



Summary Record of Decision

DEC 25-H107

In the Matter of

Applicant Ontario Power Generation Inc.

Subject Application to Amend the Licensing Basis for
the Darlington Nuclear Generating Station to
Install and Operate a Target Delivery System
on Additional Units

Summary
Record of
Decision
Date

December 19, 2025

SUMMARY RECORD OF DECISION – DEC 25-H107

Applicant: Ontario Power Generation Inc.

Address/Location: 700 University Avenue, Toronto, Ontario, M5G 1X6

Purpose: Application to amend the licensing basis for the Darlington Nuclear Generating Station to install and operate a Target Delivery System on additional units

Application received: August 8, 2025

Hearing: *Notice of Hearing in Writing* published on September 29, 2025

Summary Record of December 19, 2025

Decision Date:

Panel of Commission: P. Tremblay

Licensing Basis: Amended

Table of Contents

1.0	INTRODUCTION	1
2.0	DECISION.....	4
	Appendix A – Intervenors.....	A

1.0 INTRODUCTION

1. On [August 8, 2025](#), Ontario Power Generation Inc. (OPG) submitted an application to the Canadian Nuclear Safety Commission¹ (CNSC) to amend the licensing basis² for the power reactor operating licence (PROL) for its [Darlington Nuclear Generating Station](#) (Darlington NGS) located in the Municipality of Clarington, Ontario. The Darlington NGS is located on the traditional lands and waters of the Michi Saagiig Anishinaabeg, the Gunshot Treaty (1787-88), the Williams Treaties (1923), and the Williams Treaties Settlement Agreement (2018). The current licensing basis authorizes OPG to produce Molybdenum-99 (Mo-99), Lutetium-177 (Lu-177) and Yttrium-90 (Y-90) using the isotope Target Delivery System³ (TDS) installed on Darlington NGS Unit 2. OPG has applied for an amendment to its licensing basis to authorize the installation and operation of a TDS on additional reactor units⁴ for the production of any radionuclides authorized by its licence.
2. The Darlington NGS includes 4 CANDU⁵ reactors and their associated equipment.⁶ The current licence, PROL 13.00/2045, was issued in September 2025, and is valid until November 30, 2045. The Commission previously authorized the production of radionuclides using the TDS on Unit 2 in 2 decisions:
 - In [October 2021](#),⁷ the Commission amended the Darlington NGS PROL to authorize the construction of a TDS to produce Mo-99 on Darlington NGS Unit 2 (DEC 21-H107).
 - In [May 2025](#),⁸ the Commission amended the Darlington NGS PROL to authorize the production of two additional radionuclides, Y-90 and Lu-177, and established a regulatory hold point (RHP) prior to permitting full scale production of those radionuclides (DEC 25-H100). This authorization was

¹ The *Canadian Nuclear Safety Commission* is referred to as the “CNSC” when referring to the organization and its staff in general, and as the “Commission” when referring to the tribunal component.

² The licensing basis is a set of requirements and documents for a regulated facility or activity comprising:

- the regulatory requirements set out in the applicable laws and regulations
- the conditions and safety and control measures described in the facility’s or activity’s licence and the documents directly referenced in that licence
- the safety and control measures described in the licence application and the documents needed to support that licence application

³ The TDS was referred to as the Mo-99 Isotope Irradiation System (Mo-99 IIS) in CNSC Record of Decision DEC 21-H107. Following a subsequent licence amendment decision (DEC 25-H100), the system will no longer be used exclusively to produce Mo-99.

⁴ “Additional units” correspond to only Unit 3 in CMD 25-H107, whereas in OPG’s Letter and Application, this term corresponds to Units 1, 3, and 4.

⁵ All operating nuclear power reactors in Canada are CANDU (Canadian Deuterium-Uranium) reactors. CANDU reactors are pressurized heavy water reactors that use natural uranium as fuel and heavy water as a coolant and moderator.

⁶ Each of the reactors corresponds to a unit and are known as: Unit 1, Unit 2, Unit 3 and Unit 4.

⁷ CNSC Record of Decision, *Application to Amend Power Reactor Operating Licence PROL 13.02/2025 to Authorize the Production of Molybdenum-99 at the Darlington Nuclear Generating Station*, DEC 21-H107, October 26, 2021.

