



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

CMD 20-M10
File/Dossier # 6.02.04
e-Doc 6316013 PDF

Status Report on Power Reactors

Rapport d'étape sur les centrales nucléaires

This document summarizes the status of the
Power Reactor facilities as of
June 10, 2020.

Ce rapport résume le rapport d'étape sur les
centrales nucléaires en date du
10 juin 2020.

Signed on / Signé le
2020-06-10

Gerry Frappier, P.Eng.
Director General, Directorate of Power Reactor Regulation
Directeur général, Direction de la réglementation des centrales nucléaires

This page intentionally left blank

1. Power Reactors Status as of June 10, 2019

1.1 Bruce A and B

Operational Status
Unit 1 is at Full Power.
Unit 2 is at Full Power.
Unit 3 is at Full Power.
Unit 4 is Shut Down.
Unit 5 is Shut Down.
Unit 6 is Shut down for Major Component Replacement (MCR).
Unit 7 is at Full Power.
Unit 8 is at Full Power.
Licensing
Power Reactor Operating Licence expires on August 31, 2028.
Comments
<p>Unit 4 planned outage began February 14th. The unit is expected to return to service in June.</p> <p>Unit 5 planned outage began May 8th (original planned date was postponed due to COVID-19). The unit is expected to return to service end of June.</p> <p>Unit 6 Major Component Replacement (MCR) started in January 2020. Core defuelling was completed on March 11th.</p> <p>On June 2, a contract worker doing non-electrical work on a night shift in unit 6 vault experienced an arc flash (347 V) which burnt his plastic suit. This was later determined to be because of a degraded cable that was connected to class IV lighting. The worker was seen by the emergency response team (ERT) and taken to the hospital as a precaution. He was fine and was back at work before the end of his shift. Bruce Power immediately closed up the vault until they were able to identify what happened. They notified the Ministry of Labour (MOL) of the incident. CNSC Site Inspectors have been working with the MOL Inspector and will follow-up on actions.</p>
Event Notifications and Updates
None.
Actions from previous Commission meetings
None.

1.2 Darlington

Operational Status
Unit 1 is at Full Power.
Unit 2 is at Full Power.

Unit 3 is at Full Power.
Unit 4 is at Full Power.
Licensing
Power Reactor Operating Licence expires on November 30, 2025.
Comments
<p>Unit 2 has completed all restart hold points (RHP) and was declared in service on June 4th.</p> <ul style="list-style-type: none"> • RHP1 removed on November 5, 2019. • RHP2 removed on April 5, 2020. • RHP3 removed on May 2, 2020. • RHP4 removed on May 13, 2020. <p>Unit 3 outage for single fuel channel replacement originally scheduled for April 3rd has been postponed to July 31, 2020 due to COVID-19.</p> <p>Unit 3 refurbishment start date has been postponed to September due to COVID-19.</p>
Event Notifications and Updates
None.
Actions from previous Commission meetings
None.

1.3 Pickering

Operational Status
Unit 1 is Shut Down.
Unit 2 is in a Safe Storage State.
Unit 3 is in a Safe Storage State.
Unit 4 is at Full Power.
Unit 5 is at Full Power.
Unit 6 is at Full Power.
Unit 7 is at Full Power.
Unit 8 is at Full Power.
Licensing
Power Reactor Operating Licence expires on August 31, 2028.
Comments
<p>Unit 1 is in a planned maintenance outage. The unit is scheduled to return to service in mid-June.</p> <p>The subject of Province of Ontario false alert on January 12th will be presented in CMD 20-M14.</p>
Event Notifications and Updates
None.

