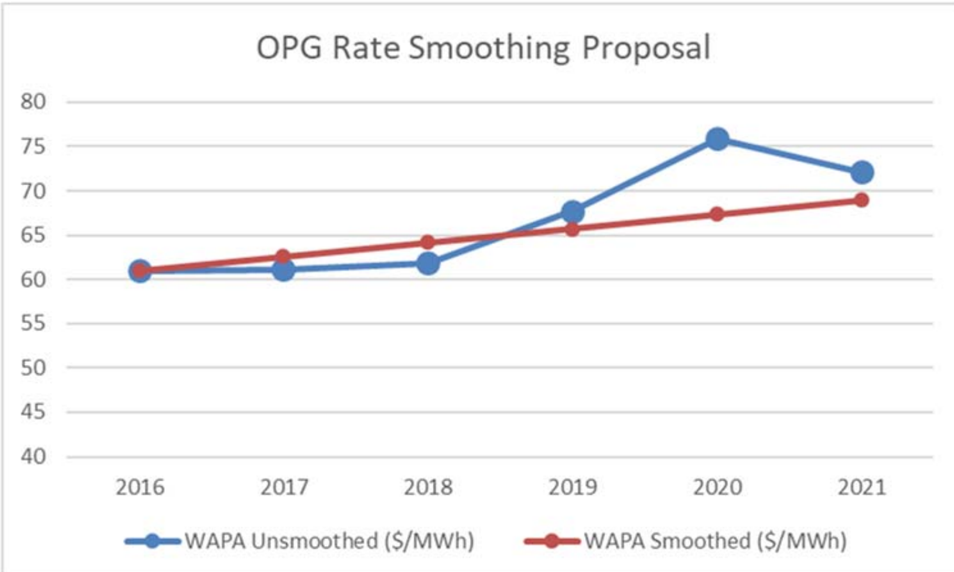
[11] EB-2010-0008, Final Payment Amounts Order issued on April 11, 2011 with implementation on March 1, 2011. EB-2013-0321, Final Payment Amounts Order issued on December 18, 2014 with implementation on November 1, 2014.

SCHEDULE A – OPG and OEB Staff Rate Smoothing Proposals

	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	38.1	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)	60.97	61.16	61.85	67.71	75.88	72.10		
11	WAPA Smoothed ($/MWh)	60.97	62.56	64.15	65.72	67.33	68.97		
12	Bill Impact WAPA Smoothed ($/month)		0.65	0.65	0.65	0.65	0.65	0.65	
13	RSDA Additions - Smoothed ($M)		-62	-165	144	602	214	732	
14	RSDA Interest ($M)		-1.5	-6.7	-7.4	9.1	27.7	21	Estimated by OEB staff

	OEB Staff Submission	2016	2017	2018	2019	2020	2021	Total/Ave	Notes
15	Hydroelectric Payment Amount ($/MWh)	40.72	41.67	42.05	42.43	42.81	43.20		
16	Hydroelectric DVA Rider ($/MWh)	3.83		0.52	1.44	1.01			Amortization of $86.8M (calculation 1)
	Forgone HE Rider			0.13	0.35	0.24			Recovery of $21.1M (calculation 2)
17	Nuclear Revenue Requirement ($M)		2973.0	3032.4	3116.5	3579.1	3173.9		
18	Production Forecast (TWh)	46.8	38.1	38.47	39.03	37.36	35.38		
19	Unsmoothed Nuclear Payment ($/MWh)	59.29	78.03	78.83	79.85	95.80	89.71		
20	Smoothed Nuclear Payment ($/MWh)	59.29	78.03	78.83	77.00	85.00	89.71		
21	Nuclear DVA Rider ($/MWh)	13.01		1.05	2.79	2.04			Amortization of $217.9M (calculation 3)
22	Forgone Nuclear Rider			2.90	7.76	5.67			Recovery of $605.4M (calculation 4)
23	WAPA Unsmoothed ($/MWh)	60.97	61.16	64.27	69.25	75.64	67.27		
24	WAPA Smoothed ($/MWh)	60.97	61.16	64.27	67.70	69.90	67.27		
25	Bill Impact WAPA Smoothed ($/month)		0.08	1.28	1.41	0.89	-1.03	0.53	
26	RSDA Additions - Smoothed ($M)		0	0	111	404	0	515	
27	RSDA Interest ($M)		0	0	2.5	14.2	23.8	40	

