

CME Compendium

Panel 6

OPG 2017-2021 Rates – EB-2016-0152

CCC Interrogatory #10

Issue Number: 1.3

Issue: Is the overall increase in nuclear payment amounts including rate riders reasonable given the overall bill impact on customers?

Interrogatory

Reference:

Reference: Ex. A1/T3/S3/p. 2

The evidence states, "If OPG were to propose a constant nuclear base rate increase that covered the entire proposed nuclear revenue requirement for the 2017-2021 period, that rate increase would be approximately 15 percent per year, and the customer bill impact would be over 1.2 percent annually or approximately \$1.85 on a typical monthly residential bill each year."

- a. Under this proposal, to recover the full revenue requirement over the 2017-2021 period, what would be the interest savings relative to OPG's rate smoothing proposal?
- b. Did OPG undertake customer engagement to determine whether ratepayers would prefer to pay more up front in order to pay less overall (less interest over time)? If so please provide the results of that research.

Response

- a) If the OEB were not to defer any nuclear revenue requirement beyond the 2017-2021 period, interest expense would be reduced by approximately \$155M. The cumulative interest expense resulting from the proposed 11% rate smoothing is forecast to be \$284M, as provided in the Nuclear Rate Smoothing Presentation, September 23, 2016, Slide 6. An annual payment amounts increase of approximately 15% would be required to recover the full revenue requirement as illustrated in the chart below. The cumulative illustrative interest expense is \$129M as shown in line 6, column (e). The chart shows the annual deferred revenue requirement and the associated interest. L1.3-1 Staff-005, Attachment 1, Table 3 provides the associated rates.

Chart 1:
Illustration of the Annual Deferred Revenue Requirement and the Associated Interest

Line No.	Description	2017 Amount	2018 Amount	2019 Amount	2020 Amount	2021 Amount
		(a)	(b)	(c)	(d)	(e)
1	Unsmoothed Rate ¹ (\$/MWh)	83.73	84.48	84.17	101.05	98.62
2	Illustrative Smoothed Rates, Based on a Constant Rate of Change ² (\$/MWh)	68.05	78.11	89.65	102.89	118.10
3	Forecast Production ³ (TWh)	38.1	38.5	39.0	37.4	35.4
4	Annual Deferred Amount (\$M)	597	245	(214)	(69)	(689)
5	Interest Expense (\$M)	15	34	35	30	15
6	Cumulative Interest (\$M)	15	48	84	114	129

Notes:

- 1 Ex. I1-3-1 Table 1, line 9
- 2 Reflects a rate of increase of approximately 15% to provide for recovery of the deferred revenue requirement and interest. The Rate Smoothing Deferral Account Balance is \$0 in 2021
- 3 Ex. I1-3-1 Table 1, line 8

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b) As described in Ex. A1-3-2, section 5, OPG's customer engagement activities did not specifically address this issue. However, five of the six considerations that informed OPG's rate smoothing proposal reflect the RRFE principle of Customer Focus. One of these considerations, Intergenerational Equity, specifically balances the customer bill impact of deferred recovery with the carrying costs that will ultimately be borne by customers in subsequent periods as a result of that deferral. (Ex. A1-3-3, p. 5, lines 29-31).

Numbers may not add due to rounding.

Filed: 2017-03-08
 EB-2016-0152
 Exhibit N3
 Tab 1
 Schedule 1
 Attachment 2
 Table 5

Table 5
 Updated L-13-5 CCC-010 Chart 1
 Illustration of the Annual Deferred Revenue Requirement and the Associated Interest

Line No.	Description	2017 Amount (a)	2018 Amount (b)	2019 Amount (c)	2020 Amount (d)	2021 Amount (e)
1	Unsmoothed Nuclear Rate ¹ (\$/MWh)	82.98	82.81	83.87	101.28	96.03
2	Illustrative Nuclear Smoothed Rates, Based on a Constant Rate of Change ² (\$/MWh)	78.07	82.05	90.14	95.67	101.90
3	Forecast Nuclear Production ³ (TWh)	38.1	38.5	39.0	37.4	35.4
4	Annual Deferred Amount (\$M)	187	29	(245)	210	(208)
5	Interest Expense (\$M)	5	10	5	4	5
5	Cumulative Interest (\$M)	5	14	19	23	28

