

**EB-2020-0290**

**Ontario Power Generation Inc.**

**Application for payment amounts for the period from  
January 1, 2022 to December 31, 2026**

**Panel #1  
Small Modular Reactors**

**AMPCO Compendium**

**August 4, 2021**

## NEW NUCLEAR AT DARLINGTON

### 1.0 PURPOSE

This evidence presents an overview of the activities and expenditures associated with New Nuclear at Darlington which includes work being undertaken at the Darlington site related to the planning and preparation for a new technology known as a Small Modular Reactor (“SMR”).

### 2.0 OVERVIEW

OPG’s nuclear revenue requirement for the IR term includes costs to preserve the option to build new nuclear generation at the Darlington site. This is consistent with prior government direction that OPG should continue with the environmental process and site licencing process given long lead times for nuclear procurement and construction.<sup>1</sup> OPG is seeking approval of annual OM&A costs of \$2.2M, \$2.2M, \$2.3M, \$2.3M, and \$2.3M for the years 2022-2026, respectively, as presented in Ex. F2-1-1, Table 1. The forecast OM&A costs during the IR term are for work to preserve the option to build new nuclear at Darlington, and do not assume development of an SMR generating station, pending the investment decision on the project. Any differences between these forecasts and OPG’s actual non-capital OM&A costs will be recorded in the Nuclear Development Variance Account (“NDVA”), in accordance with O. Reg. 53/05.<sup>2</sup>

In addition, OPG’s 2020-2026 Business Plan is forecasting OM&A expenses of \$66M in 2020 and \$206M in 2021 for preliminary planning and preparation expenditures for an SMR generating station at the Darlington site. There was no forecast of planning and preparation expenditures for the development of an SMR included in EB-2016-0156. OPG will record the preliminary planning and preparation amounts in 2020 and 2021 related to the SMR project in the NVDA.

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<sup>1</sup> EB-2016-0152, Ex. L-6.01-7 ED-017 and EB-2013-0321, Ex. D2-2-1, Attachment 1.

<sup>2</sup> The NDVA is discussed in Ex. H1-1-1.

1 Virtually all OM&A costs incurred prior to 2020 were to preserve the option to develop new  
2 nuclear at Darlington.<sup>3</sup> This included maintaining the environmental assessment for site license  
3 renewal and advancing a number of environmental assessment commitments necessary to be  
4 ready for eventual site preparation. These preservation and licensing activities continue, and  
5 their costs are included in the \$272M in SMR planning and preparation costs in 2020 and 2021  
6 described above.

7  
8 Section 3.0 below provides a brief overview of the SMR project.

9  
10 **3.0 SMR PROJECT**

11 SMRs are next generation nuclear reactors designed to have enhanced safety and economic  
12 benefits. Specifically, SMRs are smaller in both physical size and output than previous  
13 generations, modular in construction to enable shorter construction timeframes, and virtually  
14 emissions free. Small Modular Reactors are expected to have designed-in safety  
15 characteristics incorporating the learnings from the Fukushima events, to substantially reduce  
16 potential for off-site consequences from a nuclear accident and thus improve public confidence  
17 and social license. These attributes make SMRs extremely safe and quicker to build than  
18 traditional reactors, while providing the reliable baseload generation capability of other  
19 reactors.

20  
21 Subject to approvals from the Canadian Nuclear Safety Commission (“CNSC”), OPG is  
22 planning to construct an SMR nuclear generating station at the Darlington site with a projected  
23 in-service by the end of this decade, meeting anticipated energy and capacity needs in Ontario  
24 with a clean energy source. Adding incremental, baseload, non-CO<sub>2</sub> emitting generation  
25 capability by 2030 will allow the system to meet the expected increased demand largely driven  
26 by modest growth in the residential, commercial and agricultural sectors, as well as the  
27 increased electrification of transportation. An SMR will also help to address projected summer  
28 capacity needs arising after the planned shutdown of the Pickering generation station and

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<sup>3</sup> OPG incurred total costs of \$0.7M in 2018 and 2019 related to preliminary planning and preparation activities for an SMR generating station at the Darlington site that were recorded in the NDVA. As discussed in Ex. H1-2-1, OPG is not seeking clearance of this amount in this application.

1 replace some of the baseload generation previously provided by Pickering. The need to begin  
2 this process now reflects the lead-time required to meet the projected in-service target.

3  
4 The provinces of Ontario, New Brunswick, and Saskatchewan signed a Memorandum of  
5 Understanding (“MOU”) in 2019 committing to collaborate on the development and deployment  
6 of SMRs in Canada.<sup>4</sup> Small Modular Reactors are seen as a source of safe, clean, reliable and  
7 low-cost energy for both on-grid and off-grid communities, driving economic growth and export  
8 opportunities across the country and around the world. OPG and the Province of Ontario are  
9 uniquely positioned to lead the emerging worldwide market for clean, zero-carbon SMRs. This  
10 opportunity presents economic benefits for the province’s nuclear industry, creating jobs and  
11 supporting the retention of advanced manufacturing; while simultaneously meeting the  
12 province’s capacity and energy needs.

13  
14 The initial planning and preparation phase of SMR development includes the following tasks:  
15 1) select a technology developer, 2) prepare for a construction license application, 3) develop  
16 the necessary project and engineering organizations, and 4) obtain more certainty on project  
17 costs, as outlined below, by the end of 2021. Progress on these activities will enable a decision  
18 whether to proceed with the next phase gated releases in order to meet an in-service date by  
19 the end of the decade.

20  
21 More detail on the extensive and interconnected activities to be undertaken during the 2020-  
22 2021 period is provided below:

- 23
- 24 • Technology Developer Selection: There are many different SMR technology developers in  
25 the market currently. The first objective of this phase was to narrow the pool of potential  
26 technology partners to two or three SMR technology developers and determine which  
27 developers would provide the greatest overall benefit to Ontario. As of September 2020,  
28 this objective was completed. The next objective is to conduct further due diligence and

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<sup>4</sup> On August 12, 2020 the Province of Alberta entered into the MOU with Ontario, Saskatchewan and New Brunswick to support the development of SMRs.

1 development work in order to arrive at a single technology developer by the end of 2021.  
2 OPG will fund activities to advance development and produce the necessary information  
3 for OPG to make a final technology partner selection. OPG forecasts that the cost of these  
4 activities and the preparation of a Class 5 cost estimate and project schedule will be  
5 approximately \$190M.

- 6
- 7 • Licensing: OPG has an approved environmental assessment and holds a 10-year Site  
8 Preparation Licence (“SPL”) for the Darlington site, which was issued in 2012 and expires  
9 in August 2022. The licence allows OPG to undertake site preparation activities required  
10 for new nuclear generation and is the first in a series of licences required in order to  
11 construct and operate any new reactor. The Licence to Construct (“LTC”) is the second  
12 licence required, and an application for this licence would need to be submitted during the  
13 second quarter of 2022 in order to maintain the option of starting construction by the middle  
14 of the decade. On June 30, 2020 OPG submitted an application to the CNSC to renew and  
15 extend the existing Darlington SPL to ensure an SPL is in effect until such time as an LTC  
16 is approved. This recent SPL renewal application is more advanced and costly than the  
17 prior application as the preparation work moves from the option maintenance phase to  
18 actual development of the site. At the same time, significant effort is required for OPG to  
19 prepare the LTC application, which forms a material portion of the licensing costs. The  
20 estimated cost of licensing activities is approximately \$20M.