	Calculations	2017	2018	2019	2020	
1	Hydroelectric accounts - $86.8M		15%	50.0%	35.0%	
	Amortization per year ($M)		13.0	43.4	30.4	
	Production forecast (TWh)		25.2	30.2	30.2	Assumes March 1, 2018
	DVA Rider ($/MWh)		0.52	1.44	1.01	
2	Hydroelectric forgone - $21.1M		15%	50.0%	35.0%	
	Recovery per year ($M)		3.2	10.6	7.4	
	Production forecast (TWh)		25.2	30.2	30.2	Assumes March 1, 2018
	Forgone Rider ($/MWh)		0.13	0.35	0.24	
3	Nuclear accounts - $217.9M		15%	50.0%	35.0%	
	Amortization per year ($M)		32.7	109.0	76.3	
	Production forecast (TWh)		31.3	39.0	37.4	Assumes March 1, 2018
	DVA Rider ($/MWh)		1.05	2.79	2.04	
4	Nuclear forgone revenue					
	Smoothed payment amount ($/MWh)	78.03	78.83	Line 20 in table above		
	Interim payment amount ($/MWh)	59.29	59.29			
	Payment amount increase ($/MWh)	18.74	19.54			
	Production (TWh)	24.8	7.2	DPAO Appendix F Table 2		
	Foregone revenue ($M)	464.8	140.7	Total - $605.4M		
	Nuclear forgone - $605.4M		15%	50.0%	35.0%	
	Recovery per year ($M)		90.8	302.7	211.9	
	Production forecast (TWh)		31.3	39.0	37.4	Assumes March 1, 2018
	Forgone Rider ($/MWh)		2.90	7.76	5.67	


OPG Rate Smoothing Proposal
80
75
70
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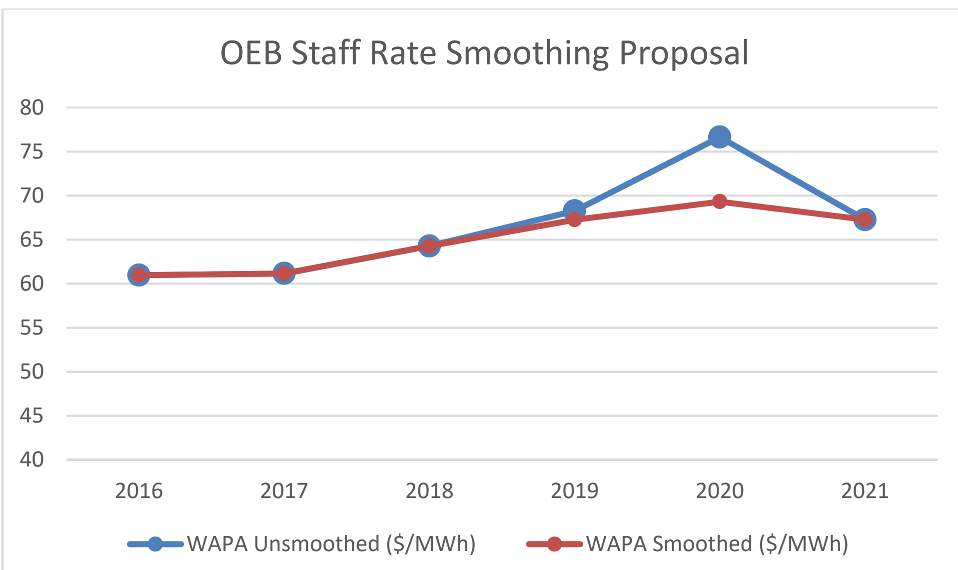
55
50
45
40
2016
2017
2018
2019
2020
2021
WAPA Unsmoothed ($/MWh)
WAPA Smoothed ($/MWh)


OEB Staff Rate Smoothing Proposal
80
75
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2016
2017
2018
2019
2020
2021
WAPA Unsmoothed ($/MWh)
WAPA Smoothed ($/MWh)