



**Written submission from
Ontario Power Generation**

**Mémoire de
Ontario Power Generation**

In the Matter of

À l'égard de

**Financial guarantee proposed by Ontario
Power Generation (OPG) for its Darlington
New Nuclear Project**

**Garantie financière proposée par Ontario
Power Generation (OPG) pour son projet de
nouvelle centrale nucléaire de Darlington**

Public Hearing - Hearing in writing based on
written submissions

Audience Publique - Audience fondée sur des
mémoires

May 2022

Mai 2022

OPG Proprietary

November 12, 2021

CD# NK054-CORR-00531-10621

MR. MARC LEBLANC
Commission Secretary
Canadian Nuclear Safety Commission
280 Slater Street
Ottawa, ON
K1P 5S9

Dear Mr. Leblanc:

DNNP: Request for Acceptance of OPG's Financial Guarantee for Darlington New Nuclear Project Site Preparation Licensing Conditions

References: 1. OPG Letter, M. Knutson to S. Eaton, "DNNP: Request for CNSC Acceptance of the Site Preparation Preliminary Decommissioning Plan and request for closure of Commitment D-P-13.1", November 12, 2021, CD# NK054-CORR-00531-10622.

The purpose of this letter is to request Commission acceptance of OPG's proposed Financial Guarantee (FG) for Darlington New Nuclear Project (DNNP) in accordance with Licence Condition G.5 of the DNNP Power Reactor Site Preparation Licence (PRSL) PRSL 18.00/2031. The proposed 2022-2024 Financial Guarantee is provided in enclosure 1. Supporting documentation was provided for staff review in Reference 1.

The DNNP site preparation CNSC FG requirement is estimated to be zero dollars for 2022 & 2023 FG years and \$451K for 2024 FG year. The 2024 FG requirement will be satisfied by a Letter of Credit (LOC) prepared by OPG by year end 2023. If any work is advanced on the schedule that would require remediation per the Preliminary Decommissioning Plan (PDP), OPG will reassess the FG requirement and advance the timing of the LOC accordingly. For the period post 2024, OPG will provide CNSC staff an updated FG assessment in 2024 or before the CNSC Hearing for Licence to Construct (LTC), whichever is earlier.

The information provided with this request for Financial Guarantee acceptance demonstrates that OPG is qualified to carry out the activities authorized by the licences and make adequate provision for the protection of the environment and the health, safety and security of persons.

M. Leblanc

CD# NK054-CORR-00531-10621

If you require further information, please contact Dr. Jack Veccharelli, Vice President, Nuclear Regulatory Affairs, at (905) 839-6746, extension 5444, or at jack.vecchiarelli@opg.com.

Sincerely,



John Mauti
Chief Financial Officer and
Senior Vice President – Finance

cc: C. Ducros - CNSC (Ottawa)
S. Eaton - CNSC (Ottawa)
M. Naraine - CNSC (Ottawa)

Enclosure:

1. OPG Document, "Documentary Information Summary DNNP Site Preparation CNSC Financial Guarantee", November 12, 2021, CD# NK054-REP-00531-10003-R000

Enclosure 1 to OPG Letter, J. Mauti to M. Leblanc, "Request for Acceptance of OPG's Financial Guarantee," CD# NK054-CORR-00531-10621

Enclosure 1

**Documentary Information Summary
DNNP Site Preparation CNSC Financial Guarantee**

NK054-REP-00531-10003-R000

(8 pages including this coversheet)

DOCUMENTARY INFORMATION SUMMARY
DNNP SITE PREPARATION CNSC FINANCIAL GUARANTEE

A Submission to the Canadian Nuclear Safety Commission

In Support of

**Licence Condition for the Purpose of Decommissioning Plan and
Financial Guarantee for
Site Preparation of Darlington New Nuclear Project Proposed by OPG**

Nov. 2021

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1.0 EXECUTIVE SUMMARY

Ontario Power Generation Inc. (“OPG”), owner of nuclear facilities in Ontario, is required to have in place a financial guarantee acceptable to the Canadian Nuclear Safety Commission (“CNSC”) in support of the Darlington New Nuclear Project (DNNP) site preparation licensing conditions.

