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**Written submission from the
Algonquins of Ontario**

**Mémoire des
Algonquins de l'Ontario**

**Regulatory Oversight Report for
Canadian Nuclear Laboratories
(CNL) sites: 2018**

**Rapport de surveillance
réglementaire des sites des
Laboratoires Nucléaires Canadiens
(LNC) : 2018**

Commission Meeting

Réunion de la Commission

November 7, 2019

Le 7 novembre 2019

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Review of the Canadian Nuclear Safety Commission Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2018

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1.0 Introduction

1.1. The Algonquins of Ontario

The Algonquins have lived in present-day Ontario for thousands of years before the Europeans arrived. Today, the Algonquins of Ontario (AOO) are comprised of ten Algonquin communities:

- the Algonquins of Pikwakanagan First Nation,
- Antoine,
- Kijicho Manito Madaouskarini (Bancroft),
- Bonnechere,
- Greater Golden Lake,
- Mattawa/North Bay,
- Ottawa,
- Shabot Obaadjiwan (Sharbot Lake),
- Snimikobi (Ardoch), and
- Whitney and Area.

Based on a Protocol signed in 2004, these communities are working together to provide a unified approach to reach a settlement of the Algonquin land claim.

The Algonquin Negotiation Representatives (ANRs) consists of the Chief and Council of the Algonquins of Pikwakanagan First Nation, who are elected under the Pikwakanagan Custom Election Code and one representative from each of the nine other Algonquin communities who are elected by the enrolled Algonquin Voters of each of their communities for a three-year term.

The AOO land claim includes an area of 9 million acres within the watersheds of the Kichi-Sibi¹ (Ottawa River) and the Mattawa River in Ontario, unceded territory that covers most of eastern Ontario including our nation's capital and most of Algonquin Park. More than 1.2 million people live and work within the unceded Algonquin Traditional Territory (See Figure 1.0). There are 84 municipal jurisdictions fully and partially located within the unceded Algonquin Traditional Territory, including 75 lower and single tier municipalities and 9 upper tier counties.

On October 18, 2016, the AOO and the Governments of Ontario and Canada reached a major milestone in their journey toward reconciliation and renewed relationships with the signing of the aforementioned AIP. The signing of the AIP is a key step toward a Final Agreement, and a modern-day Treaty, which will clarify the rights of all concerned.

¹ *The Ottawa River, otherwise known as the Big River, has also been referred to in the Algonquin language as "Kichi-Sibi", "Kichissippi", "Kitchissippi" and "Kichissippi".*

By signing the AIP, the AOO and the Crown have expressed in a formal way their mutual intention and desire for a lasting partnership. This event signalled the beginning of a new relationship between the AOO and the Crown, one in which the mistakes of the past must be supplanted by a new type of mutual respect and cooperation.

Algonquins of Ontario Settlement Area Boundary



Figure 1 - Map of the AOO Settlement Area

1.2. AOO Rights & Interests and the CNSC ROR on CNL Sites: 2018

The AOO are conducting a review of the Regulatory Oversight Report (ROR) for Canadian Nuclear Laboratories Sites: 2018 which presents the Canadian Nuclear Safety Commission (CNSC) staff's assessment of licensee performance at sites that are licensed to Canadian Nuclear Laboratories (CNL)

Each CNL licensed facility is provided a classification based on its fuel cycle program, level of risk and types of hazards, the classifications are low, medium and high (CNSC, 2019). The appropriate classification is determined based on considerations such as the safety of workers and the public including Indigenous groups, safety of the environment, and security.

Two of CNL's sites featured in the ROR report operate within the unceded Algonquin Traditional Territory (AOO Settlement Area):

CNL Facility	Location	Fuel Cycle Program Risk Classification
Chalk River Laboratories (CRL)	Chalk River, Ontario	High
Nuclear Power Demonstration (NPD) Waste Facility	Rolphoton, Ontario	Low

In 2014, all CNSC licences for the operation of CRL and NPD were transferred from Atomic Energy of Canada Limited (AECL) to CNL. CNL manages operations and performs all functions previously done by AECL at CRL and NPD. CRL and NPD are a “GoCo,” or Government-Owned/Contractor-Operated facility, owned by AECL and operated by CNL. Each of the CNL licensed sites continue to be owned by AECL, which represents the Crown, and AECL who retains associated liabilities on behalf of the Government of Canada. AECL receives federal funding to deliver on its mandate and reports to Parliament through the Minister of Natural Resources. AECL also leverages the unique capabilities at its sites to support industry and other third parties on commercial terms. AECL delivers its mandate through a long-term contract with CNL for the management and operation of its sites. CNL is managed and operated by the Canadian National Energy Alliance (CNEA) which was the preferred bidder in a 2015 competitive process. The CNEA includes leadership and management from SNC-Lavalin, Jacobs, and Fluor – major engineering and technology companies.

