



Canadian Nuclear  
Safety Commission

Commission canadienne  
de sûreté nucléaire

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Status Report on Power Reactors

Rapport d'étape sur les centrales  
nucléaires

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This document summarizes the status of  
the Power Reactor facilities as of  
October 21, 2022.

Ce rapport résume le rapport d'étape sur  
les centrales nucléaires en date du  
21 octobre 2022.

Signed on / Signé le  
2022-10-26

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Directeur général, Direction de la réglementation des centrales nucléaires

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**1. Power Reactors Status as of October 21, 2022**

**1.1 Bruce A and B**

<b>Operational Status</b>
Unit 1 is at Full Power.
Unit 2 is at Full Power
Unit 3 is at Full Power.
Unit 4 is Shut Down for a planned maintenance outage.
Unit 5 is at Full Power.
Unit 6 is Shut Down for Major Component Replacement (MCR).
Unit 7 is at Full Power.
Unit 8 is at Full Power.
<b>Licensing</b>
Power Reactor Operating Licence expires on September 30, 2028.
<b>Comments</b>
<p>Unit 6 Major Component Replacement (MCR) started in January 2020.</p> <ul style="list-style-type: none"> <li>• MCR project is on schedule.</li> <li>• Installation of fuel channels in progress.</li> <li>• Moderator refill preparation in progress.</li> </ul> <p>Lutetium-177 (Lu-177) Isotope Production System (IPS) has been installed in Unit 7. In September 2022, Bruce Power requested CNSC staff’s consent to remove the regulatory hold point (RHP) to allow the turnover of the IPS from Isogen to Bruce Power operations staff. Based on the information submitted by Bruce Power and independent verifications, CNSC staff concluded that Bruce Power has met all commitments and pre-requisites of the RHP, and as such, the RHP was removed. Bruce Power may now begin commercial production of Lu-177.</p>
<b>Event Notifications and Updates</b>
<p><u>Elevated hydrogen equivalent concentration (Heq) in pressure tubes</u></p> <p>In August 2022, CNSC staff submitted to the Registry CMD 22-M37 which provides an update on elevated hydrogen equivalent concentration (Heq) in pressure tubes. The CMD covered the areas of:</p> <ul style="list-style-type: none"> <li>• CNSC staff’s assessment of industry’s Heq research and development plan, including discussion of preliminary results</li> <li>• CNSC staff’s assessment of licensees’ most recent submissions regarding the discovery of elevated Heq, in particular, at the inlet rolled joint of pressure tubes and its impact on fitness for service assessments</li> <li>• Results from CNSC staff’s risk informed decision making assessment</li> </ul>

The above information will be presented and further discussed at an upcoming Commission Meeting on November 3, 2022.
<b>Actions from previous Commission meetings</b>
None.

**1.2 Darlington**

<b>Operational Status</b>
Unit 1 is Shut Down for Refurbishment
Unit 2 is at Full Power.
Unit 3 is Shut Down for Refurbishment.
Unit 4 is at Full Power.
<b>Licensing</b>
Power Reactor Operating Licence expires on November 30, 2025.
<b>Comments</b>
<p>Unit 1 refurbishment started in February 2022.</p> <ul style="list-style-type: none"> <li>• Feeder removal is in progress</li> <li>• Heat transport system auxiliaries vacuum drying is in progress</li> <li>• Moderator drain is in progress</li> </ul> <p>Unit 3 refurbishment started in September 2020.</p> <ul style="list-style-type: none"> <li>• Lower feeder installation is in progress</li> <li>• Steam generator primary moisture separator replacement is in progress</li> </ul>
<b>Event Notifications and Updates</b>
None.
<b>Actions from previous Commission meetings</b>
None.

**1.3 Pickering**

<b>Operational Status</b>
Unit 1 is Shut Down for a planned maintenance outage.
Unit 2 is in a Safe Storage State.
Unit 3 is in a Safe Storage State.
Unit 4 is Shut Down for a vacuum building outage.
Unit 5 is Shut Down for a vacuum building outage.
Unit 6 is Shut Down for a vacuum building outage.

Unit 7 is Shut Down for a vacuum building outage.
Unit 8 is Shut Down for a vacuum building outage.
<b>Licensing</b>
<p>Power Reactor Operating Licence expires on August 31, 2028. OPG requires Commission approval to operate PNGS beyond December 31, 2024.</p> <p>On September 29, 2022, the Ontario Ministry of Energy announced that Ontario Power Generation (OPG) will be seeking CNSC approval to extend commercial operation of the Pickering “B” units 5-8 to 2026. The Pickering “A” units 1-4 would operate until 2024 as originally planned. The Ontario Ministry of Energy also announced that they have asked OPG to update its feasibility assessment for refurbishing the Pickering “B” units 5-8.</p> <p>Operation of any Pickering units beyond 2024 constitutes a change to the licensing basis and will require a decision from the Commission via a public hearing whereby Indigenous Nations, members of the public and other stakeholders will be able to intervene.</p>
<b>Comments</b>
<p>OPG commenced the Vacuum Building Outage (VBO) on October 6<sup>th</sup>, 2022. All Pickering units have been taken offline to conduct inspections, maintenance, and testing activities of the Vacuum Building and Pressure Relief Duct, amongst other maintenance tasks.</p>
<b>Event Notifications and Updates</b>
None.
<b>Actions from previous Commission meetings</b>
<p>Potassium Iodide (KI) Pill Working Group Update:</p> <ul style="list-style-type: none"> <li>• In alignment with the <a href="#">Terms of Reference</a>, a signatories meeting with senior management from each organization (CNSC, OPG, Emergency Management Ontario (EMO) and Ministry of Health (MOH)) was held on October 11, 2022 to discuss the proposal by EMO and MOH.</li> <li>• The signatories concurred that the proposal by EMO and MOH would achieve the objectives of Phase II of the KI Pill Working Group, recognizing that the working group would be a consultative body during the revision of the Provincial Nuclear Emergency Response Plan.</li> <li>• A meeting with the full working group is planned for October 27, 2022, to discuss the proposal by EMO and MOH, and determine the path forward and anticipated timelines.</li> <li>• CNSC staff are also scheduling a meeting with the CNSC Advisory Committee, anticipated for October 31 to discuss the EMO and MOH proposal, as well as the impact on the Advisory Committee and means for continued engagement on the objectives of Phase II.</li> </ul>

**1.4 Point Lepreau**

<b>Operational Status</b>
The unit is at 99.8% of Full Power.
<b>Licensing</b>

Power Reactor Operating Licence expires on June 30, 2032.
Comments
None.
Event Notifications and Updates
None.
Actions from previous Commission meetings
None.

**1.5 Other**

None.