



Canadian Nuclear  
Safety Commission

Commission canadienne  
de sûreté nucléaire

CMD 21-M55  
File/Dossier # 6.02.04  
e-Doc 6681581 (PDF)

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  
November 15, 2021.

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Ce rapport résume le rapport d'étape sur  
les centrales nucléaires en date du  
15 novembre 2021.

Signed on / Signé le  
2021-11-17

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**1. Power Reactors Status as of November 15, 2021**

**1.1 Bruce A and B**

<b>Operational Status</b>
Unit 1 is at Full Power.
Unit 2 is at 86.5% Full Power.
Unit 3 is at Full Power.
Unit 4 is at Full Power.
Unit 5 is at Full Power.
Unit 6 is Shut Down for Major Component Replacement (MCR).
Unit 7 is in a planned maintenance outage.
Unit 8 is at Full Power.
<b>Licensing</b>
Power Reactor Operating Licence expires on September 30, 2028.
<b>Comments</b>
<p>Unit 2 is derated due to vibrations in the turbine steam supply system. The reduced power removes the vibrations, such that there are no safety concerns with this mode of operation. Bruce Power is exploring strategies to limit vibrations while continuing to monitor the locations causing the vibration.</p> <p>Unit 6 Major Component Replacement (MCR) started in January 2020.</p> <ul style="list-style-type: none"> <li>• Feeders and fuel channel components have been removed; installation of the calandria tubes is now in progress.</li> <li>• Replacement of steam generators is on-going.</li> <li>• Work on inspection and replacement of the primary heat transport system and electrical equipment has been completed.</li> <li>• Moderator and safety system work is in progress.</li> </ul> <p>Unit 7 is in a planned maintenance outage that commenced November 7, 2021.</p>
<b>Event Notifications and Updates</b>
None.
<b>Actions from previous Commission meetings</b>
None.

**1.2 Darlington**

<b>Operational Status</b>
Unit 1 is at Full Power.
Unit 2 is at Full Power.
Unit 3 is Shut Down for Refurbishment.

Unit 4 is in a planned maintenance outage.
<b>Licensing</b>
Power Reactor Operating Licence expires on November 30, 2025.
<b>Comments</b>
<p>Unit 3 refurbishment started in September 2020.</p> <ul style="list-style-type: none"> <li>• Feeders and fuel channel components have been removed; calandria tube sheet cleaning is in progress.</li> <li>• Upper feeder installation is on-going.</li> <li>• Turbine generator static commissioning is in progress.</li> <li>• Moderator and safety system work is in progress</li> </ul> <p>Unit 4 is in a planned maintenance outage that commenced October 1, 2021.</p>
<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 at Full Power.
Unit 2 is in a Safe Storage State.
Unit 3 is in a Safe Storage State.
Unit 4 is at 75% Full Power.
Unit 5 is in an unplanned outage.
Unit 6 is at Full Power.
Unit 7 is in a planned maintenance outage.
Unit 8 is at Full Power.
<b>Licensing</b>
Power Reactor Operating Licence expires on August 31, 2028. OPG requires Commission approval to operate PNGS beyond December 31, 2024.
<b>Comments</b>
<p>Unit 4 is at 75% Full Power due to fuelling machine unavailability. Target date for return to Full Power is yet to be determined.</p> <p>On September 30, 2021, Unit 5 experienced a stator cooling transient, resulting in a turbine trip. This resulted in an automatic reactor setback to 2% of Full Power, and a subsequent poison outage as per design. No shutdown systems needed to be deployed. OPG completed Stator Cooling Water (SCW) inspections and repairs are in progress. Target date for return to Full Power yet to be determined. CNSC staff are conducting field inspections as a follow-up activity for this event.</p>

Unit 7 is in a planned maintenance outage that commenced September 10, 2021.
<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>• The CNSC conducted a virtual workshop with the Advisory Committee on November 19, 2021 to seek feedback on the Phase I Report and discussed comments submitted during the 90-day public review period.</li> <li>• The Working Group is dispositioning all comments received during the public review period, as well as comments received during the Advisory Committee virtual workshop, and the Phase I Report is being revised, as appropriate.</li> <li>• The Phase I Report will be presented to the Commission in a Public Meeting on January 26-27, 2022.</li> </ul> <p>Background information on the Working Group can be found on the Working Group webpage:  <a href="https://nuclearsafety.gc.ca/eng/resources/emergency-management-and-safety/potassium-iodide-pill-working-group.cfm">https://nuclearsafety.gc.ca/eng/resources/emergency-management-and-safety/potassium-iodide-pill-working-group.cfm</a></p>

**1.4 Point Lepreau**

<b>Operational Status</b>
The unit is in a maintenance outage.
<b>Licensing</b>
Power Reactor Operating Licence expires on June 30, 2022. The licensee applied for renewal of their license on June 30, 2021.
<b>Comments</b>
The station was taken offline on Friday, November 12 to remove a fuelling machine that could not be detached from a channel and complete repairs. In addition, a concrete cooling fan also requires repair during the outage.
<b>Event Notifications and Updates</b>
None.
<b>Actions from previous Commission meetings</b>
None.