The unceded Algonquin Traditional Territory has been impacted by Crown decisions to locate and operate uranium and nuclear processing facilities since the Second World War. The Chalk River, Ontario site was established by the Crown in 1944 to move nuclear research facilities from urban Montreal to a remote area with abundant access to water. A new community was built at Deep River, Ontario, to provide residences and facilities for the Chalk River team members. The site was chosen for its proximity to the industrial manufacturing area of Ontario and Quebec, and proximity to a rail head adjacent to a large military base, Camp Petawawa. A pilot reactor known as ZEEP (zero-energy experimental pile) became the first Canadian reactor, and the first to be completed outside the United States, when it went critical in September 1945, ZEEP remained in use by researchers until 1970. A larger 10 MW National Research Experimental (NRX) reactor, which was designed during the Second World War, was completed and went critical in July 1947.

At the time of the Crown decisions to establish and operate these first nuclear facilities in the unceded Algonquin Traditional Territory, the Crown did not consult with the AOO, or provide accommodation for impacts to AOO rights and interests. These Crown decisions resulted in an accumulation of nuclear reactors, research facilities, uranium containing materials, and nuclear processing facilities within the unceded Algonquin Traditional Territory. The Crown’s activities, via AECL and its contractor, continue today, and with impacts will continue for many thousands of years. These impacts are irreversible.

With an understanding of the historic impacts of Crown decisions to site and operate nuclear facilities on the unceded Algonquin Traditional Territory, the AOO have undertaken a review of the CNSC's ROR with a focus on the rights, values and interests of our citizens.

This written submission to the CNSC provides a summary of the ROR, background on CRL and NPD sites, review findings, information requests, comment and accommodations. We also outline several Algonquin practices and teachings that are fundamental to understanding the core issues that we have raised. We want to know that you understand who we are. This understanding is essential to any meaningful engagement on this matter.

The AOO are using this opportunity to put forth our perspectives and are speaking to how processes can be more inclusive of our voices, and our involvement, and appreciate the opportunity being provided by the CNSC to engage in this matter.

1.3 Algonquins of Ontario Values and Teachings

In developing these comments, we have been guided by the spirit and intent of the Teachings of the Seven Grandfathers. These teachings have been passed down from generation to generation and continue to be practiced today:

1. Honesty (Gwayakwaadiziwin): Honesty in facing a situation is to be brave
2. Humility (Dabaadendiziwin): Humility is to know yourself as a sacred part of Creation
3. Respect (Minaadendamowin): To honour all Creation is to have Respect
4. Bravery (Aakode'ewin): Bravery is to face the foe with integrity
5. Wisdom (Nibwaakaawin): To cherish knowledge is to know Wisdom
6. Love (Zaagi'idiwin): To know Love is to know peace
7. Truth (Debwewin): Truth is to know all of these things

2.0 Summary of Regulatory Oversight Report

The ROR for CNL Sites: 2018 is a Commission member document (CMD) which presents the CNSC staff's assessment of licensee performance at sites that are licensed to CNL in the 2018 calendar year (CNSC, 2019). In order to assess the safety performance of CNL, the CNSC conducts regulatory oversight activities consisting of onsite inspections, technical assessments, reviews of reports submitted by CNL, reviews of events and incidents, general communication with CNL (CNSC, 2019).

This report also provides an update on CNSC staff's activities related to public information, engagement with Indigenous communities, CNSC's Independent Environmental Monitoring Program (IEMP). The report provides CNSC staff's assessment of the safety performance of CNL Sites in 2018. The report focuses on three safety and control areas (SCAs): radiation protection, environmental protection, and conventional health and safety.

In 2018, CNSC staff spent 2,700 hours in the field conducting 28 inspections, and nearly 22,000 hours in the office conducting desktop reviews, technical assessments of licensee documents, and preparing for inspections (CNSC, 2019).

The ROR concludes that CNL, as the Crown's contractor, made adequate provisions for the health and safety of workers, the protection of the public and the environment, and Canada's international obligations (CNSC, 2019).

For 2018, the performance in all 14 Safety and Control Areas (SCA's) was rated as "satisfactory" for the CRL and NPD sites.

