CCC Interrogatory #019

Interrogatory

Reference:
Exhibit B1, Tab 1, Schedule 1, p. 14
Exhibit A1, Tab 4, Schedule 1, Attachment 4, p. 49

Question(s):

a) Please further discuss the statement that the market value of materials and supplies takes into account technological obsolescence and remaining useful life. To the extent that certain materials that were purchased and not used, please explain how those costs are treated from a ratemaking perspective.

b) Please explain whether the MRNI reduction initiative (discussed as part of the 23-08 Nuclear Work Orders Materials Management audit) is related to minimizing unutilized materials and supplies. If not, please explain the noted MRNI initiative.

c) For the historical period, please provide the dollar value of materials/supplies that were purchased and evaluated as not consumed by year.

Response

a) The statement in Ex. B1-1-1, p.14, lines 19-23 is related to the measurement of the value of Materials & Supplies subsequent to initial recognition in accordance with US GAAP and OPG accounting governance. As OPG is required to hold both lifetime and critical spares at all times in support of nuclear operations safety and continuous operations, some spares may become obsolete due to externalities such as changes in the operating systems or reaching shelf-life expiration.

   Where materials have been purchased but not immediately used, these materials are not expensed and are instead placed into inventory for future use. Materials & Supplies, net of provision for accumulated obsolescence, is identified in OPG's rate base (refer to Exhibit B1-1-1, Table 2).

b) The MRNI reduction initiative focuses on minimizing materials and supplies requested but not immediately used as part of OPG’s broader effort to continuously optimize materials management while maintaining nuclear station reliability. This initiative enhances visibility into material demand, usage, and inventory levels, with the objective of reducing excess or long-dormant inventory where practicable.

In support of nuclear operations safety and continuous operations, OPG is required to hold both lifetime and critical spares at all times. These critical spares allow OPG to:

- Respond to unexpected equipment issues during online and outage work
- Manage the uncertainty inherent in nuclear maintenance and equipment refurbishment and overhaul activities
- Address vendor lead times and specialized nuclear-grade material availability
- Maintain plant reliability, safety, and continuity of operations.

As a result, inventory levels reflect a risk-informed approach to managing the availability of supply.

In addition to the actions undertaken following the referenced audit, the MRNI reduction initiative focuses on distinguishing between materials that are appropriately held or ordered to manage operational risk and ensure availability or where inspections during maintenance confirmed that the existing parts remained serviceable. In 2025, OPG started to utilize an AI tool that examines historical data on part usage to inform work management assessors when ordering parts. This initiative is expected to improve overall MRNI metrics over time.

c) Chart 1 shows an overall estimate of the dollar value of materials/supplies that were purchased and evaluated as not consumed, by year, over the historical period of 2020- 2024 for OPG's nuclear stations.

The amounts presented include procurement for operations, outages, and projects.

Chart 1 – OPG Nuclear Stations Materials Purchased but Not Consumed ($M)

$M	2020 Actual	2021 Actual	2022 Actual	2023 Actual	2024 Actual
Materials Purchased[1,2]	212.2	274.9	203.7	271.2	323.8
Materials Purchased for Demand (a)[1,2,3]	154.3	224.7	170.3	218.8	273.5
Materials Consumed/Issued (b)[1]	182.4	212.0	230.5	220.9	275.6
Materials Purchased for Demand but Not Consumed (c = a – b)	(28.1)	12.7	(60.2)	(2.0)	(2.1)

1. Materials Purchased is valued based on the actual purchase price of the materials received in the stated year. The stated values are inherently larger than the values of the same materials when consumed (b) due to the weighted-average inventory cost of accounting treatment.
2. Materials Purchased can be for consumption, replenishment of spare parts or for future planned consumption.
3. Materials Purchased for Demand (a) reflects purchases linked to specific demand and excludes purchases associated with replenishment of spare parts

Board Staff Interrogatory #020

Interrogatory

Reference: Ref 1: Exhibit B1 / Tab 1 / Schedule 1 / pp. 2-3

Preamble:

In Reference 1, OPG states that the early in-service additions of the Darlington Refurbishment Units is one of the key drivers of increased OPG Nuclear rate base in the 2022-2026 term from what was presented in EB-2020-0290.