Notes:

- 1 Ex. N3-1-1 Table 3 line 9
- 2 Reflects WAPA increase of approximately 3.98% to provide for recovery of the deferred Revenue Requirement and interest. The Rate Smoothing Deferral Account Balance is \$0 in 2021
- 3 Ex. I1-3-1 Table 1, line 8

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Chart 3: Proposed and Alternative Rate Smoothing Scenarios

	Original 11% Proposal ¹	A	B (Proposed)	C	D	E
2017-2021 Average Annual Change in WAPA	4.3%	2.0%	2.5%	3.0%	3.5%	4.0%
2022-2026 Average Annual Change in WAPA ²	6.9%	8.3%	7.0%	5.7%	4.3%	3.0%
2027-2036 Average Annual Change in WAPA ²	(1.9)%	(1.5)%	(1.0)%	(0.3)%	0.5%	1.2%
Peak RSDA Balance (\$B)	\$3.3	\$3.2	\$2.9	\$3.0	\$3.2	\$3.4
Total Interest (\$B)	\$1.4	\$1.4	\$1.4	\$1.4	\$1.4	\$1.4
Interest Cost / Deferred Revenue Ratio	0.5	0.5	0.5	0.5	0.5	0.4
FFO Interest Coverage > = 3 (2017-2021) / (2022-2026)	3.6 / 5.3	4.5 / 5.0	4.6 / 5.4	4.6 / 5.8	4.7 / 6.2	4.8 / 6.7
DEBT to EBITDA < = 5.5 (2017-2021) / (2022-2026)	6.2 / 5.3	5.9 / 5.3	5.9 / 5.2	5.8 / 5.0	5.8 / 4.9	5.7 / 4.7
Nuclear Payment Amount Transition Impact (\$/MWh)	(\$4.3)	\$1.0	(\$3.7)	(\$9.3)	(\$16.8)	(\$22.7)
Average Annual Bill Impact (2017-2021) in %	0.7%	0.3%	0.4%	0.5%	0.6%	0.7%
Average Annual Bill Impact (2017-2021) in \$	\$1.05	\$0.51	\$0.65	\$0.79	\$0.93	\$1.07
Average Annual Bill Impact (2017-2036) in % ²	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
Average Annual Bill Impact (2017-2036) in \$ ²	\$0.43	\$0.43	\$0.47	\$0.53	\$0.60	\$0.65

Notes

¹ Updated to reflect changes to Nuclear revenue requirement in Ex. N1-1-1 and Ex. N2-1-1. Nuclear Payment Amount smoothing is inherently more volatile than smoothing based on WAPA. This is primarily due to the impact that year-over-year production differences have on the annual WAPA, as well as the expiry of higher payment riders in effect during 2016. The average year-over-year change in the WAPA shown for the Original 11% Proposal is therefore not directly comparable with the more consistent year-over-year change in the period in the smoothing scenarios under the amended Regulation.

² Calculated assuming that hydroelectric payment amounts continue to escalate at 1.5% per year throughout the 2017-2036 period pursuant to the price-cap as proposed in Ex. I1-2-1 Table 1 and no payment riders beyond those proposed in this application.

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Based on its assessment of the alternatives above, using the considerations described in section 4.0 above, OPG proposes an average annual WAPA increase of 2.5% per year during the 2017-2021 period. This rate of increase would result in an average year-over-year increase of approximately \$0.65 on the typical residential customer's monthly bill during the 2017-2021 period. The methodology by which OPG calculated customer bill impacts in Chart 3 is provided in Section 5.2 above.

1 **Board Staff Interrogatory #268**

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3 **Issue Number: 11.6**

4 **Issue:** Is OPG's proposal for smoothing nuclear payment amounts consistent with O. Reg.
5 53/05 and appropriate?
6

7
8 **Interrogatory**

9
10 **Reference:**

11 Ref: Exh A1-3-3 pages 4 and 9 and Chart 3

12
13 OPG refers to a ratio of Funds from Operations (FFO) Adjusted Interest Coverage ratio as a
14 key financial indicator.

