

**IN THE MATTER OF
CANADIAN NUCLEAR LABORATORIES**

**Application to Amend the Nuclear Research and Test Establishment Operating Licence for
the Chalk River Laboratories Site to Authorize the Construction of a Near Surface
Disposal Facility**

SUBMISSIONS OF KITIGAN ZIBI ANISHINABEG

MAY 8, 2023

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1. INTRODUCTION

Kitigan Zibi Anishinabeg (“KZA”) provides these submissions to the Canadian Nuclear Safety Commission (“CNSC”) Registrar further to the Procedural Direction DIR 22-H7 dated July 5, 2022¹ and amended January 31, 2023 (the “Procedural Direction”)², in which the Commission directed that the hearing record be kept open to allow more time to receive additional evidence and information regarding engagement and consultation efforts in respect of KZA and Kebaowek First Nation (“KFN”).

The proposed near surface disposal facility (“NSDF”) does not exist in a vacuum; it is part of a larger history of nuclear development in our traditional territory that has taken place with us on the sidelines, despite us having the strongest rights to have a seat at the table and given what is at stake for our community and future generations. Since well before the issuance of the Procedural Direction, we have been working with limited and strained resources, simultaneously trying to appreciate the extensive body of work completed on the NSDF at the Chalk River Laboratories (“CRL”) site over the last six years, while also being pressed to keep moving forward with meeting requests. We cannot have meaningful input into a project that we have not had the chance to properly assess and that is at the end of the permitting stage.

While KZA appreciates the additional time accorded by the Procedural Direction, we have not had the time or resources to retain the necessary experts to ensure our interests are appropriately captured and reflected. We recognize the efforts of CNSC Staff (“Staff”) and Canadian Nuclear Laboratories (“CNL”) to engage with us and establish an ongoing dialogue, but we continue to have serious concerns about the NSDF that remain unaddressed. We cannot provide our free, prior and informed consent if we are lacking the necessary information and time needed to make a decision and properly engage with our membership. We also struggle to see how our feedback and concerns can be meaningfully incorporated this late in the permitting process.

2. KZA BACKGROUND, RIGHTS AND TERRITORY

2.1 Traditional Territory

(a) *Algonquin Nation*

KZA is an Algonquin Anishinabeg First Nation and one of the eleven communities that constitute the broader Algonquin Nation.³ The Algonquin Anishinabe Nation Tribal Council (“AANTC”) is comprised of six of these First Nations: Kebaowek, Long Point, Kitigan Zibi, Lac Simon, Abitibiwinni and Kitecisakik. The name “Kitigan Zibi” translates to “Garden River”, a reference to KZA’s close relationship with the nearby rivers and lakes. The community has a rich history, with

¹ Canadian Nuclear Safety Commission, “Procedural Direction” (July 5, 2022).

² Canadian Nuclear Safety Commission, “Notice of Public Hearing and Procedural Guidance for Final Submissions” (January 31, 2023).

³ KZA does not agree with or recognize the Algonquins of Ontario’s (“AOO”) participation in the NSDF process. KZA has made clear that there is no such thing as the AOO and that it does not recognize AOO as an “Indigenous Organization” or otherwise. KZA does not accept or acknowledge any claims to Aboriginal or treaty rights made by AOO or recognize it as an entity entitled to the DTCA in any decision making on Algonquin Anishinabeg lands. It is KZA’s position that AOO is a legal and policy creation designed to overtake our own Indigenous community engagement. Neither KZA nor Algonquin Nation divides itself between Ontario and Quebec.

archaeological evidence indicating that the area has been inhabited for at least 6,000 years. The Algonquin Anishinabeg people have lived in the region for generations and have maintained a strong connection to the land and its natural resources.

Since time immemorial, the Algonquin Nation has occupied the length of the Kichi Sibi, or Ottawa River, watershed, from its headwaters in north central Québec, all the way to its outlet in Montréal. Prior to contact, the Algonquin People were known as the Omàmiwininiwag. They had a clan governance system based on the Kichi Sibi watershed. The Algonquin Nation has never ceded, nor abandoned its traditional territory. Their rights and title have not been extinguished. Hence, the Kichi Sibi Watershed, including the CRL site, still remains unceded and the Algonquin First Nations still hold to this day their inherent rights to it.

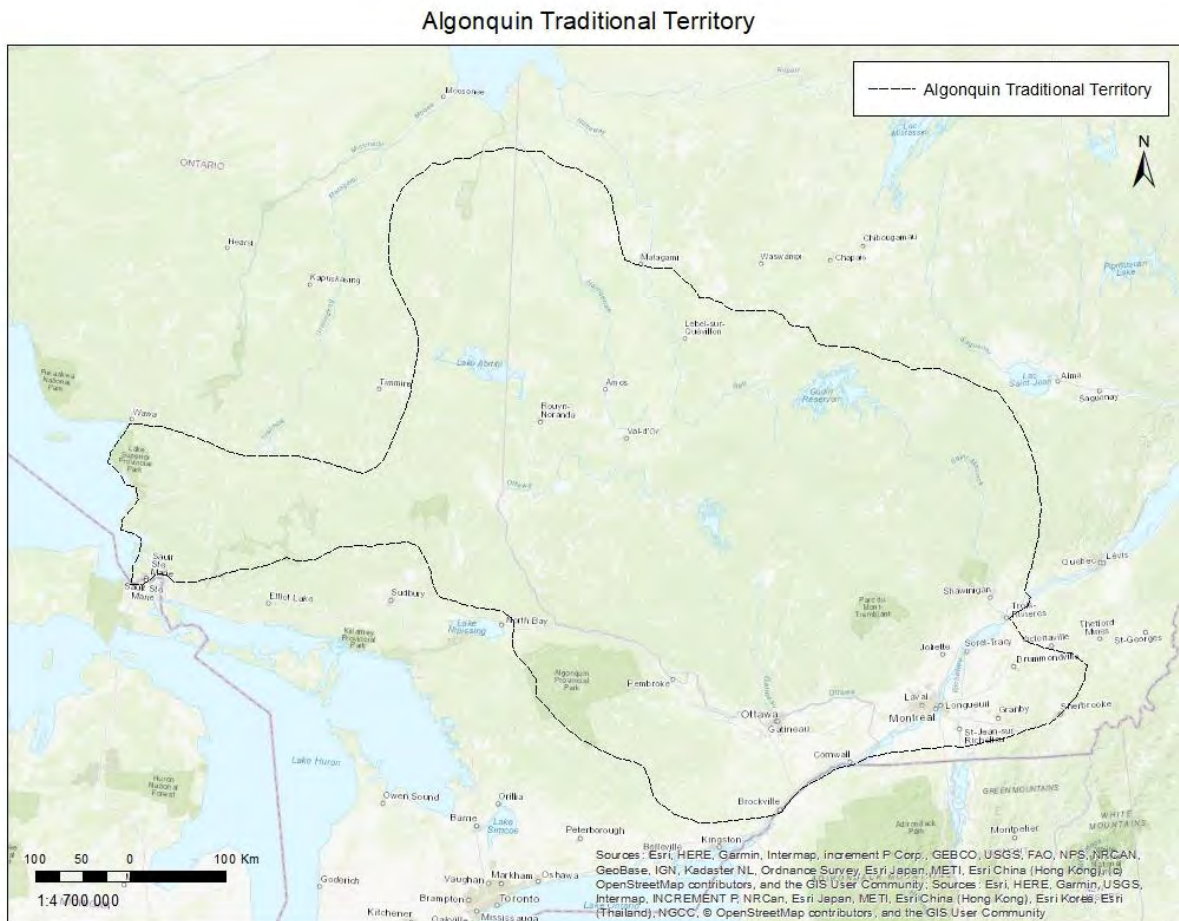


Figure 1: Map of Algonquin Nation traditional territory.

