PROJECT OM&A – NUCLEAR

1.0 PURPOSE

This evidence provides a description of the nuclear project OM&A budget (excluding Darlington Refurbishment) for the historical years, bridge year, and test period.

2.0 OVERVIEW

OPG is requesting OEB approval of forecast project OM&A expenditures of $113.9M (2014) and $106.4M (2015). The level of project OM&A expenditures is comparable to previous year's and reflects forecasted work program demands. The decrease in 2015 is mainly due to the completion of the Pickering Continued Operations program and Fuel Channel Life Management Project.

Since the last filing, OPG has completed two major OM&A projects (cost >$20M), both of which were completed under budget.

3.0 PROJECT OM&A EXPENDITURES

OPG's corporate policy defines a project (capital or OM&A project) as a temporary, unique endeavour undertaken outside the routine base activities of the normal work program. The final decision on whether work will be classified as a nuclear project is made by the Asset Investment Screening Committee ("AISC") having regard to the complexity and materiality of the work.

A description of the initiation, review and approval process for nuclear projects including OM&A projects is provided in Ex. D2-1-1.

Exhibit F2-3-1 Table 1 presents nuclear project OM&A expenditures for 2010 – 2015. These project OM&A expenditures have been presented as Project OM&A (Portfolio) and Non-portfolio projects:

Project OM&A (Portfolio) is made up of:

- "Portfolio Projects (Allocated)", which is equal to the sum of the AISC-approved budgets for all projects that have an approved business case summary ("BCS").
- "Portfolio Projects (Unallocated)", which is the remaining budget available to cover the cost of project work that is progressing through the review and approval process but do not have an AISC-approved budget and an approved BCS. A list of these projects is provided in Ex. F2-3-3, Table 4.
- "Infrastructure" , which includes four elements:
    - Funding for staff that do not support specific projects but provide management oversight and direction, administration & coordination of project portfolio activities and ensure compliance with OPG governance and standards.
    - An amount for minor modifications at each of the two nuclear sites, inspection and maintenance services, and security functions. Minor modifications are lower cost modifications (generally, less than $200k per generating unit) for which the full project management process is unwarranted. For administrative efficiency, these modifications are funded via a drawdown of the minor modifications budget allocated to each station and central facilities.
    - An amount for project conceptual funding to undertake project initiation work, as identified in Ex. D2-1-1, section 3.
    - An amount for capital projects that have been cancelled and written-off. As the write-off occurs in the year of the cancellation decision and cannot be predicted, there is no budget allocated for these items.

Non-portfolio projects are listed separately from the Project OM&A (Portfolio) due to their extraordinary nature. Non-portfolio projects include the P2/P3 Isolation Project, Pickering Continued Operations (discussed in Ex. F2-2-3) and the Fuel Channel Life Cycle Management Project (also discussed in Ex. F2-2-3).

As indicated in Ex. D2-1-1, OPG's overall project OM&A and capital portfolio is administered by the AISC. As part of the 2013 - 2015 business planning process, the OPG Board of Directors approved $101.1M (2014) and $105.8M (2015) for the Project OM&A (Portfolio). In

addition, the OPG Board of Directors approved separate amounts for Pickering Continued Operations and the Fuel Channel Life Cycle Management projects.

Exhibit F2-3-1 Table 1 presents the following trends in project OM&A over the 2010 - 2015 period:

- An increase in Project OM&A Portfolio expenditures in 2014 and 2015 following a declining trend from 2010-2013 (as shown on line 8 of Table 1).
  - The increase in 2014 and 2015 reflects an increased number of Fukushima-related projects and expenditures as well as several projects that transition from the definition phase into the execution phase of a project life cycle.
  - Average "Infrastructure" costs are approximately $30M for each year of the test period and include $2M - $3M for conceptual funding, $14M - $15M for project support and $14M for minor modifications per year. Infrastructure costs incurred during the 2010 - 2012 period were higher than the forecasted rate period due to capital project cancellations that were written-off and the need for additional minor modifications primarily in 2011. As previously identified, write-off amounts are not budgeted in advance and can impact actual results in any given year.
- A decrease in Non-portfolio expenditures which reflects the completion of the P2/P3 Isolation Project work in 2010, Pickering Continued Operations in 2014 and the Fuel Channel Life Cycle Management project in 2015.

Exhibit F2-3-3 presents further details of OM&A projects.

3.1 OM&A Project Drivers

As stated in Ex. D2-1-1, OPG Nuclear employs a portfolio management approach to assess and prioritize all nuclear operations projects (both project OM&A and capital). OPG targets its total nuclear operations project portfolio (i.e. annual capital expenditures and project OM&A) to be in the range of $250M to $300M (or $25M to $30M per nuclear unit). This target range was developed in consideration of OPG's historical investment patterns, project execution capabilities, and high-level comparative benchmark data from other nuclear

utilities. For the test period, forecast project OM&A expenditures represent $113.9M (2014) and $106.4M (2015) of the total portfolio of $276.1M (2014) and $228.0M (2015).

Nuclear Project OM&A expenditures have been categorized in Ex. F2-3-1 Table 2 as regulatory, sustaining or value enhancing/strategic. As indicated in Ex. F2-3-1 Table 2, the majority of project OM&A expenditures relate to sustaining projects required to operate safely and maintain unit reliability. Also, expenditures are characterized by a large number of projects < $5.0M representing a total combined test period expenditure of $168.8M and an average cost of $2.7M as shown in Ex. F2-3-3 Table 3.

Regulatory projects are in decline although the need to respond to the Fukushima incident did increase regulatory OM&A project spending by $11.9M in 2011 and $15.9M in 2012 compared to the previous submission.

In Canada, the Canadian Nuclear Safety Commission (CNSC) formed a Task Force to identify the actions needed to be taken by its licensees, and others, to address the lessons learned from the accidents at Fukushima. The CNSC subsequently developed an Action Plan, and OPG was assigned 101 Action Items (FAIs) for its fleet of operating reactors. Notable OM&A projects undertaken in response to the Fukushima accident include the development and implementation of Severe Accident Management Guidelines to improve operator response to an event that exceeds the design basis for the plant; enhancements to emergency response plans to mitigate the impacts of potential off-site releases due to multi-unit events; and a major exercise involving all levels of government to confirm the adequacy of emergency response plans to a major event affecting both the site and the surrounding community.