Canadian Nuclear Safety Commission:
Responding to the COVID-19 Pandemic

The Canadian Nuclear Safety Commission (CNSC) is the federal nuclear regulator in Canada that regulates the use of nuclear energy and materials for nuclear safety, security and safeguards under the *Nuclear Safety and Control Act* (NSCA). The mandate of the CNSC is to ensure that the use of nuclear energy and materials will not pose an unreasonable risk to the health and safety of Canadians (workers and the public) or the environment, to implement Canada's international commitments on the peaceful use of nuclear energy, and to disseminate objective scientific, technical and regulatory information to the public. The CNSC combines both, performance-based and prescriptive regulatory approaches, founded on risk informed decision-making processes.

Summary –New Ways of Working and Return to Workplace Strategy

The CNSC deactivated its business continuity plan (BCP) on April 6, 2020, and resumed normal operations, in a different context. All CNSC staff are currently working from home, when possible and there is no non-essential travel within and outside of Canada until further notice.

Regulatory Oversight

The CNSC is maintaining the required regulatory oversight and has established a framework for conducting remote oversight activities, including inspections. This framework builds on the digital tools and infrastructure and includes such elements as remote access to the licensee's information systems, virtual meetings, more efficient documentation sharing, etc. This approach does not obviate a need for on-site physical presence. The CNSC continues to explore a hybrid model of remote and onsite inspections, and look at innovative tools to facilitate remote inspections. The pandemic restrictions on travel to some extent affected the ability to conduct the complete inspection plan for 2020-21. Going forward CNSC will ensure any risk significant activities are included in the new plan for the Fiscal Year 2021-22.

Vaccination

Canada rolled out the COVID-19 vaccines across the country. Provinces in Canada are administering the vaccine using individual phased-in plans, targeting different eligible age groups and populations. Provinces are also following different vaccine priority lists, including first responders and healthcare workers. As a result, some CNSC positions such as site inspectors and lab employees are among those eligible for early vaccination, as public safety considerations are involved.

Return to Workplace Strategy

A Return to the Workplace Working Group was established and includes members from all CNSC branches, including the sites and regions, as well union representatives. This team worked on establishing safety protocols and procurement of equipment to prepare CNSC facilities to safely receive employees. This working group also developed the decision criteria that would trigger return to the workplace.

The CNSC is taking a phased approach in its Return to the Workplace (RTWp) plan and is currently operating within Phase 0, which is minimal occupancy up to 10% staff at the office. Phase 1 will involve the return of up to 20% of staff to the office. An exact date will be determined by guidance from public health authorities and central agencies.

The CNSC also conducts regular surveys and RTWp poll questions during monthly town halls to understand how employees are coping during the pandemic and to monitor the impact of working from home. The CNSC has undertaken a Gender-based Analysis plus (GBA+) in order to determine if there are disproportionate impacts of the current working from home environment on diverse groups of people and, should there be, to find ways to mitigate any barriers. Findings of the surveys, polls and the GBA+ have informed management action and decision making. The CNSC has also hosted water cooler sessions and open learning webinars to disseminate information on RTWp plans and continues

to disseminate information to employees on the COVID-19 pandemic, vaccinations and other related topics through all-staff emails and guest speaker events. An intranet page is also setup with guides, protocols and FAQs to ensure staff is informed.

Additionally, the CNSC's Reimagine the Workplace Initiative (RWI) will determine the optimal combination of innovative management and leadership practices, state-of-the art policies and processes, and physical and IT infrastructure (office accommodation, etc.) necessary for the new, post-pandemic workplace.

ANNEX A

The following is a copy of the latest CNSC COVID-19 situation report. It is updated on a bi-weekly basis.