(b) *KZA Title Territory*

While KZA is a part of the Algonquin Nation and recognizes its traditional territory and corresponding rights communally with it, as a self-determined community, KZA has its own history, culture, language, traditional knowledge, ecological sustainability values, territoriality, and land governance model. KZA community members continue to occupy, manage, safeguard and intensively use lands and waterways as they carry out traditional and contemporary activities

on their traditional lands. No treaties were signed by us in relation to our land and these rights remain unextinguished.

Within the Algonquin Nation, Aboriginal title is held at the community level. KZA asserts Aboriginal rights and title over our traditional lands which are located in present-day Ontario and Québec and depicted below in Figure 2. While the NSDF site is not within KZA's title territory, the impacts of the proposed NSDF will undoubtedly be felt downstream from it. At its closest, the NSDF would be less than 38 kilometers from KZA's traditional lands. Consequently, our rights that flow from our title are engaged in this process. We continue to maintain that the Crown's duty to consult lies at the higher end of the spectrum, given the strong *prima facie* case for our claim and the serious potential adverse effect upon it.⁴ Given the community-specific nature of rights, KZA must be consulted with as an independent nation and with the recognition of its specific rights.

In 1989, KZA presented a comprehensive land claim submission entitled "*Le pays des Anicenabe*" or "The Country of the Anicenabe" to the federal Crown.⁵ As part of the comprehensive claims process, KZA has prepared several subsequent documents to the Crown with additional information regarding the Algonquin Nation's traditional activities and current land use.⁶ This information, as well as the supplemental studies discussed in greater detail below, establish the consultation processes and the responsibilities of the Crown with regards to the Algonquin Nation and KZA specifically.

⁴ *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73 at para 44.

⁵ Jacques Frenette, "Le pays des Anicenabe : La revendication territoriale globale de la nation algonquaine" (1988), Brief of Documents ("BOD"), Tab 1.

⁶ Jacques Frenette, "Kitigan Zibi Anishinabeg: Contemporary Occupation and Use of Territory among the Algonquins of Maniwaki" (1993), BOD, Tab 2 ["Contemporary Occupation and Use of Territory"]; Chris Printup, "Kinawind k'dakinan – "This is our land" – Revisiting the Kitigan Zibi Algonquin's Territorial Claim" (2011), p. 12, BOD, Tab 3 ["Revisiting the Territorial Claim"]; Chris Printup, "The Lease of Islands in the Ottawa River by the Algonquin-Nipissing Chiefs of Lake of Two Mountains", BOD, Tab 4. See also excerpts from Stephen McGregor, *Since Time Immemorial: "Our Story" – The Story of the Kitigan Zibi Anishinabeg* (Maniwaki, 2004: Kitigan Zibi Education Council), BOD, Tab 5.



Figure 2: Map of KZA Traditional Territory and Reserve with Proximity to CRL Site. Source: KZA

We acknowledge and recognize that the boundaries of this map are approximate and subject to change as further research is conducted.

(c) Significance of the Kichi Sibi Watershed and CRL Site

The Kichi Sibi, meaning “The Big River”, flows through KZA’s territory. Its tributaries reach deep into our traditional land. KZA is of the view that its people have been granted with this big river since time immemorial, and KZA has been grateful for its wealth since then.

The Kichi Sibi is seen as the main artery connecting the tributaries or the veins of the surrounding waterways. The watersheds and tributaries are intrinsically connected to one’s body system: the rivers and streams are the veins of the Earth like the veins in one’s body. This concept forms the basis of human belonging on Earth, including the Omàmiwininiwag connection to the lands of the Kichi Sibi watershed.

True to its spirituality, KZA deems water sacred: it is the element of life that circulates through all living beings and ensures all life on earth. Culturally and spiritually, women are the water keepers. The whole community is aware of this wealth, transmitted to us by our ancestors, that must be

protected for future generations. Hence, KZA aims to protect the Kichi Sibi, its water, its watershed and all life living in it from any threat on its unceded lands.

Prior to colonization, the Omàmìwininiwag would bury their departed along the waterways – most notably along our main artery, the Kichi Sibi. Many burial sites have been found throughout the years along the Kichi Sibi, including recent archeological finds near Lac Leamy in Gatineau and at Parliament Hill during the renovation of the Centre Block. Sadly, it has historically been common practice at construction sites to overlook the discovery of ancestral remains.⁷

The Kichi Sibi is at the core of KZA’s history, culture and traditional activities, a testament to the historical and cultural importance of this area to Anishinabe. The Kichi Sibi is KZA’s main ancestral water route and is still today a major cultural site, gathering place, and fishing spot. It is where KZA members share their traditional knowledge and culture and teach their youth their way of living and knowing. It is therefore clear why KZA seeks to maintain both the ecological components and the unique cultural and spiritual integrity of the Kichi Sibi watershed. As an Anishinabe Heritage Site, it remains a cornerstone of KZA’s identity.

The CRL site is of particular significance to KZA given its proximity to several important cultural and spiritual sites along the Kichi Sibi. Prior to contact, we exercised our inherent rights along the Kichi Sibi in gathering, making offerings, and conducting ceremonies at these locations. One such example is Oiseau Rock, known in Algonquin as “Migizi Kiishkaabikaan”. The Migizi Kiishkaabikaan is a rock face 150 meters above the Kichi Sibi, located across from the CRL and NSDF site. The access to this significant site would and has been hindered by being just across the Ottawa River from the Chalk River facility.

KZA members still have stories relating to Migizi Kiishkaabikaan, including its connection to the Algonquin Creation Story and the role the Trickster, Wiiskeyjak, played in guiding the people to live and take care of the land and species. This site is a sacred one, where the immense vertical rock wall plunges into the water it is said that “Here, the sky, land and water meet so the Manitous (spirits) can travel from this world to the next”:

⁷ This issue has resurfaced recently in a research project conducted by the Global Centre for Pluralism entitled “[Where Sussex Meets the Kichi Sibi](#)”. Given the NSDF project requires digging and excavating the ground, significant precautions must be taken when carrying out this work, in order to preventing any damage to archeological remains and protecting them. Indeed, knowing that the Anishinabeg have been in the area since time immemorial and buried their ancestors along waterways, the project site has a high archeological potential. KZA expects complete accommodation measures on that matter.