Actions from previous Commission meetings
<p>Potassium Iodide (KI) Pill Working Group update:</p> <ul style="list-style-type: none"> • The Phase I report was drafted and circulated to all Working Group members for review in January 2020. • The draft Phase I report is currently being revised to address comments received from Working Group members in February 2020. Following concurrence on the draft report by all Working Group members, it will be translated and posted on the CNSC webpage for a 45-day public review period. • Due to the COVID-19 pandemic, and knowing the majority of Working Group members (Public Health Unit representatives and municipal emergency management coordinators) are supporting Ontario’s pandemic response, the CNSC has decided to postpone seeking their concurrence on the draft report, which will also delay the public review period. • The CNSC will be reaching out to Working Group members to determine the date for the next Working Group teleconference based on member’s availabilities and resources. The Commission will be updated through the Status Report on Power Reactors on the new anticipated dates for the public review period and the Working Group webpage will be updated appropriately. (https://www.nuclearsafety.gc.ca/eng/resources/emergency-management-and-safety/potassium-iodide-pill-working-group.cfm) • The CNSC postponed the meeting with the Advisory Committee planned for March 2020 to begin planning the face-to-face workshop with Advisory Committee members on the draft Phase I report. The CNSC will be contacting the Advisory Committee to plan the next teleconference and discuss the possibility of hosting a virtual workshop, should social distancing measures continue for the longer term.

1.4 Point Lepreau

Operational Status
Unit is at Full Power.
Licensing
Power Reactor Operating Licence expires on June 30, 2022.
Comments
The spring outage has been postponed to the autumn due to COVID-19.
Event Notifications and Updates
None.
Actions from previous Commission meetings
None.

1.5 Other

Power Reactor Regulatory Program (PRRP) COVID-19 Activities

Compliance

On March 15, 2020, the CNSC activated the Business Continuity Plan (BCP) in response to the COVID-19 pandemic. Effective March 16, all CNSC staff in Ottawa and at regional and site offices were directed to work from home. DPRR management immediately suspended all regular DPRR compliance activities and identified activities that were considered critical in order to support continued safe power reactor operation and regulatory decision making in relation to the Darlington Unit 2 return-to-service. Oversight activities and reviews related to the release of regulatory hold points were carried out remotely with no interruption, in adherence with measures put in place by CNSC management, OPG and federal and provincial authorities.

In April 2020, DPRR approved a new procedure to plan and conduct compliance activities during the COVID-19 pandemic to ensure continued regulatory oversight. This procedure is to be utilized during and following the COVID-19 pandemic for fiscal year 2020-2021 until normal compliance processes resume. It provides direction for the conduct of oversight activities both remotely and onsite, as well as direction on revising the regulatory oversight plan for this fiscal year.

The procedure provides a framework for conducting remote oversight activities, and enhancing the number and capabilities of site inspectors to work remotely. CNSC staff have worked with licensees to provide comprehensive and remote access to site information systems, actual plant data and participation in all key plant management meetings.

In addition to this new procedure, DPRR developed a pandemic-related Pre-Job Brief as additional instructions to be delivered by the site office supervisors to site inspectors prior to performing onsite oversight activities. Provision of (anti-viral) PPE to site inspectors prior to any onsite activities forms part of this Pre-Job Brief.

In May 2020, DPRR resumed onsite oversight activities in a limited capacity. These activities focused on general health and safety issues (e.g., control of combustible material, housekeeping, contamination posting, etc.), as well as licensee adherence to their pandemic response plans and COVID-19 health protocols. The CNSC has taken precautions such as managing and limiting site inspector's access to the site offices, providing additional PPE and sanitization products. Occupancy of the NPP site offices will not resume (i.e., with many inspectors physically present during the day) until an approved CNSC return to work plan is in place. Site inspectors will continue to conduct activities in accordance with the new procedure for planning and conducting compliance activities, and the Pre-Job Brief will be given prior to any on site activities.

In accordance with the new procedure for planning and conducting oversight activities, DPRR management undertook a detailed review of the inspection plans for fiscal year 2020-2021. Revised site-specific inspection plans were developed using a risk-informed/performance-based approach and in consideration of available resources and special circumstances that may impede normal compliance processes. The plans identify compliance activities to be deferred, cancelled, or modified. Any activity that requires inspector(s) to be physically onsite will have to be approved by DPRR management. The modified plans, including all associated decision-making and rationale, has been documented.