Question(s):

a) Please confirm how OPG defines the in-service date for the Darlington Refurbishment Units. Please confirm that OPG proposes the same definition for the Pickering Refurbishment Units. If not confirmed, please explain.

b) In accordance with part a), please identify the in-service date of each of Darlington Refurbishment Units 1, 3, and 4. For each unit, please also confirm the in-service date approved in EB-2020-0290.

c) For each of Darlington Refurbishment Units 1, 3, and 4, please identify the Revenue Requirement increase in each of 2027 to 2031 due to the early in-service date. Please provide the supporting tables in excel format.

d) Please confirm that OPG is stating in Reference 1 that there are anticipated Capacity Refurbishment Variance Account (CRVA) balances for future recovery due to the early return to service of Unit 4, regardless of whether the Darlington Refurbishment Program cost was over the approved budget.

e) OEB staff notes that, as of 11:00AM EST on March 8, 2026, Darlington Nuclear Generating Station Unit 4 is generating approximately 666 MW. Please provide the CRVA details showing CRVA additions that are anticipated based on the early return to service of Unit 4.

Response

a) OPG defines the in-service date for a Darlington Refurbishment unit as the date it is substantially complete and ready for its intended use with the unit being commercially available. Specifically, in-service follows the successful release of all CNSC regulatory hold points, with all high-power testing and commissioning

complete. OPG proposes to use the same definition for the Pickering Refurbishment Units.

b) The requested information is provided in Chart 1 below.

Chart 1 – Darlington Refurbishment Unit In-Service Dates

Unit	Actual / Forecast[1]	EB-2020-0290[2]	Difference
Unit 3 (A)	July 18, 2023	January 2, 2024	-169 days
Unit 1 (A)	November 27, 2024	April 18, 2025	-142 days
Unit 4 (F)	April 15, 2026	October 16, 2026	-185 days

[1] Per Ex. D2-2-1, p. 10, Chart 1. The Unit 4 actual in-service date is March 12, 2026. Refer to part e) in response for further information.
[2] EB-2020-0290, Ex. D2-2-1, p. 7, Chart 1.

c) OPG interprets the question to be requesting OPG to quantify how much lower its proposed 2027-2031 nuclear revenue requirements would be had Darlington Refurbishment Units 1, 3 and 4 returned (or be forecasted to return) to service on the dates identified in EB-2020-0290 (i.e., as set out in part b) above). While OPG has not performed such a hypothetical business planning exercise for this alternate scenario that would be entirely dependent on assumptions that have no basis in fact, OPG can confirm that, mathematically, the capital-related revenue requirement for the Darlington Refurbishment Program ("DRP") over the 2027-2031 period would not be lower in the alternate scenario because, all else equal, a later in-service date would result in lower accumulated depreciation and therefore a higher rate base value and higher cost of capital amounts in respect of these assets going into the 2027-2031 IR term. Thus, from a DRP capital-related revenue requirement standpoint, the 2027-2031 proposed revenue requirements are lower than they would have been in the postulated scenario.

d) OPG confirms that there will be incremental amounts recoverable recorded in the Capacity Refurbishment Variance Account ("CRVA") in 2026 because of the earlier Darlington Unit 4 return to service date, compared to the forecast date reflected in the EB-2020-0290 revenue requirements. OPG notes that this was similarly the case for the earlier than forecast return to service dates for Darlington Unit 3 in 2023 and Unit 1 in 2024, while the converse applied to Unit 2 in 2020 as it returned to service several months later than forecast in the EB-2016-0152 approved revenue requirements, resulting in a refund to ratepayers being recorded in the CRVA. The recording of these impacts in the account is in accordance with the OEB's EB-2020-0290 and EB-2016-0152 payment amounts orders, respectively, and the requirements in O. Reg. 53/05, section 6(2)4 that the OEB must ensure recovery of DRP costs if it is satisfied that they were prudently incurred. For clarity, the above impacts arise as a result of differences in the timing of when the units

are returned to service, whether or not there any differences in costs. The impacts are further discussed in Ex. H1-1-1, pp. 23-24.

e) Darlington Unit 4 was in the dynamic testing phase of the DRP on March 8, 2026 and had not yet been commercially declared in-service. The revenue generated during this commissioning period is credited against the cost of the project, reducing the amount placed in-service. This treatment is consistent with all prior Darlington units.

The estimated capital-related additions to the CRVA for future recovery in respect of Darlington Unit 4, based on the forecast in-service date of April 15, 2026 per the pre-filed evidence, are $144.9M in 2026.[1] Based on the actual in-service date of March 12, 2026, such estimated CRVA additions are $131.1M in 2026.[2] Refer to Attachment 1, Table 1 and 2 for these calculations.