- 21
- 22 • Project Development and Oversight: As owner of the SMR, OPG will manage the project  
23 and provide oversight. This includes developing a framework to address:
    - 24 ○ project management approach and governance;
    - 25 ○ project controls to ensure effective oversight of external parties (technology developer,  
26 engineering, procurement and construction contractor, etc.);
    - 27 ○ cost and scheduling; and
    - 28 ○ development of nuclear support functions.
- 29

1 Other activities will include preliminary engineering assessments of proposed developers'  
2 designs. The estimated cost of these initial planning activities is approximately \$62M.

3

4 The activities described above are key components to developing a Class 5 estimate by  
5 November 2021 upon which an investment decision can be made for continued project  
6 development work, leading to an application for a LTC.

**Board Staff Interrogatory #248**

**Interrogatory**

**Reference:**

Exhibit F2 / Tab 8 / Schedule 1 / pp. 1, 3-5

**Preamble:**

OPG forecasted OM&A expenses of \$66 million in 2020 and \$206 million in 2021 for preliminary planning and preparation expenditures for an SMR generating station at Darlington NGS. There was no forecast of planning and preparation expenditures for the development of an SMR included in OPG's 2017-2021 Payment Amounts Proceeding. OPG stated that it will record the preliminary planning and preparation amounts in 2020 and 2021 related to the SMR project in the NDVA.

**Question(s):**

- a) Please file the Memorandum of Understanding signed by the Government of Ontario with respect to the development of SMRs in Canada.
- b) Please confirm that the total estimated costs of the preliminary planning and preparation expenditures of \$272 million are broken down as follows: (i) Technology Developer Selection - \$190 million; (ii) Licensing - \$20 million; and (iii) Project Development and Oversight - \$62 million.
- c) Please confirm that if OPG's investment decision is to not go forward with the construction of an SMR generating station that it will write-off the amounts recorded in the NDVA related to the preliminary planning and preparation work (and not seek recovery of these amounts from ratepayers).

**Response**

- a) See Attachment 1.
- b) Confirmed.
- c) Not confirmed. OPG expects to seek recovery of all prudently incurred costs related to preliminary planning and preparation activities for an SMR generating station at the Darlington site, irrespective of whether the project ultimately proceeds to construction. As discussed in Ex. F2-8-1, OPG will record these costs in the Nuclear Development Variance Account ("NDVA") pursuant to O. Reg. 53/05, section 5.4 (1) and seek their recovery in a future proceeding.

**Society Interrogatory #13**

**Interrogatory**

**Reference:**

*Exhibit F2-8-1 New Nuclear At Darlington*

- a) What information can OPG share on Ontario and Federal government support for new nuclear at Darlington?
- b) On p3 of the exhibit, it is stated that the provinces of Ontario, New Brunswick, and Saskatchewan signed a Memorandum of Understanding (“MOU”) in 2019 committing to collaborate on the development and deployment of SMRs in Canada. In 2020 the Province of Alberta entered into this MOU. What support does this collaboration provide to new nuclear at Darlington?
- c) On p1 of the exhibit, forecast 2020 and 2021 OM&A spend is \$66M and \$206M respectively. Please provide the actual 2020 spend on new nuclear by OPG as well as the latest update to forecast 2021 spending.

**Response**

- a) The Province of Ontario has publicly supported the development and deployment of SMRs through the Memorandum of Understanding signed by the Government of Ontario with respect to the development of SMRs in Canada. On November 13, 2020, OPG announced resumption of planning activities for future nuclear power generation at its Darlington site, to host a SMR, with the Minister of Energy, Northern Development and Mines and Minister of Indigenous Affairs publicly giving their support. On July 8, 2021, as part of the Minister of Energy, Northern Development and Mines’ concurrence for OPG’s 2020-2026 business plan, the Minister asked that OPG continue its planning and preparation work for the development of a potential on-grid SMR at the Darlington site, including completion of the SMR technology selection process.
- b) See Ex. L-F2-08-CCC-48.
- c) The 2020 actuals for new nuclear activities was \$13.1M. As of July 2021, the year end forecast for 2021 was \$153M. The lower overall forecast is primarily due to lower than expected developer costs. The one area where forecast exceeds budget is for the geotechnical surveys (boreholes), for which the actual cost was higher than planned based on more detailed technical specification requirements.



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

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

**Consolidation Period:** From November 6, 2020 to the [e-Laws currency date](#).

Last amendment: 622/20.

Legislative History: 269/05, 23/07, 27/08, 312/13, 353/15, 57/17, 622/20.

*This Regulation is made in English only.*

**Definitions**

**0.1** (1) In this Regulation,

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

“base payment amount” means the payment amount approved by the Board in respect of output from the hydroelectric facilities, excluding any fixed or variable payment amount rider;

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

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

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

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

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

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

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

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

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

where,

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

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

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

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

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

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

“Pickering closure” means the closure or decommissioning of the Pickering A Nuclear Generating Station or Pickering B Nuclear Generating Station, or the retirement of a generating unit at the Pickering A Nuclear Generating Station or Pickering B Nuclear Generating Station from electricity generation;

“Pickering closure activities” means any activities in furtherance of a Pickering closure. O. Reg. 23/07, s. 1; O. Reg. 353/15, s. 1; O. Reg. 57/17, s. 1; O. Reg. 622/20, s. 1.

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

**Prescribed generator**

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

**Prescribed generation facilities**

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

1. The following hydroelectric generating stations located in The Regional Municipality of Niagara:
  - i. Sir Adam Beck I.
  - ii. Sir Adam Beck II.
  - iii. Sir Adam Beck Pump Generating Station.
  - iv. De Cew Falls I.
  - v. De Cew Falls II.
2. The R. H. Saunders hydroelectric generating station on the St. Lawrence River.
3. Pickering A Nuclear Generating Station.
4. Pickering B Nuclear Generating Station.
5. Darlington Nuclear Generating Station.
6. As of July 1, 2014, the generation facilities of Ontario Power Generation Inc. that are set out in the Schedule. O. Reg. 53/05, s. 2; O. Reg. 23/07, s. 2; O. Reg. 312/13, s. 2.

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

3. April 1, 2008 is prescribed for the purposes of subsection 78.1 (2) of the Act. O. Reg. 53/05, s. 3.
4. REVOKED: O. Reg. 312/13, s. 3.