Licensing

Critical licensing activities have continued while CNSC staff work remotely. DPRR staff reviewed the current management system documentation and concluded that existing processes and procedures are adequate to address situations that may arise from the COVID-19 pandemic, and no amendments are required. Critical licensing activities that are continuing under existing processes include, but are not limited to, the following:

- Molybdenum-99 project;
- Certification and requalification requests;
- Removal of hold points related to Darlington Unit 2 refurbishment;
- Pressure tube integrity; and,
- CMD 20-H100, Application by Bruce Power, Ontario Power Generation and New Brunswick Power for the Amendment of their Power Reactor Operating Licences (to replace RD-204, *Certification of Persons Working at Nuclear Power Plants* with REGDOC-2.2.3, *Personnel Certification, Volume III: Certification of Persons Working at Nuclear Power Plants*).

Since the CNSC has transitioned to working from home on March 16, 2020, DPRR has expanded its ability to undertake and complete other licensing activities that were not considered critical at the outset of the COVID-19 pandemic. DPRR continues to ensure all licensing activities are completed in support of continued safe operation of all Canadian NPPs.

International Collaboration

CNSC management continues to collaborate internationally with other regulators including the Office for Nuclear Regulation (United Kingdom) and the United States Nuclear Regulatory Commission, and organizations such as the International Nuclear Regulators Association. CNSC staff also actively participate and manage regulatory OPEX through establishment of multi-national working groups such as the Nuclear Energy Agency's Working Group on Inspection Practices (WGIP).

On April 8, CNSC staff reached out to members of the WGIP to ascertain and share practices being implemented by nuclear regulatory bodies globally. Information was received from 15 countries and confirm that the remote inspection techniques employed by the CNSC align with those used by other nuclear regulatory bodies. Furthermore, the CNSC's ability to remotely access licensee information systems, including actual plant data, and participation in all key plant management meetings, is ahead of some regulatory bodies. The CNSC also shared information on our new process to plan and conduct modified compliance activities and the Pre-Job Brief with the WGIP.

The CNSC is committed to regulatory innovation, including exploring applications of artificial intelligence and therefore has tasked a Management representative to lead the CNSC's efforts in this area. This work is in its initial stages.

Licensee COVID-19 Activities

Business Continuity Plan Status

All licensees have active business continuity plans (BCP) in effect. Details are in the table below.

<p>Bruce Power</p>	<p>COVID-19 Status for Bruce Power:</p> <ul style="list-style-type: none"> • Grey Bruce Health Unit has setup COVID-19 assessment centers at the Owen Sound, Hanover and Kincardine Hospitals. Recovery centers are setup in Kincardine and Hanover, and will be put into service if required • 3 persons recovered, 0 positive, 56 negative, 2 pending testing • Mandatory mask use at site <p>Bruce Power has stood up their Emergency Management Centre, and all planning and management of response actions will be transferred to the ERO.</p> <p>All non-essential business travel outside of Ontario has been cancelled and essential travel must be approved by the CEO.</p> <p>Visitor access to Bruce Power facilities is limited to essential visitors only, such as supplier deliveries or those performing essential third-party services in support of Operations, Maintenance, Outages, etc.</p> <p>Bruce Power has completed drafting their Severity Level 3 (SL3) plans. Bruce Power conducted a drill of the implementation of SL3 plans.</p> <p>Thermal imaging cameras are in use at both stations.</p> <p>Bruce Power has implemented a “Green Zone” protocol, which will separate essential (minimum complement) staff from those working on separate activities with the aim to reduce the amount of contact between these groups as much as possible. There will be separate pathways for these folks through security, areas in office spaces, etc.</p> <p>Bruce Power has reviewed the doors in the station and blocked open any non-fire, non-EQ door to reduce the # of touch points for staff</p> <p>Bruce Power, in conjunction with a recommendation from an Infectious Disease Expert, is removing the requirement for using Whole Body Monitors at the Zone 2/3 boundary, unless:</p> <ul style="list-style-type: none"> • Work in fuel handling • Work in Contamination Control Area or Radioactive Material Storage Area • REP requires alpha monitoring. <p>All other qualified workers will be able to use pancake meters to frisk to</p>
---------------------------	--