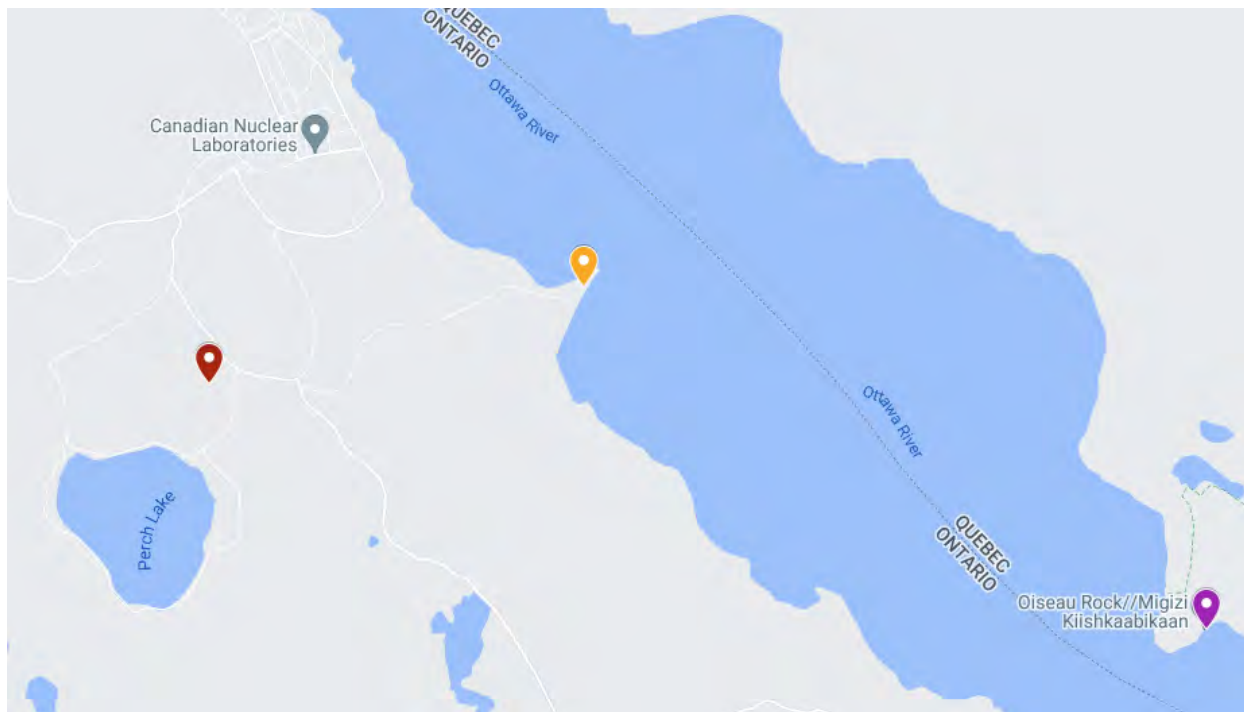


Figure 4: Proximity of the NSDF (red) to Pointe au Baptême (orange) and Migizi Kiishkaabikaan (purple).

Determined to protect this meaningful area, in 2021 an Aki-Sibi (land-river) future conservation alliance of Algonquin communities, including KZA, worked with the Nature Conservancy of Canada (“NCC”) to support the purchase of Fitzpatrick Island downstream from the CRL site.⁸ This island is a traditional and historical stronghold of the Algonquin Nation in the Kichi Sibi watershed. Its significance is tied to the historic Anishinabe community located on the island, its famous Chief, Chief Tessouat, and to the burial ground located there. Algonquin communities are currently working with the NCC to designate the Island as an Indigenous Protected and Conserved Area, ensuring Algonquin communities can govern the island in accordance with Indigenous laws, protocols, and knowledge systems.

⁸ See Angela Haggert, “Spotlight on conservation: Fitzpatrick Island, Quebec”, *Canadian Geographic* (October 12, 2022).

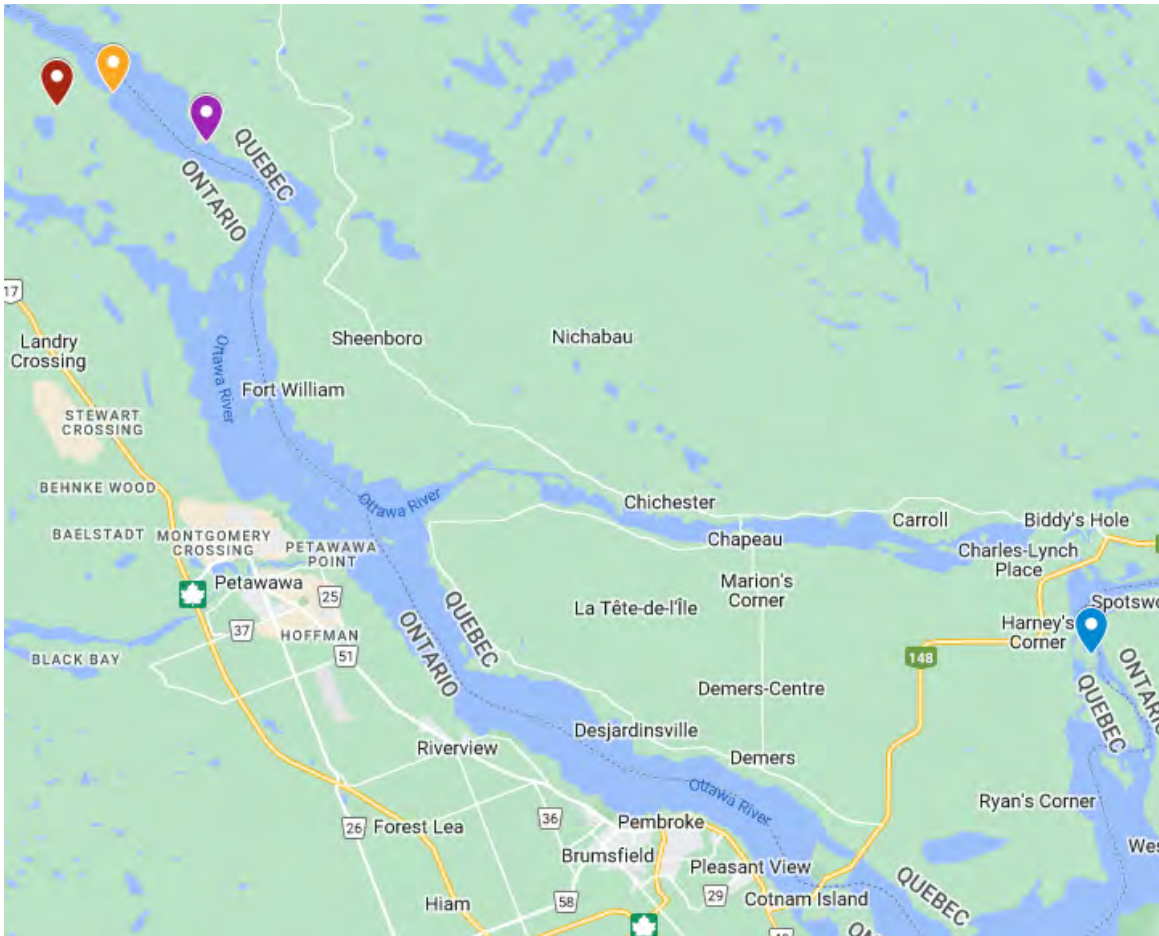


Figure 5: Proximity of the NSDF (red) to Pointe au Baptême (orange), Migizi Kiishkaabikaan (purple) and Fitzpatrick Island (blue).