OPG does not propose to update the Application to reflect the actual Unit 4 in-service date of March 12, 2026. This view is informed by the fact that this could constitute a significant update to the Application that could introduce potential delays, while the revenue requirement impact of the earlier return to service date would be fully captured by the CRVA. Under OPG's approvals sought as set out in in Ex. D2-2-1, Section 3.0 and further outlined at Ex. H1-1-1, p. 24, lines 20-25, while OPG seeks a final determination of all DRP costs in this Application, OPG would record any variances in the amount and/or timing of the final capital in-service additions in the CRVA, subject to OPG's commitment not to seek recovery of any costs that exceed the $12.8B budget, until the effective date of a subsequent payment amounts order that reflects the impacts of such final actual in-service additions in the payment amounts. OPG has proposed that such CRVA additions be recoverable in a future application on a mechanical basis, subject to the amounts being accurately recorded.

[1] As discussed further in Attachment 1, Table 1, Note 3, the estimated account additions do not reflect the tax impact of capital cost allowance deductions since those are determined at the overall program level, rather than unit-by-unit, for the DRP.
[2] *Ibid*.

Numbers may not add due to rounding.

Table 1
Capacity Refurbishment Variance Account - Nuclear - Capital Portion - DRP - Unit 4 (Budgeted In-Service Date)
Summary of Account Transactions - 2026 ($M)

Line No.	Particulars	Note	Budget 2026
			(a)
	Capital Addition to Variance Account - Unit 4:		
1	**Forecast Cost of Capital Amount**	1	24.5
2	**Budgeted Net Plant Rate Base Amount**	2	1,593.6
3	**Weighted Average Cost of Capital**	1	5.92%
4	**Budgeted Cost of Capital Amount** (line 2 x line 3)		94.3
5	**Cost of Capital Variance** (line 4 - line 1)		69.8
6	**Forecast Depreciation**	1	15.9
7	**Budgeted Depreciation**	2	60.8
8	**Depreciation Variance** (line 7 - line 6)		44.9
	Income Tax Impact:		
9	**Forecast Capital Cost Allowance Deduction**	3	0.0
10	**Budgeted Capital Cost Allowance Deduction**	3	0.0
11	**SR&ED Qualifying Capital Expenditures**		0.0
12	**Difference** (line 9 - line 10 - line 11)		0.0
13	**Net Increase in Regulatory Taxable Income**	4	90.8
14	**Income Tax Rate**		25.0%
15	**Income Tax Impact** (line 13 x line 14 / (1 - line 14))		30.3
16	**Capital Addition to Variance Account - Unit 4** (line 5 + line 8 + line 15)	5	144.9

For notes see Table 1a

Numbers may not add due to rounding.

Table 1a
Notes to Table 1
Capacity Refurbishment Variance Account - Nuclear - Capital Portion - DRP - Unit 4 (Budgeted In-Service Date)

Notes:

1 The amounts in line 1 are determinded as follows:

Table to Note 1 - Capacity Refurbishment Variance Account - EB-2020-0290 Forecast Capital Amounts for DRP - Unit 4 ($M)		
Line No.		2026
		(a)
1a	Forecast Net Plant Rate Base Amount*	414.6
2a	Weighted Average Cost of Capital**	5.92%
3a	Forecast Cost of Capital Amount (line 1a x line 2a)	24.5
4a	ROE Component of Forecast Cost of Capital Amount***	16.2
5a	Forecast Depreciation (EB-2020-0290, Ex. B3-4-1, Table 3, line 10, col. (c))	15.9

* Forecast Net Plant Rate Base Amount - Unit 4 ($M)

Line No.		2026
		(a)
1b	Gross Plant Opening Balance	0.0
2b	Forecast In-service Addition (EB-2020-0290 Payment Amounts Order, App. A, Table 9, line 38, col. (b))+	2,028.3
3b	Gross Plant Closing Balance (line 1b + line 2b)	2,028.3
4b	Gross Plant Rate Base Amount (line 1b + line 3b)/2 +	422.6
5b	Accumulated Depreciation Opening Balance	0.0
6b	Forecast Depreciation (EB-2020-0290, Ex.B3-4-1, Table 3, line 10, col. (c))	15.9
7b	Accumulated Depreciation Closing Balance (line 5b + line 6b)	15.9
8b	Accumulated Depreciation Rate Base Amount (line 5b + line 7b)/2	8.0
9b	Forecast Net Plant Rate Base Amount (line 4b - line 8b)	414.6

\+ For this in-service addition, the full amount was approved as per EB-2020-0290 OEB-approved Settlement Proposal, Ex. O-1-1,Table 15, p. 22 and the month in which the addition is reflected is used to determine the gross plant rate base amount, instead of a mid-year average as per EB-2020-0290 Ex. B3-3-1, Table 2a.

