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Annual Program Report

Rapport annuel sur les programmes

Canadian Nuclear Laboratories

Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2019 Laboratoires Nucléaires Canadiens

Rapport de surveillance réglementaire pour les sites des Laboratoires Nucléaires Canadiens: 2019

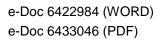
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Submitted by: Soumise par :

CNSC Staff Le personnel de la CCSN





Summary

The purpose of this supplemental Commission Member Document (CMD) is to provide additional information to what is presented in CMD 20-M22, including:

- Correction to data in CMD 20-M22
- CNSC staff responses to comments received from interventions on the current report

No actions are required of the Commission. This CMD is for information only.

Résumé

L'objectif de ce CMD supplémentaire est d'apporter des informations supplémentaires à ce qui est présent dans CMD 20-M22, comprenant:

- Correction des données dans le CMD 20-M22
- Les réponses du personnel de la CCSN aux commentaires reçus à travers les interventions pour le présent Rapport

Aucune mesure n'est requise de la Commission. Ce CMD est fourni à titre d'information seulement

Signed/signé le

December 2, 2020

Kavita Murthy

Director General

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EXECUTIVE SUMMARY

This Commission Member Document (CMD), CMD 20-M22.B, is a supplemental CMD to the <u>Regulatory Oversight Report for Canadian Nuclear Laboratories: 2019</u>. This CMD provides corrections to data in the Regulatory Oversight Report. It also provides CNSC staff responses to interventions received on the <u>Regulatory Oversight Report for Canadian Nuclear Laboratories: 2019</u>.

1 **OVERVIEW**

This Commission Member Document (CMD) is supplemental to the *Regulatory Oversight Report for Canadian Nuclear Laboratories: 2019*, CMD 20-M22.

The purpose of this supplemental CMD 20-M22.B is to provide additional information to what is presented in CMD 20-M22, including:

- Correction to data and information in CMD 20-M22
- CNSC staff responses to comments received from interventions on the Regulatory Oversight Report

2 CORRECTION TO REGULATORY OVERSIGHT REPORT FOR CANADIAN NUCLEAR LABORATORIES: 2019

2.1 Recordable Lost Time Injury Data

Following the release of the <u>Regulatory Oversight Report for Canadian Nuclear</u> <u>Laboratories: 2019</u> for public comment on October 5, 2020, CNSC staff noted an error in the recordable lost-time injuries (RLTIs) reported for the Port Granby Project (PGP).

The RLTI data in Section 4.3 and Appendix G of the Regulatory Oversight Report indicated that in 2019 there were no RLTIs for Canadian Nuclear Laboratories (CNL) staff at the Port Granby Project. CNSC staff have confirmed that there was 1 RLTI for CNL staff at the Port Granby Project.

CNSC staff have also clarified the distinct number of hours worked at each of the Port Hope Project (PHP) and the Port Granby Project, instead of combining the number of total hours worked on the Port Hope Area Initiative.

The hours worked data will be corrected for the Port Hope Project in Appendix G, Table G-3 and a new table for the Port Granby Project added to Appendix G, Table G-4, as follows:

Table G-3: Summary of PHP's recordable lost time injuries (RLTI), frequency and severity (Source: CNL)

Year	2015	2016	2017	2018	2019
Person Hours Worked	N/A	N/A	N/A	N/A	298 377
Lost-Time Injuries	0	0	0	0	1
Working Days Lost	0	0	0	0	33
Frequency	0	0	0	0	0.68
Severity	0	0	0	0	22.57

Table G-4: Summary of PGP's recordable lost time injuries (RLTI), frequency and severity (Source: CNL)

Year	2015	2016	2017	2018	2019
Person Hours Worked	N/A	N/A	N/A	N/A	41 622
Lost-Time Injuries	0	0	0	0	1
Working Days Lost	0	0	0	0	1
Frequency	0	0	0	0	4.81
Severity	0	0	0	0	4.81

This data will be corrected in the *Regulatory Oversight Report for Canadian Nuclear Laboratories: 2019* prior to its publication.

2.2 REGDOC-2.2.4 Implementation Status

Following the release of the <u>Regulatory Oversight Report for Canadian Nuclear Laboratories: 2019</u> for public comment on October 5, 2020, CNSC staff noted an error in the implementation status of REGDOC-2.2.4, *Fitness for Duty Volume 2 Managing Alcohol and Drug Use*, version 2 at the Chalk River Laboratories (CRL) site.

Appendix B, Table B-1 of the Regulatory Oversight Report indicated that REGDOC-2.2.4, *Fitness for Duty Volume 2 Managing Alcohol and Drug Use*, version 2 was implemented at the CRL site in 2019.

However, CNL did not implement version 2 of this regulatory document. CNL, along with OPG, Bruce Power, and NB Power, requested amendments to the Regulatory Document to allow for oral fluid (saliva) testing and Point of Collection Testing.

CNSC staff presented version 3 of REGDOC-2.2.4 Volume 2 to the Commission for approval on November 5, 2020, in <u>CMD 20-M35</u>.

CNL has committed to implement all aspects of version 3 of this regulatory document with the exception of random testing within 6 months of publication, and 12 months post-publication for random testing.

The implementation status of REGDOC-2.2.4, *Fitness for Duty Volume 2 Managing Alcohol and Drug Use*, version 2 at the CRL site will be updated in Table B-1 as "to be determined", as follows:

Document Number	Document Title	Version	Status
REGDOC-2.2.4	Fitness for Duty, Volume II: Managing Alcohol and Drug Use, version 2	2017	TBD

This data will be corrected in the *Regulatory Oversight Report for Canadian Nuclear Laboratories: 2019* prior to its publication.

3 RESPONSES TO INTERVENTIONS ON REGULATORY OVERSIGHT REPORT FOR CANADIAN NUCLEAR LABORATORIES: 2019

The CNSC received eight interventions from the public concerning the Regulatory Oversight Report for Canadian Nuclear Laboratories: 2019:

- CMD 20-M22.1 Submission from Curve Lake First Nation
- CMD 20-M22.2 Submission from Concerned Citizens of Renfrew County and Area
- CMD 20-M22.3 Submission from Canadian Nuclear Workers' Council
- CMD 20-M22.4 Submission from Canadian Environmental Law Association
- CMD 20-M22.5 Submission from Manitoba Metis Federation
- CMD 20-M22.6 Submission from Algonquins of Ontario
- CMD 20-M22.7 Submission from Power Workers Union
- CMD 20-M22.8 Submission from Municipality of Port Hope

CNSC staff carefully considered each intervention. CNSC staff clarifications and responses for key topics identified in the interventions, and within the scope of the *Regulatory Oversight Report for Canadian Nuclear Laboratories: 2019*, are provided in this supplemental CMD.

3.1 CMD 20-M22.1 Submission from Curve Lake First Nation

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
CLFN-01	 While there has been engagement and consultation on the Near-Surface Disposal Facility (NSDF) and the Nuclear Power Demonstration (NPD) Waste Facility, these have been triggered because of the project associated with these matters. There is no routine mechanism to be familiar with the ongoing operations at Chalk River Laboratories. As such, if there were no projects to discuss, there may be no contact by CNL on ongoing operations; to date, any information regarding ongoing operations is absent. There is some engagement and consultation on the Port Hope Area Initiative, though not as organized or coordinated as has been done for the NSDF and NPD; likely because there are more stakeholders and experts involved beyond just CNL. In all cases regarding NSDF, NPD, PHAI, routine consultation and engagement is desired. Furthermore, the ability and the capacity to participate in such things like routine meeting, routine project updates, developing and participating in monitoring plans, etc., is desired. There has been minimal engagement and consultation on Global First Power's proposal for a small modular reactor at the CRL site; with no substantial details to date. 	CNSC staff recognize that the majority of engagement and consultation activities with Curve Lake First Nation over the past few years has been focused on major projects undergoing environmental assessment and licensing reviews, such as the proposed NSDF and the NPD in situ decommissioning projects. CNSC staff are always open to providing regular updates on projects and facilities of interest in proximity to Curve Lake First Nation and other communities, including activities ongoing at the Chalk River Laboratories (CRL) site. CNSC staff will continue to engage with Curve Lake First Nation on an ongoing basis. CNSC staff commit to discussing priorities for future dialogue with Curve Lake First Nation. CNSC staff will also discuss this feedback with Curve Lake First Nation as part of the collaborative development of a long term engagement Terms of Reference. CNSC staff also encourage CNL to work with Curve Lake First Nation to develop an appropriate and mutually acceptable engagement strategy.