This initiative is part of a broader movement to affirm the Algonquin peoples' inherent rights to govern and protect the Kichi Sibi watershed. It reflects how, since time immemorial, Algonquin peoples have been the keepers of the Kichi Sibi watershed, with seven generations worth of responsibilities for livelihood security, cultural identity, territoriality, and biodiversity. Algonquin people have culturally distinct ways to assess environmental changes and have adapted their occupation to support the sustainability of all their relatives (plants, water, animals and other life forms on the territory).

Given the NSDF's proximity to the Kichi Sibi, any discussion of the NSDF must start with a deep understanding of Algonquin peoples' stewardship of the Kichi Sibi watershed, and how the health of the Kichi Sibi watershed is culturally and ecologically crucial to KZA. Hence, any impacts to the health of the Kichi Sibi watershed directly affects KZA's livelihood, traditional activities and culture and has impacts to KZA's Indigenous rights and interests. KZA continues to prioritize protecting the Kichi Sibi and its water, the sacred wealth, from any threat to its wellbeing.

2.2 Community Background

(a) *Community and Reserve*

KZA's community is situated at the confluence of the Desert and Gatineau River systems. Our reserve borders on the south-west of the town of Maniwaki in the Outaouais region of Quebec. It is the largest Algonquin First Nation in Canada in terms of population and reserve land area. As of March 2023, KZA is made up of 3,912 members. 2,228 members live off reserve, a large number of whom live and/or work in Ontario.⁹

The KZA reserve was established in 1853 after we migrated from the Lake of Two Mountains Sulpician settlement that was established at what is Oka, Quebec today. This area around the Lake of Two Mountains was also part of the Omàmìwininiwag's traditional lands.¹⁰

The community holds various cultural events throughout the year, such as powwows, drumming circles, and traditional storytelling. The community also operates a museum that showcases the history and culture of the Algonquin Anishinabeg people.

(b) *Governance and Administration*

The imposition of the *Indian Act* band system means KZA has struggled to maintain its customary system of governance and leadership selection. The Algonquin Nation historically had a clan governance system based on the watersheds. Today, KZA's Chief and six Councillors are elected by our membership every two years. Our nomination period begins a minimum of 72 days (more than 10 weeks) prior to an election date. During the nomination period, Chief and Council do not hold public meetings or make any major decisions. We therefore spend significantly more time than the municipal, provincial, and federal governments with whom we engage simply dealing with elections and turnover.

We expect our Chief to handle political negotiations with other governments, including other First Nations, and to hire competent administration for the community. We do not expect our Chief to manage every facet of band administration; there would simply be no time or resources left to strategize, engage in Nation-to-Nation negotiations, and reclaim self-governance of our Nation. Instead, our Councillors, managers, and department heads are expected to administer their respective departments and portfolios.

Although these are important principles to our community, we struggle to hire the skilled people we need to do the work of running what is effectively a small municipality, in addition to negotiating with more than three levels of government and various industry players. As a result, we are often dependent on outside technical advisors to do this work, at rates that are established by a market outside our control. Trying to explain all of this to our members is difficult and can lead to serious misunderstandings and community conflicts.

KZA's resources are particularly strained when it comes to consultation. Since 2016, we have overseen 541 consultation files, of which the NSDF was but one. In any given year, we take in on average 77 new consultation files. The time required to engage in these consultations varies from file to file. The less significant ones can take two to three days to process and answer, but larger

⁹ Printup, "Revisiting the Territorial Claim", p. 8, BOD, Tab 3.

¹⁰ For a more fulsome historical narrative of the creation of our reserve, see Frenette, "Contemporary Occupation and Use of Territory", pp. 1-7, BOD, Tab 2.

ones, such as the NSDF can take several months or years, and often include ongoing monitoring and engagement even once a project is permitted.

Our resources allow us to dedicate only three staff members to handle consultation. From 2016 to 2022, all three of our consultation staff members were assigned to numerous other tasks and responsibilities, in addition to consultation, which hindered their capacity to take-on incoming requests. We estimate that consultations constituted 40% of our consultation staff's full-time workload over that period.

(c) *Land Use and Occupancy*

Our most recent formal study of land use and occupancy was prepared thirty years ago by Jacques Frenette.¹¹ Although we recognize that the territory of our community is never permanently fixed, this study presents a general picture of our use and occupancy within our territory.

(d) *Legacy of Colonialism*

For over a century, Canada's Aboriginal policy was aimed at eliminating our governance systems, extinguishing our rights, disregarding our treaties and orchestrating a process of assimilation. Canada's colonial policies have contributed to the ongoing marginalization and discrimination faced by Indigenous people and continue to have a profound impact on our rights and freedoms. The legacy of settler colonialism in Canada serves as a reminder of the need to address the historical and ongoing injustices our people face.

(i) *The Indian Act*

The *Indian Act* is part of a broader system of colonization and oppression and was enacted to provide government authorities with tools needed to erase our culture and identity and replace them with Euro-centric values and practices. Multiple state-instigated assimilation tactics were operationalized through the *Indian Act*, creating a state that still to this day perpetuates and upholds systemic racism. The *Indian Act* has, among other things created the reserve system, limited our capacity to own property and imposed a colonial governance system disconnected from our own.

Pursuant to the *Indian Act*, we were banned from attending post-secondary education institutions, unless we accepted to relinquish our Indian status.¹² Although this provision of the *Indian Act* was later amended, there are, still to this day, considerable gaps in the university attainment rates observed in First Nation populations versus non-aboriginal populations. In 2016, the recorded university attainment rate within Canada's Non-Aboriginal population aged 25-64 was 45%, versus 22% for the Aboriginal population.¹³

¹¹ Frenette, "Contemporary Occupation and Use of Territory", BOD, Tab 2.

¹² R.A. Malatest & Associates Ltd, "[Aboriginal Peoples and Post-Secondary Education What Educators Have Learned](#)" (January 2004), p. 11.

¹³ Assembly of First Nations, "[First Nations Post-Secondary Education – Fact Sheet](#)" (June 2018), p. 1.

