COMPARISON OF BASE OM&A – NUCLEAR

1.0 PURPOSE

This evidence presents period-over-period comparisons of base OM&A expense for the nuclear facilities for 2016-2026, in support of the approval of OPG's forecast base OM&A expense for the IR term.

2.0 OVERVIEW

Base OM&A expenses are forecast to decrease from 2016 actual to 2026 plan by $651.2M. In addition to the cessation of direct Pickering station OM&A upon the station's planned shutdown, the decrease in nuclear base OM&A over the IR term, partially offset by labour and other cost escalation, reflects the targets that OPG has set to manage the transition within Operations and Project Support functions and Corporate Support functions to a four unit fleet and mitigate the impact of the diseconomies of scale from the reallocation of such costs to remaining operations (Ex. A2-1-1).

Period-over-period changes by functional group (Nuclear Station, Operations and Project Support and Capacity Refurbishment Variance Account ("CRVA") Eligible[1]) are presented in Ex. F2-2-2, Table 1a-1b.[2] Net reportable variances and period-over-period changes by category of expense (10% or greater at the function level, subject to a minimum materiality limit of $1M) are discussed below.

3.0 PERIOD-OVER-PERIOD CHANGES – IR TERM

<u>2022 Plan versus 2021 Budget</u>

Planned base OM&A in 2022 is $1,322.7M, which is $11.4M or 0.9% higher than the 2021 planned base OM&A of $1,311.3M. The variance is attributable to Operations and Project

[1] The CRVA is discussed in Ex. H1-1-1, section 5.6
[2] All comparisons to 2017-2021 OEB approved are before disallowances.

Support ($20.3M or 4.2% increase) and Nuclear Stations ($9.4M or 1.2% increase), partially offset by CRVA Eligible Costs ($18.1M or 60.7% decrease).

The reportable variances by category of expense are as follows:

- Tritium Removal Facility ("TRF") ($3.5M or 14.3% decrease), primarily due to the T2101 TRF outage planned in 2021.
- Enterprise Projects ($1.5M or 14.1% increase), primarily due to additional project and contract support.
- Fuel Channel Life Extension Ongoing Costs ($9.1M or 60.6% decrease), largely due to completion of Darlington Unit 3 spacer retrieval and analysis work in 2021 that is not required in 2022.
- Pickering Extended Operations Enabling Costs ($10.3M or 100% decrease), primarily due to the completion of this program in 2021.
- Optimization of Pickering Shutdown ($1.2M or 26.1% increase) due to ramping up of this work program.

<u>2023 Plan versus 2022 Plan</u>

Planned base OM&A in 2023 is $1,313.3M, which is $9.4Mor 0.7% lower than the 2022 planned base OM&A of $1,322.7M. The variance is primarily attributable to Nuclear Stations ($5.3M or 0.7% decrease) and CRVA Eligible Costs ($4.8M or 40.7% decrease).

The reportable variances by category of expense are as follows:

- Tritium Removal Facility ($2.2M or 10.5% increase), primarily due to the T2301 TRF outage planned in 2023.
- Fuel Channel Life Extension Ongoing Costs ($1.6M or 27.5% decrease) due to the start of the winding down this work program.
- Optimization of Pickering Shutdown ($3.2M or 54.1% decrease) due to the ongoing work program schedule related to the Periodic Safety Review.

2024 Plan versus 2023 Plan

Planned base OM&A in 2024 is $1,298.2M, which is $15.1M or 1.1% lower than the 2023 planned base OM&A of $1,313.3M. The variance is primarily attributable to Nuclear Stations ($16.3M or 2.0% decrease). A key driver of this decrease is the partial shutdown (Units 1 and 4) at Pickering in September and December 2024, including a reduction in Pickering operations ($4.3M) and maintenance ($13.3M) costs. The decrease in base OM&A would have been greater but, base OM&A will be impacted by the 53rd fiscal week in 2024 ($13.9M increase).[3]

The reportable variances are as follows:

- Fuel Channel Life Extension Ongoing Costs ($3.5M or 81.3% decrease), primarily due to continued winding down of this work program.
- Optimization of Pickering Shutdown ($2.2M or 80.7% increase) due to the ongoing work program schedule related to the Periodic Safety Review.