** Col. (a) from EB-2020-0290 Payment Amounts Order, App. A, Table 15: line 4, col. (b) x col. (c), plus line 5a, col. (c) x line 5b, col. (b).

*** The ROE component of the cost of capital forecast is equal to line 1a mulitiplied by the OEB-approved equity portion (45%) of the capital structure and the OEB-approved ROE rate of 8.66% for 2026.

2 The amounts in line 2 are determined as follows:

Table to Note 2 - Capacity Refurbishment Variance Account - Budgeted 2026 Net Plant Rate Base Amounts for DRP - Unit 4 ($M)		
Line No.		Budget 2026
		(a)
1c	Gross Plant Opening Balance	0.0
2c	In-service Addition - Darlington Refurbishment - Unit 4 (Ex. D2-2-3, Table 5a, line 24, col. (i))	2,291.5
2cc	In-service Addition - Darlington Refurbishment - Early In-Service - Unit 4 (Ex. D2-2-3, Table 5a, line 25, col. (i))	1.7
3c	Gross Plant Closing Balance (line 1c + line 2c + 2cc)	2,293.2
4c	Gross Plant Rate Base Amount (line 1c + line 3c)/2+	1,624.0
5c	Accumulated Depreciation Opening Balance	0.0
6c	Depreciation (Ex. B3-4-1, Table 2, line 14, col. (c))	60.8
7c	Accumulated Depreciation Closing Balance (line 5c + line 6c)	60.8
8c	Accumulated Depreciation Rate Base Amount (line 5c + line 7c)/2	30.4
9c	Net Plant Rate Base Amount (line 4c - line 8c)	1,593.6

\+ For the Unit 4 in-service addition of $2,291.5M, the mid-month of April, in which the addition is reflected is used to determine the gross plant rate base amount, instead of a mid-year average.

3 CCA is determined at the program level, rather than on a unit-by-unit basis, for the Darlington Refurbishment Program. Therefore, neither EB-2020-0290 OEB-approved nor 2026 budgeted CCA is reflected herein for additions to the account specific to Unit 4 return to service. Overall CCA for the program in the year would be reflected as part of the overall additions to the account in 2026, as shown in Ex. H1-1-1, Table 16, col. (k), lines 9 and 10.

4 The change in regulatory taxable income is calculated as the sum of lines 8 and 12, plus the ROE component of the cost of capital variance at line 5 . The ROE component of the variance is equal to the difference between: (i) line 2 multiplied by the OEB-approved equity portion (45%) of the capital structure and the OEB-approved ROE rate of 8.66% for 2026; and (ii) line 4a, col. (a).

5 The budgeted account addition for Unit 4, is embedded in the overall account addition in Ex. H1-1-1, Table 16, col. (k), line 20.

Numbers may not add due to rounding.

Table 2
Capacity Refurbishment Variance Account - Nuclear - Capital Portion - DRP - Unit 4 (Actual In-Service Date)
Summary of Account Transactions - 2026 ($M)

Line No.	Particulars	Note	Projected Actual 2026
			(a)
	Capital Addition to Variance Account - Unit 4:		
1	**Forecast Cost of Capital Amount**	1	24.5
2	**Projected Actual Net Plant Rate Base Amount**	2	1,484.2
3	**Weighted Average Cost of Capital**	1	5.92%
4	**Projected Actual Cost of Capital Amount** (line 2 x line 3)		87.9
5	**Cost of Capital Variance** (line 4 - line 1)		63.3
6	**Forecast Depreciation**	1	15.9
7	**Projected Actual Depreciation**	2	56.4
8	**Depreciation Variance** (line 7 - line 6)		40.4
	Income Tax Impact:		
9	**Forecast Capital Cost Allowance Deduction**	3	0.0
10	**Projected Actual Capital Cost Allowance Deduction**	3	0.0
11	**SR&ED Qualifying Capital Expenditures**		0.0
12	**Difference** (line 9 - line 10 - line 11)		0.0
13	**Net Increase in Regulatory Taxable Income**	4	82.1
14	**Income Tax Rate**		25.0%
15	**Income Tax Impact** (line 13 x line 14 / (1 - line 14))		27.4
16	**Capital Addition to Variance Account - Unit 4** (line 5 + line 8 + line 15)		131.1

For notes see Table 2a

Numbers may not add due to rounding.