	<p>ensure clean. This comes with normal protocols should a personal contamination event be identified and additional surveys are being performed by RP.</p> <p>Bruce Power has issued a letter to their suppliers, noting that since Bruce Power is an essential service, they are as well and will be required to continue to operate</p>
--	--

<p>OPG</p>	<p>All non-essential travel outside of Canada has been cancelled and travellers from anywhere outside of Canada are required to contact OPG’s Health Services before returning to work. Those who show any symptoms are being advised to seek medical attention immediately. OPG employees work on site with adequate protection controls, many staff continue to work from home.</p> <p>Non-essential visitors require Senior Executive approval to enter OPG sites, including office locations, until further notice. CNSC site office staff follow the same provisions that apply to the licensee’s staff, including COVID monitoring.</p> <p>Physical distancing protocols have been initiated. These include avoiding large gatherings and minimizing close personal contact with others.</p> <p>Access to the MCR is restricted to staff with an operational requirement to work there.</p> <p>The Crisis Management Communication Centre (CMCC) was activated in March to provide corporate leadership, strategic direction and executive level decisions required to support OPG’s COVID-19 response. Each site has site-specific command centers that implement site-specific controls and plans.</p> <p>OPG introduced temperature monitoring of all staff at access to the protected area. OPG asks staff to self-screen before entering.</p> <p>In March 2020, one employee at the Pickering station tested positive for COVID-19 and was sent home. Employees who had contact with this employee have been notified and provided with additional health instructions. The individual noted above has since recovered and returned to work.</p> <p>Another employee at the Darlington NGS had tested positive for COVID-19. The individual had not been on-site since March 25, 2020 as they were Working from Home (WFH). They were in self-quarantine, but have now fully</p>
-------------------	---

	<p>recovered and continue to WFH until such time as OPG recalls staff to site.</p> <p>OPG has been in continual contact with the affected employees. No COVID-19 cases have been traced to spread within OPG facilities.</p> <p>OPG has new instruction Nuclear Site Response to COVID-19 (N-INS-08115-10001) which addresses response to sick calls, response to workers with COVID-19 including falling ill while on site, and return to work.</p> <p>OPG’s chemistry labs and maintenance staff are producing their own hand sanitizers and hospital grade wipes. This protects front line workers and the community while not drawing on the provinces supplies needed for health-care industry.</p> <p>Non-essential training was deferred, training courses have reduced headcount per classroom to maintain physical distancing, remote learning expanded. Critical qualifications required for the safe operation of OPG stations including training for Darlington Unit 2 Return to Service and Pickering Unit 1 Outage support, continue to be maintained.</p> <p>Thin film plastic coverings are being applied to face regions of whole body radiation monitor detectors to allow wiping before use; testing has confirmed that our alarm set-points are not impacted by this initiative.</p> <p>As of April 13, OPG require OPG supplied surgical masks or half-face respirators with P100 filters for extended close contact work. OPG’s safe work planning process is used to determine appropriate choice. Surgical masks are optional in all other circumstances, and a limit of one per shift will be provided by OPG. Cloth masks are prohibited, whether made at home or purchased personally.</p> <p>OPG continues to use staff working from home and is planning for staff to return to work at reduced building capacities as part of its Recovery Planning. Gradual return to work has started from June 1, 2020.</p>
--	--

<p>NB Power</p>	<p>PLNGS entered into its Pandemic Response Plan on March 13, 2020 in response to the global pandemic declared by the World Health Organization. PLNGS continues to take proactive actions in response to the COVID-19 pandemic to protect the community, employees, and also ensure the facility continues to provide the province with a reliable supply of electricity now and in the future.</p> <p>PLNGS established an Incident Command Structure (ICS) in coordination with</p>
------------------------	--