CNSC staff's compliance activities confirmed that:

- Radiation protection programs at all CNL managed sites adequately controlled radiation exposures, keeping doses ALARA;
- Environmental protection programs at all CNL managed sites were effective in protecting the environment; and
- Conventional health and safety programs at all CNL managed sites continue to protect workers (CNSC, 2019).

The CNSC has created an Independent Environmental Monitoring Program (IEMP) to verify and confirm that the public and the environment around licensed nuclear facilities remain safe (CNSC, 2019). The IEMP involves CNSC staff taking samples from publicly accessible areas around nuclear sites and measuring and analyzing the level of relevant contaminants in those samples (CNSC, 2019). Samples may be taken for air, water, soil, sediment, vegetation, and some food, such as locally grown produce or medicinal plants. Samples are analyzed at the CNSC's laboratory for both radiological and non-radiological contaminants related to the activities of the nuclear site (CNSC, 2019).

2.1. Chalk River Laboratories

Chalk River Laboratories (CRL) is a nuclear research facility that is located along the southern shores of the Kichi-Sibi (Ottawa River) near the Town of Deep River in Renfrew County. CNL received a licence renewal for a period of ten (10) years in March, 2018. The CRL site is 3,700 hectares (9,100 acres) and contains several licence-listed nuclear facilities, including the National Research Universal (NRU) reactor (now shut down) and many other unique facilities and laboratories. The surrounding terrain consists of gently rolling hills interspaced with many small lakes. The Kichi-Sibi flows along the eastern boundary of the CRL site. The Petawawa Military Reserve abuts the CRL restricted area to the southwest.

CNL has planned a significant change in the focus of CRL operations for this licence period. The major change to CRL operations was the permanent shutdown on March 31, 2018 of the NRU reactor. The operation of the NRU reactor has been the most significant source of risk for potential off-site impacts and the single largest contributor to radiological emissions at CRL. The NRU reactor will progress to a permanent safe shutdown state in 2018, followed by transition to storage with surveillance in 2021. The full decommissioning process is expected to be completed by 2045 (CNSC Staff, 2017).

Over the proposed ten-year licence, CNL proposes to continue the following initiatives:

- Science & technology program
- Infrastructure improvements
- Management System evolution
- NRU reactor – execution of shutdown plans
- Decommissioning and waste management
- Near Surface Disposal Facility

Apart from the Near Surface Disposal Facility (NSDF), all the proposed initiatives are permitted within the licence and are already being carried out at CRL. The NSDF is subject to a separate application from CNL that will be considered at a separate hearing later in 2018 and has no bearing on the scope of this licence consideration (CNSC Staff, 2017).

In 2018, CNL extended an invitation to proponents of Small Modular Reactor (SMR) projects to be considered in CNL's evaluation process for the possible construction and operation of an SMR at CRL. In March 2019, Global First Power (GFP) proposed the Micro Modular Reactor Project at the CRL site. Currently the project is at the early stages of an environmental assessment (CNSC, 2019).

Highlights from Regulatory Oversight Report:

- “CNSC staff have classified CRL as ‘high’ risk due to the diversity of activities currently carried out on the site, the storage of large quantities of radioactive waste including spent nuclear fuel and legacy liabilities from past activities (CNSC, 2019).”

- “The cessation of molybdenum-99 production in 2016 and the permanent shut down of the National Research Universal (NRU) reactor in 2018 have significantly lowered the risk profile of the site (CNSC , 2019)”
- “The level of risk at the site will decrease further as CNL’s decommissioning work and repatriation of highly enriched uranium (HEU) continues (CNSC, 2019).” CNL repatriates HEU to the United States as part of the Global Threat Reduction Initiative, a broad international effort to consolidate HEU inventories in fewer locations around the world. This initiative promotes non-proliferation by removing existing weapons grade material from Canada and transferring it to the U.S., which has the capability to reprocess it for peaceful purposes. CNL oversees transportation of HEU in packages (casks) that are specifically designed and certified by both the CNSC and in this circumstance its counterpart, the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Department of Transportation in accordance with international safety requirements established by the International Atomic Energy Agency (IAEA).
- “Due to the complexity of the CRL site and the risk level it poses, CNSC staff have a permanent site office at the CRL site which is staffed by CNSC inspectors. These inspectors are allowed unrestricted access to the CRL site, and carry out both scheduled inspections and frequent walk-downs of CRL facilities and activities. This allows them to maintain a more organic level of knowledge of the activities at the site, and to perform compliance verification activities in response to any situations of concern (CNSC, 2019).”
- “Releases to the environment from the CRL site have decreased due to the permanent shutdown of the NRU reactor, in addition to the decrease in 2016 from the shutdown of the Molybdenum-99 Production Facility (CNSC, 2019).”
- “Two major activities related to radioactive waste were underway at CRL in 2018. Firstly, CNL continued to retrieve fuel from legacy tile holes for transfer to the Fuel Packaging and Storage facility. CNL also began to store sea containers [standard steel sea shipping containers] of radioactive waste generated through decommissioning work; this work began once CNSC staff determined that it was within the licensing basis for the CRL site. CNL intends to eventually transfer much of this material to the proposed NSDF, should that facility receive Commission approval (CNSC, 2019).”
- “During a desk-top review of CRL’s safeguards reports in 2018, CNSC staff determined that previously identified issues with timely reporting persisted. In response, CNL submitted and began implementing an action plan in December 2018. During 2019 CNSC staff have continued to monitor the accuracy of the CRL’s safeguards reports (CNSC ,2019).”