- 15
16 a) OPG states that higher values for the interest coverage ratio are preferred with a
17 minimum target of three. Please provide the FFO Adjusted Interest Coverage ratio for the
18 2012 to 2015 period for OPG.
19
20 b) In Chart 3 there is a line labeled "Interest Cost/Deferred Revenues Ratio". Is this a mis-
21 labelling or is the reported ratio equivalent to an FFO Adjusted Interest Coverage ratio? If
22 not, please provide the FFO Adjusted Interest Coverage ratio for all the alternatives set
23 out in Chart 3.
24
25 c) On page 9 OPG states that the Interest Cost/Deferred Revenues is ratio is an indicator of
26 intergenerational equity. What is the target for the Interest Cost/Deferred Revenues ratio?
27

28
29 **Response**

- 30
31 a) OPG's FFO Adjusted Interest Coverage ratios were 2.3 times for 2012, 2.8 times for both
32 2013 and 2014, and 5.0 times for 2015.
33
34 b) The "Interest Cost/Deferred Revenues Ratio" line in Chart 3 is not mislabelled. The
35 interest cost (numerator in above ratio) is the total interest paid over the deferral and
36 recovery period associated for various smoothing alternatives. The deferred revenues
37 are the total amounts deferred for recovery in a subsequent period associated with
38 various smoothing scenarios.
39

40 The FFO Adjusted Interest Coverage ratio results associated with various smoothing
41 scenarios for the 2017 to 2021 and 2022 to 2026 periods are provided in Chart 3
42 immediately following the Interest Cost/Deferred Revenues Ratio. Due to an
43 administrative error, the description appears blank in the first column of Chart 3. OPG
44 will correct Chart 3 when it updates its evidence. For clarity, the FFO Adjusted Interest
45 coverage ratio for the rate smoothing scenarios presented in Chart 3 is provided in the
46 table below:

2017-2021 Rate increase	12%	11%	10%	9%	8%
Interest Cost / Deferred Revenues Ratio	0.2	0.5	0.8	0.9	0.9
FFO Adjusted Interest Coverage >=3.0* (2017-2021) / (2022-2026)	3.7/6.3	3.6/5.3	3.5/4.5	3.5/3.9	3.4/3.3

*Weakest ratio

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c) There is no target ratio for the Interest Costs/Deferred Revenue Ratio. As stated in Ex A1-3-3, Page 9, lines 15 to 18), "Intergenerational equity involves striking a balance between the benefits of deferring revenue and the costs of the deferral; therefore OPG's assessment place value on a ratio that best reflects this balance (i.e., neither the highest nor the lowest ratio)." Lower year-over-year payment amount increases result in larger deferred revenue requirement recovery; which in turn increases the interest costs in the Rate Smoothing Deferral Account. The ratio effectively provides the cost of a dollar of deferral over the deferral period. As seen in the chart above, the cost of deferring revenue increases from \$0.20 per dollar when the payment amounts grow by 12% per year, to \$0.90 per dollar at an 8% annual payment amount increase.

Smoothing necessarily involves some level of intergenerational inequity. Future customers will be required to pay for the deferred revenue requirement. They will also be required to pay the interest costs associated with deferred recovery of revenue requirement. The ratio therefore reflects the impact on future customers of different levels of revenue requirement deferral.

1 OPG has calculated the nuclear payment amount (NPA) required to arrive at a 2.5%
2 increase in WAPA in Ex. N3-1-1 Table 3.

3
4 OPG applied the following rationales to evaluate each option for each of the assessment
5 considerations:

6
7 **Financial Viability (Leverage and Cash Flow Impacts):** Higher values for the
8 FFO Adjusted Interest Coverage ratio and lower values for the Debt to EBITDA
9 credit metric reduce financial risk to OPG. OPG's assessment was based on at
10 least one of the two metrics cited above being within threshold at all times
11 during each of the two 5-year deferral periods (i.e., 2017 to 2021 and 2022 to
12 2026). All scenarios in Chart 3 meet this threshold.

13
14 **Rate Stability:** All of the scenarios in Chart 3 result in a constant year-over-year
15 change in WAPA within the two halves of the deferral period and within the
16 recovery period. In each scenario, the year-over-year change in WAPA varies
17 between the two halves of the deferral period, and again at the beginning of the
18 recovery period. Lower variances at each of these points are better.

19
20 **Long-Term Perspective:** The assessment was based on the size of the
21 average year-over-year change in WAPA during the recovery period (closer to 0
22 per cent is better).