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
CLFN-02	 Generalized comments across a number of Regulatory Oversight Reports on accessibility, style, language, and content The information of activities and status of sites are at times too generalized to be of any relevance to the unfamiliar reader. Conversely, the volume of data and references to documents external to the report could be overwhelming to the unfamiliar reader. Activities that are conducted and continue at each site where there could be any potential risk or concern could be made explicitly clear for each nuclear site; more directly and more plainly apparent. The use of accessible language could be incorporated to make sure that the meanings for actions and activities described are clearly understood. For an audience that may not be familiar with the information, consider including details on how the CNSC evaluated events and reached the conclusion that there is no impact; Consider including explanation why certain events had no impact on the environment. Images could be used more often to assist with communication among participants who carry 	CNSC staff acknowledge the comment. The Regulatory Oversight Report is intended to provide an overview of CNSC staff's activities. More detail is included for areas where the Commission has expressed an interest, or where CNSC staff are of the position that the Commission should be informed or updated on a particular topic. CNSC staff strive to use clear and accessible language while not losing the appropriate level of technical detail. CNSC staff will consider this feedback for future Regulatory Oversight Reports. CNSC staff note that there will be future opportunities for input on the CNSC's Regulatory Oversight Reports. The CNSC intends to publish Discussion Paper DIS-20-01 "The Canadian Nuclear Safety Commission: Regulatory Oversight Report Review" in the first quarter of 2021 (January to March) for a 60-day public comment period. Its purpose will be to present information on Regulatory Oversight Reports and solicit feedback on possible improvements. CNSC staff will present the results of the public comments to the Commission in the latter half of 2021 (calendar year). CNSC staff will ensure that Curve Lake First Nation and other interested Indigenous communities are provided the opportunity to provide input and recommendations to the CNSC on potential updates to this Regulatory Document. CNSC staff encourage Curve Lake First Nation to provide

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
	language in non-written forms. Broad area maps, when used, should include traditional territories or treaty areas in order to remain relevant for indigenous participants. Aerial images of actual sites could be used and associated with activities proposed for site Where it is appropriate in the document, consider including an assessment of effectiveness of the	comment on the discussion paper when it is released for the public comment period.
CLFN-03	 engagement activities by the CNSC Generalized comments on how Indigenous communities are acknowledged in the report Suggest that the CNSC consider an appropriate way to acknowledge Indigenous communities at the beginning of the report, early in the report. Where it is contextually relevant or appropriate, consider making a distinction between Indigenous groups and the public and not use the term public to be all encompassing. Suggest that the CNSC consider if the public information program and disclosure protocol (PIDP) sufficiently covers the equivalent needs for Indigenous Communities; Has there been any thought given to an information program and disclosure protocol that was specific to Indigenous Communities? 	CNSC staff acknowledge the comment and will in future Regulatory Oversight Reports, commit to including the acknowledgement at the beginning of the report. In addition to the response to CLFN-02 above, CNSC staff are committed to seeking further feedback from Curve Lake First Nation to better understand what changes could be made to the Regulatory Oversight Report to reflect these recommendations. Through the requirements of the Public Information and Disclosure Program (PIDP) licensees ensure that facility information is communicated to all stakeholders. The PIDP requires licensees identify all target audiences, which includes Indigenous communities. Indigenous engagement is an important aspect of the PIDP. The information and tools used to share the information is identified specific to each audience in the CNSC approved program. Licensees also provide information about Indigenous engagement through their Annual Compliance Report, which is another

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
		way for CNSC staff to ensure that appropriate engagement is carried out with Indigenous communities. CNSC staff will also continue updating Indigenous communities on matters of interest for them and working together on a long term engagement terms of reference, where appropriate. CNSC staff intend to start the review process of REGDOC-3.2.2, Indigenous Engagement in the next year. Prior to recommending revisions to REGDOC-3.2.2, Indigenous Engagement to the Commission, CNSC staff will make the updated Regulatory Document available for public comment. CNSC staff will ensure that Curve Lake First Nation and other interested Indigenous communities are provided the opportunity to provide input and recommendations to the CNSC on potential updates to this Regulatory Document.
CLFN-04	 Specific observations made on content, issues, trends, and other items of interest Consider explaining if and where Indigenous engagement and consultation is rated; if not as part of the SCA framework because it isn't the purpose of the SCA framework, then where could it reside? It would be of help if further information, details, explanations were provided on releases. It would also help to explain how the CNSC evaluated the events and reached the conclusion that there is no impact. 	Technical assessments that CNSC staff conduct to support regulatory decision making are anchored in a framework of 14 technical areas, otherwise known as safety and control areas (SCAs). Indigenous engagement is not captured or rated under the 14 SCAs. However, Indigenous engagement is currently captured under "Other Matters of Regulatory Interest" in staff Commission Member Documents. This does not mean that Indigenous and public engagement are not important to the CNSC's regulatory oversight process or that engagement is not considered. CNSC staff evaluate how licensees communicate with Indigenous communities under the public and disclosure (information) program, and

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
	It would help to understand how action level exceedances and reportable events differ from each other and/or how they are viewed from a regulator's perspective. Perspective.	report on staff's evaluation through Regulatory Oversight Reports. Reporting requirements, including definitions of 'reportable events', are established by the <i>Nuclear Safety and Control Act</i> and its associated regulations, and clarified in CNSC Regulatory Document REGDOC 3.1.2, <i>Reporting Requirements, Volume I: Non-Power Reactor Class I Facilities and Uranium Mines and Mills.</i> Reportable events are reviewed by a multi-disciplinary team of CNSC staff tasked with oversight of a given facility. This team assesses the regulatory significance using established criteria to determine the impact, if any, of the event on the environment, and on the health and safety of Canadians. The CNSC requires its licensees to disclose to the public events and incidents involving its licensed activities that relate to the health, safety and security of Canadians and the environment. In particular, CNL posts consolidated quarterly lists of reportable events that occur at CNL sites (https://www.cnl.ca/en/home/news-and-publications/event-reports.aspx). Action levels are a specific dose of radiation or other parameter that, if reached, may indicate a loss of control of part of a licensee's radiation protection program or environmental protection program, and triggers a requirement for specific action to be taken. Exceeding an action level is reportable to the CNSC and requires specific actions to be taken as defined by subsection 6(2) of the <i>Radiation Protection Regulations</i> and REGDOC-3.1.2.

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
		Exceeding an action level is not considered a non-compliance; however, failure to respond appropriately is a non-compliance.
CLFN-05	 Issues and trends that are of further interest and will require more discussion in the future Explanation on how a high single day release is taken into account in the PHP loadings, given the calculations are done a monthly average Explanation for the trends in Radium-226 and Uranium releases from the Port Granby Project from 2015 to 2019 Explanation for the spikes in Radium-226 and Uranium releases from the Port Hope Project in 2015 to 2019 Explanation on what would be the most appropriate thresholds for comparison since PHP/ PGP do not have annual limits; understanding that the limits in licences are based on either monthly mean, weekly mean, or grab samples. The data in Tables D-5 and D-6 can be put into context with some kind of reference point. 	CNSC staff will continue to engage with Curve Lake First Nation on an ongoing basis and discuss issues and trends that are of interest, other areas that Curve Lake First Nation wishes to learn more about or discuss, and the best way to share relevant information with Curve Lake First Nation in a timely manner. For the issues/trends listed in the intervention: CNL reports the monthly mean concentrations of the parameters for liquid effluent samples as well as the maximum weekly composite concentrations. Thus, any high single day release will be captured by the weekly composite samples results. In 2019, the results remained below their respective regulatory limits. The loading trends for radium-226 and uranium releases from the Port Granby Project from 2015 to 2019 fluctuate from year-to-year depending on the volume of liquid effluent released. The amount of precipitation/run-off water in a given month also contributes to the total volume of liquid effluent released. Between 2015 and 2019, the trend for radium-226 fluctuated between 4.6 MBq and 2.2 MBq, and the trend for uranium fluctuated between 29.0 kg and 2.7 kg respectively. During this period, the releases remained below their regulatory limits.

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
		 The spikes in radium-226 and uranium from the Port Hope Project occurred in 2017 (16.6 MBq and 110.2 kg). In 2017, the loadings to the environment include the loadings from both the wastewater treatment plant, as well as from the old water treatment building. CNL restarted the old water treatment building to treat excess contaminated water, in accordance with their water contingency plan, in order to avoid a release of untreated water to the environment. During this period, the releases remained well below their respective regulatory limits. CNL calculates the release limits on the maximum
		weekly and monthly mean concentrations. Tables D-5 and D-6 in CMD 20-M22 have been converted to the annual basis for comparison with other CNL facilities.
CLFN-06	Opportunities to build relationships with the CNSC and CNL	CNSC staff will continue to engage with Curve Lake First Nation on an ongoing basis.
	 Future discussion on opportunities to build relationship with the CNSC and CNL. 	CNSC staff commit to discussing priorities for future dialogue with Curve Lake First Nation. CNSC staff will discuss the items listed in Curve Lake First Nation's intervention as part of the collaborative development of a long term engagement Terms of Reference.

