UNDERTAKING JT2.15

Undertaking

WITH REFERENCE TO THE TOTAL NUCLEAR PORTFOLIO COSTS BROKEN OUT BETWEEN CAPITAL AND OM&A FOR 2016-2021 IN D2-01-AMPCO-013, ATTACHMENT 1, TO ADVISE WHETHER THESE THE AMOUNTS THAT OPG MANAGED TO, OR WHETHER THERE WERE DIFFERENT OM&A TARGETS AS A RESULT OF ANNUAL BUSINESS PLANNING EFFORTS.

Response

This undertaking[1] followed from AMPCO's line of questioning at Tr. Tech. Conf., May 6, 2021, pp. 58-61, requesting revision to Tables 4A and 4B at Ex. D2-1-2 and Tables 4A and 4B at Ex. D2-1-3 to reflect OPG's approved annual Business Plan amounts instead of the OEB-approved amounts for the years 2017 to 2021. Similarly, AMPCO requested at Tr. Tech. Conf., May 10, 2021, pp. 51-52 that OPG revise Tables 2A and 2B at Ex. D3-1-1 and Tables 5A and 5B at Ex. D3-1-2 to replace the OEB-approved plan amounts with the OPG annual Business Plan amounts.

OPG agreed to complete the above revisions to Tables 4A and 4B at Ex. D2-1-2, Tables 4A and 4B at Ex. D2-1-3, Table 2A and 2B at Ex. D3-1-1 and Tables 5A and 5B at Ex. D3-1-2 (the "four tables") at Motions Day.[2] In addition, in the OEB stated in the EB-2020-0290 Decision on Motions dated May 27, 2021 on p. 5:

> The OEB expects OPG to file tables in response to AMPCO's motion, providing dollar figures sourced from the 2018-2021 Business Plan. Although parties will not have the additional explanation or rationale that may, or may not, be available in the 2018-2021 Business Plan, parties will be able to compare capital expenditures and in-service additions from OEB approved in the 2017-2021 Payment Amounts Proceeding, the subsequent 2018-2021 Business Plan, and actual expenditures for 2017 to 2021, in order to make submissions. (emphasis added).

OPG understands the OEB's direction to be different than that of AMPCO's requests. The OEB's direction is for OPG to revise the four tables using the 2018-2021 Business Plan for 2018-2021 amounts.

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[1] Project OM&A annual business plan targets are provided in response to JT1.22 (2021), JT1.23 (2017-2020) and Ex. L-D2-01-AMPCO-013, Attachment 1 (2016).
[2] OEB's EB-2020-0290 Decision on Motions, May 27, 2021, p. 4.

As there was not an undertaking number assigned at Motions Day, OPG has responded to AMPCO's request and the OEB's direction to revise the four tables in this response:

- See Attachment 1 for the four tables revised as requested by AMPCO, namely, to update the 2017-2021 targets in the four tables with business plan numbers from each corresponding year's business plan.

- See Attachment 2 for the four tables revised as directed by the OEB, namely, to update the 2018-2021 targets in the four tables with business plan numbers from the 2018-2021 Business Plan.

As stated in Ex. L-D2-01-AMPCO-040, OPG manages its Nuclear Operations projects portfolio in accordance with the business planning process outlined in Ex. D2-1-1, pp. 1-2. The annual business plan targets for Nuclear Operations project capital are provided Attachment 1.

Each year, the OPG Board of Directors approves the annual projects portfolio budget as part of OPG's corporate business plan, as discussed in Ex. A2-2-1 and Ex. L-A2-02-AMPCO-010. In establishing the projects portfolio budget for this approval, OPG considers operational needs, risk management, resourcing capacity, and the financial condition of the company. Component condition assessments, lifecycle management plans, regulatory requirements and asset risk assessments are key operational factors OPG considers in identifying new projects and/or changes in planned timing of projects to ensure the continued safe and reliable operations of the Pickering and Darlington stations. In particular, as noted in Ex. D2-1-2, pp. 3-4, increased capital budgets reflect the need for investment to prepare Darlington for 'second life' operations, including projects that have been advanced in order to take advantage of the availability of lengthy refurbishment outages to undertake work.