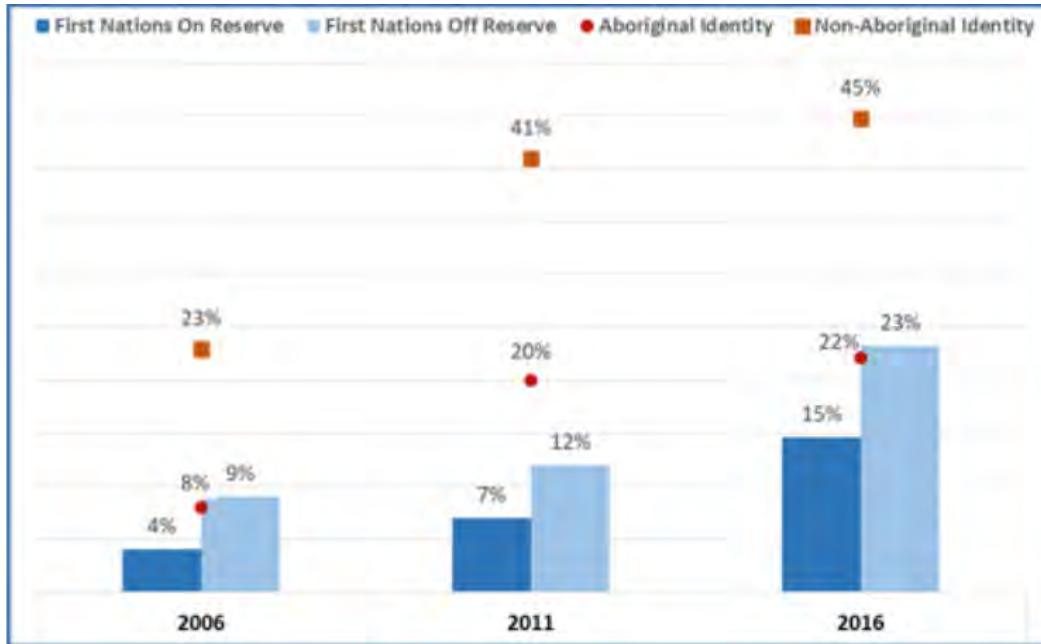


Figure 6: University attainment rates (certificate, diploma or degree), aged 25-64, by area of residence, 2006-2016.
Source: AFN Fact Sheet – June 2018

(ii) The Pass System

Parallel to the creation of the reserve system was the Pass System, which required First Nations people living on reserves to obtain a government-issued permit, or pass, to leave the reserve for any reason, such as for work, education, or medical care. The system was enforced by the RCMP, who had the authority to arrest people found outside the reserve without a pass.¹⁴

The Pass System was designed to control our movement and prevent us from leaving our reserves. The government believed that this system would reduce the costs of providing services to Indigenous people and prevent us from competing with non-Indigenous workers for jobs. However, the Pass System also had a more sinister purpose: to exert control over us and limit our freedom.

The Pass System had a devastating impact on Indigenous communities in Canada. It restricted our ability to travel, work, and receive education and medical care. We were required to obtain a pass for even the most basic activities, such as visiting family members, attending funerals, or participating in cultural events. The process of obtaining a pass was often complicated, time-consuming, and discriminatory. We were required to provide personal information, such as our age, marital status, and employment status, and our applications were often denied without explanation. The RCMP frequently used the Pass System to harass, intimidate, and arrest those who tried to leave the reserve without permission.

¹⁴ Rob Nestor, “Pass System in Canada”, *The Canadian Encyclopedia* (13 July 2018); F. Laurie Barron, “The Indian Pass System in the Canadian West, 1882–1935” *Prairie Forum* vol. 13, no. 1 (1988); Sarah Carter, “Lost Harvests: Prairie Indian Reserve Farmers and Government Policy” (1990); Keith Douglas Smith, “Liberalism, Surveillance, and Resistance: Indigenous Communities in Western Canada, 1877–1927” (2009), pp. 60-73.

The Pass System also had economic impacts on Indigenous communities. It prevented us from working outside the reserve, which limited our employment opportunities and income. The lack of economic opportunities contributed to the poverty and unemployment that continue to affect many Indigenous communities today.

The cultural impacts we have suffered as a result of the imposition of the Pass System are significant. It halted us from participating in cultural events and ceremonies, restricted our nomadic way of life and prevented us from accessing and exercising our rights on our traditional lands, including around the CRL area. The Pass System was part of a broader policy of assimilation that sought to erase our Indigenous cultures and identities and replace them with Euro-Canadian values and practices.

The Pass System was officially abolished in 1951, but its legacy continues to affect Indigenous communities in Canada. Indeed, this system has had long-lasting impacts on our health, education, employment, and social and cultural well-being. Following its abolishment, the federal government maneuvered an attempted destruction of all records of the Pass System, making it now difficult to prove its existence.¹⁵ However, many of our members lived through this period and continue to speak about their experiences.

(iii) Residential School System

The establishment of the residential school system is another clear example of the government's attempts to erase our way of life. The aim of residential schools was not to educate our children, but rather to assimilate them. They were banned from speaking our language and would be severely punished if they contravened. Indeed, the purpose of these government-funded schools, which were administered by the church, was to "kill the Indian in the child".

The children who attended these schools went through traumatic events, creating life-long scars that have been passed down through inter-generational trauma. Their neglect was institutionalized, and they were often prey to psychological, verbal, physical and sexual abuse.¹⁶

The outcome of the residential school system has been the loss and the fragilization of Indigenous identity. As our children were forcefully taken away from us and cut-off from their culture, language and land, the generational transmission of our cultural knowledge was disrupted.

However, we are resilient. We have and continue to resist the attempted colonial erasure. We are actively working at revitalizing our traditional knowledge, language, practices, world-views and laws. In order to do so, we must connect with the land, as it forms a central part of our Indigenous identities.

(e) *Historic and Ongoing Impacts of Water Contamination*

¹⁵ Stephanie Cram, "Dark history of Canada's First Nations pass system uncovered in documentary", CBC (February 19, 2016).

¹⁶ Truth and Reconciliation Commission of Canada, "What We Have Learned: Principles of Truth and Reconciliation" (2015), p. 7.

KZA community members have been and continue to be exposed to abnormal levels of uranium in their drinking water, which is the result of a naturally occurring phenomenon.

In 1993, following a study conducted by Health Canada, we became worried about the quality of our well water supply. Analysis results showed uranium concentration in five wells above the 0.1 mg/L (100 parts-per-billion, or ppb) recommended Canadian guideline for drinking water quality.

In 1994, Health Canada conducted a study to determine the uranium concentration in the drinking water of wells sampled in Maniwaki.¹⁷ The study of uranium levels in the drinking water showed that 8 out of 310 wells exceeded the maximum acceptable concentration of 100 ppb. 10 wells fell between 50 and 100 ppb. The highest value observed within the community was a concentration of 1418 ppb, fourteen times greater than the recommended maximum. Following this study, Health Canada recommended that the uranium concentration in our wells be reduced to less than 50 ppb.

In light of this alarming situation, and pressing concerns expressed by KZA, the Radiation Protection Bureau undertook a study to investigate the possible link between long-term ingestion of uranium in community drinking water and changes in the kidney function of KZA community members.¹⁸

The study took place between 1996 and 1998 and implicated 77 potentially affected community members.¹⁹ The study was conducted through the collection of urine samples and a detailed evaluation of the actual exposition of the subjects over a period of 15 years. The results showed that the long-term ingestion of uranium in drinking water by the community had produced some interference with kidney function, which showed abnormalities when exposed to uranium.

Following this study, the Outaouais Public Health Department issued in February 1999 a recommendation that measures be taken to ensure that KZA community members not drink uranium contaminated water.²⁰ KZA was under a drinking water advisory from 1999 to December of 2017.²¹

In April 1999, a study conducted by the École Polytechnique de Montreal revealed the presence of radium-228 within KZA's drinking water.²² In light of this study, the provincial Health Minister

¹⁷ Health Canada, Environmental Health Services, "Study Report – Assessment of the Uranium Concentration in Drinking Water For the Maniwaki Band Council" (October 20, 1994), BOD, Tab 6.