3.2 CMD 20-M22.2 Submission from Concerned Citizens of Renfrew County and Area

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
CCRCA-01	Comment 1 AECL's activities have never been under effective regulatory control. What happened to public participation? Why is the term "CNL sites" used in the ROR when these are AECL sites? Why do CMDs 20-M22 and 20-M22.A provide no information about CNL's ownership by CNEA and the "GoCo" contractual arrangements between CNL, CNEA, and AECL Why do CMDs 20-M22 and 20-M22.A not discuss AECL's "Site Operating Company" agreement with CNL and its "target-cost" agreements for decommissioning of the Whiteshell Laboratories and the Nuclear Power Demonstration (NPD) reactor?	CNSC staff acknowledge that this intervener has expressed a lack of confidence in the CNSC's oversight of CNL activities, and AECL activities in the past. CNSC staff stress that the CNSC is committed to regulatory excellence. CNSC staff are also committed to continuous improvement in how we communicate and disseminate information on regulatory oversight activities. The Commission tribunal is an independent panel of experts, supported by professional staff. The CNSC upholds the <i>Nuclear Safety and Control Act</i> (NSCA) as passed by the Parliament of Canada. The CNSC has a robust regulatory framework that consists of the laws passed by Parliament governing the regulation of Canada's nuclear industry, as well as Regulations, licences and documents that the CNSC uses to regulate the nuclear industry. Canada has hosted multiple Integrated Regulatory Review Service (IRRS) missions, with conclusions that Canada has a well-established and mature nuclear regulatory framework. The CNSC performs its regulatory oversight in a transparent manner, with opportunities for public involvement. This includes facilitating participation by interveners at Commission proceedings, and offering participant funding to assist interveners. Documents, transcripts and minutes of Commission proceedings are

		available on the CNSC's website. Past deliberations by the Commission regarding CNL's governance structure can be found at: http://www.nuclearsafety.gc.ca/eng/the-commission/pdf/Decision-CNL-CRL-LicenceRenewal-2018-e.pdf . The use of the term "CNL sites": CNL, as the enduring entity, is the CNSC licensee and therefore is responsible for ensuring that all activities at CNL-licensed sites are performed safely and in accordance with regulatory requirements. As such CNL is held accountable by the CNSC for the conduct of the licensed activities at all CNSC licensed sites, including CRL.
CCRCA-02	 Comment 2 Safety and Control Areas (SCAs) do not adequately measure CNL's performance. How did CNSC choose which SCAs to focus on in the ROR? Given that five of the seven AECL sites rated for performance have either Waste Facility or Waste Nuclear Substance licenses, why did CNSC not focus on the waste management SCA? Does management stability affect the rating of the Management System SCA? 	The Safety and Control Area (SCA) framework is designed to allow CNSC staff to evaluate licensee activities consistently and provides a platform to ensure that all aspects relevant to safety and security are reviewed thoroughly, using a risk-informed approach. The Regulatory Oversight Report is intended to provide an overview of CNSC staff activities. More detail is included for areas where the Commission has expressed an interest, or where CNSC staff are of the position that the Commission should be informed or updated on a particular topic. Decommissioning and waste management activities are one type of activity that occurs at CNL licensed sites. For this Regulatory Oversight Report, CNSC staff focused on the SCAs of Radiation Protection, Environmental Protection, and Conventional Health and Safety. These SCAs provide a good overview of safety

performance and contain indicators that will flag potential problems in other SCAs. CNL's performance in these three areas provides key metrics of the effectiveness of CNL's management of the risks for all activities occurring at CNL licensed sites.

While all SCAs may not be explicitly discussed in detail in this Regulatory Oversight Report, all SCAs are continuously subject to CNSC staff oversight. Further, ratings for each SCA are provided in the Regulatory Oversight Report. A licensee's compliance to CNSC requirements affects the rating of each SCA.

For example, CNL has a management system that complies with CSA N286: *Management system requirements for nuclear facilities* as required by the CRL operating licence. This requires the development and documentation of processes so that consistency and continuity of operations and the performance of licensed activities is assured despite staff changes.

CNSC performance ratings apply a qualitative approach that takes into consideration the wide variety of licences and relative risk rankings associated with the activities and associated hazards. Performance rating is based on the same principles across the CNSC:

- Identify compliance results
- Assess compliance results against regulatory requirements
- Rate performance

Annex 1 of CNSC staff's CMD 18-M47 provides further information on the rating methodology used in

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		nuclear fuel cycle and facilities' Regulatory Oversight Reports, which was presented to the Commission during the December 2018 proceedings. This CMD is available on the public website (https://www.nuclearsafety.gc.ca/eng/the- commission/meetings/cmd/pdf/CMD18/CMD18-M47- A.pdf) CNSC staff note that there will be future opportunities for input on the CNSC's Regulatory Oversight Reports. The CNSC intends to publish Discussion Paper DIS-20- 01 "The Canadian Nuclear Safety Commission: Regulatory Oversight Report Review" in the first quarter of 2021 (January to March) for a 60-day public comment period. Its purpose will be to present information on Regulatory Oversight Reports and solicit feedback on possible improvements. CNSC staff will present the results of the public comments to the Commission in the latter half of 2021 (calendar year). CNSC staff encourages Concerned Citizens of Renfrew County and Area to provide comments on the discussion paper when it is released for the public comment period.
CCRCA-03	 Comment 3 CNSC's regulatory efforts may not be strategic. Why did CNSC's regulatory effort at CRL decline in 2019? How much did CNSC's regulatory effort at CRL decline in 2019? How does CNSC choose its areas of regulatory focus for CRL and other AECL facilities? 	CNSC regulatory effort is planned and executed taking into consideration the operational activities ongoing at CNL licensed sites. In order to ensure compliance with the NSCA, its regulations and the licences, CNSC staff have established a compliance program for each licensed facility. The compliance program consists of inspections, desktop reviews of reports, plans or other submissions and reviews of events that CNL reports to the CNSC.

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- Has CNSC formalized a process to review site inspectors to ensure that they remain independent and objective, and applied it to CRL and other AECL facilities?
- When was the last time the NPD was inspected?
- How was "inspecting CNL's ongoing hazard reduction and waste characterization work, in preparation for full decommissioning" carried out without inspections of the NPD?
- How was NPD compliance work done in the absence of inspections?

Baseline compliance plans identify areas that must be assessed and inspected on a set frequency. These plans are tailored to the specific risks of each facility and to its compliance record. These plans are approved by management in both the CNSC's Regulatory Operations Branch and Technical Support Branch to ensure objectivity and collaboration.

The recent Integrated Regulatory Review Service (IRRS) mission did not identify concerns with CNSC inspector objectivity. However, the IRRS did recommend that "CNSC should consider its process to formalize all elements used to ensure a comprehensive, regular review of the objectivity and independence of the on-site inspectors". The CNSC recognizes the importance of ensuring that staff who conduct inspections at nuclear facilities are well trained, with strong technical abilities and key personal attributes including objectivity and independence. A systematic approach to inspector training and qualification is used to certify inspectors. Training on objectivity and independence forms part of an inspector's mandatory Inspection Fundamentals course. The CNSC recertifies each inspector every five years, and includes course refreshers as well as feedback from supervisors and peers regarding technical and key behavioral attributes. In response to the IRRS recommendation, the CNSC will review its current practices by September 2021 and formalize the process elements that ensure the objectivity and independence of inspectors.

compliance activities such as technical assessment of licensee governing documents, event reports, and other compliance monitoring reports submitted by CNL. CNSC regulatory effort is planned and executed taking into consideration the operational activities ongoing at CNL licensed sites and the risks associated with these activities. The NPD Waste Facility is currently only authorized to carry out storage-with-surveillance activities. The NPD Waste Facility did not have a field inspection in the 2019 calendar year. NPD was inspected in October 2018 and again in March 2020. In addition to these inspections, CNSC staff assessed the 2019 NPD Waste Facility Annual Compliance Monitoring Report in detail and provided comments to CNL to address. CNSC staff also carried out IEMP

In addition to inspections, CNSC performs other

CNSC staff's regulatory effort at the CRL site declined in 2019 in comparison to 2018 by approximately 20%. This can be attributed to regulatory activities that ended in 2018 and resulted in less CNSC staff effort in 2019, including the completion of CRL licence renewal and a reduction in compliance activities following the shutdown of the NRU reactor and cessation of Molybdenum-99 production.

sampling in proximity to the NPD Waste Facility in 2018, and the results confirmed that the public and the

environment are protected.

CCRCA-04

Comment 4

Derived Release Limits and public dose estimates do not appear to be implemented consistently.

- Who sets the derived release limits for CRL -the CNSC or CNL?
- Why can CNL release so much more alpha and beta radiation from CRL than Whiteshell?
- Why does the ROR not provide separate dose estimates for liquid and air effluents from CRL?
- What action has CNSC taken in response to the IAEA's suggestion to standardize regulatory practice for derived release limits?

To ensure consistency in the methodology used to calculate Derived Release Limits for airborne and liquid effluents, these limits are calculated in accordance with CSA Standard N288.1, Guidelines for calculating derived release limits for radioactive material in airborne and liquid effluents for normal operation of nuclear facilities. Derived Release Limits are in place for applicable CNL sites and are reflective of and specific to the normal operation of each facility.

