

## **DARLINGTON NEW NUCLEAR – OM&A**

### **1.0 PURPOSE**

This evidence describes the activities and expenditures associated with the new nuclear at Darlington (“NND”) project.

### **2.0 OVERVIEW**

OM&A expenditures for NND over the period 2010 - 2015 are set out in Ex. F2-8-1 Table 1. The comparison of budget and actual NND costs over 2010 – 2015 is set out in Ex. F2-8-1 Table 2.

The Government of Ontario has not yet determined a cost recovery mechanism for new nuclear. When it does, OPG will develop its future applications accordingly. For the purposes of this application, OPG has not made any assumption on the form of that mechanism and therefore has not included any costs for the project in the test period.

OPG proposes that any test period OM&A expenditures for the purpose of planning and preparation for NND prior to project capitalization be entered in the Nuclear Development Variance Account (“NDVA”) for subsequent disposition consistent with the requirements of O. Reg. 53/05. OPG also seeks approval to dispose of the 2013 year-end balance currently forecasted to be \$69.4M in the Nuclear Development Variance Account (see Ex. H1-2-1).

A decision to proceed with the procurement of two new nuclear reactors at Darlington will be made by the Government of Ontario. OPG has undertaken initiatives to-date to ensure readiness to construct new units following selection of a preferred vendor consistent with the Minister’s Letter to OPG dated March 8, 2011 (see Ex. D2-2-1 Attachment 1). OPG, through the planning and preparation phase of the NND project, will continue to support the Government’s decision process.

1 Section 3.0 below provides a status update of the project. Section 4.0 provides discussion of  
2 planning and preparation activities that have been undertaken since 2011 and which will  
3 continue until a decision is made on new nuclear reactors by the Government of Ontario.

### 4 5 **3.0 STATUS UPDATE**

6 The Province's Long Term Energy Plan ("LTEP") and Supply Mix Directive identified NND as  
7 part of the plan to continue to use nuclear power for approximately 50 per cent of Ontario's  
8 energy supply. The LTEP indicated that the in-service date should be in the 2020 - 2025  
9 timeframe.

10  
11 The 2013 LTEP consultation document includes new nuclear as an option for consideration  
12 and input.

13  
14 In early 2008, the Province began a two-phased competitive procurement process to select a  
15 single preferred vendor for new nuclear reactors at Darlington. On June 29, 2009, after the  
16 submission and review of final bids from potential suppliers, the Province announced that it  
17 was suspending the competitive procurement process noting that the process had not  
18 provided suitable options to allow for the continuation of the procurement at that time but that  
19 it remained committed to the modernization of Ontario's nuclear fleet and the construction of  
20 new nuclear units at Darlington.

21  
22 In support of the Province's LTEP, OPG publicly announced in June 2012 that it had entered  
23 into agreements with Westinghouse Electric Canada, Inc. and SNC-Lavalin Nuclear  
24 Inc./Candu Energy Inc. to prepare detailed construction plans, schedules, and cost estimates  
25 for two potential nuclear reactors at Darlington. Each company was given 12 months to  
26 develop a price, schedule and to provide additional supporting material which OPG received  
27 on June 28, 2013. The vendor information is being analyzed by a team from OPG, the  
28 Ministry of Energy, Ministry of Finance and Infrastructure Ontario. The information provided  
29 by each potential vendor and the accompanying analysis will be used by the Province in  
30 deciding whether to move forward with two new nuclear reactors at Darlington.

**4.0 EXPENDITURE AND ACTIVITY SUMMARY, 2010 - 2015**

OM&A expenditures on NND during the planning and preparation phase are set out in Table 1 below. There have been no capital expenditures on the project.

The closing balance in the NDVA as of December 31, 2012 was \$30.2M. Key elements of 2011 and 2012 planning and preparation work for NND include:

- Regulatory Hearings (\$2.7M): Regulatory hearing costs for OPG regular staff and external legal support for the preparation for and participation in a three-week Joint Review Panel public hearing in March 2011 regarding the NND Environmental Assessment ("EA") and application for "Licence to Prepare Site". The Panel's report released on August 25, 2011 concluded the project will not result in any significant adverse environmental effects, provided the mitigation measures proposed and commitments made by OPG during the review and the Panel's recommendations are implemented. In May 2012 the Federal Government responded to the recommendations of the Joint Review Panel and approved the EA.
- Regulatory Compliance (\$14.1M): On-going work to evaluate the feasibility and costs that would be incurred to satisfy the recommendations as set out in the Joint Review Panel's report and the commitments OPG made within the licensing and EA documentation, plus Canadian Nuclear Safety Commission ("CNSC") fees of \$6.6M. In particular, OPG undertook a formal quantitative cost-benefit analysis for condenser cooling water options, applying the principle of Best Available Technology Economically Achievable ("BATEA"), to determine whether once through cooling water or atmospheric cooling is the best option for residual heat removal. OPG retained an external engineering company to perform the BATEA evaluation. The evaluation was undertaken throughout the spring of 2012, including public review and stakeholder input. A final report was submitted to the CNSC in August 2012. In March 2013 CNSC staff responded that the methodology used by OPG satisfied the Joint Review Panel's recommendations, and confirmed no fundamental barriers to licensing the option of a once through cooling water system, subject to the conditions provided to OPG by the CNSC. Other Regulatory Compliance activities included:

- 1       • Advancing specific initiatives to inform of potential applications for authorizations  
2       under the Fisheries Act, including assessment of off-shore conditions for  
3       potential location of intake or discharge structures and establishing  
4       compensation for the potential loss of aquatic habitat that will occur with the infill  
5       of the shoreline, should the project proceed.
- 6       • Advancing specific initiatives to inform of potential mitigation of the effects new  
7       nuclear would have on migratory and endangered bird species, should the  
8       project proceed.
- 9       • Site Readiness (\$4.4M): Minor activities were undertaken to ensure site turnover to  
10      the vendor could occur without delay, should the Government of Ontario decide to  
11      proceed. The site readiness activities included completion of archeological  
12      investigations that were started as part of the application for the Licence to Prepare  
13      the Site and the EA, the termination of services (e.g., water, power) to buildings on  
14      the new nuclear site, the construction of a fence to demarcate the construction  
15      lands, plus relocation of certain Darlington monitoring equipment and establishing a  
16      means of access to minimize the future impact on the ongoing operations at the  
17      existing Darlington station.
- 18      • Vendor Analysis/Project Planning (\$17.4M): Providing support as required for the  
19      Province's ongoing evaluation of nuclear energy in Ontario. In June 2012, OPG  
20      signed Services Agreements with each of Westinghouse Electric Canada, Inc. and  
21      SNC-Lavalin Nuclear Inc./Candu Energy Inc. to prepare detailed construction plans  
22      schedules and cost estimates for two potential nuclear reactors at Darlington and  
23      additional supporting information. The expenditures include engaging external legal  
24      and contract specialist support along with payments to Westinghouse Electric  
25      Canada, Inc. and SNC-Lavalin Nuclear Inc./Candu Energy Inc. These expenditures  
26      are appropriate to help inform the government's decision on whether to move  
27      forward with new nuclear at the Darlington site.
- 28      • Stakeholder Consultation (\$3.8M): Maintaining community and stakeholder  
29      involvement, which includes the stakeholder consultation program required as part of  
30      the BATEA evaluation and includes \$3.0M payments in total for the Clarington Host  
31      Agreement

Table 1 below provides a further breakdown of expenditures for each key category by resource type.

**Table 1**  
**NND Expenditures by Resource Type: 2011 - 2012**

| 2011 + 2012 combined - \$M       | Labour      | Overtime   | Augmented Staff | Materials  | Other Contracted services | Licensing fees | Other      | Total       |
|----------------------------------|-------------|------------|-----------------|------------|---------------------------|----------------|------------|-------------|
| Regulatory Hearings              | 1.6         | 0.1        | -               | 0.0        | 1.0                       | -              | -          | 2.7         |
| Regulatory Compliance            | 3.1         | 0.0        | -               | -          | 4.5                       | 6.4            | 0.2        | 14.1        |
| Site Readiness                   | 1.9         | -          | -               | 0.0        | 2.4                       | -              | 0.2        | 4.4         |
| Vendor Analysis/Project Planning | 3.5         | -          | 0.4             | -          | 13.1                      | -              | 0.4        | 17.4        |
| Stakeholder Consultation         | 0.8         | -          | -               | 0.0        | 3.0                       | -              | 0.0        | 3.8         |
| <b>Total</b>                     | <b>10.9</b> | <b>0.1</b> | <b>0.4</b>      | <b>0.0</b> | <b>24.0</b>               | <b>6.4</b>     | <b>0.8</b> | <b>42.5</b> |

During 2013, NND work activities are focused on executing a strategy that supports ensuring site readiness to construct following a decision on New Nuclear by the Province. All decisions on whether to move forward with the two potential nuclear reactors will be made by the Government of Ontario. The primary activities include:

- Regulatory Compliance (\$ 6.0M): On-going compliance and monitoring of the Environmental Assessment and Licence to Prepare Site commitments including completion of the BATEA evaluation, continuing studies and projects undertaken to support future Fisheries Act authorization of the new nuclear project and other mitigations, participation in the judicial review of the Power Reactor Site Preparation Licence and the Environmental Assessment which is set for November 2013, and CNSC fees.
- Vendor Analysis/Project Planning (\$27.3M): Supporting the Government procurement process by analysis of the Service Agreement deliverables as provided by Westinghouse Electric Canada, Inc. and SNC-Lavalin Nuclear Inc./Candu Energy Inc., including the performance of additional geotechnical evaluation of the site as requested by the potential vendors that informed their planning and costing efforts.
- Stakeholder Consultation (\$0.3M): Maintaining community and stakeholder involvement.