¹⁸ Radiation Protection Bureau, Health Protection Branch, "Assessment of The Effect on Kidney Function of Long-Term Ingestion of Uranium in Drinking Water by the Kitigan Zibi Community" (December 31, 1998), BOD, Tab 7 [Radiation Protection Bureau, "Effect on Kidney Function of Long-Term Ingestion of Uranium in Drinking Water by KZA members"].

¹⁹ Radiation Protection Bureau, "Effect on Kidney Function of Long-Term Ingestion of Uranium in Drinking Water by KZA members", p. 11, BOD, Tab 7.

²⁰ Régie Régionale de la Santé et des Services Sociaux de L'Outaouais, Direction de la Santé Publique, Jean De Serres, "Letter: Presence of uranium in the water of certain wells on the Kitigan Zibi reserve" (February 11, 1999), BOD, Tab 8.

²¹ Indigenous Services Canada, "Map of long-term drinking water advisories on public systems on reserves", www.canada.ca/en.html, Kitigan Zibi Anishinabeg [ISC, "Map of long-term drinking water advisories"].

²² C. Guy & L. Zikovsky, "Assessment of environmental risk associated with uranium in water in Kitigan Zibi" (1999), École Polytechnique, cited in E. Pellerin, Health Minister, "Analysis of the exposition to radionucléides in well water, Kitigan Zibi territory, province of Quebec" (January 15th, 2000), p. 12, BOD, Tab 9 [Pellerin, "Radionucléides in well water"].

undertook an analysis of the exposition to radioisotopes in well water situated within our reserve.²³ The study analyzed the geo-environmental conditions responsible for the presence of radionuclides in the ground water of certain sectors of the area. The project was integrated within an ongoing desire of Health Canada to offer the residents of KZA a continuity in the monitoring of their environmental health.

Given the diffuse source of uranium in KZA, as well as its seasonal fluctuations, it was found that it is impossible to completely circumscribe the problem and locate a specific area that is uranium-free. The study concluded that uranium was omnipresent in our ground water, with concentrations levels varying between simple traces to relatively high levels and fluctuating through seasonal cycles.²⁴ The maximum concentration detected was of 1,418 mg/L.²⁵ In many sectors, it was found that uranium concentrations exceeded the applicable Canadian guidelines for drinking water.

It is more the chemical toxicity of uranium that is a concern to human health, rather than its radioactive property.²⁶ However, when uranium contaminated waters undergo treatment, it has been demonstrated that uranium tends to accumulate within the treatment system, therefore creating a residual radioactivity in the system.²⁷

The analysis also concluded that radium, like uranium, was omnipresent within the community's water, meaning KZA members were exposed to concentration levels that were beyond the Canadian average.²⁸ Like uranium, the radium present in KZA is of natural occurrence and has multiple diffuse sources all over the territory. It can be removed from drinking water but will also tend to accumulate within the water treatment system, leaving a certain level of residual radioactivity.²⁹ In the case of radium, the risk is relative to its radioactivity. Once radium penetrates the human body, it fixes itself to the bone system, hence creating a long-term exposure to its radioactive properties and consequently increasing the risks of developing cancer.³⁰

Between 2009 and 2017, as part of its commitment to remove all long-term drinking advisories, the federal government spent over \$20 million to remedy the ongoing situation in KZA. Sewers and a new wastewater treatment plant were installed in the community and the water system was extended to 34 more residences.³¹

The drinking water advisory was officially lifted on December 11, 2017 at the community center, the local school and the wellness centre.³² However, it is important to note that the government's commitment regarding the lifting of long-term drinking advisories only relates to public systems

²³ Pellerin, "Radionuclides in well water", BOD, Tab 9

²⁴ Pellerin, "Radionuclides in well water", p. 47, BOD, Tab 9.

²⁵ The current maximum acceptable concentration of 0.02 mg/L (20 µg/L) is established for total natural uranium in drinking water. See Health Canada, "[Guidelines for Canadian Drinking Water Quality Guideline Technical Document – Uranium](#)" (May 2019), p. 7.

²⁶ Pellerin, "Radionuclides in well water", p. 47, BOD, Tab 9.

²⁷ Pellerin, "Radionuclides in well water", p. 47, BOD, Tab 9.

²⁸ Pellerin, "Radionuclides in well water", p. 49-51, BOD, Tab 9.

²⁹ Pellerin, "Radionuclides in well water", p. 49, BOD, Tab 9.

³⁰ Pellerin, "Radionuclides in well water", p. 16, BOD, Tab 9.

³¹ Alex Ballingall, "[What if Ottawa spends \\$2B on water for First Nations and it still isn't safe for everyone to drink?](#)", The Star (August 3, 2018).

³² ISC, "[Map of long-term drinking water advisories](#)".

and does not encompass individual wells. Although the drinking water advisory for KZA has been lifted since 2017, the uranium and radium contamination is still an ongoing concern for the community. Still to this day, not all KZA members are able to drink their tap water, given the unsafe levels of uranium found in their well water. Indeed, not all homes on reserve are within the reach of the new water system. Therefore, community members are receiving weekly deliveries of bottled water.

(f) COVID-19

The COVID-19 pandemic has been an important factor in understanding how our community has operated over the last three years. We experienced three separate outbreaks of COVID-19 in the community: January 4, 2021, April 6, 2021, and from December 3, 2021 to January 3, 2022.³³

The provincial health measures imposed on us evoked memories of the not-so-distant past. While we respect the Province's mandate to protect the health and safety of its occupants, the nightly curfew implemented on us, combined with the threat of fines, bore many parallels to our life under the Pass System, where we could not come and go within our territory as we pleased under threat from the authorities.

2.3 Rights

KZA wishes to make its own rights-related submissions separate from the rights impact assessment jointly prepared with Staff over the last several months (the "**Joint RIA**"). In the event of any inconsistency between KZA's submissions and the RIA, KZA's submission override the positions taken in the Joint RIA. Despite KZA's best efforts, the information provided by KZA in these submissions and the Joint RIA is not complete, given the time and resources needed to gather the necessary information and assess the magnitude and complexity of the NSDF.

We reaffirm our position that the description of KZA's rights in the EA Report is not exhaustive, but rather focuses on the rights that are likely to be *most* affected by the NSDF, rather than assess the cumulative impacts of the NSDF on our rights from a holistic standpoint.³⁴ Our rights are interconnected and overlapping. They must be understood in relation to each other and through KZA governance and culture.

(a) Right to a Safe and Healthy Environment

KZA's way of life and traditional activities rely on sustainability, a healthy environment, and wholesome resources to consume. Our nomadic lifestyle necessitated a healthy ecosystem. It was crucial that there be no overharvesting of the ecosystem as we moved through areas and seasons. We recognize the importance of sustaining health and diversity in what we call the "Seven Nations": humans, animals, birds, fish, plants, trees, and insects. Health and diversity among the Seven Nations result in a healthy ecosystem.

Ensuring a healthy environment and wholesome resources is at the basis of KZA's rights, as they enable KZA to avail itself of all its rights, especially its right to harvest. True to its stewardship

³³ CBC News, "[Kitigan Zibi Anishinabeg closes schools amid COVID-19 outbreak](#)" (December 7, 2021).