- “For 2018, CNSC staff rated all 14 SCAs for CRL as “satisfactory”. CNSC staff performed 12 inspections at the CRL site in 2018, and issued 12 enforcement actions, 10 of which remain open at the time of this report. The majority of the open actions are related to an inspection which was conducted in December 2018 and which focused on training at the CRL site. The open actions do not pose any immediate threat to safety, security or the environment, but require CNL to make programmatic changes to address the findings. In order to ensure that these findings are adequately addressed, CNSC staff will be performing further follow-up work on training at CNL in 2019 (CNSC, 2019.)”

2.2. Nuclear Power Demonstration Waste Facility (NPD Site)

The NPD site is located in unceded Algonquin Traditional Territory along the Kichi-Sibi near Rolphton, Ontario. The NPD site is approximately 25 km northwest (upstream) of the CRL site. The land around the site is primarily forested with many rivers and lakes that form part of the Ottawa River watershed.

The NPD property itself is approximately 385 hectares, while the Nuclear Power Demonstration Nuclear Generating Station (NPDNGS) and associated facilities make up less than 1% of this area. The NPD reactor is a 20 MW Canada Deuterium Uranium (CANDU®) reactor that began operation in 1962. It was operated by Ontario Hydro until 1987 when it was permanently shut down, after which responsibility for the site was transferred to Atomic Energy of Canada Limited (AECL), a crown corporation. The NPD facilities are now referred to as the Nuclear Power Demonstration Waste Facility and are considered a Class I nuclear facility under the Nuclear Safety and Control Act. The NPD site is currently in a state of storage and surveillance. The NPD site has a federal Decommissioning Waste Facility License and is authorized for storage and surveillance of nuclear waste (CNL EIS, 2017).

After permanent shutdown of the NPDWF, all systems not necessary for the safe storage of wastes were shutdown. Used fuel was moved to the Chalk River Laboratories (CRL) fuel storage facilities. Surplus equipment that could be moved was scavenged for re-use. Other equipment, including the turbine system, control room and support facilities were demolished to the extent possible. Underground storage tanks used for diesel, furnace oil and liquid radiological waste were removed, and the soil was remediated. There are two closed landfills on the NPD site located approximately 300m southwest (Landfill #1) and 600m northwest (Landfill #2) of the NPDWF. Remaining NPDWF structures include the reactor building, a diesel generator, the ventilation stack and a guardhouse (EIS, 2017).

Preliminary closure and decommissioning activities were completed in 1988. During this time, all spent nuclear fuel was removed and transferred to the CRL site. Since that time the NPD site has remained inactive and in a state of permanent shutdown to allow radioactive contamination to diminish. This strategy is known as deferred decommissioning. It allowed

the majority of short-lived radionuclides to decay, CNL has stated that this deferred decommissioning helps to reduce the hazards associated with working on the site and reduces the risk of decommissioning activities (EIS, 2017).

CNL is proposing to undertake in-situ decommissioning for the NPD site through the NPD Closure Project which is currently undergoing a federal EA. The underlying rationale for using this method is that the underground facilities and barriers will contain the majority of nuclear contamination, allowing it to decay through time. Small amounts of nuclear contamination will be released through time but according to the proposed plan, these will be sufficiently small so that they pose minimal risks. For example, CNL claims that after 50,000 years, 98% of the radioactivity of contaminated materials will be retained within the below ground facilities (EIS, 2017).

