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**SUPPLEMENTAL/SUPPLÉMENTAIRE**

**CMD: 22-H106-A**

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Response to Commission  
Request for Information

Réponse à une demande  
d'information de la Commission

**Nordion (Canada) Inc.  
Financial Guarantee**

**Garantie financière pour  
Nordion (Canada)**

Closed Hearing in Writing

Audience part écrit à huis clos

Submitted by:  
CNSC Staff

Soumise par :  
Le personnel de la CCSN

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**Signed/signé le**

16 January 2023

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## Background

In this CMD, CNSC staff will provide responses in writing to questions from the Commission ([22-H106-Q, Question\(s\) from Commission Panel Member\(s\)](#)) with respect to the hearing in writing ([22-H106, Nordion \(Canada\) Inc. Financial Guarantee](#)) concerning a request from Nordion (Canada) Inc. to make a decision regarding:

- revision to the current financial guarantee for Nordion (Canada) Inc.

Documents provided to the Commission:

- [22-H106, Nordion \(Canada\) Inc. Financial Guarantee](#)
- [CNSC Regulatory Guide, Decommissioning Planning for Licensed Activities, G-219, June 2000](#)
- [CNSC Regulatory Guide, Financial Guarantees for the Decommissioning of Licensed Activities, G-206, June 2000](#)
- [CMD 21-H5, BWXT Medical Ltd. \(formerly BWXT ITG Canada, Inc.\) Class IB Licence Application](#)

**Referenced documents in this CMD are available to the public upon request, subject to confidentiality considerations.**

## Staff Response

The Commission's questions, including any quoted text from the original CMD, have been reproduced below in the shaded boxes to provide suitable context for CNSC staff's responses.

<b>#1</b>	How was the amount of \$10,121,702 calculated as being the amount of the total decommissioning work attributable to the BWXT Medical facilities?
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### CNSC Staff's Response to Question #1

The cost estimate for the decommissioning of Nordion (Canada) Inc. (Nordion) in the revised Preliminary Decommissioning Plan (PDP) [1] is \$35,003,046.00 CAD, which is a reduction of \$10,121,702 CAD from the current financial guarantee amount of \$45,124,748 CAD. A \$10,121,702 CAD reduction is the Nordion estimated value of the costs associated with the decommissioning of the Nuclear Medicine Production Facility (NMPF) for which BWXT Medical (BWXT) is now responsible. This amount matches well with the costs independently estimated by BWXT as documented in their CMD [CMD 21-H5, BWXT Medical Ltd. \(formerly BWXT ITG Canada, Inc.\) Class IB Licence Application](#) (\$10.54 million CAD).

In planning for the decommissioning of the facility, prior to BWXT's acquisition of the NMPF facility, Nordion calculated the overall cost by separating major activities into separate work packages. These included:

- Cobalt Operations Facility (COF)
- Kanata Radiopharmaceutical Manufacturing Facility (newer section under NMPF)
- Nuclear Medicine Production Facility (NMPF)
- SLOWPOKE reactor pool and liner

The cost estimation is based on the requirements of [CNSC Regulatory Guide, Financial Guarantees for the Decommissioning of Licensed Activities, G-206](#). G-206 outlines the basis for the cost estimation to ensure that it addresses all decommissioning activities required during operations and after shutdown. The basis for the cost estimation should include accurate rates for labor, materials and construction and be accurate to allow for independent verification.

Therefore, following BWXT's acquisition of the NMPF, it was possible for Nordion to accurately determine how the estimated cost of decommissioning would change.

#2	Is CNSC staff satisfied with the method of calculation that led to Nordion's position that \$10,121,702 is attributable to the BWXT Medical decommissioning scope of work and what due diligence has CNSC staff done to verify the calculation?
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## CNSC Staff's Response to Question #2

### Nordion Financial Guarantee

CNSC staff are satisfied with the method of calculation that resulted in a reduction of \$10,121,702 CAD from the current financial guarantee amount of \$45,124,748 CAD [1]. Nordion's estimate of \$10,121,702 CAD compares well with the costs independently estimated by BWXT, \$10.54 million CAD, as documented in their CMD [21-H5, BWXT Medical Ltd. \(formerly BWXT ITG Canada, Inc.\) Class IB Licence Application](#).

The Nordion PDP provided a summary of their cost estimate calculations for decommissioning, which was based on the activities required to safely decommission the facility and ensure that adequate resources will be available. Details of the cost estimate, assumptions and supporting information were provided in appendices. Nordion also explained the factors when preparing the financial guarantee cost estimates.

Proposed decommissioning operations encompass (cost estimate of \$35,003,046.00 CAD) [1]: Active areas where radioactive materials are processed or handled in the Cobalt Operations Facility (COF) including COF active ventilation, the decommissioning of the remaining components of the partially decommissioned SLOWPOKE Reactor and the pool liner, and the management and disposal of all wastes.

CNSC specialists assessed the PDP and the decommissioning cost estimates against the criteria set out in the Nordion's Licence Conditions Handbook [2] under the Licence Condition 12.2 [3]:

- [CSA N294-09, Decommissioning of facilities containing nuclear substances](#), July 2009
- [CNSC Regulatory Guide, Decommissioning Planning for Licensed Activities, G-219 June 2000](#),
- [CNSC Regulatory Guide, Financial Guarantees for the Decommissioning of Licensed Activities, G-206, June 2000](#)

The PDP was evaluated against the elements listed in CSA Group standard [CSA N294-09, Decommissioning of facilities containing nuclear substances](#), July 2009, in CNSC staff's technical assessment [4]. Each section of the PDP was given an assessment of: Acceptable, Recommendation, Clarification or Revision; as per CNSC staff's review procedure [5]. CNSC staff's technical assessment also included the assessment of decommissioning costs and financial assurance. The PDP was also compared to the previous assessment to verify if the licensee addressed prior CNSC staff review comments.

