



# Summary Record of Decision

DEC 21-H11

In the Matter of

Licensees  
Subject to  
Order

Bruce Power Inc.  
Ontario Power Generation Inc.

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Subject

Review by the Commission of the Designated Officer Orders Issued to Bruce Power and Ontario Power Generation Inc. on July 26-27, 2021; and Requests to Restart Reactors subject to the Orders

Public Hearing  
Date

September 10, 2021

Summary  
Record of  
Decision Date

September 22, 2021

## SUMMARY RECORD OF DECISION – DEC 21-H11

Licensee Subject to Order: Bruce Power Inc.  
Address/Location: P.O. Box 1540, Building B10, 177 Tie Road, Municipality of Kincardine, Tiverton, Ontario, N0G 2T0

Licensee Subject to Order: Ontario Power Generation Inc.  
Address/Location: 700 University Avenue, Toronto ON, M5G 1X6

Purpose: Review by the Commission of the Designated Officer Orders Issued to Bruce Power and Ontario Power Generation Inc. on July 26-27, 2021; and Requests to Restart Reactors subject to the Orders

Orders Issued: July 26-27, 2021

Date of public hearing: September 10, 2021

Location: Virtual

Members present: Ms. R. Velshi, Chair  
Dr. M. Lacroix  
Ms. I. Maharaj

Secretary: M.A. Leblanc  
Recording Secretary: C. Moreau  
Senior General Counsel: L. Thiele

<b>Bruce Power Represented By</b>		<b>Document Number</b>
J. Scongack	Executive Vice President, Operation Services	CMD 21-H11.2 CMD 21-H11.2A CMD 21-H11.2B
C. Mudrick	Chief Nuclear Officer	
G. Newman	Chief Nuclear Engineer	

<b>Ontario Power Generation Represented By</b>		<b>Document Number</b>
J. Vecchiarelli	Vice President, Nuclear Regular Affairs	CMD 21-H11.1 CMD 21-H11.1A CMD 21-H11.1B
M. Knutson	Chief Enterprise Engineering and Chief Nuclear Engineer	
J. Franke	Senior Vice President, Pickering Nuclear Generating Station	

S. Gregoris	Senior Vice President, Darlington Nuclear Generating Station	
S. Granville	Chief Operating Officer and Chief Nuclear Officer	

<b>CNSC staff</b>		<b>Document Number</b>
R. Jammal	Executive Vice-President and Chief Regulatory Operations Officer, Executive Vice-President's Office, ROB	CMD 21-H11 CMD 21-H11.A
A. Viktorov	Director General, Director General's Office, Directorate of Power Nuclear Regulation	
B. Carroll	Technical Specialist, Operational Engineering Assessment Division, Directorate of Assessment and Analysis	

<b>External Advisory Committee on Pressure Tubes</b>		<b>Document Number</b>
J. Luxat	Chair, External Advisory Committee	NA
M. Daymond	External Advisory Committee member	
P. Spekkens	External Advisory Committee member	

**Designated Officer Order to Bruce Power for its Bruce NGS:** Confirmed  
**Designated Officer Order to OPG for its Pickering NGS:** Amended  
**Designated Officer Order to OPG for its Darlington NGS:** Confirmed  
**Requests to Restart:** Not Approved. To be considered on a unit-by-unit, or group of units, basis.

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## 1.0 INTRODUCTION

1. On July 26, 2021, a Canadian Nuclear Safety Commission<sup>1</sup> (CNSC) designated officer (DO) issued an order to Bruce Power Inc. (Bruce Power) for the [Bruce Nuclear Generating Station](#) (NGS), after elevated hydrogen equivalent concentrations (Heq) were reported to the CNSC. The discovery of elevated Heq, at Bruce NGS A and B, Units 3 and 6, respectively, was considered by the DO to put into question the predictive capability of the model for the hydrogen equivalent concentration levels in operating reactors with pressure tubes in extended operation. The DO subsequently issued orders to Ontario Power Generation Inc. (OPG) for the [Darlington NGS](#) and the [Pickering NGS](#) on July 27, 2021.
2. The orders, as written, apply to the following reactors:
  - Bruce NGS Units 3, 4, 5, 7 and 8;
  - Pickering NGS Units 1, 4, 5, 6, 7 and 8; and
  - Darlington NGS Units 1 and 4

The orders include measures that the DO considered necessary to ensure compliance with the licensing basis for the designated NGS units. The orders require Bruce Power and OPG to obtain authorization from the Commission prior to the restart of designated NGS units following any outage that results in the cooldown of the heat transport system.