2025 Plan versus 2024 Plan

Planned base OM&A in 2025 is $1,069.5M, which is $228.6M or 17.6% lower than the 2024 planned base OM&A of $1,298.2M, which includes the impact of the 53rd fiscal week in 2024 ($13.9M decrease). The variance is primarily attributable to Nuclear Stations ($115.2M or 14.5% decrease) and Operations and Project Support ($108.2M or 21.6% decrease), reflecting the partial shutdown (Units 1 and 4) at Pickering in 2024.

The negative reportable variances by category of expense for the Nuclear Station and Operations and Project Support functional groups are driven by the partial shutdown (Units 1 and 4) at Pickering in 2024. This is partially offset by the Tritium Removal Facility, which sees an increase ($3.1M or 14.3%) primarily due to the T2501 TRF outage planned in 2025.

[3] Annual labour cost budgets are calculated on a weekly basis times the number of weeks in the fiscal calendar year; most years have 52 weeks, but some years, like 2024, have 53 numbered weeks.

2026 Plan versus 2025 Plan

Planned base OM&A in 2026 is $616.3M, which is $453.2M or 42.3% lower than the 2025 planned base OM&A of $1,069.5M. The variance is primarily attributable to Nuclear Stations ($307.7M or 45.4% decrease) and Operations and Project Support ($145M or 37% decrease), reflecting the planned shutdown of Units 5-8 at Pickering in December 2025.

The negative reportable variances for all Nuclear Station and Operations and Project Support functional groups are primarily driven by the planned shutdown of Pickering in December 2025.

4.0 PERIOD-OVER-PERIOD CHANGES – BRIDGE YEARS

2021 Budget versus 2021 OEB Approved

Planned base OM&A in 2021 is $1,311.3M, which is $42.3M or 3.1% lower than the 2021 OEB approved budget of $1,353.5M. The variance is attributable to Nuclear Stations ($45.0M or 5.3% decrease) and Operations and Project Support ($21.2M or 4.3% decrease), partially offset by CRVA Eligible Costs ($23.9M or 397.9% increase).

The reportable variances are as follows:

- Tritium Removal Facility ($2.4M or 10.8% increase), primarily due to increased TRF operation costs.
- Enterprise Engineering ($25.1M or 10.3% decrease), primarily due to reductions in staffing levels.
- Integrated Fleet Management ($12.8M or 17.4% decrease), primarily due to Operations support strategic staff deployments to offset attrition at Darlington (which does not impact on total base OM&A).
- Enterprise Projects ($3.2M or 43.7% increase), primarily due to the ongoing work on the Enterprise-Wide Project Excellence Initiative to strengthen project management (Ex.D2-1-1).
- Other Support ($7.8M or 49.3% increase), primarily due to a difference in reporting of Hydro One share awards expense under collective agreements for represented staff,

which is offset by a decrease in other base OM&A where these costs were originally budgeted as a component of the standard labour rate.[4]

- Fuel Channel Life Extension Ongoing (Consequential) Costs ($9.0M or 149.6% increase), primarily due to timing related to Darlington Unit 3 spacer retrieval and analysis work.
- Pickering Extended Operations Enabling ($10.3M increase from $0) primarily due to reclassification of expenditures from outage OM&A and project OM&A to base OM&A, as discussed above. In EB-2016-0152, consistent with the Pickering Extended Operations BCS (EB-2016-0152, Ex. F2-2-3, Attachment 2) there were no base OM&A expenses forecast post 2017. As the project evolved and specific work was identified to extend the life of Pickering, funding was reallocated. As inspection scope was completed, additional required work was identified that was either completed through base, outage or project (OM&A and/or capital) cost. Total Pickering Extended Operations actual and budgeted OM&A/capital expenditures over the period 2016-2021 are forecast to be aligned to the estimate in EB-2016-0152 of $307M.

<u>2021 Budget versus 2020 Budget</u>

Planned base OM&A in 2021 is $1,311.3M, which is $1.3M or 0.1% higher than the 2020 planned base OM&A of $1,310.0M. The variance is primarily attributable to CRVA Eligible Costs ($10.5M or 53.9% increase), partially offset by Nuclear Stations ($5.1M or 0.6% decrease) and Operations and Project Support ($4.1M or 0.9% decrease).