⁸ CNSC Record of Decision, *Application to Amend Darlington Nuclear Generating Station Power Reactor Operating Licence 13.05/2025 for the Production of Additional Isotopes using the Target Delivery System*, DEC 25-100, May 23, 2025.

contingent on OPG validating and demonstrating that operation of the TDS associated with the production and handling of Mo-99 remains the bounding case for the other radionuclides (Y-90 and Lu-177) on Unit 2.

3. In DEC 21-H107, the Commission required that OPG obtain authorization from the Commission prior to installing a TDS on additional reactor units, and demonstrate that the production of Mo-99 in any other unit is a low-risk activity that can be executed safely.⁹ OPG is now seeking authorization to install and operate an isotope TDS on the remaining units at the Darlington NGS for the production of any radionuclides already authorized by the Commission on Unit 2. OPG's application included documentation to support a specific TDS installation and operation on Unit 3, which is planned for a 2026 outage window. OPG proposed that this application can serve as a basis for authorization to install and operate a TDS on the remaining Units 1 and 4 at the Darlington NGS.
4. This *Summary Record of Decision* reflects the Commission's decision with respect to the licensing basis amendment application. The detailed reasons for the Commission's decision will be provided in a detailed *Record of Decision*, to be published at a later date.

Issues

5. The licence, PROL 13.00/2045, authorizes OPG to operate the Darlington NGS, including equipment for the production of Y-90, Mo-99 and Lu-177, including the associated decay radionuclides.¹⁰ Licence condition 15.6 of the licence requires OPG to implement and maintain an operations program for the use of the TDS to produce the radionuclides described in section IV (vi) (2).
6. Licence condition G.1, *Licensed Activities*, of PROL 13.00/2045 requires that:

The licensee shall conduct the activities described in Part IV of this licence in accordance with the licensing basis, defined as:

- (i) *the regulatory requirements set out in the applicable laws and regulations*
- (ii) *the conditions and safety and control measures described in the facility's or activity's licence and the documents directly referenced in that licence*
- (iii) *the safety and control measures described in the licence application and the documents needed to support that licence application;*

unless otherwise approved in writing by the Canadian Nuclear Safety Commission (CNSC, hereinafter "the Commission").

⁹ DEC 25-H107, Paragraphs 12, 79, and 86.

¹⁰ PROL 13.00/2045, section IV (vi) (2)

7. OPG's application does not call for a licensing decision that is specifically contemplated under section 24 of the *Nuclear Safety and Control Act*¹¹ (NSCA), as a change to the licensing basis does not necessarily amend the terms of a licence and would not in this case. What is requested would not change the licensed activities authorized in the current licence. The Commission has considered:

- whether any requirements under the *Impact Assessment Act*¹² (IAA) apply to this application
- whether OPG is qualified to carry on the activity that the licence, including the proposed changes to the licensing basis, would authorize
- whether, in carrying on that activity in the changed manner contemplated, OPG will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed

8. As an agent of the Crown, the Commission recognizes its role in fulfilling the Crown's constitutional obligations, along with advancing reconciliation with Canada's Indigenous peoples. The Commission's responsibilities include the duty to consult and, where appropriate, accommodate Indigenous interests where the Crown contemplates conduct which may adversely impact potential or established Aboriginal¹³ or treaty rights.¹⁴ As such, the Commission must determine what engagement and consultation steps and accommodation measures are called for, respecting Indigenous interests.

Public Hearing in Writing

9. On September 29, 2025, the Commission published *Notice of Hearing in Writing*¹⁵ for this matter, which invited requests to intervene by November 27, 2025.
10. The President of the Commission established himself as a Panel of the Commission to consider the application.¹⁶ The Commission, in conducting a public hearing based on written materials, considered written submissions from OPG ([Letter](#), [Application](#)) and CNSC staff ([CMD 25-H107](#)). The Commission also considered a written submission from 1 intervenor (see Appendix A).
11. In making its decision, the Commission sent questions to OPG through [CMD 25-H107-Q](#). OPG staff provided responses to the Commission's questions in [CMD 25-H107.1](#). The Commission is satisfied with the responses provided by OPG.

¹¹ S.C. 1997, c. 9.

¹² S.C. 2019, c. 28, s. 1.