3. Pursuant to subsection 37(6) of the [Nuclear Safety and Control Act \(NSCA\)](#), the designated officer referred the orders to the Commission for review to confirm, amend, revoke or replace the orders. Pursuant to paragraph 40(1)(d) of the NSCA, the Commission provided an opportunity to be heard to the licensees subject to the orders, and the licensees took that opportunity during the hearing.
4. This *Summary Record of Decision* reflects the Commission's decision with respect to the review of the orders and the requests to restart. 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. Pursuant to subsection 37(6) of the NSCA, the Commission was required to review the orders and confirm, amend, revoke or replace each of them.
6. The Commission also considered the requests for restart submitted by Bruce Power and OPG pursuant to the terms of the orders, in order to determine whether to authorize the restart of designated NGS units following any outage that results in the cooldown of

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<sup>1</sup> 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.

the heat transport system.

### Hearing

7. Pursuant to section 22 of the NSCA, the President established a panel, consisting of herself, Dr. Marcel Lacroix and Ms. Indra Maharaj, to review the orders, and consider the requests for restart. The Commission, in making its decision, considered the DO orders made on July 26 and 27, 2021. The Commission also considered submissions from Bruce Power ([CMD 21-H11.2](#), [CMD 21-H11.2A](#) and [CMD H-21-11.2B](#)), OPG ([CMD 21-H11.1](#), [CMD 21-H11.1A](#) and [CMD 21-H11.1B](#)), and CNSC staff ([CMD 21-H11](#) and [CMD 21-H11.A](#)). The Commission also heard oral submissions from the Commission's [External Advisory Committee on Pressure Tubes](#)<sup>2</sup>.

## **2.0 DECISIONS**

8. Details of the Commission's rationale, and its consideration of information submitted by Bruce Power and OPG in support of their application and of CNSC staff assessments submitted in relation to this matter, will be presented in a detailed *Record of Decision*, to be published at a later date. Based on its consideration of the matter,

the Commission, pursuant to subsection 37(6) of the *Nuclear Safety and Control Act*, confirms the DO order issued to Bruce Power Inc. on July 26, 2021, for the Bruce Nuclear Generation Stations A and B.

the Commission, pursuant to subsection 37(6) of the *Nuclear Safety and Control Act*, confirms the DO order issued to Ontario Power Generation Inc. on July 27, 2021, for the Darlington Nuclear Generating Station.

the Commission, pursuant to subsection 37(6) of the *Nuclear Safety and Control Act*, amends the DO order issued to Ontario Power Generation Inc. on July 27, 2021, for the Pickering Nuclear Generating Station by removing Pickering NGS A Units 1 and 4.

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<sup>2</sup> Established on July 30, 2021, the External Advisory Committee on Pressure Tubes was created by the Commission, under its statutory authority to establish advisory committees, to complement the expertise of Commission members, and to provide an external perspective for the benefit of Commission members in their role as decision-makers.

9. For the request for authorization from the Commission prior to the restart of designated units following any outage that results in the cooldown of the heat transport system,

the Commission does not, at this time, pre-authorize the restart of any designated reactor unit pursuant to the terms of the orders.

10. The Commission will consider requests to restart a designated reactor unit, or group of units with similar characteristics, on a case-by-case basis, upon the submission of a specific request by a licensee. Any request shall contain qualitative and quantitative analysis to satisfy the conditions of the order.

September 22, 2021

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Rumina Velshi  
President,  
Canadian Nuclear Safety Commission

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Date