**Deferral and variance accounts**

5. (1) Ontario Power Generation Inc. shall establish a variance account in connection with section 78.1 of the Act that records capital and non-capital costs incurred and revenues earned or foregone on or after April 1, 2005 due to deviations from the forecasts as set out in the document titled “Forecast Information (as of Q3/2004) for Facilities Prescribed under Ontario Regulation 53/05” posted and available on the Ontario Energy Board website, that are associated with,

- (a) differences in hydroelectric electricity production due to differences between forecast and actual water conditions;
  - (b) unforeseen changes to nuclear regulatory requirements or unforeseen technological changes which directly affect the nuclear generation facilities, excluding revenue requirement impacts described in subsections 5.1 (1) and 5.2 (1);
  - (c) changes to revenues for ancillary services from the generation facilities prescribed under section 2;
  - (d) acts of God, including severe weather events; and
  - (e) transmission outages and transmission restrictions that are not otherwise compensated for through congestion management settlement credits under the market rules. O. Reg. 23/07, s. 3.
- (2) The calculation of revenues earned or foregone due to changes in electricity production associated with clauses (1) (a), (b), (d) and (e) shall be based on the following prices:
1. \$33.00 per megawatt hour from hydroelectric generation facilities prescribed in paragraphs 1 and 2 of section 2.
  2. \$49.50 per megawatt hour from nuclear generation facilities prescribed in paragraphs 3, 4 and 5 of section 2. O. Reg. 23/07, s. 3.

(3) Ontario Power Generation Inc. shall record simple interest on the monthly opening balance of the account at an annual rate of 6 per cent applied to the monthly opening balance in the account, compounded annually. O. Reg. 23/07, s. 3.

(4) Ontario Power Generation Inc. shall establish a deferral account in connection with section 78.1 of the Act that records non-capital costs incurred on or after January 1, 2005 that are associated with the planned return to service of all units at the Pickering A Nuclear Generating Station, including those units which the board of directors of Ontario Power Generation Inc. has determined should be placed in safe storage. O. Reg. 23/07, s. 3.

(5) For the purposes of subsection (4), the non-capital costs include, but are not restricted to,

- (a) construction costs, assessment costs, pre-engineering costs, project completion costs and demobilization costs; and
- (b) interest costs, recorded as simple interest on the monthly opening balance of the account at an annual rate of 6 per cent applied to the monthly opening balance in the account, compounded annually. O. Reg. 23/07, s. 3.

**5.1** REVOKED: O. Reg. 312/13, s. 3.

**Nuclear liability deferral account**

**5.2** (1) Ontario Power Generation Inc. shall establish a deferral account in connection with section 78.1 of the Act that records, on and after the effective date of the Board's first order under 78.1 of the Act, the revenue requirement impact of changes in its total nuclear decommissioning liability between,

- (a) the liability arising from the approved reference plan incorporated into the Board's most recent order under section 78.1 of the Act; and
- (b) the liability arising from the current approved reference plan. O. Reg. 23/07, s. 3.

(2) Ontario Power Generation Inc. shall record interest on the balance of the account as the Board may direct. O. Reg. 23/07, s. 3.

**5.3** REVOKED: O. Reg. 312/13, s. 3.

**Nuclear development variance account**

**5.4** (1) Ontario Power Generation Inc. shall establish a variance account in connection with section 78.1 of the Act that records, on and after the effective date of the Board's first order under section 78.1 of the Act, differences between actual non-capital costs incurred and firm financial commitments made and the amount included in payments made under that section for planning and preparation for the development of proposed new nuclear generation facilities. O. Reg. 27/08, s. 1.

(2) Ontario Power Generation Inc. shall record interest on the balance of the account as the Board may direct. O. Reg. 27/08, s. 1.

**Darlington refurbishment rate smoothing deferral account**

**5.5** (1) Ontario Power Generation Inc. shall establish a deferral account in connection with section 78.1 of the Act that records, on and after the commencement of the deferral period, the difference between,

- (a) the revenue requirement amount approved by the Board that, but for subparagraph 12 i of subsection 6 (2) of this Regulation, would have been used in connection with determining the payments to be made under section 78.1 of the Act each year during the deferral period in respect of the nuclear facilities; and
- (b) the portion of the revenue requirement amount referred to in clause (a) that is used in connection with determining the payments made under section 78.1 of the Act, after determining, under subparagraph 12 i of subsection 6 (2) of this Regulation, the amount of the revenue requirement to be deferred for that year in respect of the nuclear facilities. O. Reg. 353/15, s. 2.

(2) Ontario Power Generation Inc. shall record interest on the balance of the account at a long-term debt rate reflecting Ontario Power Generation Inc.'s cost of long-term borrowing that is determined or approved by the Board from time to time, compounded annually. O. Reg. 353/15, s. 2.

**Pickering closure costs deferral account**

**5.6** (1) Ontario Power Generation Inc. shall establish a deferral account in connection with section 78.1 of the Act that records any employment-related costs and non-capital costs related to third party service providers incurred by Ontario Power Generation Inc. that arise from any Pickering closure activities, including,

- (a) costs related to employee termination, layoff, reassignment or retraining; and
- (b) costs related to the hiring of employees or the engagement of third party service providers to perform Pickering closure activities, and their remuneration. O. Reg. 622/20, s. 2.

(2) Subsection (1) applies whether the costs are incurred before or after a Pickering closure, but does not apply to,

- (a) costs that are eligible for recovery by Ontario Power Generation Inc. under the Ontario Nuclear Funds Agreement; or
- (b) for greater certainty, costs that have already been included in an order made by the Board under section 78.1 of the Act. O. Reg. 622/20, s. 2.

(3) Ontario Power Generation Inc. shall record Pickering closure costs in the deferral account as they are reflected in the audited financial statements approved by the board of directors of Ontario Power Generation Inc., and shall record interest on the balance of the account as the Board may direct. O. Reg. 622/20, s. 2.

**Rules governing determination of payment amounts by Board**

6. (1) Subject to subsection (2), the Board may establish the form, methodology, assumptions and calculations used in making an order that determines payment amounts for the purpose of section 78.1 of the Act. O. Reg. 53/05, s. 6 (1).

(2) The following rules apply to the making of an order by the Board that determines payment amounts for the purpose of section 78.1 of the Act:

1. The Board shall ensure that Ontario Power Generation Inc. recovers the balance recorded in the variance account established under subsection 5 (1) over a period not to exceed three years, to the extent that the Board is satisfied that,
  - i. the revenues recorded in the account were earned or foregone and the costs were prudently incurred, and
  - ii. the revenues and costs are accurately recorded in the account.
2. In setting payment amounts for the assets prescribed under section 2, the Board shall not adopt any methodologies, assumptions or calculations that are based upon the contracting for all or any portion of the output of those assets.
3. The Board shall ensure that Ontario Power Generation Inc. recovers the balance recorded in the deferral account established under subsection 5 (4). The Board shall authorize recovery of the balance on a straight line basis over a period not to exceed 15 years.
4. The Board shall ensure that Ontario Power Generation Inc. recovers capital and non-capital costs and firm financial commitments incurred in respect of the Darlington Refurbishment Project or incurred to increase the output of, refurbish or add operating capacity to a generation facility referred to in section 2, including, but not limited to, assessment costs and pre-engineering costs and commitments,
  - i. if the costs and financial commitments were within the project budgets approved for that purpose by the board of directors of Ontario Power Generation Inc. before the making of the Board's first order under section 78.1 of the Act in respect of Ontario Power Generation Inc., or
  - ii. if the costs and financial commitments were not approved by the board of directors of Ontario Power Generation Inc. before the making of the Board's first order under section 78.1 of the Act in respect of Ontario Power Generation Inc., if the Board is satisfied that the costs were prudently incurred and that the financial commitments were prudently made.
- 4.1 The Board shall ensure that Ontario Power Generation Inc. recovers the costs incurred and firm financial commitments made in the course of planning and preparation for the development of proposed new nuclear generation facilities, to the extent the Board is satisfied that,
  - i. the costs were prudently incurred, and
  - ii. the financial commitments were prudently made.
5. In making its first order under section 78.1 of the Act in respect of Ontario Power Generation Inc., the Board shall accept the amounts for the following matters as set out in Ontario Power Generation Inc.'s most recently audited financial statements that were approved by the board of directors of Ontario Power Generation Inc. before the effective date of that order:
  - i. Ontario Power Generation Inc.'s assets and liabilities, other than the variance account referred to in subsection 5 (1), which shall be determined in accordance with paragraph 1.
  - ii. Ontario Power Generation Inc.'s revenues earned with respect to any lease of the Bruce Nuclear Generating Stations.
  - iii. Ontario Power Generation Inc.'s costs with respect to the Bruce Nuclear Generating Stations.
6. Without limiting the generality of paragraph 5, that paragraph applies to values relating to,
  - i. capital cost allowances,
  - ii. the revenue requirement impact of accounting and tax policy decisions, and
  - iii. capital and non-capital costs and firm financial commitments to increase the output of, refurbish or add operating capacity to a generation facility referred to in section 2.
7. The Board shall ensure that the balance recorded in the deferral account established under subsection 5.2 (1) is recovered on a straight line basis over a period not to exceed three years, to the extent that the Board is satisfied that revenue requirement impacts are accurately recorded in the account, based on the following items, as reflected in the audited financial statements approved by the board of directors of Ontario Power Generation Inc.,