23
24 **Post-Recovery Transition:** The assessment was based on the size of the
25 change in the nuclear payment amount at the end of the recovery period
26 (smaller is better) to the forecast post-transition payment amount of
27 approximately \$120/MWh.

28
29 **Intergenerational Equity:** The assessment was based on the ratio of total
30 interest costs to total amounts deferred (total interest / total amounts deferred).
31 A lower ratio implies a lower cost of deferring revenue under that alternative.

1 Intergenerational equity involves striking a balance between the benefits of
2 deferring revenue and the costs of the deferral; therefore OPG's assessment
3 placed value on a ratio that best reflects this balance (i.e., neither the highest
4 nor the lowest ratio).

5
6 **Customer Bill Impact:** Each scenario was assessed based on the resulting
7 average year-over-year change in a typical residential customer's monthly bill,
8 both in the 2017-2021 period and over the full deferral and recovery periods.
9

10 In OPG's assessment, Scenario B results in the best overall balance based on the
11 application of the above considerations. While Scenarios A, B, and C each perform well on
12 several considerations, Scenario B best balances the considerations outlined above.
13 Scenario A has the steepest rate change in the recovery period and the least stable WAPA in
14 2022 and 2027, and although Scenario C produces a smaller change in WAPA between the
15 two halves of the deferral period, it also produces less optimal results than Scenario B in
16 terms of bill impact and the transition rate. Scenario B also produces the lowest peak RSDA
17 balance. Overall, Scenario B best addresses the considerations and reflects the best overall
18 proposal.

19
20 Relative to OPG's proposal under the previous version of the Regulation, the main benefit of
21 the revised proposal is a significantly lower average annual bill impact in the 2017-2021
22 period. Under the previous proposal, the annual average of year-over-year increases in
23 customers' monthly bills over the period was forecast at approximately \$1.05, as opposed to
24 a less variable \$0.65 under the revised proposal.

25
26 Under the revised proposal, OPG expects that the rate of change in the company's WAPA
27 will be different between the first and second halves of the deferral period. However the
28 average annual rate of change in WAPA is expected to be consistent within each five-year
29 period, meaning that the proposal would result in a consistent rate of increase during the
30 deferral period (except for the transition between 2021 and 2022) and a consistent average
31 annual decrease in WAPA during the recovery period.

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OPG's proposal results in deferring the collection of approximately \$1B in revenue in the 2017 to 2021 period, as reflected in Chart 4 below. This is approximately \$0.4B less than OPG proposed to defer under the previous proposal (after adjustments to account for the reduced nuclear revenue requirement in the previous impact statements). The nuclear payment amounts have been updated based on the level of deferred recovery associated with this proposal.

Chart 4: OPG Proposed Deferred Revenue Requirement

	2017	2018	2019	2020	2021	Total
Proposed Revenue Requirement (\$M)	\$ 3,161	\$ 3,186	\$ 3,273	\$ 3,783	\$ 3,398	\$ 3,617
Forecast Production (TWh)	38.10	38.47	39.03	37.36	35.38	26.01
Smoothed Rate (\$/MWh)	\$ 76.39	\$ 78.60	\$ 84.83	\$ 88.21	\$ 92.02	N/A
Smoothed Revenue (\$M)	\$ 2,910	\$ 3,024	\$ 3,311	\$ 3,295	\$ 3,256	\$ 15,796
Deferred Revenue Requirement (\$M)	\$ 251	\$ 162	\$ (38)	\$ 488	\$ 142	\$ 1,005

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7.0 IMPLEMENTATION

The specific revenue requirement deferral amounts proposed in section 6.0 are produced by adjusting the approved nuclear payment amounts to achieve the desired annual rate of change in the total WAPA. The OEB's findings on the proposed nuclear revenue requirements, nuclear production forecast, hydroelectric and nuclear payment riders and the hydroelectric IRM formula will necessarily impact the 2017-2021 NPA, the annual deferred nuclear revenue requirement, and the resulting WAPA.

Nuclear rate smoothing is unique in terms of the magnitude of the proposed deferred amounts, and the number of interrelated decisions required. To the extent the OEB's decision changes the rate smoothing inputs, it may be expedient for the OEB to make a decision on the nuclear revenue requirements and the inputs (steps 2 and 3 of the chart in section 3.1 above), and withhold its final decision on the "outputs" (i.e., the annual change in WAPA, the resulting nuclear payment amount, and the amount to be deferred in the RSDA) until the Payment Amount Order approval process (steps 4, 5 and 6).