CNL is proposing to complete decommissioning by first prepping the site and constructing a batch mixing plant for the fabrication of grout. This will be used to make a pourable type of Portland cement. The grout will be poured and pumped throughout the below ground structures to seal them in place. The grout is of a consistency that will allow it to be pumped so that it gets in all crevices of the facility. Next, the above ground structures will be demolished, broken down and used as a backfill overtop the underground facilities. After backfilling has been completed, a concrete cap and engineered barrier will be installed. Grading and drainage ditching will be installed to manage precipitation and runoff. The ventilation stack will be left in place for use by chimney swifts (a species at risk) that use it as roosting habitat. After demolition and grouting have been completed, the site will be rehabilitated and prepared for long-term maintenance and monitoring. After decommissioning activities have been completed the NPDWF will be fenced off and the site will be placed under institutional control, with restricted access. During institutional control, CNL will complete vegetation management, groundwater monitoring, site maintenance (e.g. fence and road), and inspections on engineered cover. Institutional control will continue for an undetermined amount of time.

Highlights from Regulatory Oversight Report:

- In 2018, CNL applied to have a previously existing licence that included the Douglas Point Waste Facility, Gentilly-1 Waste Facility and the NPD Waste Facility under one licence amended so that each site has its own licence. The CNSC granted this request in 2018.
- “CNSC staff have classified NPD site as ‘low’ risk, given that its is in a state of storage with surveillance (CNSC, 2019).”
- “CNL is currently carrying out a number of hazard reduction and waste characterization activities at NPD, in line with decommissioning plans reviewed and accepted by CNSC staff (CNSC, 2019).”

- “At NPD, CNL conducted geological, structural, and radiological characterization activities in support of their proposed in-situ decommissioning plan; and, ceased routine batch releases of effluent to the Ottawa River (CNSC, 2019).”
- “Following a recommendation from CNSC staff, CNL ceased direct releases of liquid effluent (both radiological and hazardous) to the environment from the Wells Area Sump in NPD and began collecting that effluent and shipping it to CRL for treatment prior to release. These former releases of liquid effluent did not exceed any action levels or regulatory limits but were not a best practice for waste management. (CNSC, 2019).”
- “Since 2014, there has been a significant increase of work activities at NPD, including the management of low-level radioactive waste and various characterization activities. Particularly in 2017, characterization work and hazard reduction activities (i.e., asbestos abatement) (CNSC, 2019).”
- “In 2016 CNL submitted an application to the CNSC to modify the decommissioning approach for NPD from full dismantling to in-situ decommissioning, which could accelerate the decommissioning process. (CNSC , 2019). This is referred to as the NPD Closure Project (CNSC, 2019).”
- “As part of the CNSC’s ongoing relationship building with Indigenous communities, CNSC staff collaborated with the Algonquins of Ontario (AOO) in the development of the sampling plan for the NPD Waste Facility. CNSC staff included many of AOO requested locations in the sampling plan conducted in August. Additionally, in October, CNSC staff collected a variety of samples with the aid of AOO Knowledge Holders. This included traditional and medicinal plants. The results were provided to the AOO in May 2019 (CNSC, 2019).”
- “For 2018, CNSC staff rated all 14 SCAs for each of the NPD site as “satisfactory” (CNSC, 2019).”
- “CNSC staff continue to be satisfied with the level and quality of Indigenous engagement conducted by CNL with regards to their operations and proposed projects at the CRL and NPD sites (CNSC, 2019).”

3.0 Review Findings

As part of the AOO’s review of the ROR for CNL Sites: 2018, the AOO has put forward a series of information requests to CNSC and CNL to clarify and provide additional information where necessary. The AOO has also provided a set of comments and accommodations for the CNSC and CNL to consider following the review of the ROR.

3.1. Information Requests

The AOO submits the following information requests to the CNSC in order to clarify or seek additional information on various topics included in the ROR.

#	ROR REFERENCE	INFORMATION REQUEST
1	Section 2.1 “The site also includes 13 different waste management areas (five in operation and eight in long-term monitoring.”	Please provide additional details of each waste management area at CRL including details of the location (with map), storage facilities, waste type, risk profile and long-term storage plan.
2	Section 2.1	Please provide a detailed site map of the CRL with a corresponding table that specifies the name of the CRL facility, nuclear equipment contained in the facility and a brief description of the type of work being conducted at each facility. For facilities that will be decommissioned/demolished please specify.
3	Section 2.2.1 “By the end of September 2018, CNSC staff assessed that all heavy water had been drained from the NRU reactor vessel and temporarily stored safely, pending processing and storing in metal drums.”	<ul style="list-style-type: none"> a) Please specify the location of the temporary storage site and storage method for heavy water drained from the NRU reactor vessel. b) Please specify a timeline for when the heavy water will be stored in a permanent location. c) Please specify the volume of heavy water drained from the NRU reactor.
4	Section 2.1.1 “CNL is progressively and permanently draining and/or	Please specify when the NRU will be placed in a state of storage with surveillance.