The reportable variances are as follows:

- Tritium Removal Facility ($4.9M or 25.4% increase), primarily due to the T2101 TRF outage in 2021.

[4] Eligible PWU and Society represented employees are granted Hydro One Limited share awards beginning on April 1, 2017 for PWU and January 1, 2018 for Society. In EB-2016-0152, the expense for these awards for years 2017-2021 was budgeted as a component of planned standard labour rates and captured in budgeted labour costs across base OM&A categories. For 2017 actual reporting, these costs continued to be reflected in standard labour rates. For subsequent actual reporting in 2018-2021, the costs were removed from the standard labour rates and captured directly in Other Support, with offsetting reductions against budget in labour costs of other base OM&A categories.

- Enterprise Projects ($2.2M or 17.6% decrease), primarily due to reduced project and contract support.
- Fuel Channel Life Extension Ongoing (Consequential) Costs ($7.6M or 102.2% increase), primarily due to Darlington Unit 3 spacer retrieval and analysis work in 2021.
- Optimization of Pickering Shutdown ($2.5M or 114.0% increase) due to ramping up this work program.

2020 Budget versus 2020 OEB Approved

Planned base OM&A in 2020 is $1,310.0M, which is $30.8M or 2.3% lower than the 2020 OEB approved budget of $1,340.8M. The variance is attributable to Nuclear Stations ($36.5M or 4.3% decrease) and Operations and Project Support ($7.7M or 1.6% decrease), partially offset by CRVA Eligible Costs ($13.4M or 223.6% increase).

The reportable variances are as follows:

- Work Management ($4.2M or 12.0% decrease) primarily due to reduced support staff at Pickering and the discontinuation of the outage bonus at Darlington.
- Integrated Fleet Management ($10.3M or 14.0% decrease) primarily due to Operations support strategic staff deployments to offset attrition at Darlington. Enterprise Projects ($3.5M or 37.2% increase), primarily due to work undertaken for the Enterprise-Wide Project Excellence Initiative to strengthen project management. Other Support ($9.0M or 54.0% increase), primarily due to a difference in reporting of Hydro One share awards expense under collective agreements for represented staff, which offsets other base OM&A since these costs were originally budgeted as a component of the standard labour rate, as discussed above.
- Fuel Channel Life Extension Ongoing (Consequential) costs ($1.4M or 23.5% increase), primarily due to additional Darlington spacer retrieval and analysis work.
- Pickering Extended Operations Enabling Costs ($9.8M increase from $0), primarily due to reclassification of expenditures from outage OM&A and project OM&A to base OM&A, as discussed above.
- Optimization of Pickering Shutdown ($2.2M increase from $0) due to initiation of this work program.

2020 Budget versus 2019 Actual

Planned base OM&A in 2020 is $1,310.0M, which is $44.4M or 3.5% higher than the 2019 actual amount of $1,265.6M. The variance is attributable to Nuclear Stations ($21.5M or 2.7% increase), Operations and Project Support ($17.4M or 3.7% increase) and CRVA Eligible Costs ($5.6M or 40.3% increase).

The reportable variances by category of expense are as follows:

- Enterprise Projects ($2.0M or 18.7% increase), primarily due to a work undertaken for the Enterprise-Wide Project Excellence Initiative to strengthen project management.
- Fuel Channel Life Extension Ongoing (Consequential) Costs ($5.7M or 330.2% increase), primarily due to shifting of Darlington spacer retrieval and analysis work into 2020.
- Pickering Extended Operations Enabling Costs ($2.3M or 18.7% decrease), primarily due to ramping down Integrated Implementation Plan work.
- Optimization of Pickering Shutdown ($2.2M increase from $0) due to ramping up of this work program.

5.0 PERIOD-OVER-PERIOD CHANGES – HISTORICAL YEARS

2019 Actual versus 2019 OEB Approved

Actual base OM&A in 2019 was $1,265.6M, which is $58.9M or 4.4% lower than the 2019 OEB approved budget of $1,324.4M. The variance is attributable to Nuclear Stations ($54.6M or 6.5% decrease) and Operations and Project Support ($13.1M or 2.7% decrease), partially offset by CRVA Eligible Costs ($8.8M or 176.8% increase).