While the Derived Release Limits are calculated by CNL, CNL must submit its Derived Release Limits documents to CNSC staff. CNL revised it Derived Release Limits for Chalk River Laboratories in 2018 using updated guidance from CSA N288.1. CNSC staff assessed the revised Derived Release Limits and concluded that they were appropriate, and that the methodology, parameters and assumptions used in the calculation of the Derived Release Limits were in accordance with CSA N288.1.

Slide 26 of CMD 20-M22.C provides the annual radionuclide releases to water and air from Chalk River Laboratories in 2019. CNSC staff note that all releases from the Chalk River Laboratories site were below regulatory limits.

CNSC staff note that REGDOC-2.9.2, *Controlling Releases to the Environment* is currently under development. The approach proposed in the REGDOC 2.9.2 represents a shift from the use of Derived Release Limits to establishing and implementing technology-based release limits for

		releases to the environment. CNSC staff expect this regulatory document to be released for public review and comment early in 2021. CNSC staff will hold an information session when it is released and will host a workshop during the review period.
CCRCA-05	Comment 5 Management of tritium at Chalk River Laboratories. What was the source of the tritium in the waste bags? What were the doses to workers from these releases? Are action levels effective in preventing repeated excessive releases?	Specific tritium handling practices at the CRL site are operational questions best addressed to the licensee. The environmental action level exceedances to air for tritium were due to the transfer of waste bags to the waste management facilities with higher than normal quantities of tritium, from cleanup activities in the now shut-down NRU facility. There were no unplanned doses received to workers as a result of the environmental release. CNSC staff note that the highest tritium dose received by a worker at CRL in 2019 was 1.21 mSv. Action levels are an effective tool designed to alert licensees before regulatory limits are reached. Action levels at CRL have been established in compliance with CSA Standard N288.8, Establishing and implementing action levels to control releases to the environment from nuclear facilities. Exceeding an action level is not considered a noncompliance. The exceedance of an action level and the successful implementation of the required follow-up activities (notification, investigation and implementation of corrective actions) to restore the effectiveness of the program is a clear demonstration of due diligence and a well-maintained and well-managed control system. It is important to note that occasional

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		exceedances indicate that the action level chosen is likely an adequately sensitive indicator of a potential loss of control of the radiation protection or environmental protection program. For this reason, licensee performance is not based on the number of action level exceedances in a given period, but rather how the licensee responds and identifies corrective actions (if required) to prevent reoccurrence. CNL provides annual reports on its environmental monitoring results to CNSC staff, who have assessed CNL's reports for 2019 and determined that they were compliant with requirements, and that CNL's programs are effective in protecting people and the environment. CNL also posts annual compliance reports and environmental performance reports on its website.
CCRCA-06	 Comment 6 Environmental protection and groundwater contamination Why does the ROR not mention the extensive groundwater contamination at CRL, the treatment systems for the groundwater contaminant plumes, and the potential health and environmental consequences if these contaminant plumes are not monitored and controlled? Does CNSC consider carbon-14 to be a substance of concern from a health and environmental standpoint? 	CNSC staff acknowledge that legacy groundwater contamination exists at the CRL site. The General Nuclear Safety and Control Regulations requires every licensee to take all reasonable precautions to protect the environment. Further, the CRL operating licence requires CNL to have an Environmental Protection Program. CNL's environmental protection program includes components that are in compliance with several CSA Standards as stipulated in the CRL Licence Conditions Handbook, including; N288.4, Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills

- N288.5, Effluent monitoring programs at Class I nuclear facilities and uranium mines and mills
- N288.6, Environmental risk assessment at Class I nuclear facilities and uranium mines and mills
- N288.7, Groundwater protection programs at Class I nuclear facilities and uranium mines and mills
- N288.8, Establishing and implementing action levels to control releases to the environment from nuclear facilities

In the environment, sediments are one of the major sinks for carbon-14 (C-14). C-14 is produced naturally in the upper atmosphere. Past atmospheric testing of nuclear weapons has also contributed substantial C-14 to the carbon reservoir in the environment. CNSC staff modeling work on dose to biota indicate that releases from nuclear facilities near the Great Lakes contribute relatively little dose from C-14. Given that members of the public are exposed to low doses of radiation, and specifically very low doses of C-14, the health of members of the public remain protected. Thus, C-14 is not an environmental or health concern.

CNL provides annual reports on its environmental monitoring results to CNSC staff, who have assessed CNL's reports for 2019 and determined that they were compliant with requirements, and that CNL's programs are effective in protecting people and the environment.

CNL also posts annual compliance reports and environmental performance reports on its website.

CCRCA-07

Comment 7

Implementation of CNSC Regulatory Documents (REGDOCs)

- Why did CRL and other AECL sites receive "satisfactory" ratings for the Environmental Protection SCA if the 2017 Environmental Principles, Assessments and Protection Measures REGDOC has not yet been implemented?
- What are the CNSC's expectations for the gap analysis of the *Environmental Principles*, Assessments and Protection Measures REGDOC? What are the CNSC's expectations for the gap analysis of the Public Information and Disclosure REGDOC?
- Why is there no requirement to implement the Public Information and Disclosure REGDOC for the Port Hope Project or the Port Granby Project?

CNSC Regulatory Documents generally present both requirements and guidance in a single document.

It is important to note that regardless of the status of any particular Regulatory Document, the licensee is operating the facility safely in accordance with the requirements of the *Nuclear Safety and Control Act*, its regulations, the CNSC-issued licence and Licence Conditions Handbook. CNL's current programs comply with the requirements placed on CNL by the CNSC.

New Regulatory Documents codify existing practices or represent an incremental improvement based on industry best practices.

For example REGDOC 2.9.1: Environmental Protection: Environmental Protection Policies, Programs and Procedures (2013) is currently implemented at applicable CNL sites, while the revised version REGDOC 2.9.1: Environmental Principles, Assessments and Protection Measures (2017) is being assessed for implementation by CNL.

Gap analyses are intended to identify any areas in which the licensee needs to document changes to its current governance documentation to reflect the requirements of the new Regulatory Document.

Timelines for implementation allows licensees time to capture the updated requirements or guidance in their documents.

Note that not all REGDOCs apply equally to all CNL sites, as some CNL licences are Class I nuclear test

establishment facility licences and others are waste nuclear substance licences and waste facility licences.

For example, the Port Hope Area Initiative licences for the Port Hope Project and the Port Granby Project are Waste Nuclear Substance licences, and as such REGDOC 3.2.1: Public Information and Disclosure is not directly applicable to those licences. However, CNL has implemented a public information program at the Port Hope Area Initiative that is aligned with CNL's corporate public information and disclosure program, and that CNSC staff have inspected and assessed to be comprehensive and effective.

3.3 CMD 20-M22.3 Submission from Canadian Nuclear Workers' Council

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
CNWC-01	The CNWC is supportive of the annual Regulatory Oversight Reports and would be pleased to participate in any future discussion on improving this process.	CNSC staff acknowledge the intervention. There will be future opportunities for input on the CNSC's Regulatory Oversight Reports. The CNSC intends to publish Discussion Paper DIS-20-01 "The Canadian Nuclear Safety Commission: Regulatory Oversight Report Review" in the first quarter of 2021 (January to March) for a 60-day public comment period. Its purpose will be to present information on Regulatory Oversight Reports and solicit feedback on possible improvements. CNSC staff will present the results of the public comments to the Commission in the latter half of 2021 (calendar year).

3.4 CMD 20-M22.4 Submission from Canadian Environmental Law Association

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
CELA-01	Recommendation 1 CELA remains of the view that ROR meetings are not a replacement for relicensing hearings and the CNSC must remedy the discrepancy in participation rights among public intervenors and licensees by providing oral presentation opportunities.	Regulatory Oversight Reports are intended to provide an overview of CNSC staff activities for a given calendar year. Regulatory Oversight Reports are discussed in a Commission meeting where there are no decisions required to be made by the Commission. Licensing hearings are intended to provide an overview of the CNSC assessment of an application for a licence.
		The type of proceeding conducted is determined by the Commission Secretariat and aligned with the <u>CNSC Rules of Procedure</u> .
		CNSC intends to publish "The Canadian Nuclear Safety Commission: Regulatory Oversight Report Review - Discussion paper DIS-20-01" in the first quarter of 2021 for a 60-day public comment period. Its purpose will be to present information on Regulatory Oversight Reports and solicit feedback on possible improvements.
CELA-02	Recommendation 2 The CNSC should extend the amount of time provided to the public for the review of RORs and ensure a minimum 60-day timeframe is provided.	The timelines for submission of documents for public review are determined by the Commission Secretariat and aligned with the <i>CNSC Rules of Procedure</i> .
CELA-03	Recommendation 3 CELA recommends that the ROR should include greater discussion of overarching conclusions and	The Regulatory Oversight Report is intended to provide an overview of CNSC staff activities. More detail is included for areas where the Commission has expressed an interest, or where CNSC staff are of the position that the

	findings related to CNL's actions and how they compare to other licensees' undertakings and sites.	Commission should be informed or updated on a particular topic. CNSC Regulatory Oversight Reports are grouped such that facilities of the same type are presented in a single Regulatory Oversight Report for comparison across a given industry sector. For example, all nuclear power generating stations are presented in one Regulatory Oversight Report. Due to the uniqueness of CNL's activities and as a continuation of the previous AECL focused Regulatory Oversight Report, CNL activities are the focus of a Regulatory Oversight Report by themselves. CNSC intends to publish "The Canadian Nuclear Safety Commission: Regulatory Oversight Report Review - Discussion paper DIS-20-01" in the first quarter of 2021 for
		a 60-day public comment period. Its purpose will be to present information on Regulatory Oversight Reports and solicit feedback on possible improvements.
CELA-04	Recommendation 4 CELA recommends issuing a revised ROR containing more complete and detailed information with regards to all of the licensed activities covered by the ROR.	Regarding the topics and content of the Regulatory Oversight Report, CNSC staff follow the SCA framework and reflect compliance effort, with some added emphasis where the Commission has indicated heightened interest. The 2019 Regulatory Oversight Report was streamlined to focus on regulatory oversight during the 2019 calendar year and to remove redundant and repeated text in the written portion that was carried over to the presentation. Hyperlinks and references to existing information on the CNSC website were provided to reduce duplication in the report of information already publically available. The 2019

