

1 **UNDERTAKING J20.10**

2
3 **Undertaking**

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5 (A) To update Chart 1 on page 1 of the AMPCO Compendium (Ex. K20.4); (B) To
6 update the chart on page 2 of the AMPCO Compendium (Ex. K20.4).
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9 **Response**

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11 The requested charts are provided in Attachment 1, Table 1 and Table 2. As clarified
12 through the exchange at Tr. Vol. 20, p. 121, line 5 to p. 122, line 5 preceding this
13 undertaking, these charts reflect the actual 2016 in-service additions and the forecast
14 2017-2021 annual in-service additions and depreciation expense per the pre-filed
15 evidence, all of which have been adjusted for the removal of the Heavy Water Storage
16 and Drum Handling Facility Project (“D2O Project”) in-service additions. Table 2 also
17 reflects the actual year-end 2016 asset retirement cost adjustment, a reduction of
18 \$258.3M, resulting from the 2017 ONFA Reference Plan update, and associated 2017-
19 2021 annual depreciation expense impacts.¹
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21 OPG does not believe that the selective update provided by this undertaking would
22 provide a reasonable basis on which to establish the nuclear rate base values for the
23 2017-2021 period (Tr. Vol. 21, p.4, line 24 to p. 6, line 16). The information requested in
24 the undertaking shows the effect of a variance between forecast and actual 2016 in-
25 service amounts without considering changes in the forecast in-service amounts over
26 the full period to 2021, including those due to projects that were planned to come into
27 service in 2016 moving into 2017. For example, Ex. J14.1 notes that, for Nuclear
28 Operations capital, \$70.3M that was planned for 2016 was placed in service in Q1 2017.
29 As well, as part of the Darlington Refurbishment Program (“DRP”), the Containment
30 Filtered Venting System Project has been placed in service in 2017 and the Third
31 Emergency Power Generator Project will be placed in service shortly. These two
32 projects were originally planned to come in service in 2016 at a projected total of
33 approximately \$200M.²
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35 As discussed in Ex. J21.1, OPG continues to propose that the pre-filed rate base values
36 be approved in this application, subject to the removal of the D2O Project per Ex. N2-1-
37 1 and the inclusion of the year-end 2016 asset retirement cost adjustment arising from

¹ This asset retirement cost adjustment underpins the 2017-2021 nuclear liabilities’ revenue requirement impact for the prescribed facilities detailed in Ex. J21.2. The amount of this adjustment differs from \$237.9M shown at Ex. N1-1-1, Table 3, col. (a), line 22 (and detailed at Ex. N1-1-1, Table 5) because Ex. N1-1-1 reflected projected impacts of the 2017 ONFA Reference Plan update, which were determined prior to the end of 2016 for the purposes of the 2017-2019 Business Plan.

² Ratepayers are kept whole for any change in DRP in-service amounts through the Capacity Refurbishment Variance Account.

1 the 2017 ONFA Reference Plan update. Ex. J21.1 also provides OPG's current best-
2 efforts view of 2017-2021 nuclear net plant rate base values, including both year-end
3 2016 actual results and a more recent outlook for Nuclear Operations and Support
4 Services in-service capital over the IR Term. As discussed in Ex. J21.1, this current
5 view demonstrates that the pre-filed rate base values remain reasonable.

Numbers may not add due to rounding.

Filed: 2017-04-24
 EB-2016-0152
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 Attachment 1
 Table 1

Table 1
 Forecast Nuclear In-Service Capital Additions
 (Updated Ex. B1-1-1 Chart 1 for 2016 Actuals and Removal of D2O Project In-Service Additions)

	Reference for 2017-2021	Actual 2016	2017	2018	2019	2020	2021
Nuclear Operations capital projects ¹	Ex. D2-1-3 Table 4, line 17 & 26	292.0	389.0	315.2	239.3	300.4	215.6
Darlington Refurbishment Program	Ex. N2-1-1 Table 3, line 12 & 17	164.4	8.5	8.9	0.0	4,809.2	0.4
Support Services capital projects entering rate base	Nuclear Portion of Ex. D3-1-2 Table 5, lines 7, 9, 13 & 15	8.9	8.1	18.0	5.0	5.0	5.0
Total nuclear in-service additions, excluding ARC	Ex. B3-3-1 Tables 1 & 2, col. (b)	465.3	405.6	342.1	244.3	5,114.7	221.1

¹ Actual 2016 as shown in Ex. J14.1, Att. 1, Table 1, col. (e), line 17.

Numbers may not add due to rounding.