CNSC staff reviewed the cost estimation to ensure that it is reasonable and accurate and captures the anticipated costs for decommissioning of the Nordion facility. This included: labour costs, investment costs, expenses (including costs related to waste management and disposal), regulatory fees, and contingencies.

CNSC staffs review required two points of clarification from Nordion, which have been adequately addressed: 1) the role of existing hazardous materials, industrial safety and environmental protection during decommissioning, and 2) how Nordion justifies the accuracy and detail of the cost estimation. [6, 7].

### BWXT Financial Guarantee

In 2021, as part of the licence application, BWXT proposed a financial guarantee of \$10.54 million CAD: \$2.6 million CAD for putting NMPF in a safe shutdown state and \$7.94 million CAD for the remainder of the decommissioning costs. CNSC staff assessed BWXT's cost estimate of \$10.54 million CAD and deemed that both meet the regulatory requirements, and the cost estimate is credible and sufficient to fund the future decommissioning of the NMPF ([CMD 21-H5, BWXT Medical Ltd. \(formerly BWXT ITG Canada, Inc.\) Class IB Licence Application](#)). The Commission agreed that \$10.54 million CAD financial guarantee was satisfactory as detailed in the Commission, [Record of Decision, CMD 21-H5, Application for the Issuance of a Class IB Nuclear Substance Processing Facility Operating Licence](#) (October 8, 2021).

<b>#3</b>	Will CNSC staff's next steps include ensuring that the financial guarantee obligation of BWXT Medical is reviewed and adjusted accordingly?
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### **CNSC Staff's Response to Question #3**

BWXT Medical Licence NSPFL-15.00/2031 [8] Condition G.3 requires the licensee to maintain a financial guarantee for decommissioning that is acceptable to the Commission. The BWXT Medical Licence Conditions Handbook [9] states that the financial guarantee shall remain valid and in effect and adequate to fund the activities described in the preliminary decommissioning plan or decommissioning strategy. If the preliminary decommissioning plan is revised and significantly impacts the cost estimate for the financial guarantee, the expectation is that the financial guarantee is revised and submitted to the Commission for acceptance.

BWXT is set to implement [CNSC REGDOC-2.11.2, Decommissioning](#) and [REGDOC-3.3.1, Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities](#). REGDOC-2.11.2 requires that the PDP be updated and submitted to the CNSC every 5 years or as requested by the CNSC. Furthermore, CNSC staff track the submission of PDPs using the Regulatory Information Bank (RIB).

The financial guarantee for BWXT Medical has not changed since the Commission found it acceptable in the Record of Decision Dec 21-H5, nor has it changed in light of the Nordion PDP update.

The next review of the financial guarantee for BWXT Medical is expected no later than the year 2026.



## Conclusion

CNSC staff's conclusions remains unchanged, and staff conclude, in accordance with 22-H106, *Nordion (Canada) Inc. Financial Guarantee* that:

- The revised preliminary decommissioning plan provides a credible cost estimate for the future decommissioning of the Nordion COF and is consistent with CNSC Regulatory Guide G-219, *Decommissioning Planning for Licensed Activities* and CSA standard N294-09, *Decommissioning of Facilities Containing Nuclear Substances*.
- The proposed financial guarantee is adequate for the future decommissioning of the Nordion COF and is consistent with CNSC Regulatory Guide G-206, *Financial Guarantees for the Decommissioning of Licensed Activities*.

## References

1. Preliminary Decommissioning Plan for Class 1B Facility (Kanata Operations Building), SE-LIC-009, Rev. 6.0, January 13, 2022, (e-Doc 6767574).
2. Licence Conditions Handbook, Nordion Nuclear Substance Processing Facility, LCH-NSPF-11A.01/2025, March 8, 2019, (e-Doc 5784160).
3. Nordion (Canada) Inc. Class IB Nuclear Substance Processing Facility Operating Licence, NSPFOL-11A.01/2025, February 26, 2019 (e-Doc 5784149).
4. Preliminary Decommissioning Report: WDD Nordion KOB PDP Review, December 7, 2021. (e-Doc 6650359).
5. Template for Preliminary Decommissioning Report (e-Doc 4797176).
6. Nordion Decommissioning Plan - Response to CNSC Comments and Update to Remove BWXT Activities, January 18, 2022 (e-Doc 6803085).
7. WDD Review of Nordion Inc. Preliminary Decommissioning Plan and Financial Guarantee, December 7, 2021 (e-Doc 6693954).
8. BWXT Medical Ltd, Class IB Nuclear Substance Processing Facility Licence, NSPFL-15.00/2031 (e-Doc 6438142).
9. Licence Conditions Handbook for BWXT Medical Ltd. Nuclear Substance Processing Facility, LCH-NSPFL-15.00/2031, November 23, 2021 (e-Doc 6505047).

## Glossary

For definitions of terms used in this document, see [REGDOC-3.6, \*Glossary of CNSC Terminology\*](#), which includes terms and definitions used in the *Nuclear Safety and Control Act* and the regulations made under it, and in CNSC regulatory documents and other publications.

Additional terms and acronyms used in this CMD are listed below.

Glossary Term	Glossary Definition
CAD	Canadian Dollar
CMD	Commission Member Document
CNSC	Canadian Nuclear Safety Commission
COF	Cobalt Operations Facility
NMPF	Nuclear Medicine Production Facility
KRMF	Kanata Radiopharmaceutical Manufacturing Facility
KOB	Kanata Operations Building
PDP	Preliminary Decommissioning Plan
SLOWPOKE	Safe LOW Power (K)Critical Experiment