	<p>NB Power Corporate that included additional provisions to reduce any potential spread, as well as mitigating actions including material supply and resources.</p> <p>PLNGS established a communication protocol with employees to emphasise prevention of the spread of COVID-19 on site. The protocol also communicated the measures that were put in place to protect Staff and contractors, provide guidance and information for staff working from home and to seek feedback about their interests and concerns.</p> <p>A communication protocol was also established to communicate with its communities and members of the public to reassure and reinforce PLNGS's commitment to protect employees and external communities while continuing to deliver power for the essential services required as well as answering any questions they may have.</p> <p>When the first and only confirmed case of travel-related COVID-19 case was identified at PLNGS on March 20, 2020, PLNGS followed its operational pandemic plans and HR policies for privacy and other considerations. The Station evaluated the significance of the exposure including who else may have been exposed and the level of risk based on public health information. Steps were also taken to ensure anyone who may have been in contact with the person or exposed to the virus was aware of the risk and the need to self-isolate, in keeping with public health direction.</p> <p>While maintaining its ICS active, PLNGS proactively placed additional focus on the recovery aspect of incident command in alignment with the Province of New Brunswick. The Government of New Brunswick has introduced a phased recovery plan to ensure that businesses and organizations can resume their activities in a rapid yet safe manner. Progress across all phases are monitored closely to ensure the health and safety of citizens and to limit the resurgence of COVID-19 transmission within the province.</p> <p>https://www2.gnb.ca/content/gnb/en/corporate/promo/covid-19/recovery.html#roadmap</p> <p>Response phase is expected to continue until the end of April with the caveat that we see active cases and new cases continue to decline. This will be at the direction of the Government of New Brunswick and when the State of Emergency is lifted or revised to reduce restrictions. NB Power has developed a recovery plan to align with the Province and adjustments are made based on new information.</p> <p>On April 24, 2020, the Station entered the recovery phase two (preparing for additional staff on site) and phase three (introducing additional staff on site) on May 19, 2020. Over the next few weeks we will be entering phase four</p>
--	---

	<p>(expansion of the additional staff on site) provided it is prudent to do so while aligning with the Province of New Brunswick Medical Officer expectations. This will allow for additional staff reporting to site including knowledge workers. At any time, restrictions that have been lifted may be reinstated based on the direction from New Brunswick Public Health based on provincial, regional or local circumstances such as unlinked community outbreaks or cases that cannot be traced.</p> <p>In order to mitigate risk from additional staff on site and a number of measures have been put in place including:</p> <ul style="list-style-type: none"> • Screening of all staff entering site with both a questionnaire on symptoms, travel and contacts as well as a physical temperature check. • Established a communication protocols for Station workers • Established Security protocols • Established Emergency Team protocols • Restricted travel pathways • Mandatory facial coverings for casual contact when 2M distance cannot be maintained • Occupancy rates for buildings, meeting rooms etc. • Physical distancing • Increased cleaning protocols • Developed Health and Safety Standards • Developed Station protocols <p>These activities and measures are ongoing and will continue to be adjusted accordingly in accordance with New Brunswick Public Health to minimize the potential risks and ensure safe and reliable operations of the Station.</p>
--	--

<p>Hydro Quebec</p>	<p>Aux installations de Gentilly-2, en date du 26 mai, aucun cas positif à la COVID-19 n'a été déclaré. En conformité avec les consignes et directives du gouvernement du Québec, Hydro-Québec reprend progressivement les activités de déclasséement de Gentilly-2. Les ressources minimales qui étaient implantées du 25 mars au 11 mai se sont concentrées sur les activités de maintenance minimale, les obligations réglementaires et le programme de surveillance de l'environnement (radiologique et conventionnel). Au 1er juin, c'est 100 % des effectifs de maintenance qui seront de retour pour cette reprise. Le personnel ayant la capacité d'effectuer du télétravail continuera de le faire et ce, minimalement jusqu'au 31 août.</p>
----------------------------	---

	<p>Parmi les mesures d'hygiènes implantées, notons le lavage de mains obligatoires à certains endroits, la désinfection des moniteurs globaux, des corridors avec circulation à sens unique et la distanciation de 2 mètres. Lorsque la distanciation ne peut être respectée, une protection pour le visage est obligatoire (couvre-visage ou visière).</p>
--	---