	de-energizing systems which are no longer needed so that the NRU facility can be placed in a state of storage with surveillance.”	
4	Section 2.1.1 “The Molybdenum-99 Production Facility (MPF) depended on the NRU reactor for irradiated targets, and with the shutdown of NRU CNSC staff have confirmed it has since transitioned to a safe shutdown state”	Please specify the long-term plans for the MPF and whether the facility is likely to operate again.
5	Section 2.1.1 “Under the joint regulatory oversight of the CNSC and the United States Nuclear Regulatory Commission (USNRC), CNL has been safely returning materials which contain HEU to the United States. Both countries have rigorous regulatory requirements in place based on international standards, and shipments take place when both the CNSC and USNRC give approval.”	Please provide additional details on the Repatriation of Highly Enriched Uranium (HEU) including a description of the regulatory requirements including vehicle types, packaging requirements, security considerations, monitoring and routing.
6	Section 2.1.1 “CNL has repatriated upwards of 95% of HEU in spent fuel from the CRL site, and upwards of 75% of liquid HEU.”	<ul style="list-style-type: none"> a) Please provide reporting on the baseline quantities of HEU at each site location, prior to initiating repatriation. b) Please specify the predicted timeline for the removal of all HEU from the CRL site. c) Please specify the volume of liquid HEU remaining on site and the storage requirements for the remaining HEU on site.
7	Section 2.4.3 “CNL is undertaking	Please specify what industrial use is planned at the NPD site. Is this in

	decommissioning planning activities in support of Phase 3 to render the licensed site appropriate for industrial use.”	reference to the NPD Closure Project?
8	Section 3.2 “CNSC staff performed 12 inspections at the CRL site in 2018, and issued 12 enforcement actions, 10 of which remain open at the time of this report. The majority of the open actions are related to an inspection which was conducted in December 2018 and which focused on training at the CRL site. The open actions do not pose any immediate threat to safety, security or the environment, but require CNL to make programmatic changes to address the findings.”	Please provide details on the nature of enforcement actions issues and the specific issues related to training that were identified at CRL by CNSC inspectors.
9	Section 3.2 “During a desk-top review of CRL’s safeguards reports in 2018, CNSC staff determined that previously identified issues with timely reporting persisted. In response, CNL submitted and began implementing an action plan in December 2018.”	Please specify how CNL’s action plan addresses the issues around timely reporting.
10	Section 3.6 “information received by CNSC staff which alleged deficiencies in safety culture at those sites, specifically related to the raising issues by CNL staff. As part of these inspections, CNSC staff reviewed CNL documents and records, and interviewed	a) Please specify in detail the information CNSC staff received that alleged details of deficiencies in the safety culture, specifically related to the raising of issues by CNL staff. b) Please specify in detail what lead CNSC inspectors to conclude that there was “some reluctance” amongst those workers interviewed on CNL sites with regards to raising other

	<p>current and former CNL staff.</p> <p>Neither inspection found evidence that CNL discourages staff from raising safety-related issues, although the team identified some reluctance amongst those workers interviewed on CNL sites with regards to raising other issues in general. CNSC staff have requested that CNL carry out a safety culture self-assessment by the end of December 2019, and communicate the results of that self-assessment to CNSC staff by the end of March 2020”</p>	<p>issues in general.</p> <p>c) Please provide a copy of CNL’s self assessment for review when it is available.</p>
11	<p>Section 4.1</p> <p>“CRL exceeded Action Levels for environmental protection three times for releases of radioactive substances to the air. These three exceedances were all associated with work being carried out in the NRU facility.”</p>	<p>Please provide additional details on the nature of the exceedances including:</p> <ul style="list-style-type: none"> - Date/time - Contaminant(s) released - Highest measured concentration - Sampling methodology - Regulatory limits for contaminants that exceeded - Brief rationale on the cause of the exceedance
12	<p>Section 4.1</p> <p>“CNL continued to sample and analyze groundwater for radiological and hazardous contaminants at the PHAI, CRL, and WL. Results in 2018 were consistent with historical data, and in some cases concentrations of contaminants have decreased.”</p>	<p>Please specify which groundwater contaminants, at which locations (with a map), have a shown a decrease in concentrations versus historical data and a brief rationale for the decrease.</p>
13	<p>Section 4.2.1</p> <p>“As part of their annual reporting to the CNSC, CNL provides data on dose to a</p>	<p>Please specify whether this hypothetical member of the public would be representative of an Algonquin land user who may partake in traditional land and resource use including harvesting near</p>