- i. return on rate base,
  - ii. depreciation expense,
  - iii. income and capital taxes, and
  - iv. fuel expense.
- 7.1 The Board shall ensure the balance recorded in the variance account established under subsection 5.4 (1) is recovered on a straight line basis over a period not to exceed three years, to the extent the Board is satisfied that,
  - i. the costs were prudently incurred, and
  - ii. the financial commitments were prudently made.
- 7.2 The Board shall ensure that the balance recorded in the deferral account established under subsection 5.6 (1) and related income tax effects are recovered on a straight line basis over a period not to exceed 10 years beginning on the day the last generating unit of the Pickering A Nuclear Generating Station and Pickering B Nuclear Generating Station permanently stops generating electricity, to the extent that the Board is satisfied that the costs were prudently incurred and are accurately recorded in the account.
8. The Board shall ensure that Ontario Power Generation Inc. recovers the revenue requirement impact of its nuclear decommissioning liability arising from the current approved reference plan.
9. The Board shall ensure that Ontario Power Generation Inc. recovers all the costs it incurs with respect to the Bruce Nuclear Generating Stations.
10. If Ontario Power Generation Inc.'s revenues earned with respect to any lease of the Bruce Nuclear Generating Stations exceed the costs Ontario Power Generation Inc. incurs with respect to those Stations, the excess shall be applied to reduce the amount of the payments required under subsection 78.1 (1) of the Act with respect to output from the nuclear generation facilities referred to in paragraphs 3, 4 and 5 of section 2.
11. In making its first order under section 78.1 of the Act in respect of Ontario Power Generation Inc. that is effective on or after July 1, 2014, the following rules apply:
  - i. The order shall provide for the payment of amounts with respect to output that is generated at a generation facility referred to in paragraph 6 of section 2 during the period from July 1, 2014 to the day before the effective date of the order.
  - ii. The Board shall accept the values for the assets and liabilities of the generation facilities referred to in paragraph 6 of section 2 as set out in Ontario Power Generation Inc.'s most recently audited financial statements that were approved by the board of directors before the making of that order. This includes values relating to the income tax effects of timing differences and the revenue requirement impact of accounting and tax policy decisions reflected in those financial statements.
12. For the purposes of section 78.1 of the Act, in setting payment amounts for the nuclear facilities during the deferral period,
  - i. the Board shall determine the portion of the Board-approved revenue requirement for the nuclear facilities for each year that is to be recorded in the deferral account established under subsection 5.5 (1), with a view to making more stable the year-over-year changes in the OPG weighted average payment amount over each calculation period,
  - ii. the Board shall determine the approved revenue requirements referred to in subsection 5.5 (1) and the amount of the approved revenue requirements to be deferred under subparagraph i on a five-year basis for the first 10 years of the deferral period and, thereafter, on such periodic basis as the Board determines,
  - iii. for greater certainty, the Board's determination of Ontario Power Generation Inc.'s approved revenue requirement for the nuclear facilities shall not be restricted by the yearly changes in payment amounts in subparagraph i,
  - iv. the Board shall ensure that Ontario Power Generation Inc. recovers the balance recorded in the deferral account established under subsection 5.5 (1), and the Board shall authorize recovery of the balance on a straight line basis over a period not to exceed 10 years commencing at the end of the deferral period, and
  - v. the Board shall accept the need for the Darlington Refurbishment Project in light of the Plan of the Ministry of Energy known as the 2013 Long-Term Energy Plan and the related policy of the Minister endorsing the need for nuclear refurbishment.
13. In making its first order under section 78.1 of the Act that is effective on or after January 1, 2022 setting payment amounts for the hydroelectric facilities, the following rules apply:

- i. The order shall provide for a base payment amount for the hydroelectric facilities that is equal to the base payment amount for the hydroelectric facilities on December 31, 2021, and that applies until the effective date of a subsequent order setting payment amounts for the hydroelectric facilities that comes into effect after Dec 31, 2026.
  - ii. Subparagraph i applies with respect to only 50 per cent of the output of the Chats Falls generation facility. O. Reg. 23/07, s. 4; O. Reg. 27/08, s. 2; O. Reg. 312/13, s. 4; O. Reg. 353/15, s. 3; O. Reg. 57/17, s. 2; O. Reg. 622/20, s. 3 (1).
- (3) For greater certainty, the rule set out in paragraph 13 of subsection (2) does not affect any authority of the Board to approve,
  - (a) changes to the hydroelectric incentive mechanism applicable to Ontario Power Generation Inc.;
  - (b) the establishment of or changes to deferral or variance accounts relating to the hydroelectric facilities; or
  - (c) the recovery of any amounts relating to the hydroelectric facilities that are recorded by Ontario Power Generation Inc. in a deferral or variance account referred to in clause (b), or any related payment amount riders. O. Reg. 622/20, s. 3 (2).
7. OMITTED (PROVIDES FOR COMING INTO FORCE OF PROVISIONS OF THIS REGULATION). O. Reg. 53/05, s. 7.

#### SCHEDULE

1. Abitibi Canyon.
2. Alexander.
3. Aquasabon.
4. Arnprior.
5. Auburn.
6. Barrett Chute.
7. Big Chute.
8. Big Eddy.
9. Bingham Chute.
10. Calabogie.
11. Cameron Falls.
12. Caribou Falls.
13. Chats Falls.
14. Chenaux.
15. Coniston.
16. Crystal Falls.
17. Des Joachims.
18. Elliott Chute.
19. Eugenia Falls.
20. Frankford.
21. Hagues Reach.
22. Hanna Chute.
23. High Falls.
24. Indian Chute.
25. Kakabeka Falls.
26. Lakefield.
27. Lower Notch.
28. Manitou Falls.