¹³ "Aboriginal" is the term used in this document when referring to the Crown's duty to consult as that is the term used in s. 35 of the Constitution Act, 1982. In all other cases, "Indigenous" is the preferred terminology and used accordingly.

¹⁴ *Haida Nation v. British Columbia (Minister of Forests)*, 2004 SCC 73; *Taku River Tlingit First Nation v. British Columbia (Project Assessment Director)*, 2004 SCC 74.

¹⁵ *Notice of Hearing in Writing*, CNSC, September 29, 2025.

¹⁶ Pursuant to section 22 of the NSCA.

2.0 DECISION

12. The Commission is satisfied that OPG has demonstrated that the installation of a TDS in Unit 3 at the Darlington NGS is a low-risk activity that can be executed by OPG. Therefore, the Commission amends the licensing basis for OPG's Darlington NGS located in the Municipality of Clarington, Ontario. OPG is authorized to install and operate a TDS on Unit 3 at the Darlington NGS for the production of any radionuclides authorized in PROL 13.00/2045 (i.e. Y-90, Mo-99, and Lu-177), subject to verification by CNSC staff.¹⁷ The terms and conditions of the current licence for the Darlington NGS, PROL 13.00/2045, remain unchanged.
13. The decision by the Commission was made based on its consideration of this matter and the following conclusions:
 - the Commission is satisfied that an impact assessment under the IAA is not required
 - the contemplated licensing basis amendment does not present any adverse impact to the exercise of established or potential Indigenous and/or treaty rights as continued operations will not change the Darlington NGS site characterization
 - the Commission's responsibility to uphold the honour of the Crown and its constitutional obligations with regard to engagement and consultation respecting Indigenous interests have been satisfied
 - OPG is qualified to carry on the activities that the amended licensing basis will authorize
 - OPG, in carrying on these activities, will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed
14. The Commission further authorizes the installation and operation of a TDS on Units 1 and 4, subject to the same RHP previously established by the Commission in Decision 25-H100 for Unit 2. The authority delegated to CNSC staff for the release of that RHP remains unchanged and continues to apply. To be clear, with this decision, the RHP established under DEC 25-H100 shall be applied to the TDS on all other reactor units. In administering the RHP, CNSC staff will confirm that the installation and operation of a TDS on units at the Darlington NGS remains a low-risk activity, within the licensing basis and safety case previously accepted by the Commission.

¹⁷ CNSC staff verification is conducted as required by the RHP established in DEC 25-H100 for Unit 2.

15. The Commission delegates authority to the following CNSC staff to accept future TDS installations and operations on Units 1 and 4 at the Darlington NGS:
 - Executive Vice President/Chief Operations Officer (EVP/COO)
 - Director General of the Directorate of Power Reactor Regulation (DG-DPRR)
16. In carrying out its delegated authority, the Commission expects CNSC staff to verify that OPG's installation, commissioning and operation of a TDS on any unit at the Darlington NGS remains within the safety case previously established for Unit 2, and within the licensing basis, as established in DEC 21-H107 and DEC 25-H100 and this *Record of Decision*. In conducting this verification, CNSC staff shall confirm that OPG has followed its Engineering Change Control process, that the resulting design is consistent with all applicable regulatory requirements, and that an adequate safety case has been prepared demonstrating that TDS operations remain a low-risk activity. Should CNSC staff determine that any TDS installation or operation falls outside the authorized safety case or licensing basis, OPG will be required to return to the Commission for authorization.
17. The Commission emphasizes that any proposal by OPG to produce radioisotopes other than those currently authorized (i.e. Y-90, Mo-99, and Lu-177) would require a licence amendment. Any such application would be subject to a public hearing of the Commission.
18. With this decision, the Commission directs CNSC staff to update the licence conditions handbook for the Darlington NGS as described in CMD 25-H107,¹⁸ and in a manner consistent with the Commission's delegation of authority described above.
19. Details of the Commission's rationale, and its consideration of information submitted in relation to this matter, will be presented in a detailed *Record of Decision*, to be published at a later date.

December 19, 2025

Pierre F. Tremblay
President

Date

¹⁸ CMD 25-H107, Section 1.4 and Appendix A.

Appendix A – Intervenors

Society of United Professionals	<u>CMD 25-H107.2</u>