	hypothetical member of the public, who is representative of someone who spends considerable time in proximity to the licensed site.”	CRL.
14	Section 4.2.2 “CNL uses the ImpAct tool to record all incidents at all CNL sites, from relatively minor occurrences such as wildlife on site roads, to events which are reportable to the CNSC.”	Please specify any wildlife mortality that occurred at CRL and NPD sites in 2018 including the date, species and cause of death. The AOO would like to determine whether additional mitigation measures are necessary to protect significant species on site including species-at risk such as the Blanding’s Turtle.
15	Section 5.1	Please provide a list of all reportable events at the CRL and NPD sites including dates, description of the incident, risk to the public and corrective actions taken to resolve issues.
16	Section 5.9 “CNL has pursued accelerated decommissioning strategies at many of its sites, resulting in an actual or planned increase in the rate of generation of radioactive wastes.”	Please specify the volume of radioactive waste (high, intermediate or low) generated in 2018.
17	Section 5.9 “CNL also began to store sea containers of radioactive waste generated through decommissioning work; this work began once CNSC staff determined that it was within the licensing basis for the CRL site. CNL intends to eventually transfer much of this material to the proposed NSDF, should that facility receive Commission approval.”	<ul style="list-style-type: none"> a) Please specify how many sea containers of waste were generated and the nature of the waste. b) Please specify how long CNL anticipates storing the waste in sea containers. c) Please specify alternative plans for waste storage if the NSDF is not approved.
18	Section 5.9 “During 2018, CRL continued to	a) Please specify the origin and nature of all radioactive waste that was

	accept radioactive waste from locations across Canada and continued to use off-site contractors for volume reduction work on select wastes.”	accepted at CRL in 2018, not including waste generated at the NPD and CRL sites. b) Please specify whether accepting waste from other jurisdictions was included in the CRL’s current licence

3.2. Comments & Accommodations

The AOO submits the following comments and recommendations to the CNSC following the review of the ROR.

#	ROR REF	COMMENT	ACCOMMODATION
1	2.4.4	The AOO commends CNL for the ceasing the release of effluent to the Ottawa River (Kichi-Sibi) from the NPD site, and shipping/treating all effluent from NPD at CRL prior to release. The AOO appreciates the use of best practice for waste management.	Not applicable
2	3.2	The AOO commends the CNSC for the inclusion of AOO staff and Algonquin Knowledge into the IEMP sampling program at the NPD site in 2018. Including sampling locations put forward by AOO Knowledge Holders and sampling of traditional/medicinal plants demonstrates a commitment to working collaboratively with the AOO and braiding Indigenous Knowledge and western science. The AOO appreciates the use of this best practice.	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 unceded Algonquin Traditional Territory. The AOO has recently developed the Kichi-Sibi Guardians Program, a community-led environmental monitoring program. Where possible CNSC’s IEMP should coordinate with the AOO to integrate the Kichi-Sibi

#	ROR REF	COMMENT	ACCOMMODATION
			Guardians Program into IEMP sampling in the unceded Algonquin Traditional Territory. It is recommended that a formal protocol be developed between the AOO and CNSC around involvement in the IEMP.
3	4.2.1	CNL provides data on dose to the public by modeling radiation levels to “a hypothetical member of the public, who is representative of someone who spends considerable time in proximity to the licensed site.” The AOO is unsure if this is representative of Algonquin community members who spend considerable time near the CRL or NPD sites, but also consume plants, animals and fish which may impacted by CRL or NPD operations.	The AOO recommends that in future ROR’s in addition to a “hypothetical member of the public” the CNSC also include an “Indigenous Land User” who would spend considerable time near the sites, also conduct harvesting activities near the site, and who is also working at each CNL managed site. This would help to determine whether there is additional risk for radiation exposure to Algonquin land users who may consume plants, animals or fish harvested near CRL and NPD, and have work at CNL managed sites.
4	5.3	The AOO would like to acknowledge and commend CNSC staff for improving the consultation and engagement over the course of 2018. The AOO and CNSC are continuing to build and formalize their long-term relationship through regular communication, meetings and funding opportunities, but it important to note that significant progress has been made.	The AOO recommends that CNSC and AOO continue relationship building activities to work towards establishing a formal consultation and accommodation agreement.