The resultant Nuclear Operations projects portfolio budget includes amounts for projects with approved Business Case Summaries and an unallocated budget for candidate projects (Ex. D2-1-2, Section 3.0). All potential new projects are prioritized through a rigorous asset management program, including through the Asset Management Oversight Committees ("AMOC"), in a consistent, integrated manner. See Ex. L-D2-01-AMPCO-017, Ex. L-D2-01-SEC-049 and Ex. L-D2-02-SEC-053 for further description of OPG's planning and project prioritization process.

The business planning process for Corporate Support Services capital projects is similar to that for the Nuclear Operations project portfolio. In particular, for IT projects, OPG uses a similar portfolio management approach, including a value framework and investment prioritization process, as discussed in Ex. L-D2-01-AMPCO-017 and Ex. L-D3-01-AMPCO-139.

For additional context, OPG provides below further details regarding the capital expenditures and capital in-service variances to the EB-2016-0152 forecasts.

Nuclear Operations Capital Expenditures

The Nuclear Operations project portfolio capital expenditure over-variances between OPG's EB-2016-0152 forecast and actual/projected results (shown in Ex. L-D2-01-Staff-088) are attributable to a number of factors, including: (1) new, emergent projects that were not identified at the time of EB-2016-0152, (2) cash flow variances on ongoing projects into the 2017-2021 period, and (3) an update to the forecasted capital in-service amounts (EB-2016-0152, Ex. J21.1) that did not have a corresponding update for the forecasted capital expenditures on record of the proceeding.

OPG notes that the OEB did not approve a forecast of Nuclear Operations capital expenditures in EB-2016-0152. The OEB approved nuclear revenue requirements that reflected forecasted capital in-service amounts and resulting rate base values.

1. <u>New Emergent Projects</u>

As noted, all potential new projects are prioritized through a rigorous asset management program and approved through the AMOC. Examples of larger new, emergent projects which contributed to the capital expenditures variances from the EB-2016-0152 forecast include: [3]

- #80126 DN Emergency Power Generator 1 and 2 Replacement – The Darlington Integrated Implementation Plan commitments to the CNSC require the replacement of the EPG1 and 2 degraded gas generator. The total project cost is forecast to be $176.2M, with $91.4M reflected in the pre-filed in-service forecast by 2020 (Ex. D2-1-3, Table 1c).

- #83296 DN Main Output Transformer & Unit Service Transformer Replacement – Based on an external vendor assessment and industry experience, the transformers require replacement prior to 2028. As these components are long lead, there was a need to expedite this project to ensure components can be replaced in a timely manner and mitigate risk of overall unit reliability and safety risk. Additionally, advancing this project aligns the replacement within the refurbishment schedule. The total project cost is forecast to be $170.1M, with $32.8M reflected in the pre-filed in-service forecast by 2021 (Ex. D2-1-3, Table 1c).

A full list of new projects over $20M, including the above noted projects, is set out in Ex. D2-1-3, Table 1c and 1d, and a brief description of these projects is provided in

[3] These two projects were also not identified as candidate projects in EB-2016-0152.

Ex. D2-1-3 Section 2.0, along with each project's Business Case Summary in Ex. D2-1-3 Attachment 1.

2. Cash Flow Variances on Ongoing Projects into the 2017-2021 Period

Variances in capital expenditures for ongoing projects from EB-2016-0152 are another source of variance as between forecast as of EB-2016-0152 and the actual/projected results presented in EB-2020-0290. These cash flow variances primarily reflect the timing of capital expenditures rather than changes in the lifecycle project costs.