Canadian Nuclear Safety Commission
Covid-19 Situation Response Summary
As of March 29, 2020

National background	
General	

Canadian authorities instructions regularly delivered	**Update as of April 2021**
	• **As of March 29,** Canada suspended the use of AstraZeneca vaccine to adults under 55 years of age, pending further risk/benefit analysis. This is based on evidence of rare instances of vaccine-induced pro-thrombotic immune thrombocytopenia (VIPIT),
	• **As of March 26**, there are 7.52% of Canadians vaccinated with one dose, and an additional 1.66% of Canadians who have been vaccinated with a second dose.
	• The Canada/US land border closure has been extended until **April 21, 2021**.
	• **On March 5**, Health Canada approved the Johnson & Johnson vaccine making it the 4th vaccine approved in Canada.
	• **As of February 22** travelers arriving by air will be required to:
	  • take a COVID-19 molecular test on arrival in Canada
	  • stay in a hotel for 3 nights while they await the results of the COVID-19 molecular test they received on arrival
	  • pay for their hotel, as well as all associated costs for food, cleaning and security
	• **As of February 15** anyone arriving in Canada by land will need to show a recent negative COVID-19 test.
	• Canada extended its travel restrictions for travelers entering Canada from a country other than the Unites States until **April 21, 2021.**
	• Global Travel Advisories recommend avoiding non-essential travel outside of Canada until further notice.
	• The EU has removed Canada from its list of approved countries.

Clear established and regularly updated provisions	Yes. • The CNSC activated its Emergency Management (EM) Business Continuity Plan (BPC) on Sunday March 15th, 2020. • 125 CNSC employees were initially ascribed critical status to ensure business continuity. • All CNSC staff are currently working from home, when possible. • As of Monday April 6, 2020, the CNSC deactivated its BCP and resumed normal operations, in a different context.
CNSC	
Provisions for the CNSC	Decided by the Management Committee, CNSC's decision-making authority on strategic, regulatory, management and other issues, are aligned with the Canadian national instructions, including guidance from

	Public Safety Canada (PS), Treasury Board Secretariat (TBS) and Public Health Agency of Canada (PHAC).
Contingency plan	• CNSC's Directorates Emergency Management and Business Continuity Plan was first released in August 2014. It was updated in March 2020. • The CNSC Pandemic Plan, elaborated under the Emergency Management and Business Continuity Plan, was released in March 2020. The Pandemic Plan primarily addresses the human factor required to deliver critical services, and details measures and strategies to provide for the protection of the CNSC resources (employees, visitors, assets and information), as well as accounting for the continuous delivery of critical services and service dependencies, both internal and external. • The continued delivery of the critical services with a reduced workforce is based on the CNSC 2019-2020 Business Impact Analysis (BIA).
Staff of CNSC	• 900 employees (Q3 - FY 2020-21). • 125 CNSC employees are ascribed critical status to ensure business continuity.
Missions of the CNSC	
Sustained missions	The CNSC Emergency Management Business Continuity Plan has 6 different modes: a. Life Safety: Addresses the health and safety of staff and assets b. Monitor/Response: Incident does not pose an immediate threat, but may require additional actions if the incident persists, worsens and/or affects the health and safety of staff and assets. c. Standby: Incident presents a potential threat to the CNSC's critical services and/or continuity of operations. d. Activation: Incident presents a prolonged threat to the CNSC's critical services and/or continuity of operations. e. Normal Operations: Maintain BCP critical services and/or continuity of operations for an extended period. f. Demobilization: The incident is resolved, work environment is restored and normal operations can resume.
Currently	As of April 6, 2020, the CNSC deactivated the BCP and resumed normal operations, in a different context.
Key activities	**Public information**: On-going **Control**: • Inspection (see hereafter) • Follow-up letters: Handled by remote work • Significant nuclear events: Handled by remote work • Individual authorizations: Handled by remote work • Analysis of technical documents of TSO: Remote work
Reactor Inspections	
Capability	• The CNSC is committed to maintaining its regulatory oversight of the Nuclear Power Plants (NPP) licensees during this time. However, this has required some adjustments to the way oversight is conducted. Required inspections involving an on-site presence have resumed. In order to support physical distancing measures, the number of inspectors on site at the same time has been limited and all licensee procedures are being followed.