³⁴ CNSC, "[Environmental Assessment Report: Near Surface Disposal Facility Project](#)" (January 2022) at s. 9.3.1.

vision for its lands and waters, KZA aims at assuring that all forms of life, including its people as well as its brothers and sisters of other First Nations and descendants of all nationalities can live free from threats of potential harm across generations, in a healthy and safe environment on Turtle Island. The Kichi Sibi watershed is a major clean water source, vital for all life on it, including KZA people as well as its brothers and sisters of other First Nations and descendants of all nationalities. Protecting the water from waste and contamination on the land is KZA's primary focus and an Indigenous right.

(b) Harvesting Rights

Harvesting rights include the right to hunt, fish, and gather food or plants through KZA's preferred means and in KZA's preferred locations. Harvesting rights including protecting our ability to engage in activities necessary to facilitate the harvesting right (for example, our ability to set up camps while hunting).

Since time immemorial, KZA has been protecting, occupying and using the Kichi Sibi and its watershed to live from the land, and through it. Still today, KZA people enjoy the Kichi Sibi, navigate its flows, fish on its waters, and gather on its shores. This river has always been a major waterway to travel through our traditional territory and a famous gathering and fishing spot.

In and beyond the Kichi Sibi, KZA traditional territory encompasses the whole watershed and, hence surrounds CRL site and NSDF site. KZA members still enjoy and use all the entire Algonquin Nation traditional territory to which they still have access, including the NSDF surrounding area. From the Kichi Sibi and roads, they reach into the area surrounding the CRL site to practice their traditional activities. They hunt in that area, in particular moose, gather medicinal products (bark, root, leaf, etc.) from various plants and trees, and pick food supply (blueberry, raspberry, nuts, wild garlic, etc.). Members using this area have noticed moose yards and many other special wildlife habitats in the vicinity of the CRL site.

The CRL site is in fact part of one of the richer sections of the Kichi Sibi, being one of the better areas where fish abound and an area of particular interest for KZA members looking to exercise fishing rights. They fish many species on the river, for instance Oga (Walleye), Trout, Burbot (*Lota lota*), Bass, Perch, Muskellunge, Northern Pike (*Esox lucius*), Bullhead, Catfish, Smelt, American eel (*Anguilla rostrata*), Lake Sturgeon (*Acipenser fulvescens*) and many others.

(c) Right to Access and Occupy Our Traditional Territory

The NSDF is within the restricted, fenced area of the CRL site, which is approximately 4000 ha, along the Kichi Sibi shore. It is currently inaccessible to KZA members for the practice of Indigenous rights, including harvesting and other traditional activities. It should be noted that the secluded area at Chalk River was never ceded by the Anishinabeg people, nor was it subject to a consultation. KZA has never provided its free, prior and informed consent to this development. It is instead the results of dispossession and restricting Indigenous peoples' access to their own territory.

Located 1 km from the Kichi Sibi, the NSDF access is proposed to be restricted over many centuries. As identified in our comments on CNL's draft EIS, there are Value Components important for our harvesting and traditional activities rights in the area of the CRL site including

animals, plant and fish species. The restricted access to the NSDF indefinitely revokes KZA right of enjoyment and occupancy and use of the lands there.

Not only is the project area fenced to exclude KZA members, but the NSDF site, if licensed, would further impact our access due to the radioactivity levels being hazardous to human and animal health. Our membership's concern about encountering contaminated land, water, plants and animals on their traditional territory prevents them from going anywhere near those lands and waterways. Hence, the very existence of the NSDF infringes and restricts their rights and ability to access and enjoy land and waters well beyond the NSDF and CRL site.

Mobility has always been central to Indigenous cultural landscapes: Anishinabeg live with the land's seasons and move within it, through hunting, gathering and visiting. Day-to-day travel builds local and personal knowledge through interactions and relationships with other organisms on the landscape, leading to the laws that support these relationships. A permanent loss of access to the NSDF footprint is a serious impact on KZA's mobility rights that affect all its other rights.

Beyond the loss of access, KZA is concerned of losing a part of its meaningful territory. There would be a permanent loss of not only wildlife habitat and harvesting area, due to deforestation and nuclear hazard; but this would also lead to the permanent loss of territory that is culturally and spiritually important to KZA members, given its proximity to Migizi Kiishkaabikaan, Point au Baptême, and the Kichi Sibi.

It must be mentioned that through colonization one of the processes of assimilation was the outlawing of gatherings, ceremony, and access to sacred sites such as Migizi Kiishkaabikaan. It was only in 2001 that a reconnection ceremony was done at this site. Even at that time, there were concerns about attending the site due to concerns about its proximity to the CRL site. These are still concerns today that KZA wishes to highlight in these submission: it is of particular significance and great sorrow to KZA that the Migizi Kiishkaabikaan site access is still today hindered by its proximity to CRL and the potential NSDF site.

Regardless of whatever remediation and rehabilitation measures might be implemented for the NSDF, if approved, the NSDF site will remain a hazardous nuclear site for centuries. KZA will have lost a part of its territory and a meaningful one as well. An indefinite extension of an existing impact – lack of access – is a significant impact in itself.

(d) Right to Dignity of Our Culture

KZA's culture and history are deeply rooted into the Kichi Sibi, making this river an essential cultural area. To maintain a relationship with the territory, KZA must be able to protect, revitalize and teach their ways of being to future generations. KZA's ways of being are often understood in relation to natural environment and physical landscapes. KZA's relationship with the land is based on being grateful for its wealth and respecting it. A crucial aspect of this relationship is KZA's ability to use, travel through, and enjoy the surroundings in peace, without fear or trepidation. Physical obstructions in or alterations to the natural environment can not only sever the physical but also the spiritual relationship to the territory. One of our inherent understandings is that Women are Keepers of the Waters and Men are Keepers of the Fire. Men's firekeeping teachings include the Earth's internal fire. Traditional knowledge teaches that the heat from the burying of nuclear waste would change the Earth's internal fire and that the nuclear energy leaching into the water, and then flowing into living forms, would disturb all life.

3. INTERACTIONS WITH CNSC AND CNL

3.1 Capacity Constraints

As discussed above in subsection 2.2(b), we have continuously struggled to manage the extensive consultation demands on our community. While we affirm that we have a right to be consulted and accommodated on all development that takes place in our territory, we cannot always match the often-demanding timelines that industry and the Crown place on us. The NSDF is a prime example.

We acknowledge that greater efforts have been made since 2021 to engage with us directly, rather than through the AATNC. However, we simply did not have the means to focus all our energies into getting caught up on five years' worth of consultation while the file also continued moving ahead towards a hearing. On top of our general capacity constraints, we encountered a number of additional challenges during this period.

First, KZA was still actively responding to the COVID-19 pandemic. During that time, our priority was ensuring the safety and wellbeing of our membership, and many of our community's resources, including among leadership, were put under strain as a result. As noted above in subsection 2.2(f), we experienced two outbreaks alone in the second half of 2021. We could not hold community meetings, could not conduct site visits or attend information sessions in the same capacity, and increase engagement with our already overtaxed leadership.

Second, in 2021 our Natural Resources and Wildlife Office ("NRWO") Manager retired, leaving us with only two consultation staff members, an enormous loss of institutional knowledge, and a management gap. Our department underwent a substantial reorganization, not only to address gaps in management, but to also ensure we had staff at all levels of our team to address consultation requests.