The associated CNSC Financial Guarantee (FG) requirement is based on the present value of cost estimates as of year-end in any given year and considered separately from the OPG Total Consolidated CNSC FG requirement..

The DNNP site preparation CNSC FG requirement is estimated to be zero dollars for 2022 & 2023 FG years and \$451K for 2024 FG year. The 2024 FG requirement will be satisfied by a Letter of Credit (LOC) prepared by OPG by year end 2023. If any work is advanced on the schedule that would require remediation per the Preliminary Decommissioning Plan (PDP), OPG will reassess the FG requirement and advance the timing of the LOC accordingly.

Further details are provided in the body of this document. For the period post-2024, OPG will provide CNSC staff with an updated FG assessment in 2024 or before the CNSC Hearing for Licence to Construct (LTC), whichever is earlier.

2.0 INTRODUCTION

Ontario Power Generation Inc. (“OPG”), is preparing the Darlington Nuclear Site for the future construction and operation of a new nuclear generating station. As a part of the Power Reactor Site Preparation Licence by the Canadian Nuclear Safety Commission (“CNSC”), OPG is required to meet the CNSC Financial Guarantee (FG) requirement associated with the site preparation activities.

OPG’s existing consolidated CNSC FG covers its nuclear facilities’ Power Reactor Operating Licence conditions in Ontario. This FG is updated on a five-year cycle and the current cycle will expire on December 31, 2022. In year 2022, OPG will be preparing the new 2023 – 2027 CNSC Consolidated Financial Guarantee associated with nuclear waste management and decommissioning liabilities, which will support licence conditions for the operating nuclear generating stations, nuclear waste management facilities and other nuclear facilities owned by OPG, exclusive of the Darlington New Nuclear Project (DNNP).

This Documentary Information Summary (DIS) is for the DNNP site preparation work and is independent from the established consolidated CNSC FG requirement. This document includes an assessment of OPG’s proposed site preparation financial guarantee requirements during site preparation phase from 2022 to 2024. For the period post-2024, OPG will conduct an updated FG assessment in 2024 or before the CNSC Hearing for DNNP Licence to Construct (LTC), whichever is earlier.

3.0 NUCLEAR WASTE MANAGEMENT AND DECOMMISSIONING PLANS

Nuclear waste management and decommissioning plans for Consolidated FG include interim storage and disposal plans for low and intermediate level waste (“L&ILW”) and used fuel arising from the operation of OPG owned facilities, as well as the decommissioning of the nuclear generating stations and nuclear waste management and other nuclear facilities.

However, as a separate FG requirement assessment for DNNP site preparation licensing, the following licensed activities may be conducted by OPG per the PRSL 18.00/2031:

- a) construction of site access control measures;
- b) clearing and grubbing of vegetation;
- c) grading and leveling of the site to a finished elevation of approximately +78 masl (metres above sea level);
- d) installation of services and utilities (e.g., domestic water, fire water, sewage, electrical, communications, natural gas) to service the future nuclear facility;
- e) construction of administrative and support buildings inside the future protected area;
- f) construction of environmental monitoring and mitigation systems; and,
- g) construction of flood protection and erosion control measures.

Based on the above, there are no waste management reference plans required for the DNNP FG requirement under the site preparation licensed activities. For a reference

plan related to decommissioning of the licensed activities, OPG’s preliminary decommissioning plan (PDP) indicates that there is limited decommissioning work required as the site will be safe-stated and restored to an industrial site with the buildings and infrastructure maintained for supporting the Darlington Nuclear Generating Station site or other OPG uses. The decommissioning work will simply involve re-spreading topsoil from the onsite stockpile and re-seeding the area cleared for the reactor powerhouse. There will be no radioactive or hazardous waste generated during safe-stating and site restoration.