Ontario's Fair Hydro Plan

Find out how much you will save on your monthly electricity bill, and learn more about programs and tax credits to help lower your bill.

What's new

Starting this summer, electricity bills will be reduced by 25% on average for households across Ontario. Many small businesses and farms will also benefit from this cut.

And bills won't increase beyond the rate of inflation for at least four years.

People who live in eligible rural communities and those with low incomes will see even more reductions to their electricity bills.

Taken together, these changes will deliver the single-largest reduction to electricity rates in Ontario's history.

Get more discounts on your bill

Ontario Electricity Support Program (OESP) (<https://ontarioelectricitysupport.ca/?lang=en/>)

Now available to even more low income, electricity consumers, **[apply online](https://ontarioelectricitysupport.ca/SelfAssessment)** (<https://ontarioelectricitysupport.ca/SelfAssessment>) and you could receive \$360-\$425 off per year on your bills, through the OESP.

If you have other unique electricity requirements, including electric heating, a medical device that uses a lot of electricity or you're a First Nation, Inuit or Métis customer, you could receive an extra \$45-\$75 off per year on your bills.

Affordability Fund

This fund will help eligible customers who don't qualify for existing, low income electricity programs.

It will also help low income customers pay for energy-efficiency improvements in their homes, which will help reduce electricity bills.

Details about the fund and information on how to apply will be communicated to eligible customers in the coming months.

First Nations On-Reserve Delivery Credit

We are removing the delivery charge for all on-reserve First Nations residential customers, who will automatically receive the credit on their electricity bills.

The credit is a result of a partnership between the Ontario Energy Board, First Nations, including remote communities, distributors and consumer groups such as the Low Income Energy Network (<http://www.lowincomeenergy.ca/>).

Ontario Energy and Property Tax Credit (<http://www.fin.gov.on.ca/en/credit/oeptc/>)

Get up to \$1,023 per year in tax credits if you or your family have low-to-moderate income and up to \$1,165 if you're an eligible senior. To apply:



Hydro rates to drop 17%, but Ontarians will pay for it later

Average household electricity bill in the province has doubled over the past decade

By Mike Crawley, [CBC News](#) Posted: Mar 02, 2017 5:00 AM ET Last Updated: Mar 03, 2017 3:29 PM ET

Residential and small business hydro bills in Ontario will drop by 17 per cent on average this summer under a new plan released Thursday by Premier Kathleen Wynne.

The plan will lift billions of dollars in costs off customers this year, and load them onto future hydro bills and taxpayers.

The dramatic move comes as Wynne's Liberal government trails the PCs by some 14 points in a range of polls and finds itself nearly even with the NDP ahead of next year's election.

- Ontario Liberals eyeing hydro rate cut in range of 8%

Wynne acknowledged the bill for the across-the-board-relief will eventually come due for ratepayers.

"Over time, it will cost a bit more. That's true," she said when detailing the plan.

"And it will take longer to pay off. That's also true. But it is fairer, because it doesn't ask this generation of hydro customers alone to pay the freight for everyone before and after."

The Liberals say the plan will cut 25 per cent off the average residential and small business bill. That figure includes an eight per cent reduction that kicked in Jan. 1, when the government exempted residential electricity costs from the provincial portion of the HST.

"Everywhere I go I hear from people worried about the price that they are asked to pay for hydro and the impact that it has on their household budgets," Wynne said Thursday at Queen's Park.

The changes mean that hydro bills will not only drop, but "stay down and everyone will benefit," she said.

Medium-sized businesses will also be eligible for some relief. More of them will qualify for a preferential electricity rate that is currently given to larger industrial businesses.

'The bill will come due'

As first reported by CBC News in February, the centrepiece of the plan involves stretching the financing costs of building and refurbishing power plants over a longer period of time than was previously planned.

It means some \$28 billion in costs projected to be paid over the next decade will be refinanced. Officials say the maximum amount of interest per year would be \$1.4 billion, with those interest costs to be paid by hydro customers in future years.

The plan would keep electricity rates at or below the rate of inflation over the next four years, but government officials said they can't predict the size of the electricity rate increases after that period.