	• The documentation portion of on-site inspections is conducted through desktop inspections, accompanied by teleconferences/videoconferences with the licensee. The CNSC inspectors continue their surveillance and monitoring activities remotely through participation in licensee's daily meetings as well as monitoring the licensee's corrective action program. • The licensees also continue to submit event reports to the CNSC as well as regular updates specifically related to COVID-19.
Required inspections	• Necessary inspections are conducted in the current situation. • New governance was issued titled "Modified Compliance Activities During the COVID-19 Pandemic."
Nuclear Power Plants	
Continuity plan	• The License Conditions Handbooks (LCHs) for the Nuclear Power Plants, which provide additional detail on how to meet license requirements, include a requirement for licensees to maintain a BCP to ensure that plans are in place to continue safe operation when affected by adverse physical conditions or following interruptions to normal operation. • The licensees must maintain contingency plans to provide for essential services through a sustained period with significant employee absenteeism (e.g., Influenza outbreak). • All of the Canadian licensees implemented their BCPs.
Staffing	• To date, licensees have not encountered any difficulty with maintaining the minimum shift complement. • While all stations have experienced positive cases there has been no impact on station operations.
Planned maintenance	• All NPP licensees initially delayed major activities in order to minimize the number of personnel/contractors on site. • Outages continued to be planned for critical periodic inspections. • The CNSC does not prescribe when activities such as outages/refurbishment are to occur; the licensee undertakes these activities as business decisions. However, a major part of that decision is to ensure that they complete the relevant inspection and collect data to demonstrate continued fitness for service to the CNSC. • To date, all rescheduled activities have maintained adequate safety margins and were able to demonstrate the acceptable level of fitness for service. Depending upon the duration of the pandemic emergency, the Commission may be asked to exempt licensees from emergency drills as per the required timeline. **Update as of April 2021** • As an indication of excellent COVID-19 health and safety practices, Point Lepreau NGS has successfully returned to full power from a 60 day planned outage that involved 600 people without a positive case on November 6, 2020.
Other nuclear facilities	
Research Reactors	
Continuity Plans	All research reactors have put in place business continuity plans and are currently in operation, with all non-critical staff working from home. • McMaster: Production of medical isotopes is considered an essential service and will continue as long as it is safe to do so.

	• École Polytechnique Montreal (EPM): The reactor is operating as usual and safely. Regular reactor maintenance is performed as per normal procedure and schedule. • Royal Military College (RMC): Slowpoke-2 Facility at RMC operates as usual with essential workers. Regular reactor maintenance is performed as per normal schedule. The facility stays monitored 24/7 by the Military Police and Commissionaires on-site. To reinforce social-distancing, a work schedule has been implemented to ensure only one analyst will be present in the lab during the day. • Saskatchewan Research Council (SRC): Decommissioning of the SRC SLOWPOKE-2 reactor was completed in October 2020.
Staffing	• The licensees have not currently encountered any difficulties with maintaining the minimum shift complement. • Should resource levels be significantly impacted by the pandemic, the reactor(s) will be shutdown and placed in a safe state.
Planned Maintenance	• Maintenance is done as per procedures, and jobs are prioritized as required to allow for COVID-19 restrictions such as physical distancing.
Compliance verification	• With the exception of EPM, all research reactor licensees submitted their annual compliance reports (ACR) before the regulatory deadline of March 30, 2020 and are in compliance with their licences. EPM submitted their ACR on July 20. • CNSC staff continue to engage with licensees and perform compliance verification activities through desktop reviews and/or remote inspections as required, until such a time as it is safe to do on-site inspections.
Fuel Cycle Facilities (Including Uranium Processing and Fuel Fabrication Facilities)	
Continuity Plans	• All uranium processing and fuel fabrication facilities have put in place BCPs. • The additional health and safety measures implemented include limiting and screening visitors to facilities, avoiding in person meetings in favour of teleconferences, non-essential employees working from home, significantly increased cleaning of touch surfaces and instituting a social distancing policy to limit co-mingling through changes to shift structures, direction on self-isolation and reporting if any person was infected by COVID-19. • The UO2 facility and the fuel fabrication facilities will continue operations to continue to supply fuel to Canada's NPPs.
Staffing	• All fuel cycle facilities have staff on-site and the Canadian Nuclear Safety Commission has maintained continued regulatory oversight through this period to ensure safe operations. • The uranium processing and fuel fabrication facilities have taken measures to ensure that the minimum shift complement, where applicable, is not compromised by the COVID-19 outbreak. • The licensees have not currently encountered any difficulties with maintaining the minimum shift complement and continuing facility operations.
Planned Maintenance	• The conversion facility's vision in motion project has been postponed during the COVID-19 outbreak. • Some maintenance activities at the refinery facility and the conversion facility may be moved forward during the refinery facility and UF_6 plant shutdown.