29. Matabitchuan.
30. McVittie.
31. Merrickville.
32. Meyersberg.
33. Mountain Chute.
34. Nipissing.
35. Otter Rapid.
36. Otto Holden.
37. Pine Portage.
38. Ragged Rapids.
39. Ranney Falls.
40. Seymour.
41. Sidney.
42. Sills Island.
43. Silver Falls.
44. South Falls.
45. Stewartville.
46. Stinson.
47. Trethewey Falls.
48. Whitedog Falls.

O. Reg. 312/13, s. 5.

## Ontario Energy Board Act, 1998

### S.O. 1998, CHAPTER 15 Schedule B

**Consolidation Period:** From October 1, 2020 to the [e-Laws currency date](#).

Last amendment: 2020, c. 12, s. 85.

#### **Payments to prescribed generator**

**78.1** (1) The IESO shall make payments to a generator prescribed by the regulations with respect to output that is generated by a unit at a generation facility prescribed by the regulations. 2014, c. 7, Sched. 23, s. 7.

#### **Payment amount**

(2) Each payment referred to in subsection (1) shall be the amount determined in accordance with the order of the Board then in effect. 2014, c. 7, Sched. 23, s. 7.

#### **Same, limitation re Ontario Power Generation Inc.**

(3) The determination of a payment to Ontario Power Generation Inc. under this section shall not include any consideration of amounts related to activities of Ontario Power Generation Inc. carried out in relation to the *Ontario Fair Hydro Plan Act, 2017*. 2017, c. 16, Sched. 1, s. 44 (3).

#### **Same**

(3.1) The amounts referred to in subsection (3) include, without limitation, the following:

1. Amounts related to the appointment of Ontario Power Generation Inc. as the Financial Services Manager under the *Ontario Fair Hydro Plan Act, 2017*.
2. Amounts related to the charging of fees for performing duties as the Financial Services Manager.
3. Amounts related to exercising the powers and performing the duties of the Financial Services Manager.
4. Amounts related to the consolidation of the assets and liabilities for accounting purposes of the Fair Hydro Trust within the meaning of the *Ontario Fair Hydro Plan Act, 2017*. 2017, c. 16, Sched. 1, s. 44 (3); 2019, c. 6, Sched. 3, s. 12 (3).

#### **Board orders**

(4) The Board shall make an order under this section in accordance with the rules prescribed by the regulations and may include in the order conditions, classifications or practices, including rules respecting the calculation of the amount of the payment. 2004, c. 23, Sched. B, s. 15.

#### **Fixing other prices**

(5) The Board may fix such other payment amounts as it finds to be just and reasonable,

- (a) on an application for an order under this section, if the Board is not satisfied that the amount applied for is just and reasonable; or
- (b) at any other time, if the Board is not satisfied that the current payment amount is just and reasonable. 2004, c. 23, Sched. B, s. 15.

#### **Burden of proof**

(6) Subject to subsection (7), the burden of proof is on the applicant in an application made under this section. 2004, c. 23, Sched. B, s. 15.

#### **Order**

(7) If the Board on its own motion or at the request of the Minister commences a proceeding to determine whether an amount that the Board may approve or fix under this section is just and reasonable,



- (a) the burden of establishing that the amount is just and reasonable is on the generator; and
- (b) the Board shall make an order approving or fixing an amount that is just and reasonable. 2004, c. 23, Sched. B, s. 15.

**Application**

- (8) Subsections (4), (5) and (7) apply only on and after the day prescribed by the regulations for the purposes of subsection (2). 2004, c. 23, Sched. B, s. 15.

## DEFERRAL AND VARIANCE ACCOUNTS

### 1.0 PURPOSE

This evidence describes OPG's deferral and variance accounts and presents the amounts recorded in these accounts as of December 31, 2019 that are proposed for clearance in this application. These accounts were established pursuant to O. Reg. 53/05 and past OEB decisions and orders.

### 2.0 OVERVIEW

OPG proposes to clear the audited balances in all deferral and variance accounts as at December 31, 2019, less amortization amounts previously approved by the OEB in EB-2018-0243 and EB-2016-0152, with the exception of the Darlington Refurbishment Project ("DRP")<sup>1</sup> and hydroelectric components of the Capacity Refurbishment Variance Account ("CRVA"), the Fitness for Duty Deferral Account, the portion of the Nuclear Development Variance Account related to preliminary planning and preparation costs incurred for a small nuclear modular reactor ("SMR") generating station at the Darlington site, and the Rate Smoothing Deferral Account. OPG's proposal is consistent with the OEB's expectation that "all accounts should be reviewed and disposed of in a cost of service proceeding unless there is a compelling reason to not do so" (EB-2013-0321 Decision with Reasons, p. 125). OPG proposes to defer the clearance of the above accounts to a future application for the reasons discussed later in this schedule.

The total year-end 2019 balance in the accounts proposed for clearance is a net debit of \$274.6M<sup>2</sup> for the regulated hydroelectric facilities and a net debit of \$706.0M<sup>3</sup> for the nuclear facilities.<sup>4</sup> Adjusted for 2020-2021 amortization amounts approved in EB-2016-0152 and EB-

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<sup>1</sup> The income tax impact of the capital cost allowance rule change resulting from the enactment of Bill C-97, *the Budget Implementation Act, 2019, No. 1* recorded in the CRVA, as well as the balances recorded in the CRVA related to the D2O Storage Projects are proposed for disposition, as discussed in Section 5.6.

<sup>2</sup> Ex. H1-1-1, Table 1, col. (c), line 16 less line 6.

<sup>3</sup> Ex. H1-1-1, Table 1, col. (c), line 41 less lines 21, 37, and 39 and less \$0.7M recorded in the Nuclear Development Variance Account.

<sup>4</sup> A debit entry or balance is an amount to be collected from ratepayers. A credit entry or balance is an amount to be returned to ratepayers.