For example, as seen in Ex. L-D2-01-AMPCO-059, the completed projects from EB-2016-0152 show a capital expenditure over-variance of $57.7M over the 2017-2021 period when compared to the EB-2016-0152 pre-filed forecast for these projects. However, for the same set of projects, the total lifecycle cost was under budget by $43.8M compared to the total project costs filed in EB-2016-0152 (see Ex. D2-1-3, Table 1b columns (g) and (h)). This illustrates that while capital expenditures shifted into the 2017-2021 period to accommodate timing-related considerations such as resource constraints or outage schedules, the total project lifecycle costs were not unfavourably impacted.

Exhibit D2-1-2, Section 5.0 identifies reasons for capital expenditure variances from OPG's pre-filed forecasts in EB-2016-0152, including new projects that were assessed to be required incrementally to those forecasts.

3. No Corresponding Update for Capital Expenditures

The pre-filed forecast of capital expenditures in EB-2016-0152 was based on OPG's 2016-2018 Business Plan. The OEB-approved capital in-service amounts in EB-2016-0152 were based on an updated forecast provided during the oral hearing at the request of the parties (EB-2016-0152, Ex. J21.1, Attachment 2, Table 2). This update reflected an increase in the 2017-2021 in-service amounts relative to the pre-filed evidence, but was not accompanied by a corresponding update to show an increase in expected capital expenditures. Directionally, the magnitude of this increase can be observed from OPG's 2017-2019 Business Plan filed as part of the Impact Statement (EB-2016-0152, Ex. N1-1-1), which showed an increase in Nuclear Operations capital expenditures of approximately $180M over 2017-2021.[4]

Additionally, in EB-2016-0152, there were no capital expenditures included for the Pickering Extended Operations initiative. As discussed in Ex. D2-1-2, the reclassification of a portion of Pickering Extended Operations costs from OM&A to capital added approximately $33M to actual/projected capital expenditures over the period, compared to the EB-2016-0152 forecast.

[4] See "Project Portfolio" line in EB-2016-0152, Ex. N1-1-1, Attachment 1, p. 24.

Nuclear Operations Capital In-service Amounts

Increased in-service amounts flow from the need for higher capital expenditures as a result of new projects. As stated in Ex. D2-1-3, OPG expects Nuclear Operations capital in-service additions for the 2017-2021 period to exceed the OEB-approved amounts. In approving capital in-service amounts in EB-2016-0152, the OEB reduced OPG's forecast (per EB-2016-0152 Ex. J21.1, Attachment 2, Table 2) by 10%, citing concerns whether "OPG will have the resources to execute a nuclear operations capital program with higher capital expenditures and a much higher level of in-service additions."[5] The OEB applied this reduction to both Nuclear Operations and Corporate Support Services capital.

Capital in-service additions (including 2020 actuals) are projected at about 10% above OPG's EB-2016-0152 forecast, before the OEB's capital in-service forecast adjustment. OPG's EB-2016-0152 capital in-service forecast was based on the asset and operational needs and priorities identified at the time. During the 2017-2021 period, the project portfolio continues to be executed to support such needs and, as noted, reflects required new projects added through OPG's business planning process and asset management program.

Corporate Support Services Capital Expenditures and In-Service Amounts

The largest capital expenditure and in-service variances between OPG's EB-2016-0152 forecast and actual/projected results for Corporate Support Services is in the IT portfolio. As discussed in Ex. D3-1-1, Section 2.1, OPG initiated a new Digital Strategy in 2017, which was not planned for in the EB-2016-0152 application (either the pre-filed evidence or any subsequent updated forecasts). The initial investment in 2017 to move the organization to the Microsoft E5 cloud-based platform enabled the start of the Digital Strategy.

As further discussed in Ex. D3-1-1 and Ex. L-F3-01-VECC-030, the IT investments being made as part of the Digital Strategy will enable OPG to take advantage of process automation, artificial intelligence and new tools to drive efficiencies, redesign work programs to improve productivity, and reduce costs across the organization. These efforts are required to meet the company's challenging operating cost and performance targets and position OPG towards a sustainably lower post-Pickering cost structure. Additionally, OPG's IT investments are focused on increasing organizational resilience against cyber threats.

[5] EB-2016-0152, Decision and Order, December 28, 2017, pp. 17-18.