	• Routine maintenance at the uranium processing and fuel fabrication facilities is occurring while implementing COVID-19 restrictions such as physical distancing.
Compliance verification	• CNSC staff will continue to engage with licensees and perform compliance verification activities through desktop reviews and/or remote inspections as required. Only those onsite inspections deemed as essential in the current situation will be carried out in accordance with compliance verification COVID-19 pandemic protocols.
Radioactive materials and Medical Facilities	
Continuity Plans	• Most licensees have resumed operations incorporating new measures including social distancing. • CNSC licensing and certification activities are back to normal operation.
Staffing	• Providing sufficient staff to ensure the safety and security of nuclear substances and radiation devices at all times is an obligation of the Licensee and a requirement stated in paragraph 12(1)(a) of the General Nuclear Safety and Control regulations. This has not changed under the pandemic situation, although the CNSC acknowledges workplace access restrictions and business reductions may result in fewer staff at the licensee site of operations.
Planned maintenance	• Licensees are expected to perform planned maintenance in accordance with their licence and any applicable guidance from manufacturers of equipment. • A number of licensees who offer maintenance services are operating with reduced capacity due to social distancing requirements and travel restrictions.

Compliance verification	• Licensee obligations remain in effect including:
	  ○ Reporting of emergencies, events, etc.
	  ○ Submission of required reports including Annual Compliance Reports
	  ○ Response to notices of non-compliances
	• Staff continue to ensure compliance through:
	  ○ Desktop reviews
	  ○ Remote inspections
	• Limited on-site inspections were performed and others are being planned for certain activities where remote inspections are not feasible.

Other Activities	
Uranium Mines and Mills	• Reduced number of workers on site to the minimum required for safety. • Implemented additional spacing requirements in buildings and work areas. • Adding protective shielding around desks, where needed (i.e. reception, security, etc.). • Reduced capacity on vehicles and conveyances, including aircraft. • Additional screening of staff before boarding a flight (inbound and outbound). • Increased spacing in cafeterias and removed self-serve options. • Increased cleaning. • Reduced use of northern Saskatchewan staff to minimize impact on small communities.

	• Cigar Lake and McClean Lake, the two operational sites, initially restarted in September 2020 but suspended operations in December, returning to the care and maintenance state, as before. • No dates have been proposed for the resumption of uranium mining and milling at these two sites.
Waste Management Facilities	• In March, the licensees took measures to ensure continuity of operations during the COVID-19 outbreak, such as ensuring that all non-essential personnel work from home, restricted access to the facility, splitting staff into two distinct crews working separate two weeks on, two weeks off shifts. Operations and maintenance staff at the WMFs are now back to the work place at 100% staffing capacity. • Low level waste (LLW) transfers from the Darlington Nuclear Generating Station (DNGS), Pickering Nuclear Generating Station (PNGS), and Bruce Nuclear Generating Station (BNGS) to Western Waste Management Facility (WWMF) continue. • Transfer of fuel from BNGS to WWMF were not interrupted but rather slowed to 1-2 DSCs per week (as opposed to up to 3 per week). These have now returned to the normal operational rate of 3 per week. • Transfer of fuel from DNGS to the Darlington Waste Management Facility (DWMF) suspended March 16th but resumed April 20th at a rate of 1 DSC per week (as opposed to 2 normally). These have now returned to the normal operational rate of 2 per week. • Transfer of fuel from PNGS to Pickering Waste Management Facility (PWMF) suspended March 16th but resumed June 2nd at a rate of 1 DSC per week (as opposed to 2 normally). These have now returned to the normal operational rate of 2 per week. • No transfer of fuel ongoing at Point Lepreau. • CNSC staff are monitoring compliance through the reviews of quarterly reports, annual compliance reports (ACRs) and reviews of events. **Update as of April 2021** • On-site inspections are being deferred until spring of 2021.
Transport of Radioactive Materials	• As the processing of applications for transport licences was already entirely digital, COVID-19 has had little to no impact on the CNSC's ability to issue these licences. • On-site inspections are being deferred. • CNSC staff are monitoring compliance through remote inspections and the reviews of reported events during transport (carriers and licensees).
Chalk River Laboratories	**Update as of April 2021** • On Monday, October 26, CNSC staff received notification of the first positive case of COVID-19 at the Chalk River Laboratories (CRL). Since the first notification, 10 additional positive cases of COVID-19 were confirmed, raising the total number of cases to 11. Public health officials classified this as an outbreak. The Canadian Nuclear Laboratories (CNL, operator) conducted a full disinfection of the affected workspaces and the occupants were sent home to self-isolate and self-monitor for symptoms. CNSC staff are satisfied with the measures taken by CNL. On November 10, public health officials declared the CRL outbreak both contained and over.
Commission Proceedings	