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

Line No.	Account	Note	Audited Year End Balance 2019	EB-2016-0152 OEB-Approved Amortization (2020)	EB-2018-0243 OEB-Approved Amortization (2020-2021)	(a)-(b)-(c) 2019 Balance Less Approved Amortization	Amounts Deferred to Future Applications	(d)-(e) Amounts Recoverable in Current Application	Recovery Period (months)	Amortization Jan - Dec 2022	Amortization Jan - Dec 2023	Amortization Jan - Dec 2024	Amortization Jan - Dec 2025	Amortization Jan - Dec 2026	(h)+(i)+(j) Amortization	(d)-(k) Unamortized Balance
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
			Note 1	Note 2	Note 3											
1	Hydroelectric Water Conditions Variance		(215.8)	(6.1)	(100.6)	(109.1)	0.0	(109.1)	36	(36.4)	(36.4)	(36.4)	0.0	0.0	(109.1)	0.0
2	Ancillary Services Net Revenue Variance - Hydroelectric		(62.1)	(4.6)	(24.1)	(33.4)	0.0	(33.4)	36	(11.1)	(11.1)	(11.1)	0.0	0.0	(33.4)	0.0
3	Hydroelectric Incentive Mechanism Variance		(0.0)	(0.0)	(0.0)	0.0	0.0	0.0	36	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Hydroelectric Surplus Baseload Generation Variance		447.7	28.9	210.5	208.3	0.0	208.3	36	69.4	69.4	69.4	0.0	0.0	208.3	0.0
5	Income and Other Taxes Variance - Hydroelectric		(2.6)	(0.0)	0.0	(2.6)	0.0	(2.6)	36	(0.9)	(0.9)	(0.9)	0.0	0.0	(2.6)	0.0
6	Capacity Refurbishment Variance - Hydroelectric	11	26.2	1.1	0.0	25.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0
7	Niagara Tunnel Project Pre-December 2008 Disallowance Variance Account		8.2	0.0	4.4	3.8	0.0	3.8	36	1.3	1.3	1.3	0.0	0.0	3.8	0.0
8	Pension and OPEB Cost Variance - Hydroelectric - Future	9	6.3	0.7	2.4	3.2	0.0	3.2	36	1.1	1.1	1.1	0.0	0.0	3.2	0.0
9	Pension and OPEB Cost Variance - Hydroelectric - Post 2012 Additions		15.3	4.1	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	Pension & OPEB Cash Versus Accrual Differential Deferral - Hydroelectric - Registered Pension Plan (RPP) - EB-2018-0243 Approved	8	41.3	0.0	0.0	41.3	0.0	41.3	60	8.3	8.3	8.3	8.3	8.3	41.3	0.0
11	Pension & OPEB Cash Versus Accrual Differential Deferral - Hydroelectric - Non - RPP - EB-2018-0243 Approved	10	34.9	0.0	14.0	21.0	0.0	21.0	36	7.0	7.0	7.0	0.0	0.0	21.0	0.0
12	Pension & OPEB Cash Versus Accrual Differential Deferral - Hydroelectric - Post-2017 Additions		44.1	0.0	0.0	44.1	0.0	44.1	60	8.8	8.8	8.8	8.8	8.8	44.1	0.0
13	Pension & OPEB Cash Payment Variance - Hydroelectric		(59.9)	1.5	(22.8)	(38.6)	0.0	(38.6)	36	(12.9)	(12.9)	(12.9)	0.0	0.0	(38.6)	0.0
14	Pension and OPEB Forecast Accrual versus Actual Cash Differential - Carrying Charges - Hydroelectric		(0.1)	0.0	0.0	(0.1)	0.0	(0.1)	36	(0.0)	(0.0)	(0.0)	0.0	0.0	(0.1)	0.0
15	Hydroelectric Deferral and Variance Over/Under Recovery Variance		17.3	4.7	9.2	3.4	0.0	3.4	36	1.1	1.1	1.1	0.0	0.0	3.4	0.0
16	Total		300.8	30.4	104.1	166.3	25.0	141.3		35.7	35.7	35.7	17.1	17.1	141.3	25.0
17	Tax on Pension & OPEB Cash Versus Accrual Differential Deferral - Hydroelectric - RPP - EB-2018-0243 Approved	5, 8				13.8	0.0	13.8	60	2.8	2.8	2.8	2.8	2.8	13.8	0.0
18	Tax on Pension & OPEB Cash Versus Accrual Differential Deferral - Hydroelectric - Non RPP - EB-2018-0243 Approved	6, 10				7.0	0.0	7.0	36	2.3	2.3	2.3			7.0	0.0
19	Tax on Pension & OPEB Cash Versus Accrual Differential Deferral - Hydroelectric - Post-2017 Additions	7				14.7	0.0	14.7	60	2.9	2.9	2.9	2.9	2.9	14.7	0.0
20	Total Recoverable Amount					201.8	25.0	176.8		43.7	43.7	43.7	22.8	22.8	176.8	25.0
21	Forecast Production (TWh)	4								33.0	33.0	33.0	33.0	33.0		
22	Regulated Hydroelectric Payment Rider (\$/MWh) (line 22 / line 23)									1.33	1.33	1.33	0.69	0.69		

Notes:  
 1 From Ex. H1-1-1 Table 1, col (c).  
 2 From EB-2016-0152 PAO, App. D, Table 1, col. (g).  
 3 From EB-2018-0243, Settlement Proposal, Attachment A, Table 1, cols. (j) and (k), which forms the basis of the payment amounts approved in the Decision and Payment Amounts Order dated February 21, 2019.  
 4 From EB-2016-0152 PAO, App. I, Table 2, line 3.  
 5 Calculated as: line 10 \* tax rate / (1 - tax rate) = line 10 \* (0.25 / 0.75). Tax rate from Ex. F4-2-1, Table 3a, line 31.  
 6 Calculated as: line 11 \* tax rate / (1 - tax rate) = line 11 \* (0.25 / 0.75). Tax rate from Ex. F4-2-1, Table 3a, line 31.  
 7 Calculated as: line 12 \* tax rate / (1 - tax rate) = line 12 \* (0.25 / 0.75). Tax rate from Ex. F4-2-1, Table 3a, line 31.  
 8 The Dec 31, 2017 balance of the Pension & OPEB Cash Vs Accrual Differential Account related to Hydroelectric - RPP and the associated income tax impacts which totalled \$55.1M was accepted as part of the EB-2018-0243 Settlement Proposal (p. 10). The recovery was deferred to this application.  
 9 Amortized over the period to December 31, 2024 as per EB-2018-0243 Settlement Proposal, Attachment A, Table 1, which forms the basis of the payment amounts approved in the Decision and Payment Amounts Order dated February 21, 2019.  
 10 Amortized over the 72 month period from January 1, 2019 to December 31, 2024 as per EB-2018-0243 Settlement Proposal, Attachment A, Table 1, which forms the basis of the payment amounts approved in the Decision and Payment Amounts Order dated February 21, 2019. As part of the settlement, riders were approved to recover \$20.9M, of which \$14.0M relates to amortization in 2020 and 2021.  
 11 Clearance of balances is proposed to be deferred to a future application.