The reportable variances by category of expense are as follows:

- Work Management ($5.7M or 16.8% decrease), primarily due to reduced support staff at Pickering and the discontinuation of the outage bonus at Darlington in 2017.
- Tritium Removal Facility ($3.0M or 14.6% decrease), primarily due to a combination of substituting Other Purchase Services with internal support resulting in lower expenditures

during several TRF forced outages in 2019; lower material requirements; and partially offset by increased project work by TRF staff.

- Integrated Fleet Management ($10.4M or 14.6% decrease), primarily due to Operations support strategic staff deployments to offset attrition at Darlington .
- Enterprise Projects ($1.5M or 16.1% increase), primarily due to the Enterprise-Wide Project Excellence Initiative to strengthen project management.
- Other Support ($11.1M or 64.9% increase), primarily due to a difference in reporting of Hydro One share awards expense under collective agreements for represented staff, which is offset by a decrease in other base OM&A since these costs were originally budgeted as a component of the standard labour rate, as discussed above.
- Fuel Channel Life Extension Ongoing (Consequential) Costs ($3.3M or 65.6% decrease), primarily due to timing of Darlington spacer retrieval and analysis work.
- Pickering Extended Operations Enabling Costs ($12.1M increase from $0), primarily due to reclassification of expenditures from outage OM&A and project OM&A to base OM&A, as discussed above.

<u>2019 Actual versus 2018 Actual</u>

Actual base OM&A in 2019 was $1,265.6M, which was $10.1M or 0.8% higher than the 2018 actual amount of $1,255.5M. The variance is primarily attributable to Nuclear Stations ($11.7M or 1.5% increase) and CRVA Eligible Costs ($3.3M or 31.2% increase), partially offset by Operations and Project Support ($4.9M or 1.0% decrease).

The reportable variances by category of expense are as follows:

- Tritium Removal Facility ($2.1M or 10.8% decrease), primarily due to the T1801 TRF outage in 2018.
- Other Support ($9.1M or 24.5% decrease), primarily due to lower Hydro One share awards expense under collective agreements for represented staff.
- Fuel Channel Life Extension Ongoing (Consequential) Costs ($1.1M or 188.4% increase), primarily due to Darlington spacer retrieval and analysis work in 2019.
- Pickering Extended Operations Enabling Costs ($2.2M or 21.8% increase), primarily due to increased activities focused on improving equipment reliability. As noted above,

Pickering Extended Operations actual and budgeted OM&A/capital expenditures over the period 2016-2021 are forecast to be aligned to the estimate in EB-2016-0152 of $307M.

2018 Actual versus 2018 OEB Approved

Actual base OM&A in 2018 was $1,255.5M, which was $51.3M or 3.9% lower than the 2018 OEB approved budget of $1,306.8M. The variance is primarily attributable to Nuclear Stations ($52.5M or 6.3% decrease).

The reportable variances by category of expense are as follows:

- Work Management ($5.1M or 15.2% decrease), primarily due to reduced support staff at Pickering and the discontinuation of the outage bonus at Darlington in 2017.
- Site and Support Services ($13.7M or 11.9% decrease), due to lower than expected work programs that support the stations.
- Enterprise Projects ($1.4M or 15.6% increase), primarily due to Enterprise-Wide Project Excellence Initiative to strengthen project management.
- Other Support ($12.6M or 51.1% increase), primarily due to a difference in reporting of Hydro One share awards expense under collective agreements for represented staff, which is offset by a decrease in other base OM&A since these costs were originally budgeted as a component of the standard labour rate, as discussed above.
- Fuel Channel Life Extension Ongoing (Consequential) Costs ($4.4M or 88.1% decrease), primarily due to not proceeding with contingent Single Fuel Channel Replacement analysis work.
- Pickering Extended Operations Enabling Costs ($10.0M increase from $0), primarily due to reclassification of expenditures from outage OM&A and project OM&A to base OM&A, as discussed above.

2018 Actual versus 2017 Actual

Actual base OM&A in 2018 was $1,255.5M, which was $45.7M or 3.5% lower than the 2017 actual amount of $1,301.1M. The variance is attributable to Nuclear Stations ($42.7M or 5.2% decrease) and CRVA Eligible Costs ($4.8M or 31.2% decrease) partially offset by Operations and Project Support ($1.8 or 0.4% increase). A contributor to these increases in

Nuclear Stations, Operations and Project Support and CRVA Eligible labour costs in 2017 was the inclusion of a 53rd fiscal week in 2017 ($16.1M increase).