## 1.5 Other

### Power Reactor Regulatory Program (PRRP) COVID-19 Activities

#### Compliance

CNSC staff continue their oversight of NPP operations, by carrying out inspections, having access to the licensees Virtual Private Network (VPN), attending meetings remotely and conducting regular surveillance activities. Inspections are being conducted on-site, as well with remote support from subject matter experts. To date CNSC staff have not identified any non-compliances caused by the pandemic and are satisfied with the measures taken by the licensees.

#### Licensing

DPRR continues to conduct and support licensing activities following established practices for Canadian NPPs in a timely and efficient manner, while respecting the needs of all stakeholders and adjusting to pandemic circumstances (e.g., working from home). During 2021, staff reviewed and provided recommendation to the Commission regarding isotope production activities at Bruce and Darlington NGS. Currently, CNSC staff is evaluating a request by New Brunswick Power for the Power Reactor Operating Licence renewal.

#### International Collaboration

The 9<sup>th</sup> review cycle for the Convention on Nuclear Safety has begun, with Canada holding two writing team meetings thus far, involving members of the CNSC, Health Canada, Natural Resources Canada, Global Affairs Canada, Bruce Power, Ontario Power Generation, New Brunswick Power, Global First Power and SNC-Lavalin. An Organizational Meeting for all signatory countries involved in the current review took place in Vienna on October 20, 2021. The CNSC participated in the meeting virtually with representation from the permanent mission in Vienna in person.

### Licensee COVID-19 Activities

#### Business Continuity Plan Status

All licensees have active business continuity plans (BCP). Licensees maintain appropriate protocols for responding to positive test results for their workers and report to CNSC regularly. CNSC staff are monitoring and evaluating licensees' COVID-19 responses and are satisfied with the current provisions.

#### Bruce Power

To date one hundred sixty-seven (167) Bruce Power workers (employee and contract) have tested positive for COVID-19. One hundred sixty-six (166) of these cases are considered recovered with one (1) remaining active. There has been no impact on minimum shift complement or the safe operation of the units from positive COVID-19 cases.

## Ontario Power Generation

To date one hundred twenty-seven (127) OPG Darlington workers (employee and contract) have tested positive for COVID-19. One hundred twenty-six (126) of these cases are considered recovered with one (1) remaining active. There has been no impact on minimum shift complement or the safe operation of the units resulting from positive COVID-19 cases.

To date one hundred twenty-seven (127) OPG Pickering workers (employee and contract) have tested positive for COVID-19. One hundred twenty-seven (127) of these cases are considered recovered with none remaining active.

There has been no impact on minimum shift complement or the safe operation of the units resulting from positive COVID-19 cases.

## Point Lepreau

There has been one new COVID-19 cases identified at site since the last update. To date, there have been three (3) positive cases at Point Lepreau NGS. Two of these cases are considered recovered with one remaining active. There has been no impact on minimum shift complement on the safe operation of the units resulting from positive COVID-19 cases.

## Reporting of COVID-19 Cases to CNSC

On December 10, 2020 the Directorate of Power Reactor Regulation issued clarifications to promote consistent reporting of COVID-19 cases:

1. Formal event reports, in accordance with REGDOC-3.1.1, *Reporting Requirements for Nuclear Power Plants* are to be submitted for situations:
  - where a person who had entered the protected area was later found to be COVID-19 positive, leading to isolation measures being imposed in case the virus had been transmitted to others
  - any impact, attributed to COVID-19, on the Minimum Shift Complement (MSC) positions outlined in the respective Licence Condition Handbooks
2. For all other COVID-19 related events, not having operational or safety impacts, courtesy informal notification will continue to be made to the Regulatory Program Directors.

The following represent cases reported to the CNSC under the clarified reporting requirements of REGDOC-3.1.1. These cases occurred after December 10, 2020:

## Bruce Power

Bruce Power has reported four (4) cases. There has been no evidence of workplace transmission of COVID-19 and no impact on minimum shift complement or the safe operation of the units resulting from positive COVID-19 cases. CNSC staff are satisfied with the response and protective measures taken by Bruce Power.

**Ontario Power Generation**

OPG Darlington has reported thirteen (13) cases. There has been no impact on minimum shift complement or the safe operation of the units resulting from positive COVID-19 cases. CNSC staff are satisfied with the response and protective measures taken by OPG Darlington.

OPG Pickering has reported fourteen (14) cases. There has been no impact on minimum shift complement or the safe operation of the units resulting from positive COVID-19 cases. CNSC staff are satisfied with the response and protective measures taken by OPG Pickering.

**New Brunswick Power**

There has been one (1) reportable case. There has been no impact on minimum shift complement or the safe operation of the units resulting from positive COVID-19 cases. CNSC staff are satisfied with the response and protective measures taken by NB Power.