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Exhibit L
B1-Staff-020
Attachment 1
Table 2a

Table 2a
Notes to Table 2
Capacity Refurbishment Variance Account - Nuclear - Capital Portion - DRP - Unit 4 (Actual In-Service Date)

Notes:

1 The amounts in line 1 are determinded as follows:

Table to Note 1 - Capacity Refurbishment Variance Account - EB-2020-0290 Forecast Capital Amounts for DRP - Unit 4 ($M)		
Line No.		2026
		(a)
1a	Forecast Net Plant Rate Base Amount*	414.6
2a	Weighted Average Cost of Capital**	5.92%
3a	Forecast Cost of Capital Amount (line 1a x line 2a)	24.5
4a	ROE Component of Forecast Cost of Capital Amount***	16.2
5a	Forecast Depreciation (EB-2020-0290, Ex. B3-4-1, Table 3, line 10, col. (c))	15.9

* Forecast Net Plant Rate Base Amount - Unit 4 ($M)

Line No.		2026
		(a)
1b	Gross Plant Opening Balance	0.0
2b	Forecast In-service Addition (EB-2020-0290 Payment Amounts Order, App. A, Table 9, line 38, col. (b))+	2,028.3
3b	Gross Plant Closing Balance (line 1b + line 2b)	2,028.3
4b	Gross Plant Rate Base Amount (line 1b + line 3b)/2 +	422.6
5b	Accumulated Depreciation Opening Balance	0.0
6b	Forecast Depreciation (EB-2020-0290, Ex.B3-4-1, Table 3, line 10, col. (c))	15.9
7b	Accumulated Depreciation Closing Balance (line 5b + line 6b)	15.9
8b	Accumulated Depreciation Rate Base Amount (line 5b + line 7b)/2	8.0
9b	Forecast Net Plant Rate Base Amount (line 4b - line 8b)	414.6

\+ For this in-service addition, the full amount was approved as per EB-2020-0290 OEB-approved Settlement Proposal, Ex. O-1-1,Table 15, p. 22 and the month in which the addition is reflected is used to determine the gross plant rate base amount, instead of a mid-year average as per EB-2020-0290 Ex.B3-3-1, Table 2a.

** Col. (a) from EB-2020-0290 Payment Amounts Order, App. A, Table 15: line 4, col. (b) x col. (c), plus line 5a, col. (c) x line 5b, col. (b).

*** The ROE component of the cost of capital forecast is equal to line 1a mulitiplied by the OEB-approved equity portion (45%) of the capital structure and the OEB-approved ROE rate of 8.66% for 2026.

2 The amounts in line 2 are determined as follows:

Table to Note 2 - Capacity Refurbishment Variance Account - Projected Actual 2026 Net Plant Rate Base Amounts for DRP - Unit 4 ($M)		
Line No.		Budget 2026
		(a)
1c	Gross Plant Opening Balance	0.0
2c	In-Service Addition - Darlington Refurbishment - Unit 4	1,814.9
3c	Gross Plant Closing Balance (line 1c + line 2c)	1,814.9
4c	Gross Plant Rate Base Amount (line 1c + line 3c)/2+	1,512.4
5c	Accumulated Depreciation Opening Balance	0.0
6c	Depreciation	56.4
7c	Accumulated Depreciation Closing Balance (line 5c + line 6c)	56.4
8c	Accumulated Depreciation Rate Base Amount (line 5c + line 7c)/2	28.2
9c	Net Plant Rate Base Amount (line 4c - line 8c)	1,484.2

\+ For the Unit 4 in-service addition of $1,814.9M, the beginning of the month of March, in which the addition is reflected, is used to determine the gross plant rate base amount, instead of a mid-year average.

3 CCA is determined at the program level, rather than on a unit-by-unit basis, for the Darlington Refurbishment Program. Therefore, neither EB-2020-0290 OEB-approved nor 2026 projected actual CCA is reflected herein for additions to the account specific to Unit 4 return to service.

4 The change in regulatory taxable income is calculated as the sum of lines 8 and 12, plus the ROE component of the cost of capital variance at line 5 . The ROE component of the variance is equal to the difference between: (i) line 2 multiplied by the OEB-approved equity portion (45%) of the capital structure and the OEB-approved ROE rate of 8.66% for 2026; and (ii) line 4a, col. (a).