		Regulatory Oversight Report provides a similar level of technical data as in 2018, including in the appendices. The 2019 Regulatory Oversight Report is intended to be taken together as a grouping of the written portion and the presentation while leveraging information found on the CNSC public website.
CELA-05	Recommendation 5 The 2019 ROR should present updates, where applicable, regarding ongoing federal environmental assessments.	All ongoing federal environmental assessments are subject to future Commission proceedings dedicated to these projects. The CNSC website and the Canadian Impact Assessment Registry provides updates related to, and the current status of, ongoing environmental assessments. The links to these projects are included in the Regulatory Oversight Report for ease of reference. With regards to CNCS staff's effort towards these projects, that information is included on slide 19 of the Regulatory Oversight Report presentation that was made available for public review on October 5, 2020.
CELA-06	Recommendation 9 CELA recommends that the review of licensees' decommissioning plans should be a required component of RORs. Recommendation 13 CELA recommends that licenced activities should be reviewed against their climate resiliency. The Commission should direct CNSC staff to include this as a component of regulatory oversight reporting.	The Regulatory Oversight Report is intended to provide an overview of CNSC staff activities. More detail is included for areas where the Commission has expressed an interest, or where CNSC staff are of the position that the Commission should be informed or updated on a particular topic. Detailed assessment and discussion of decommissioning plans is a component of the licensing authorization process. CNSC intends to publish "The Canadian Nuclear Safety Commission: Regulatory Oversight Report Review - Discussion paper DIS-20-01" in the first quarter of 2021 for

		a 60-day public comment period. Its purpose will be to present information on Regulatory Oversight Reports and solicit feedback on possible improvements.
CELA-07	Recommendation 10 CELA recommends that the ROR should explain how, in applying the ALARA principle, the CNSC accounts for differential in risk among sites (i.e. the ALARA radiation protection rating for a contaminated site might be different than that of a decommissioned reactor.	The Radiation Protection SCA consists of 4 Specific Areas: Application of ALARA, Worker Dose Control, Radiological Hazard Control and Radiation Protection Program Performance. The rating of the SCA is based on the performance of the licensee in the development and implementation of the measures taken for each of the specific areas, including the 'Application of ALARA'. The application of ALARA is commensurate with site-specific radiological hazards and potential for radiological exposures (social and economic factors taken into consideration) and as such, will differ from one CNL site to another.
CELA-08	Recommendation 11 CELA recommends that the Commission should confirm whether any of the facilities covered by the 2019 ROR were rated solely or primarily on the basis of desktop reviews.	CNSC compliance verification is carried out using a variety of tools including inspections and desktop reviews. To improve organizational agility and nimbleness, CNSC continues to develop and apply additional compliance verification tools when possible, including remote verification methods such as remote and desktop inspections. The individual tool selected for compliance verification is dependent on what is being verified and which tools would be most effective for verification in that particular case. Whether on or off site verification is selected, CNSC staff ensure that the tool is suitable for the verification.

		CNSC regulatory effort is planned and executed taking into consideration the operational activities ongoing at CNL licensed sites and the risks associated with these activities. The NPD Waste Facility is currently only authorized to carry out storage-with-surveillance activities. The NPD Waste Facility did not have a field inspection in the 2019 calendar year. NPD was inspected in October 2018 and again in March 2020. In addition to these inspections, CNSC staff assessed the 2019 NPD Waste Facility Annual Compliance Monitoring Report in detail and provided comments to CNL to address. CNSC staff also carried out IEMP sampling in proximity to the NPD Waste Facility in 2018, and the results confirmed that the public and the environment are protected.
CELA-09	Recommendation 12 CELA recommends that information should be included on why the heavy rain at PGP led to the release of untreated water at PGP, and what has been done to avoid a repeat release of untreated water.	The cause of the July 17, 2019 off-site releases has been determined by the licensee to be due in part to the short-term high-intensity rainfall exceeding a 100-year storm event that was experienced at the Port Granby site and the resulting sudden high-volume surges that overwhelmed existing Port Granby containment berms. Berm breaches compounded the challenges associated with managing such a high volume of storm water over such a short period of time, and allowed for a surge of surface water against containment infrastructure at Cell 2 and the East Gorge, leading to the eventual releases. The corrective actions that were taken involved the repairs to breached berms, reinforcement of water controls, repairs to areas of erosion/sediment deposition and review of the site water management and contingency plans and procedures.

		As part of CNSC regulatory oversight, CNSC staff assessed and concluded that CNL's analysis of the event, determination of consequences and the corrective actions taken are acceptable. Environment and Climate Change Canada was also involved in the regulatory oversight of this event with CNSC staff. CNL completed the remediation activities in October 2020. As such, the issues related to water management from
		severe weather is no longer anticipated to be an issue as there is no longer a need to capture impacted surface water for treatment.
CELA-10	Recommendation 14 Information should be included on the results of the toxicity testing mentioned in the 2018 ROR	All toxicity testing conducted by CNL has passed at both the Port Hope and Port Granby projects both in 2018 and 2019. Due to the event that occurred on July 17, 2019, environmental samples were collected following the release of untreated water. The sample results were below the applicable soil and water guidelines.
CELA-11	Recommendation 15 CELA recommends that radionuclides should be reportable to Canada's National Pollutant Release Inventory (NPRI), supporting the assessment and risk management of chemicals, and encouraging actions aimed at reducing pollutant releases.	Environment and Climate Change Canada (ECCC), applying their procedures, has determined that radionuclides are not a priority for NPRI reporting as the information is already collected and reported on by another agency. Nevertheless, the CNSC and ECCC-NPRI have agreed to work together to improve public access to this information. A Task Team has been formed of both ECCC-NPRI and CNSC specialists along with a stakeholder advisory group. Task Team activities continue to date and have resulted in 90 % completion of the new NPRI query and facility pages which contain embedded links to the CNSC information

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products (Open Government Portal, databases and CNSC facility web pages). The scheduled summer 2020 release for new NPRI query tool and web pages has been delayed due to the need to transfer NPRI Information Technology resources to support the COVID-19 pandemic response. In parallel to the work on NPRI web linkages, the CNSC has created and will continue to update radionuclide release datasets posted to the CNSC Open Government Portal. Currently this site hosts databases containing facility specific total annual release of radionuclides to the environment for four nuclear subsectors:

- 1) Nuclear Power Plants (N=5; 2011-2019);
- 2) Nuclear Processing Facilities (N=7; 2013-2019);
- 3) Uranium Mines and Mills (N=5; 2013-2019);
- 4) CNL (N=6; 2013-2019).

These databases were designed using NPRI formats and coding so NPRI and CNSC datasets can be combined together.

The CNSC is committed to further expanding these data sets in terms of both quality and quantity of data. Current activities involve increasing the NPP database from annual to weekly (air) and monthly (releases) and providing monthly concentrations and loads for the uranium mines/mills along with reporting radionuclide transfers to tailings management facilities. At the most recent stakeholder meeting participants expressed an interest in the CNSC developing a companion information document to assist in the interpretation of the database. This work has

		been added to CNSC 2021 continuous improvement plans for this initiative.
CELA-12	Recommendation 16 Information should be included on key changes to the Licence Condition Handbooks, as well as what has prompted these changes.	Key changes to the licences and LCHs are provided on page 9 of CMD 20-M22 and slide 10 of CMD 20-M22.C.
CELA-13	Recommendation 17 Examples of issues identified during IAEA visits at CRL, WL, PHP, DP and G-1 should be given to make it clear what is meant by "insignificant issues".	The CNSC would consider a significant issue to be one that either impacts the ability of the IAEA to fulfill the objectives of its activity, or impacts its results of inspection. Some examples of significant issues include interfering with safeguards equipment or not providing the access required for IAEA inspectors to verify nuclear material.
CELA-14	Recommendation 18 The changes ordered after the BE rating for Security at Whiteshell should be explained. Recommendation 19 The Commission should require CNL to review and implement the decommissioning REGDOC-2.11.2, immediately following its final publication. Recommendation 20 Regarding the BE rating for Security at Whiteshell, the CNSC should provide an update on whether CNL has completed all actions in the corrective action plan. The information could be provided in a sufficiently generalized form, to avoid any security issues.	Due to the prescribed nature of this information, details of CNL's corrective action plan cannot be shared publically. However, CNSC staff can confirm that CNL has completed all actions in the corrective action plan. In November 2020, the order was closed by the Designated Officer as CNL was determined to have met all the terms and conditions of the order. This information is also presented in CMD 20-M22.C. Once the health risks associated with COVID-19 are adequately mitigated such that CNSC staff can safely travel to Manitoba, CNSC staff will conduct compliance verification activities to verify the implementation of the terms and conditions related to the order. Based on the outcome of that compliance verification activities, CNSC staff will then be in a position to update the rating in the 2020 Regulatory Oversight Report.