Public Hearings / Public Meetings	• The June 17-18 2020 Commission meeting was successfully conducted virtually through remote video conference (ZOOM). • The June public hearing on an amendment to the Douglas Point Waste Facility decommissioning licence has been rescheduled to November 25-26, 2020. It will be conducted virtually. • A virtual Commission meeting was held on September 16, 2020 using a Zoom platform. • All Commission proceedings for the balance of 2020 were conducted using a virtual platform. The CNSC has produced *Guidelines for CNSC Virtual Proceedings* to assist both staff and external participants. • Public comment period for new and draft regulatory documents have been extended. • Certain Commission public hearings are also conducted based solely on written submissions and follow the standard criteria for public notices of hearing, opportunities for participant funding and publication of the Commission's licensing decisions. • The Commission has adopted digital signatures as a new practice for decisions/licences. **Update as of April 2021** • The Commission held a virtual Public Meeting on January 21, 2021. • Special consideration and analysis is underway to ensure Indigenous groups in Canada can continue to participate fully. While only written interventions were permitted for the December 8-10, 2020 and January 21, 2021 public proceedings, Indigenous intervenors were invited to also make an oral presentation. This additional opportunity was made available in the spirit of reconciliation and in recognition of the Indigenous oral tradition of sharing knowledge. •
Exemptions	On July 14, 2020, the Commission exempted, pursuant to section 7 of the *Nuclear Safety and Control Act*, a class of person from the operation of subsection 9(4) of the *Class I Nuclear Facilities Regulations*. The exemption applies to certified shift workers at Class IA facilities whose CNSC certifications were expiring between July and December 2020, allowing for a 6-month extension prior to completing the certification requirements.
Crisis management	
Emergency shift	• All emergency shifts are appropriately staffed, as per the BCP. • CNSC Roster for Nuclear Emergencies was modified to limit number of people required in the Emergency Management Centre. Most staff will be able to perform their emergency response duties remotely.
Calls to the emergency shift	• On work phones, or on personal telephones if staff has not been provided with a work phone.
CNSC Daily running	
Staff	
Remote work	• All CNSC staff are currently working from home and entry to the office building is strictly limited and monitored. • The CNSC has enabled its workforce to work remotely. This includes the procurement of tablets, the expansion of remote server capacity, as well as the leveraging of video conference software.

	• Corporate Health and Safety Risk Assessment was completed in consultation with union and Policy Health and Safety Committee; this serves as the foundation to all health and safety protocols in place to meet or exceed public health guidance. • A Return to the Workplace Working Group has been established and includes members from all CNSC branches, including the sites and regions. This team is focused on bringing some project structure to the CNSC's preparation work so that employees can return to CNSC workspaces safely, while following the best available health guidance. **Update as of April 2021** • Pulse surveys have been administered more than 7 times to monitor the impact of the pandemic and working from home on employees. Findings have informed management action and decision making. • Compliance based training programs have been converted to a distance/virtual learning format or moved completely to online, on demand learning.
Specific cases	• There is no non-essential travel within and outside of Canada until further notice. Those returning from outside of Canada must follow federal and provincial direction, which includes self-isolating for 14 days. • The CNSC has provided information in writing as well as via speakers to inform employees of a variety of self-care practices to promote physical and mental wellness while working from home. Items included sticking to a normal routine, staying active, connecting with others, and leveraging talk-therapy services through the Employee Assistance Program. **Update as of April 2021** • CNSC ergonomic program expanded to include virtual assessment service to provide guidance and recommendations for home office set up – this included the provision of types of desks, chairs to purchase to prevent injury • CNSC continues to report daily to the ESDC Labour program all employee positive and resolved cases; employees and managers know that they must disclose whether they are being tested and the results of their tests as per Part II of the Canada Labour Code. Employees are also aware that they must continue to report physical injuries to their supervisors just as if they were in the office. •
Material	
Phones	A large number of CNSC staff are already in possession of work phones. Staff who have not been provided with work phones are contacted on their personal phones for all important messaging.