Filed: 2017-04-24
 EB-2016-0152
 J20.10
 Attachment 1
 Table 2

Table 2
 Prescribed Facility Rate Base - Nuclear (\$M)
 (Updated Ex. B3-1-1 Table 1 for 2016 Actuals and Removal of 2016-2021 D2O Project In-Service Additions)
 Years Ending December 31, 2013 to 2021

Line No.	Prescribed Facility	2013 Actual			2014 Actual			2015 Actual		
		Gross Plant at Cost	Less: Accumulated Depreciation and Amortization	Net Plant	Gross Plant at Cost	Less: Accumulated Depreciation and Amortization	Net Plant	Gross Plant at Cost	Less: Accumulated Depreciation and Amortization	Net Plant
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
1	Darlington NGS	801.9	294.8	507.1	870.5	326.9	543.6	939.1	359.6	579.5
2	Darlington Refurbishment Program	61.3	1.1	60.2	125.9	4.7	121.2	203.1	10.5	192.6
3	Pickering NGS	2,008.1	1,145.8	862.3	2,094.3	1,279.0	815.3	2,170.9	1,422.5	748.4
4	Nuclear Support Divisions ¹	332.1	228.1	104.1	354.2	255.6	98.5	369.3	282.6	86.8
5	Nuclear - Excluding Asset Retirement Costs	3,203.5	1,669.9	1,533.6	3,444.8	1,866.2	1,578.7	3,682.5	2,075.1	1,607.4
6	Asset Retirement Costs	2,839.2	1,369.0	1,470.2	2,839.2	1,449.7	1,389.4	2,839.2	1,530.5	1,308.7
7	Total	6,042.7	3,038.9	3,003.8	6,284.0	3,315.9	2,968.1	6,521.7	3,605.6	2,916.1

Line No.	Prescribed Facility	2016 Actual			2017 Plan			2018 Plan		
		Gross Plant at Cost	Less: Accumulated Depreciation and Amortization	Net Plant	Gross Plant at Cost	Less: Accumulated Depreciation and Amortization	Net Plant	Gross Plant at Cost	Less: Accumulated Depreciation and Amortization	Net Plant
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
8	Darlington NGS	1,152.4	394.9	757.5	1,383.7	436.6	947.1	1,647.0	484.4	1,162.6
9	Darlington Refurbishment Program	377.0	22.2	354.7	463.4	40.0	423.5	472.1	59.0	413.1
10	Pickering NGS	2,235.2	1,570.7	664.5	2,311.8	1,745.6	566.2	2,397.9	1,957.1	440.8
11	Nuclear Support Divisions ¹	384.0	307.2	76.7	399.5	332.0	67.5	415.2	357.3	57.9
12	Nuclear - Excluding Asset Retirement Costs	4,148.6	2,295.1	1,853.5	4,558.4	2,554.1	2,004.3	4,932.2	2,857.9	2,074.3
13	Asset Retirement Costs ²	2,421.7	1,596.0	825.7	2,163.3	1,658.2	505.1	2,163.3	1,732.3	431.0
14	Total	6,570.2	3,891.1	2,679.2	6,721.7	4,212.3	2,509.4	7,095.6	4,590.2	2,505.3

Line No.	Prescribed Facility	2019 Plan			2020 Plan			2021 Plan		
		Gross Plant at Cost	Less: Accumulated Depreciation and Amortization	Net Plant	Gross Plant at Cost	Less: Accumulated Depreciation and Amortization	Net Plant	Gross Plant at Cost	Less: Accumulated Depreciation and Amortization	Net Plant
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
15	Darlington NGS	1,887.0	538.5	1,348.5	2,142.6	598.3	1,544.3	2,361.2	664.2	1,697.0
16	Darlington Refurbishment Program	476.6	78.3	398.3	4,672.8	162.2	4,510.6	5,286.0	319.9	4,966.1
17	Pickering NGS	2,434.6	2,182.1	252.5	2,442.1	2,412.0	30.1	2,474.7	2,555.2	(80.6)
18	Nuclear Support Divisions ¹	427.3	379.4	47.9	439.0	399.3	39.8	451.0	418.8	32.2
19	Nuclear - Excluding Asset Retirement Costs	5,225.5	3,178.3	2,047.2	9,696.6	3,571.7	6,124.9	10,572.8	3,958.1	6,614.7
20	Asset Retirement Costs ²	2,163.3	1,806.5	356.8	2,163.3	1,880.6	282.7	2,163.3	1,921.5	241.8
21	Total	7,388.8	4,984.8	2,404.0	11,859.9	5,452.4	6,407.6	12,736.1	5,879.6	6,856.5

Notes:

- Includes support divisions within nuclear accountable for providing specialized services (e.g. Nuclear Engineering, Inspection and Maintenance Services).
- Starting in 2017, updated to reflect the change in asset retirement costs \$(258.3M) recorded on December 31, 2016 as a result of the 2017 ONFA Reference Plan update, and associated annual depreciation expense impacts.

1 **UNDERTAKING J20.14**

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3 **Undertaking**

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5 Whether any material Nuclear in-service amounts moved from 2017 to 2018.
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12 **Response**

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14 OPG's current best-efforts view of Nuclear Operations in-service additions over 2017-
15 2021 (Ex J21.1, Attachment 2, Table 2) shows the 2017 and 2018 Nuclear Operations
16 in-service amounts increasing by approximately \$90M and \$40M, respectively, when
17 compared to the pre-filed evidence. However, there is no single material in-service
18 amount that is forecast to move between 2017 and 2018.