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CELA-15	Recommendation 21 A clearer explanation should be given of the causes of the exceedances of action levels for arsenic, uranium, molybdenum and radium-226 in effluent at PGP	CNL reported to the CNSC an action level exceedance for the final effluent compliance sample for the week ending on July 16, 2019, which occurred at the Port Granby wastewater treatment plant. Arsenic: 97 µg/L (action level: 50 µg/L) Uranium:160 µg/L (action level: 100 µg/L) Molybdenum: 54 µg/L (action level: 50 µg/L) Radium-226: 0.11 Bq/L (action level: 0.05 Bq/L) The effluent compliance samples were all below weekly composite release limits. CNL indicated that the probable cause for the event were high influent feed water concentration and temperature. Influent conductivity readings taken during the week was ~23,000 uS/cm. CNL took corrective actions: 1) Decrease permeate conductivity high alarm limits on each reverse osmosis unit. 2) Replace membranes on reverse osmosis unit. As part of CNSC regulatory oversight, CNSC staff concluded that CNL's analysis of the event, determination of consequences and the corrective actions taken are acceptable.
CELA-16	Recommendation 22 A better explanation should be given of how the 4 skin contamination events at WL were allowed to happen.	For clarity, the skin contamination events were localized in nature (for example, chest & neck, hair, wrist, palm of hand) and the significance of these events did not trigger any unscheduled reporting.
		The dose consequences were low, below the action level and any threshold for health consequences.

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		There is also no indication that CNL allowed these events to happen or were complacent in any way. Throughout the time period there were continuous modifications to protective clothing and dress/undress protocols up to the point of deciding that new equipment was required.
CELA-17	Recommendation 23 All the accidents/incidents that led to RLTIs should be described – not just one of them.	CNL reports lost time injuries to Employment and Social Development Canada who administers the <i>Canada Labour Code</i> and the Ontario Ministry of Labour who administers and enforces the <i>Occupational Health and Safety Act</i> . CNL is not required to report all lost time injuries to the CNSC. CNL reported this serious injury to CNSC staff as required as per Section 29 (i) of the <i>General Nuclear Safety and Control Regulations</i> . CNSC staff subsequently reported this injury to the Commission as an Event Initial Report in CMD 19-M9.
CELA-18	Recommendation 24 The corrective and remedial actions taken after the CRL power outage should be mentioned.	 CNL's corrective actions are as follows: To address configuration control issues by inventorying and labelling cables and electrical transmission assets on the site, and to prioritize the evaluation and maintenance/replacement of those assets. To keep trip levels for circuit breakers at the CRL site set to minimums until the completion of a new coordination study to determine correct trip levels for breakers and associated relays. To make better use of the electrical usage data available to CNL in determining whether future faults are imminent.

		 To ensure that electrical distribution equipment at the CRL site is maintained in response to relevant bulletins from equipment manufacturers. To use available data from electrical meters to identify any anomalous conditions as early as possible. To introduce additional tests for cables to help measure cable degradation. CNSC staff are satisfied with these corrective actions and performed an inspection in March 2020 to confirm implementation.
CELA-19	Recommendation 25 It should be mentioned that the accelerated decommissioning may lead to increases in worker radiation doses, as radioactive materials will have had less time to naturally decay. Any efforts intended to counter this risk should also be mentioned.	Section 4.2 of the Regulatory Oversight Report, CMD 20-M22, provides an update on the assessment of the potential effects on the collective occupational dose from the proposed accelerated decommissioning. CNSC staff are currently assessing the ALARA assessment submitted by CNL, which included the potential impact of accelerated decommissioning on both collective and individual doses.
CELA-20	Recommendation 26 Information on the findings of the Remediation Verification at PHAI should be provided.	CNSC staff inspected remediation verification of residential sites. The report number is CNL-PHAI-PHP-2019-07. There were 3 action notices and 1 recommendation issued. The action notices were related to radiation protection: radon monitoring, signage and radiation zone delineation. The recommendation was related to improving information in records. All of the findings were considered low risk. CNL appropriately responded to the inspection findings and CNSC staff have closed all action notices.

CELA-21	Recommendation 27 It should be outlined how the CNSC choses which inspections should be carried out, including what weight is given to following up on previously identified issues.	Every year, CNSC goes through a planning exercise for inspections to be conducted the following fiscal year. The conduct of planned inspections may be impacted due to factors such as availability of specialist resources, changes in licensee plans (if a specific activity is cancelled, it cannot be inspected), changes in schedules and other unpredicted events (such as COVID-19). Where an inspection is impacted, CNSC reviews the inspection to determine if it is most appropriate to reschedule or defer the inspection, combine the inspection with another activity, or cancel the inspection outright.
		When performing an inspection of a particular facility, CNSC staff will also confirm implementation of corrective actions from past inspection findings.
CELA-22	Recommendation 28 More information should be provided on why a number of Gap Analyses are still outstanding for the implementation of REGDOC-2.9.1, version 1.1, which was released in 2017.	CNSC contacted CNL to provide gap analyses and implementation plans for REGDOC 2.9.1: Environmental Principles, Assessments and Protection Measures in February 2020. These plans were due in August 2020. Due to COVID-19, CNL requested additional time to prepare the plans and allow them to focus on managing the impact of the pandemic on their planned work activities. CNSC staff assessed this request and determined there was no impact based on time at risk and accepted CNL's request. CNSC staff note that REGDOC 2.9.1: Environmental Protection: Environmental Protection Policies, Programs and Procedures (2013) is currently implemented at applicable CNL sites, while the revised version REGDOC 2.9.1: Environmental Principles, Assessments and Protection

		Measures (2017) is being assessed for implementation by CNL.
CELA-23	Recommendation 29 Information should be provided on the amount of excess water during heavy rain fall and the capacity of the new Waste Water Treatment Plant and the old Water Treatment Building at PHP	CNL has increased its on-site water capacity by expanding the capacity of the water collection pond and adding additional emergency storage at the Port Hope site. In addition, CNL is in the process of installing a new reverse osmosis line to the wastewater treatment plant to increase the throughput of the wastewater treatment plant, which is currently 800 m³/day. CNL also has an emergency plan that anticipates times where severe weather is forecasted and revises the plan accordingly as lessons are learned.
CELA-24	Recommendation 30 Specific information should be provided on the cause of the continual increase in worker doses over the past 4 years seen in Figure F-2, and what has been done to reverse this trend.	The dose fluctuations from year to year are attributed to the scope and duration of the radiological work conducted, along with the dose rates associated with the work.
CELA-25	Recommendation 31 The separate subsections found in Section 2 of the 2018 ROR should be reintroduced. Recommendation 32 Section 3 should contain separate subsections for each of the facilities covered by the ROR. Recommendation 33 Subsection '4.1.1 Independent Environmental Monitoring Program (IEMP)' should be reintroduced.	The 2019 Regulatory Oversight Report was intended to be read as a multicomponent report, with a written component and complementary presentation component. The written component was streamlined in order to remove redundant and repeated information in the written portion that was carried over to the presentation, and leveraging publically available information website via hyperlinks and references to existing information on the CNSC website. CNSC staff acknowledge the feedback received on the format of this year's report, and will take these comments into consideration in the development of the 2020 Canadian Nuclear Laboratories Regulatory Oversight Report.