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

Line No.	Account	Note	Audited	EB-2016-0152	EB-2018-0243	(a)-(b)-(c)	Amounts	(d)-(e)	Recovery	Amortization	Amortization	Amortization	Amortization	Amortization	(h)+(i)+(j)	(d)-(k)
			Year End Balance 2019	OEB-Approved Amortization (2020)	OEB-Approved Amortization (2020-2021)	2019 Balance Less Approved Amortization		Recoverable in Current Application								
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)
			Note 1	Note 2	Note 3											
1	Nuclear Liability Deferral		12.4	0.0	12.4	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Impact Resulting from Changes in Station End-of-Life Dates (December 31, 2015) Deferral Account		(92.3)	0.0	(92.3)	0.0	0.0	0.0	36	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Nuclear Development Variance	12	5.2	0.6	0.2	4.4	0.7	3.7	36	1.2	1.2	1.2	0.0	0.0	3.7	0.7
4	Ancillary Services Net Revenue Variance - Nuclear		(1.1)	0.3	2.2	(3.6)	0.0	(3.6)	36	(1.2)	(1.2)	(1.2)	0.0	0.0	(3.6)	0.0
5	Capacity Refurbishment Variance - Nuclear - DRP - Excluding D20	13	38.3	(17.4)	0.0	55.6	55.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.6
6	Capacity Refurbishment Variance - Nuclear - Non-DRP	14	(102.9)	(6.8)	0.0	(96.1)	0.0	(96.1)	36	(32.0)	(32.0)	(32.0)	0.0	0.0	(96.1)	0.0
7	Capacity Refurbishment Variance - Nuclear - Accelerated Investment Incentive CCA - DRP		(19.2)	0.0	0.0	(19.2)	0.0	(19.2)	36	(6.4)	(6.4)	(6.4)	0.0	0.0	(19.2)	0.0
8	Capacity Refurbishment Variance - Nuclear - D20		58.1	0.0	0.0	58.1	0.0	58.1	36	19.4	19.4	19.4	0.0	0.0	58.1	0.0
9	Bruce Lease Net Revenues Variance - Derivative Sub-Account		(26.9)	(24.0)	(0.7)	(2.2)	0.0	(2.2)	36	(0.7)	(0.7)	(0.7)	0.0	0.0	(2.2)	0.0
10	Bruce Lease Net Revenues Variance - Non-Derivative Sub-Account - EB-2018-0243/EB-2016-0152 Approved	11	168.8	7.2	56.4	105.3	0.0	105.3	60	21.1	21.1	21.1	21.1	21.1	105.3	0.0
11	Bruce Lease Net Revenues Variance - Non-Derivative Sub-Account - Post-2017 Additions		23.1	0.0	0.0	23.1	0.0	23.1	36	7.7	7.7	7.7	0.0	0.0	23.1	0.0
12	Income and Other Taxes Variance - Nuclear		(21.1)	(1.5)	(5.1)	(14.5)	0.0	(14.5)	36	(4.8)	(4.8)	(4.8)	0.0	0.0	(14.5)	0.0
13	Pension and OPEB Cost Variance - Nuclear - Future	9	136.9	15.0	57.5	64.4	0.0	64.4	36	21.5	21.5	21.5	0.0	0.0	64.4	0.0
14	Pension and OPEB Cost Variance - Nuclear - Post 2012 Additions		331.5	79.2	252.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	Pension & OPEB Cash Versus Accrual Differential Deferral - Nuclear - Registered Pension Plan (RPP) - EB-2018-0243 Approved	8	266.0	0.0	0.0	266.0	0.0	266.0	60	53.2	53.2	53.2	53.2	53.2	266.0	0.0
16	Pension & OPEB Cash Versus Accrual Differential Deferral - Nuclear - Non - RPP - EB-2018-0243 Approved	10	220.4	0.0	88.2	132.2	0.0	132.2	36	44.1	44.1	44.1	0.0	0.0	132.2	0.0
17	Pension & OPEB Cash Versus Accrual Differential Deferral - Nuclear - Post-2017 Additions		278.2	0.0	0.0	278.2	0.0	278.2	60	55.6	55.6	55.6	55.6	55.6	278.2	0.0
18	Pension & OPEB Cash Payment Variance - Nuclear		(288.6)	8.2	(122.6)	(174.2)	0.0	(174.2)	36	(58.1)	(58.1)	(58.1)	0.0	0.0	(174.2)	0.0
19	Pension and OPEB Forecast Accrual versus Actual Cash Differential - Carrying Charges - Nuclear		(0.6)	0.0	0.0	(0.6)	0.0	(0.6)	36	(0.2)	(0.2)	(0.2)	0.0	0.0	(0.6)	0.0
20	Nuclear Deferral and Variance Over/Under Recovery Variance		19.8	15.4	27.3	(23.0)	0.0	(23.0)	36	(7.7)	(7.7)	(7.7)	0.0	0.0	(23.0)	0.0
21	Fitness for Duty Deferral	13	0.5	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
22	SR&ED ITC Variance		(15.1)	0.0	(3.0)	(12.1)	0.0	(12.1)	36	(4.0)	(4.0)	(4.0)	0.0	0.0	(12.1)	0.0
23	Rate Smoothing Deferral	13	104.3	0.0	0.0	104.3	104.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	104.3	104.3
24	Impact Resulting from Changes to Pickering Station End-of-Life Dates (December 31, 2017) Deferral Account		(245.8)	0.0	0.0	(245.8)	0.0	(245.8)	36	(81.9)	(81.9)	(81.9)	0.0	0.0	(245.8)	0.0
25	Total		849.8	76.3	272.7	500.8	161.1	339.7		26.7	26.7	26.7	129.9	129.9	339.7	161.1
26	Tax on Pension & OPEB Cash Versus Accrual Differential Deferral - Nuclear - RPP - EB-2018-0243 Approved	5, 8				88.7	0.0	88.7	60	17.7	17.7	17.7	17.7	17.7	88.7	0.0
27	Tax on Pension & OPEB Cash Versus Accrual Differential Deferral - Nuclear - Non RPP - EB-2018-0243 Approved	6, 10				44.1	0.0	44.1	36	14.7	14.7	14.7	0.0	0.0	44.1	0.0
28	Tax on Pension & OPEB Cash Versus Accrual Differential Deferral - Nuclear - Post-2017 Additions	7				92.7	0.0	92.7	60	18.5	18.5	18.5	18.5	18.5	92.7	0.0
29	Total Recoverable Amount					726.3	161.1	565.2		77.6	77.6	77.6	166.2	166.2	565.2	161.1
30	Forecast Production (TWh)	4								33.2	30.8	33.3	30.2	21.5		
31	Nuclear Payment Rider (\$/MWh) (line 30 / line 29)									2.34	2.52	2.33	5.50	7.72		

Notes:

- From Ex. H1-1-1 Table 1, col. (c).
- From EB-2016-0152 PAO, App. E, Table 1, col. (g).
- From EB-2018-0243, Settlement Proposal, Attachment A, Table 2, cols. (j) and (k), which forms the basis of the payment amounts approved in the Decision and Payment Amounts Order dated February 21, 2019.
- From Ex. E2-1-1, Table 1, line 3, cols. (g), (h) and (i).
- Calculated as: line 15 \* tax rate / (1 - tax rate). Tax rate from Ex. F4-2-1, Table 3a, line 31.
- Calculated as: line 16 \* tax rate / (1 - tax rate). Tax rate from Ex. F4-2-1, Table 3a, line 31.
- Calculated as: line 17 \* tax rate / (1 - tax rate). Tax rate from Ex. F4-2-1, Table 3a, line 31.
- The Dec 31, 2017 balance of the Pension & OPEB Cash Vs. Accrual Differential Account related to Nuclear - RPP and the associated income tax impacts which totalled \$354.6M was agreed to as part of the EB-2018-0243 Settlement Proposal (p. 10). The recovery was deferred to this application.
- Amortized over the period to December 31, 2024 as per EB-2018-0243 Settlement Proposal, Attachment A, Table 2, which forms the basis of the payment amounts approved in the Decision and Payment Amounts Order dated February 21, 2019.
- Amortized over the 72 month period from January 1, 2019 to December 31, 2024 as per EB-2018-0243 Settlement Proposal, Attachment A, Table 2, which forms the basis of the payment amounts approved in the Decision and Payment Amounts Order dated February 21, 2019. As part of the settlement, riders were approved to recover \$132.2M, of which \$88.2M is amortized in 2020 and 2021.
- Amortized over the 96 month period from January 1, 2019 to December 31, 2026 as per EB-2018-0243 Settlement Proposal, Attachment A, Table 2, which forms the basis of the payment amounts approved in the Decision and Payment Amounts Order dated February 21, 2019. As part of the settlement, riders were approved to recover \$63.2M, of which \$56.4M relates to amortization in 2020 and 2021.
- Clearance of amounts recorded in the Nuclear Development Variance Account related to small modular reactors is proposed to be deferred to a future application.
- Clearance of balances is proposed to be deferred to a future application.
- Includes \$1.2M related to a project that is not CRVA eligible, incorrectly booked to the account in 2016. This amount will be corrected in 2020, inclusive of all interest that has been charged to ratepayers.