Other	• Remote access:
	  ○ The CNSC has two systems that allow remote work: GCSRA (accessed through CNSC-issued computers or tablets) and WebVu (web-based tool accessed from personal devices through a Citrix tool using two-factor authentication).
	  ○ Capacity of the systems depends heavily on usage, but assuming steady use, the systems were initially able to support up to 300 concurrent users with no significant impacts on system performance. Capacity of the GCSRA system has since been increased by 500% to accommodate the significant increase in bandwidth. WebVu's authentication process and environment has also been updated.

	• Emails: As usual through work emails. Staff who do not have remote access or work phones are contacted through their personal emails for important messaging, including all staff messages. • Virtual town halls are being held regularly on Zoom with all CNSC employees to discuss concerns and ideas on the pandemic response. Health professionals were present at the first one to answer COVID-19 related questions and provide staff with advice to promote mental wellness. • CNSC's intranet is updated regularly with relevant information. • CNSC's employee information line provides staff with up-to-date information. • Staff can direct questions, including on the pandemic response, through the AskJacKey tool, managed by the Strategic Communication Directorate. • Video conferences: use of multiple platforms, including Webex, Slack, Microsoft Teams and Zoom (with restrictions in place to protect disclosure of non-protected information). • Audio conferences, including the Government of Canada Teleconferencing Service, Zoom, and WebEx. • Temporary use of platforms such as Slack, Trello and Google Docs is allowed during the transition period. Those tools cannot be used to handle sensitive information, and are to be used exclusively for unclassified information. Final documents are saved on CNSC's document management repository (eAccess).
Communication with stakeholders	
Paper mail	Not ensured
Others	CNSC Website Email Formal Correspondence Social Media
Meetings	Virtual when possible, otherwise interrupted
Challenges to the Regulator	
Current Efforts	• Handling licensee requests for regulatory flexibility and relief in meeting regulatory commitments while ensuring no reduction in level of adequacy of nuclear safety or security. • Given Canada's special obligations towards the Indigenous Peoples of Canada, the CNSC is developing new strategies to determine the best way forward in terms of keeping them engaged and involved. • Ensuring all staff has reliable access to tools, information, and equipment to work effectively remotely, including capacity to accommodate different personal situations and ensuring the protection of information. Site inspectors have some remote access to licensee systems with expanded access underway. • Ensuring site inspectors have appropriate personal protective equipment should they be called upon to conduct activities at the licensee site. • Conducting/modifying scheduled compliance activities in order to maintain regulatory oversight, while respecting licensee restrictions on non-essential personnel, and promotion of physical distancing to mitigate spread of the virus. This is being done through a modified inspection process that allows for flexibility in timing of activities as well as remotely conducting any portions of the inspection that can

	be completed in that manner. Surveillance and monitoring activities can continue to be conducted as normal. • Analyzing risks and mitigation options around implementation of cost recovery, especially as it pertains to small licensees who may be unable to pay cost recovery fees • Adjusting workforce management practices to widespread remote work situations.
Future Looking	• Reviewing the BCP for quick lesson learned that could be applied during the next wave of the pandemic. • NPP operators are planning 6-12 months ahead on staffing and outages, looking at multiple scenarios. • Communicating with IAEA to (i) support their on-going and future safeguard mission and (ii) conduct gap analysis of IAEA Safety Standards framework to incorporate lessons learned by government, industry and regulators on Covid/pandemic response. • Ensuring that the CNSC emerges stronger and takes advantage of opportunities of learnings from the pandemic crisis through: o Developing exit strategy to implement new normal in a thoughtful and considerate way to ensure safety of employees and fulfilment of nuclear safety mandate. o Drawing lessons-learned from the pandemic response, including sharing experience with national and international stakeholders. o Identifying and promptly integrating new and effective licensee oversight procedures in CNSC operations, and review existing ones as appropriate. o Developing innovative methods and processes for engaging safely and proactively with the public and conducting indigenous consultations. o Holding Commission proceedings remotely while ensuring that processes remain fair, safe, transparent, and accessible. o Building capacity and putting in place infrastructure, processes and culture that will improve efficiency and make the organization stronger in the long-term.