	Recommendation 34	
	Section 5 should be reverted to the previous, more detailed version found in the 2018 ROR.	
CELA-26	Recommendation 35 In Appendix A, the columns with information on 'Number of Enforcement Actions Issued' and 'Safety Significance of Enforcement Actions' should be included. Recommendation 36 Information on the findings of inspections should be provided, including what prompted the inspections, and what impact prior announcement of the inspections had on the findings of the inspections. Alternatively, the inspection reports should be made available to the public online.	CNSC staff acknowledge the feedback received on the format of this year's report, and will take these comments into consideration in the development of the 2020 Canadian Nuclear Laboratories Regulatory Oversight Report. Most actions arising from inspections have low safety significance and as a result, the number of actions is not as meaningful as the significance of the actions. Where significant actions have been assigned to CNL, they have been noted, such as the security order at Whiteshell Laboratories site. CNSC is committed to openness and transparency in our work and processes where possible. CNSC continues to explore the options of how information can be provided online. In lieu of CNSC posting inspection reports, the public can request information by emailing the CNSC's general enquiries email address as found on the CNSC website.
CELA-27	Recommendation 37 The lack of FS ratings should be explained. If this rating level cannot be reached, then this should be explained and discussed in the ROR	Please refer to the response to CCRCA-03 above. In addition, CNSC performance ratings apply a qualitative approach that takes into consideration the wide variety of licences and relative risk rankings associated with the activities and associated hazards. Compliance results drive the performance ratings, which represent a holistic summary of performance in each SCA.

A FS rating is assigned when safety and control measures
implemented by the licensee are highly effective and
compliance with regulatory requirements exceeds
requirements and CNSC expectations. This rating is
achievable and assigned when CNSC staff believe that a
licensee's performance merits its use.

3.5 CMD 20-M22.5 Submission from Manitoba Metis Federation

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
MMF-01	Comment 1 The ROR does not adequately acknowledge, recognize, or account for the rights, claims, and interests held by the Community that are recognized and affirmed under s. 35 of the Constitution Act, 1982. [] Although the CNSC suggests that they engaged the MMC through a more targeted approach, it is not clear if or how the described letters, phone calls, meetings, and e-mail correspondence was distinct from the approach taken with the general public and First Nations to account for the unique rights of the MMC.	CNSC staff acknowledge the recommendations from MMF in relation to this concern. The CNSC, as an agent of the Crown, is committed to fulfilling the duty to consult and, where appropriate, accommodate, when it is raised by decisions before the Commission, including licensing decisions for the Whiteshell Laboratories site. The CNSC values the MMF's input to ensure that MMC rights, claims, and interests are appropriately considered in CNSC processes. The MMF and the CNSC have signed a mutually agreed-to consultation Terms of Reference for the MMF's involvement in the EA and licensing process for the proposed WR-1 in-situ decommissioning project. CNSC staff supported the MMF in conducting a Traditional Knowledge and Land Use study as part of the WR-1 EA process. CNSC staff are committed to a meaningful consultation process with MMF as part of the ongoing regulatory review process.
MMF-02	Comment 2 A process for meaningfully continuing to consult with the MMF regarding proposed decommissioning activities and future plans and involving the MMF in decision-making matters related to CNL and AECL's future plans for the site is required.	CNSC staff acknowledge the recommendations from MMF in relation to this concern. CNSC staff are committed to ongoing engagement and consultation with Indigenous groups who have interests in the regulation of nuclear facilities within their traditional and/or treaty territories, including the MMF. We continue

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		to be open to adjusting our communication strategy with the MMF to ensure it is mutually agreeable, including the development of a long-term engagement Terms of Reference, should MMF be interested. CNSC staff encourage CNL and AECL to work with MMF to develop an appropriate and mutually acceptable communication strategy and to continue engaging MMF in relation to future plans for the Whiteshell Laboratories site, where appropriate.
MMF-03	Comment 3 Although this wording [in Section 5.3 on Indigenous	CNSC staff acknowledge the recommendations from MMF in relation to this concern.
	Engagement] suggests that CNL has met its regulatory obligations for Indigenous Engagement and has satisfied the CNSC requirements, it is unclear how obligations for Crown consultation, and where appropriate, accommodations, are included in this process. It is also unclear what the outcomes and results were from the above engagement methods with respect to the Crown's obligations, including if the Crown has effectively addressed or accommodated any issues the MMF has in relation to the WL site.	CNSC staff are committed to ongoing engagement and consultation with Indigenous groups who have interests in the regulation of nuclear facilities within their traditional and/or treaty territories, including the MMF, to ensure their rights, claims, and interests are adequately considered and addressed. The CNSC supports consultation and engagement activities with these groups, including the MMF, through the participant funding program where appropriate. CNSC staff recently provided CNSC staff's draft Indigenous Knowledge policy framework to interested Indigenous groups, including the MMF, for feedback before finalizing. We look forward to receiving and incorporating feedback that MMF may have. Please refer to the responses to MMF-01 and MMF-02 above for further details on CNSC staff's current activities and commitment to ongoing engagement and consultation with the MMF.

MMF-04

Comment 4

CNSC continues in this ROR to provide no detail on the reasoning for the enforcement action order made in 2018 and associated with the low rating on the Security SCA for the WL site. [...] it is unclear if or how the enforcement action order may have or will impact the MMC, or how the enforcement action was addressed by CNL, or attended to by AECL as the site owner. [...] Security at the site has a direct connection to access and as such any enforcement action orders related to security may impact MMC Citizens' access for the purposes of exercising their rights.

The Security Program at the Whiteshell Laboratories site was rated "below expectations" (BE) in 2018. In June 2019, the Commission was briefed in an *in-camera* session on CNSC staff's evaluation of the security program as well as the events that led to the BE rating. Details of CNSC staff's assessment, conclusions and recommendations to the Commission on the Security SCA are found in CMD 19-H4.A. This CMD contains prescribed information and is not publicly available. However, when renewing the Whiteshell Laboratories decommissioning licence in December 2019, the Commission added a facility-specific licence condition to the licence related to the implementation of all security arrangements as outlined in CNL's corrective action plan submitted to the CNSC to address identified deficiencies.

In July 2019, CNL submitted its corrective action plan to CNSC staff. CNSC staff have assessed and can confirm that CNL has adequately completed all actions in the corrective action plan. Due to the prescribed nature of this information, details of CNL's corrective action plan cannot be shared publically. In November 2020, the order was closed with the Designated Officer decision that CNL has met all the terms and conditions of the order. This information is also presented in CMD 20-M22.C.

Please refer to the response to MMF-02 for details on CNSC staff's commitment to MMF regarding ongoing information sharing and engagement with regards to regulatory oversight activities and processes at the Whiteshell Laboratories site.

MMF-05	It is important that CNSC and CNL meaningfully include the MMF, on behalf of the Community, in the collection, implementation and evaluation of the environmental monitoring completed through the IEMP and IMP.	CNSC staff acknowledge the recommendations from MMF in relation to this concern. CNSC staff are committed to continuing to engage and involve interested Indigenous groups, including the MMF, in the CNSC's Independent Environmental Monitoring Program (IEMP) to ensure that sampling efforts take into consideration Indigenous Knowledge and Land Use information so that the process and results are meaningful to interested Indigenous groups. CNSC staff encourage CNL and AECL to continue working with MMF to develop an appropriate and mutually acceptable engagement strategy, including collaboration on monitoring activities and the establishment of a Metis Liaison for the Whiteshell Laboratories site.
MMF-06	Comment 6 It is not clear from the ROR Section 4.1 subsection titled "Estimated dose to the Public" nor from the more detailed explanation in Appendix E, where radiation exposure to the Public is comparable to that of Métis land users.	CSA Standard N288.1, Guidelines for calculating derived release limits for radioactive material in airborne and liquid effluents for normal operation of nuclear facilities has requirements for consideration of Indigenous people living near the facility in the calculation of Derived Release Limits. The calculation of dose to public takes into account the most sensitive receptor, using a bounding exposure scenario, and is protective of Indigenous persons.

3.6 CMD 20-M22.6 Submission from Algonquins of Ontario

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
AOO-01	Information Request #1 Please provide additional information regarding approximately how much additional HEU CNSC is expecting to repatriate to the United States in future years.	In 2020, CNL safely completed the repatriation of all HEU to the United States. This project involved multiple shipments over a period of three years, from Chalk River to the Savanna River, South Carolina. CNSC staff maintained regulatory oversight over the course of the entire process by performing routine inspections and desktop reviews of CNL submissions. There were no failures, incidents or events associated with the shipments. The safe repatriation of HEU fulfills Canada's commitments to the Global Threat Reduction Initiative as well as reducing the nuclear liability and risk for future generations in Canada. CNL is the organization that performed the HEU repatriation activities, and as such any request for
AOO-02	Information Request #2	additional information is best addressed to the licensee. CSA Standard N288.1, <i>Guidelines for calculating derived</i>
1100-02	Please clarify what sort of considerations, if any, CNL has made to ensure that the dose to a hypothetical member of the public is also protective of AOO members who may use the lands and waters in proximity to the licensed sites more extensively and in different ways than members of the public –including AOO members who may work on the sites, and also conduct traditional activities adjacent to the sites, or be	release limits for radioactive material in airborne and liquid effluents for normal operation of nuclear facilities has requirements for consideration of Indigenous people living near the facility in the calculation of Derived Release Limits. The calculation of dose to public takes into account the most sensitive receptor, using a bounding exposure scenario, and is protective of Indigenous persons.