## COMPENSATION AND BENEFITS

### 1.0 PURPOSE

The purpose of this exhibit is to:

- Describe the nature of OPG’s workforce and the transformational changes to this workforce as a result of the planned shutdown of the Pickering Nuclear Generation Station (“Pickering”);
- Provide 2016-2026 compensation information for employees working at and supporting nuclear facilities; and
- Introduce the results of the independent compensation studies prepared by Willis Towers Watson (“WTW”).

### 2.0 OVERVIEW

Compensation costs for Nuclear for the period 2022-2026 are \$7,687M and equivalent to approximately 46% of OPG’s forecast 2022-2026 Nuclear revenue requirement, reflecting the significant role OPG employees play in producing electricity for Ontario.

OPG has a wide variety of employees, executives who lead the organization, management who direct work functions, professional staff who provide expertise related to OPG’s prescribed generation facilities, and the skilled trades who operate and maintain these facilities. OPG employees work in generating stations and facilities across the province and are predominantly unionized. Additional details on OPG’s workforce, including the extent of unionization, work locations, and demographics are presented in Section 3.0.

Over the IR term, OPG will undergo a transformational change to prepare for and execute the planned shutdown of Pickering. As part of this effort, OPG is currently planning to reduce its workforce by over 3,000 positions, or approximately 30%, comprised of regular employees,<sup>1</sup> Power Workers’ Union (“PWU”) represented term employees (“Terms”), and Society of Energy

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<sup>1</sup> Regular employees are those employees for which there is an expectation of ongoing employment.

1 Professionals (“Society”) represented extended temporary employees (“ETEs”). Pickering is  
2 OPG’s single largest generating facility producing approximately 30% of OPG’s total  
3 generation and 14% of Ontario’s total grid supplied electricity.

4  
5 To prepare the organization for the planned workforce reductions and for the future, OPG is  
6 undertaking several initiatives (see Ex. F2-1-1, Section 3.4 and Ex. A2-2-1, Attachment 1,  
7 Appendix 6). These initiatives will implement process improvements, enhance available tools  
8 and training, and reinforce a unified and innovative culture across OPG to drive performance  
9 leading up to and after the planned Pickering shutdown.

10  
11 Given the extent of unionization, collective bargaining plays a dominant role in determining  
12 both ongoing compensation costs and the manner in which the workforce will be downsized  
13 as a result of the planned Pickering shutdown. Collective agreements prescribe wages and  
14 incentives provided to, as well as the pensions and benefits earned by, unionized employees.  
15 Collective agreements also have an indirect impact on the compensation provided to non-  
16 unionized positions because internal equity, career development, and ability to attract  
17 experienced represented employees into non-represented management positions are  
18 important factors in workforce planning and development.

19  
20 Since EB-2016-0152, OPG engaged in one round of collective bargaining with the PWU and  
21 two rounds with the Society. The negotiations with both unions focused on securing ability to  
22 hire Terms and ETEs in support of mitigating the organizational and cost impacts of the  
23 planned reductions in the workforce as a result of the Pickering shutdown. The resulting  
24 collective agreements were ultimately established by an arbitrator’s award, which granted OPG  
25 ability to hire employees in these categories for the duration of the collective agreements.  
26 These developments are discussed in Section 4.0. Additionally, OPG was able to maintain the  
27 previously negotiated changes to its pension plan provisions that reduced the company’s  
28 pension contributions, modified eligibility rules, and pension benefits provided to OPG’s  
29 represented employees in the future.

July 26, 2021

Ms. Christine E. Long  
Registrar and Board Secretary  
Ontario Energy Board  
PO Box 2319  
2300 Yonge Street, 27th Floor  
Toronto, ON M4P 1E4

Dear Ms. Long:

**Re: EB-2020-0290 Ontario Power Generation Payment Amounts Application**

We are legal counsel to Ontario Power Generation Inc. (“OPG”) in this matter.

With respect to the recording of planning and pre-development costs associated with a small modular reactor (“SMR”) at the Darlington site, the Ontario Energy Board (“OEB”) stated in its Decision on the Issues List dated May 20, 2021 that the issue before the OEB in this proceeding is “... the narrow issue of whether OPG’s SMR-related costs are consistent with the purpose of the NDVA and thereby appropriate to be booked in the account.”

Based on O.Reg 53/05, the purpose of the NDVA consists of (i) the recording of non-capital cost incurred and firm financial commitments made for the planning and preparation for development of proposed new nuclear facilities under section 5.4(1) of O.Reg 53/05, and (ii) the OEB’s obligation to ensure recovery of those costs, if prudent, under section 6(2)4.1 of O.Reg 53/05. The latter legal obligation was found by the OEB to exist regardless of whether the proposed new nuclear facilities are ultimately prescribed under O.Reg 53/05, section 2.<sup>1</sup>

On June 22, 2021, Energy Probe provided to OPG the report entitled *Small Nuclear Power Reactors* from the World Nuclear Association<sup>2</sup> and indicated that Energy Probe intended to cross-examine on its contents. This report appears, on its face, unrelated to OPG’s predevelopment SMR-related costs and irrelevant to the narrow issue the OEB set out in the Issues List Decision. Furthermore, while the report is 51 pages in length, Energy Probe provided no specifics as to the areas on which it intended to cross-examine or any insights as to its relevance. As a result, OPG’s witnesses are unable to fully prepare for the oral hearing and to

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<sup>1</sup> The OEB in EB-2009-0905 at p. 11 found in reference to Section 6(2) paragraph 4.1 that:

*Two of the categories listed above (new nuclear development, and the revenues and costs of the Bruce nuclear stations) are for costs that are not related to the prescribed facilities. Thus, O. Reg. 53/05 requires the Board to take into account costs and revenues of unregulated activities when setting payment amounts for regulated activities.*

<sup>2</sup> <https://www.world-nuclear.org/information-library/nuclear-fuel-cycle/nuclear-power-reactors/small-nuclear-power-reactors.aspx>

be in the best position to address relevant inquiries that would assist the OEB.

Therefore, OPG requests that the OEB require Energy Probe and other intervenors that rely on reports not already on the record for purposes of cross-examination, to highlight those areas in the report that are to be referenced in cross-examination and to provide any such documents well in advance of the proceeding. OPG reserves its right to challenge the relevance of any question posed in reference to such reports.

The foregoing will provide a fair opportunity for OPG's witnesses to respond and will make for a more efficient hearing.

Yours truly,



Charles Keizer

cc: Aimee Collier, OPG  
Crawford Smith, Lax O'Sullivan Lissu Gottlieb LLP  
Michael Millar, OEB  
All parties