#	ROR REF	COMMENT	ACCOMMODATION
5	5.3.1	The AOO would like to acknowledge and commend the CNSC for providing funding to support the Algonquin Knowledge and Land Use Study (AKLUS). The AKLUS is fundamental to understanding the potential impacts of CNL's proposed Near Surface Disposal Facility Project and Nuclear Demonstration Closure Project, as well as other activities at CRL.	The AOO recommends that the results from the AKLUS be integrated (where appropriate) into the EA processes for the Near Surface Disposal Facility Project and Nuclear Demonstration Closure Project, as well as other activities at the CRL site.
6	5.3.1	The AOO would like to acknowledge and commend CNL and CNL staff (specifically Patrick Quinn) for improving the consultation and engagement with the AOO since the CRL relicensing hearing. The AOO and CNL are continuing to build and formalize their long-term relationship through regular communication, meetings and funding opportunities, but it important to note that significant progress has been made. CNL and the AOO have formed a Technical Working Group to address issues related to the NPD Closure Project. CNL and the AOO have also commenced negotiations for a Long-Term Relationship Agreement to formalize a consultation and accommodation process for CNL sites located in the unceded Algonquin Traditional Territory.	The AOO recommends that CNL, and AECL, and the AOO work towards completing the Long-Term Relationship Agreements by the end of 2020 or prior to any CNSC decisions on the NSDF, NPD Closure Projects or Global First Power Micro Modular Reactor Project.
7	5.4	The AOO must be meaningfully consulted and accommodated by Global First Power (and CNL as	The AOO recommends that a Long-Term Relationship Agreement be created

#	ROR REF	COMMENT	ACCOMMODATION
		necessary) to ensure the AOO's rights and interests are protected and the benefits of the Project are shared equitably with the AOO.	between Global First Power and the AOO to formally outline consultation and accommodation requirements.
8	5.5	The AOO is currently participating in the NSDF EA process. The AOO must be meaningfully consulted and accommodated throughout the EA process for the NSDF.	The AOO recommends that consultation and accommodation activities for the NSDF Project follow a similar approach as the NPD Closure Project through the formation of a Technical Working Group specific to the NSDF Project.
9	5.9	The AOO was unaware that CRL was accepting radioactive waste from locations across Canada. The AOO does not want radioactive waste entering the unceded Algonquin Traditional Territory until there is a permanent disposal facility approved and constructed.	The AOO requires additional details on the type of waste being accepted at CRL and the origin of the waste. The AOO seeks assurances that no radioactive waste other than waste from the NPD site will be accepted at CRL until a Crown approval decision is rendered with respect to the NSDF and its waste receipt limitations.

4.0 Conclusion

The AOO has conducted a review of the CNSC *Regulatory Oversight Report CNL Sites: 2018*. We have included our assessment a series of information requests, comments and accommodations for the consideration of the CNSC and CNL.

As discussed, the AOO wishes to acknowledge CNL, AECL, and the CNSC for working collaboratively to improve consultation with the AOO over the past several years. All parties should continue to work together to strengthen and formalize their relationships to ensure adequate consultation, environment protection measures and accommodation measures are in place that provide a meaningful role for the AOO in AECL's site oversight on behalf of the Crown, and CNL's current and future operations under contract with AECL.

We appreciate the opportunity provided to us by the CNSC to provide perspectives about CNL sites that affect the health, well-being, and livelihoods of Algonquin citizens. We believe that moving forward the CNSC should consider integrating the following into their regulatory oversight regime:

- Further opportunities for meaningful participation by the AOO;
- Involvement of the AOO in the ongoing environmental, cultural heritage, and human health monitoring in and around CNSC licensed facilities and transportation routes;
- Accessible information for Indigenous Peoples, including Algonquin citizens, including communications protocols for informing communities about regulatory oversight participation opportunities, incidents such as spills, accidents or malfunctions, and involvement in emergency planning and response;
- A framework for addressing the cumulative effects of CNSC-regulated projects and other activities in a region that affect AOO rights and interests across the unceded Algonquin Traditional Territory
- Collaborative decision-making with Indigenous Peoples, including Algonquin citizens, 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; and
- Rules and criteria to encourage transparency, accountability and credibility and to encourage good science and Indigenous knowledge-based decisions

References

Canadian Nuclear Laboratories. (2017). *Chalk River Laboratories Site Licence Renewal for 2018. Commission Member Document.*

Canadian Nuclear Safety Commission (2019). Regulatory Oversight Report on Canadian Nuclear Laboratories Sites: 2018. *Commission Member Document.*

Canadian Nuclear Safety Commission Staff. (2017). *A Licence Renewal: Canadian Nuclear Laboratories Chalk River Laboratories. Commission Member Document.*