	part of AOO monitoring or cultural heritage activities at the sites.	
AOO-03	Information Request #3 Please indicate how CNL will take corrective and remedial actions beyond the specific scope of distribution cables to prevent other incidences related to "aging infrastructure".	Infrastructure maintenance at CRL is the responsibility of CNL and as such this information request is best addressed to the licensee.
AOO-04	Information Request #4 Please clarify whether any inspections occurred at the NPD site in 2019, and if not, please provide an explanation why along with how the site was evaluated without information pertaining to SCA evaluations.	CNSC regulatory effort is planned and executed taking into consideration the operational activities ongoing at CNL licensed sites and the risks associated with these activities. The NPD Waste Facility is currently only authorized to carry out storage-with-surveillance activities. The NPD Waste Facility did not have a field inspection in the 2019 calendar year. NPD was inspected in October 2018 and again in March 2020. In addition to these inspections, CNSC staff assessed the 2019 NPD Waste Facility Annual Compliance Monitoring Report in detail and provided comments to CNL to address. CNSC staff also carried out IEMP sampling in proximity to the NPD Waste Facility in 2018, and the results confirmed that the public and the environment are protected.
AOO-05	Information Request #5 Please provide the estimated public doses specifically for the NPD site.	CSA Standard N288.1, Guidelines for calculating derived release limits for radioactive material in airborne and liquid effluents for normal operation of nuclear facilities has requirements for consideration of Indigenous people living near the facility in the calculation of Derived Release Limits. Based on the review of CNL's monitoring results, CNSC staff conclude that given the very low levels of

AOO-06	Information Request #6 Please provide the 2019 IEMP sampling results.	contaminants in airborne and waterborne releases (about 0.01 % of their respective DRLs) from the facility, the public dose from NPD's operations remains at a very small fraction (1/100 th) of the public dose limit of 1 mSv/year. CNSC staff are in the process of publishing the 2019 data on the CNSC website and it will be provided to the Algonquins of Ontario once available.
AOO-07	Comment 1/Accommodation 1 The AOO request that the CNSC provide appropriate resources for training and staffing to expand the Kichi-Sìbì Guardians program so that they can contribute to the third-party oversight of CNL's activities from a holistic Algonquin worldview. Comment 2/Accommodation 2 The AOO requests that CNSC provide opportunities for active Algonquin involvement and engagement in the upcoming meeting and reports related to radioactive waste management. Comment 3/Accommodation 3 The AOO recommends that the IEMP continue to engage the AOO for future sampling at CRL and NPD. The AOO must have input and involvement in all IEMP sampling efforts within the AOO Settlement Area. Accommodation 4 The CNSC should provide resources for the development of an AOO-specific Sustainable Archeological Research Program (SARP).	CNSC staff acknowledge these requests and will be working with the Algonquins of Ontario on engagement and involvement in CNSC's activities and processes of interest moving forward, where appropriate. CNSC staff are committed to continuing to engage and involve interested Indigenous groups, including the Algonquins of Ontario, in the CNSC's IEMP to ensure that sampling efforts take into consideration Indigenous Knowledge and Land Use information so that the process and results are meaningful to interested Indigenous groups. CNSC staff encourage CNL and AECL to work with the Algonquins of Ontario to develop an appropriate and mutually acceptable engagement strategy, including collaboration on monitoring activities and the establishment of Indigenous monitors, where appropriate. The CNSC's Participant Funding Program is flexible and can assist the Algonquins of Ontario to meet with CNSC staff, participate in CNSC reviews, gather Indigenous Knowledge, and participate in monitoring activities.

AOO-08

Section 6.0 Recommendations

The AOO recommends that the CNSC integrate the following accommodation measures into their regulatory oversight regime:

- The AOO recommend that the CNSC regulatory oversight regime provide accessible information for Indigenous Peoples, including Algonquin citizens, including the implementation of a communications protocol for informing communities about regulatory oversight participation opportunities, incidents such as spills, accidents or malfunctions, and involvement in emergency planning and response.
- The AOO recommend the CNSC develop a framework for addressing the cumulative effects of CNSC-regulated projects and other activities in a region that affect the AOO's Rights and interests across the unceded AOO Settlement Area.
- The AOO recommend the CNSC integrate collaborative decision-making into their regulatory oversight regime, based on nation-to-nation relationships and the obligation to secure free, prior, and informed consent. This decision making must recognize and strengthen the jurisdiction that the AOO have with respect to the environment and culture.
- The AOO recommend the CNSC integrate rules and criteria into their regulatory oversight regime

CNSC staff are committed to ongoing engagement and consultation with Indigenous groups who have interests in nuclear facilities' regulation within their traditional and/or treaty territories, including the Algonquins of Ontario. This includes working working collaboratively with potentially impacted Indigenous groups to address their concerns, including potential impacts on rights and interests, and work towards consensus.

We continue to be open to adjusting our communication strategy with the Algonquins of Ontario to ensure it is mutually agreeable, including the development of a long-term engagement Terms of Reference.

The CNSC is currently working closely with the Algonquins of Ontario on conducting a collaborative consultation and Rights Impact Assessment and consultation process for Canadian Nuclear Laboratories' (CNL) proposed Near Surface Disposal Facility (NSDF) and Nuclear Power Demonstration (NPD) Closure projects, currently undergoing EA and licensing review processes.

CNSC staff agree that transparency, accountability, credibility and meaningful inclusion of Indigenous Knowledge is important in the CNSC's regulatory process. The CNSC works to integrate Indigenous Knowledge into a number of areas of its regulatory work where appropriate, including: licensing at various stages of a project, environmental/impact assessments, oversight of licensee follow-up and environmental monitoring, and the IEMP. CNSC staff recently developed an Indigenous Knowledge policy framework and are currently seeking comments and

	to encourage transparency, accountability, and credibility and to encourage good science and Indigenous Knowledge-based decisions.	feedback from Indigenous groups, including the Algonquins of Ontario. The CNSC's approach to consultation and engagement with Indigenous peoples, including public Commission proceedings, are consistent with and uphold the principles articulated in UNDRIP. CNSC staff encourage CNL to work directly with the Algonquins of Ontario to develop an appropriate and mutually acceptable communication and collaboration protocol that takes into account Algonquins of Ontario members' unique rights and interests.
AOO-09	Accommodation 5 The AOO recommend that government agencies work with the AOO to develop a one-window approach to consultation and engagement. The CNSC should adopt a 'one window approach', supported by stable funding, through which all CNSC-regulated site-specific engagement, consultation, and oversight activities are convened.	CNSC staff acknowledge and value the Algonquins of Ontario's suggestion. CNSC staff encourage the Algonquins of Ontario to engage with the appropriate Government authorities regarding the development of a 'one window approach' to consultation and engagement with the Algonquins of Ontario, including Natural Resources Canada and Crown-Indigenous Relations and Northern Affairs Canada. The CNSC is committed to working collaboratively with the Algonquins of Ontario to address their concerns that relate to the CNSC through a long-term engagement Terms of Reference, in addition to looking for ways to simplify the funding and engagement process for CNSC-regulated activities for the Algonquins of Ontario, where possible.
AOO-10	Accommodation 6 The CNSC and the AOO should co-develop a Terms of Reference (TOR) to initiate a joint advisory and monitoring committee for CNSC-regulated facilities in	The CNSC remains committed to continue developing the ongoing collaborative relationship with Algonquins of Ontario and are open to exploring opportunities to enhance and formalize the engagement relationship to enable and

the AOO Settlement Area in a way that reflects the unique relationship between the AOO and CNSC, the on-going treaty negotiation process, and a nation tonation relationship based on recognition of rights, respect, co-operation, and partnership.

outline meaningful, agreed upon consultation and engagement processes where appropriate. The CNSC remains committed to developing a long-term engagement Terms of Reference with a work plan that can include items of interest to the Algonquins of Ontario and will be supported with reasonable funding through the CNSC's Participant Funding Program, where possible.

3.7 CMD 20-M22.7 Submission from Power Workers Union

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
PWU-01	No issue/concern raised. The PWU fully supports the findings of CNSC Staff in their 2019 Regulatory Oversight Report for Canadian Nuclear Laboratories Sites and their conclusion that Canadian Nuclear Laboratories Sites were operated safely in 2019 and made adequate provisions for the health, safety and security of workers, the public and the environment.	CNSC staff acknowledge the intervention. No response required.

3.8 CMD 20-M22.8 Submission from Municipality of Port Hope

COMMENT IDENTIFIER	ISSUE/CONCERN RAISED	CNSC STAFF RESPONSE
MPH-01	 The Municipality acknowledges CNL's record of safely operating in Port Hope and their commitment to the environment in the work they are undertaking. While not without challenges, CNL has demonstrated their capacity to address these challenges and welcome input from the Municipality and the community. CNL regularly addresses Council and the public with quarterly updates on Project activities as part of their communications strategy. The Municipality remains optimistic of the project time lines, scheduling and remediation efforts will be undertaken by the PHAI in a proactive, responsible and collaborative manner and delivery will be consistent with the Environmental Assessment, CNSC, MECP and the Municipality's regulatory requirements. 	CNSC staff acknowledge the intervention. No response required.