The reportable variances by category of expense are as follows:

- Site and Support Services ($19.4M or 16.1% decrease), primarily due to an increased stores inventory obsolescence adjustment for Pickering in 2017.
- Tritium Removal Facility ($2.2M or 12.4% increase), primarily due to the T1801 TRF outage in 2018.
- Other Support ($23.6M or 172.9% increase), primarily due to a difference in reporting of Hydro One share awards expense under collective agreements for represented staff, whereby the 2017 expense was charged to centrally-held costs (Ex. F4-4-1) rather than Nuclear base OM&A and higher Hydro One share awards expense under collective agreements for represented staff.
- Pickering Extended Operations Enabling Costs ($5.0M or 33.4% decrease), primarily due to reclassification of expenditures from base OM&A to capital ($2.8M) and shifting of base OM&A work from the scope identification phase in 2017 (e.g., Periodic Safety Review Engineering and Life Cycle Management Plan assessments) to outage execution work (outage OM&A) in 2018.

<u>2017 Actual versus 2017 OEB Approved</u>

Actual base OM&A in 2017 was $1,301.1M, which was $18.2M or 1.4% higher than the 2017 OEB approved budget of $1,282.9M. The variance is primarily attributable to CRVA Eligible Costs ($14.3M or 1433.3% increase) and Nuclear Stations ($6.3M or 0.8% increase).

The reportable variances by category of expense are as follows:

- Work Management ($5.0M or 14.7% decrease), primarily due to Darlington discontinuing outage bonus in 2017 and delays in hiring for Pickering support staff.
- Tritium Removal Facility ($3.3M or 15.8% decrease), primarily due to postponing a TRF Cryogenic Refrigeration System outage planned for 2017.
- Other Support ($1.6M or 10.8% decrease), primarily due to lower expenditures for Nuclear Waste Management.

- Pickering Extended Operations Enabling ($13.9M or 1393.3% increase) primarily due to reclassification of expenditures from outage OM&A and project OM&A to base OM&A, as discussed above.

2017 Actual versus 2016 Actual

Actual base OM&A in 2017 was $1,301.1M, which was $33.6M or 2.6% higher than the 2016 actual amount of $1,267.5M, The increase is primarily attributable to Operations and Project Support ($14.5M or 3.2% increase) Nuclear Stations ($13.4M or 1.7% increase) and CRVA Eligible ($5.7M or 2.6%). A contributor to these increases in Nuclear Stations, Operations and Project Support and CRVA Eligible labour costs in 2017 was the inclusion of a 53rd fiscal week in 2017 ($16.1M increase).

The reportable variances by category of expense are as follows:

- Enterprise Projects ($3.0M or 43.2% increase), primarily due to work undertaken for the Enterprise-Wide Project Excellence Initiative to strengthen project management.
- Other Support ($1.6M increase or 13.0%), primarily due to a stores inventory obsolescence adjustment in 2017.
- Pickering Extended Operations Enabling Costs ($5.3M or 55.7% increase), primarily due to base OM&A work activities during scope identification phase (Periodic Safety Review Engineering and Life Cycle Management Plan assessments).

2016 Actual versus 2016 Budget

Actual Base OM&A in 2016 was $1,267.5M, which was $17.6M or 1.4% lower than the 2016 budget of $1,285.2M. The decrease is primarily attributable to Nuclear Stations ($8.8M or 1.1% decrease) and Operations and Project Support ($7.8M or 1.7% decrease).

The reportable variances are as follows:

- Work Management ($5.7M or 16.8% decrease), primarily due to no payout of the Darlington outage bonus in 2016 and staff being under complement.
- Site and Support Services ($14.4M or 13.2% increase), primarily due to a stores inventory obsolescence adjustment for both nuclear stations.

- Enterprise Projects ($1.2M or 20.3% increase) due to work undertaken for the Enterprise-Wide Project Excellence Initiative to strengthen project management.
- Other Support ($2.1M or 14.7% decrease), primarily due to lower expenditures for Nuclear Waste Management.