4.0 DECOMMISSIONING COST ESTIMATE

The decommissioning cost for work required to achieve the proposed end state described in the PDP, is estimated to be approximately \$450K (2022 constant dollars) for 2024 FG year. There will be no decommissioning costs for 2022 and 2023 FG years.

The above cost estimate is prepared in 2022 constant dollars, which assume that expenditures occur as if in year 2022. The estimated cost is then escalated to the scheduled expenditure period using economic forecasts prepared by external experts. Consistent with OPG’s Consolidated FG Documentary Information Summary (DIS), escalation rates from the University of Toronto’s Institute of Policy Analysis Economic Forecasting Series for Ontario (dated February 2021) are applied in this submission. A 5.15% discount rate, consistent with the discount rate employed under the Consolidated FG, is then applied to determine the present value of future costs.

The cost estimate for each FG year in 2022 constant dollars and in present value (“PV”) dollars is summarized in Table 1 below. The PV\$ column numbers represent the FG requirements of each FG year.

Table 1: Proposed Financial Guarantee Cost Estimate

DNNP Site Preparation Decommissioning Estimate	Cost Estimate	
	2022 Constant M\$	FG Requirement (PV\$ as of the beginning of the FG Year)
2022 FG Year	0	0
2023 FG Year	0	0
2024 FG Year	450	451*

* Number quoted in present value term as of Jan. 1st, 2024

5.0 CNSC FINANCIAL GUARANTEE

For the DNNP site preparation license, OPG is proposing to fund the associated Financial Guarantee requirements separately from the established Consolidated CNSC FG due to the following considerations:

1. The existing established Consolidated FG is in place to support licence conditions on the operating licences of OPG nuclear facilities, while DNNP FG in this DIS is to support site preparation phase licence conditions before construction and operations start.
2. Funding sources for established Consolidated FG are segregated funds set up under the Ontario Nuclear Funds Agreement (ONFA) between the Province of Ontario and

OPG apply to existing operating stations and facilities specified in the Agreement, which do not currently include this new build site.

As listed in Table 1 of Section 3.0, OPG is projecting to have zero dollars FG requirement for FG year 2022 & 2023 and \$451K for 2024. The 2024 FG requirement will be satisfied by a Letter of Credit (LOC) prepared by OPG before 2023 year-end. If any work is advanced on the schedule that would require remediation per PDP, OPG will inform the CNSC and reassess the FG requirement and advance the timing of the LOC accordingly.

6.0 REPORTING AND FUTURE ASSESSMENT

OPG will conduct a timely assessment on nuclear waste management and decommissioning obligations at the appropriate licensing phases of the DNNP project. This will involve comprehensive assessment of FG requirements as well as associated funding requirements to satisfy the FG requirement as applicable. Currently, OPG expects to conduct such assessment in 2024 or before the CNSC Hearing for the DNNP LTC application, whichever is earlier.

7.0 SUMMARY

OPG requests zero dollars FG requirement for year 2022 and 2023, and \$451K FG requirement for year 2024 to be approved in support of meeting the CNSC financial guarantee licence conditions for the Darlington new nuclear project site preparation. This will cover the period from 2022 to Dec 31, 2024 or the date that a Licence to Construct takes effect, whichever is earlier.

8.0 SUPPORTING DOCUMENTATION

Documentation supporting the preliminary decommissioning plan is listed in Appendix A.

Appendix A: Support Documents Relating to Decommissioning Plan

- 1. Nuclear Power Reactor Site Preparation Licence – OPG New Nuclear at Darlington Generating Station, PRSL 18.00/2031; effective date: October 12, 2021**
 - Darlington New Nuclear Project Site Preparation Preliminary Decommissioning Plan – NK054-PLAN-00960-00005-R000, Nov. 2021