In July 2022, KZA hired a new Consultation Coordinator. This staff member allocates at least 25-30% of their time alone to the NSDF-related consultation, but must still respond to all other incoming consultation request. Considering KZA is dealing with an average of 77 new consultations per year, the amount of time and resources that are being allocated towards the NSDF project are telling of the pressure that this project is placing on KZA's limited resources, particularly under an expedited timeline.

3.2 Engagement Experience

(a) *Prior to July 2022*

It has been acknowledged that KZA was not meaningfully consulted in the early years of the project. Up until mid-2021, the vast majority of engagement took place with the AANTC rather than with us directly.

While we recognize that KZA initially provided brief comments on CNL's proposed Project Description in 2016, we were advised by CNSC in its responses that its "staff expect that CNL will be engaging with Kitigan Zibi [...] to identify potential concerns related to impacts on Aboriginal and/or treaty rights as a result of the proposed project and working collaboratively with the identified communities on addressing these concerns, where appropriate. [...] CNSC staff will

be working collaboratively with Kitigan Zibi in order to ensure that they are meaningfully involved in the EA and licensing review process.”³⁵

On March 15, 2017, the CNSC invited KZA to provide written comments on the Draft Environmental Impact Statement (“EIS”) for the NSDF project.³⁶ We provided an initial response on May 9, 2017, reiterating our concerns related to the project, particularly with regard to the planned destruction of critical habitat for the Blanding’s turtle, which had been identified within the perimeter of the proposed NSDF.³⁷ While we asked the AANTC for assistance in reviewing the EIS, particularly as it related to water, at no point did we indicate that consultation on the NSDF was to take place with the AANTC on our behalf. The AANTC’s comments on the EIS made clear that the EIS was incomplete and should not be approved as currently proposed.³⁸

(b) After July 2022

(i) Engagement with Staff

Our engagement with CNSC staff over the past year has largely related to preparing the Joint RIA, as CNSC staff deferred to CNL on our technical questions and concerns regarding the NSDF.

The first meeting between KZA and Staff regarding the Joint RIA review took place on October 6, 2022. It is worth mentioning that both parties signed the Terms of Reference (“TOR”) at the end of October 2022, which formed the basis of our engagement process on the Joint RIA. The fact that KZA started working on the Joint RIA review prior to the signature of the TOR is telling of KZA’s good faith and efforts in trying to optimize the engagement process within the short timelines it was given.

The focus of our bi-weekly meetings with Staff has been more on reviewing the Joint RIA structure than discussing our expressed comments and concerns regarding the Joint RIA. Only on a few occasions did we get the chance to engage in substantive discussions regarding the NSDF and CNSC’s licensing process. It was clear from these limited exchanges with Staff that our comments and concerns were not going to be substantively addressed and that the main focus of our meetings would be on finalizing the Joint RIA.

During our meetings with Staff, KZA raised concerns with regards to the lack of consultation regarding the site selection process as well as general comments regarding previous activities at CRL and the legacy waste that the NSDF was intended to receive. However, Staff refused to engage on these points, as they determined it was outside of the scope of the project. Instead of engaging in discussions regarding the comments and concerns raised by KZA in the Joint RIA, Staff focused the discussion on specific and detailed information regarding KZA’s activities near the NSDF site, such as rights practiced in the vicinity of the project, specific species harvested

³⁵ CNSC, “Disposition Table of Public and Aboriginal Groups’ Comments on Project Description – Near Surface Disposal Facility Project”, pp. 88-90.

³⁶ CNL, “Near Surface Disposal Facility Project EIS” (March 2017).

³⁷ Letter from Chief Jean Guy Whiteduck to the CNSC, “Upcoming Public Comment Period on Draft Environmental Impact Statement for the proposed Near Surface Disposal Facility Project” (May 9, 2017).

³⁸ Letter from Norm Odjick to the CNSC, “Comments concerning the proposed Near Surface Disposal Facility Project at the Chalk River Laboratories, CEAA Reference number 80122” (August 16, 2017).

within and the location of their harvesting. Similarly, we were asked to provide mitigation measures ourselves, rather than engage in a collaborative discussion with Staff regarding our concerns and what mitigation measures might ultimately be suitable and feasible.

KZA understands that providing such information can help Staff identify components that are relevant to the Joint RIA, but by requiring KZA to list every species and pinpoint their harvesting location, KZA's limited resources were diverted away from addressing the more pressing concerns that we wanted to discuss. This approach runs contrary to our beliefs and practices, which promote a synergistic and holistic approach to impact assessments. Following our worldview, we see, we use and we know the land, the water, and the species as being all linked and interconnected, moving together in symbiose. We view all species as being significant and useful. Our traditional knowledge and land-use does not hierarchize species nor inanimate things such as the land and water.

Despite KZA's best efforts to engage with Staff, it remained unrealistic to ask KZA to review the entire Joint RIA, which includes planning and implementing consultation activities with the community to identify and assess impacts on rights, and subsequently review the commitments and mitigation measures and suggest new ones. We were expected to provide detailed information regarding the occupation of the site and adjacent premises, an unrealistic task for us to complete in such a short period. KZA has nearly 4,000 members with more than half of its members residing off-reserve. To assess all of the community members' occupation and use of the land would require substantially more resources and time.

Ultimately, KZA's comments and concerns were set aside as a disagreement arose between the parties concerning the lack of consultation at the initial stages of the project. Consequently, we maintain that the Joint RIA remains incomplete.

(ii) Engagement with CNL

In mid-July 2022, KZA was informed by the Ottawa Riverkeeper about an upcoming CNL Environmental Stewardship Council ("ESC") meeting at Chalk River. KZA's Consultation Coordinator and its NRW Manager attended the meeting on July 28, 2022 as a guest of the Ottawa Riverkeeper and in an observational capacity only. The meeting involved a brief and general presentation regarding CNL's various projects and activities rather than a specific meeting regarding the NSDF. KZA afterwards expressed an interest in becoming a member of the ESC, but has not received a response to this request.

Three KZA representatives visited the CRL site on August 10, 2022, which included an update on the NSDF and a visit to the proposed NSDF site. The meeting was more directed at information sharing rather than substantive discussions.

In July 2022, CNL also invited KZA to meet to share any information, concerns or questions that KZA had with respect to the NSDF Project. Following the email to KZA staff, CNL and AECL wrote to KZA Chief Whiteduck regarding a potential meeting in the community between leadership. KZA was in the midst of an election and could not conduct formal business during this period. It was not until late August 2022 that the election concluded with Chief Whiteduck's re-election.

In early August 2022, KZA met virtually with CNSC staff to discuss the Procedural Direction and to arrange monthly meetings. KZA began its virtual bi-weekly meetings with CNSC staff in September 2022. At these meetings, CNSC staff regularly noted that specific and technical aspects of the NSDF proposal were best directed toward CNL directly, while more procedural aspects of the current review process could be discussed with them.

Although KZA was focussing its already strained and limited resources on engagement with CNSC directly, KZA representatives³⁹ agreed to meet with CNL in October 2022. The meeting was largely focused on CNL presenting its commitments list (which did not consider or address KZA's concerns), as KZA had not yet obtained external consultants to assist in analyzing and discussing KZA's concerns. We also discussed a future community information session and possible funding agreements. KZA made clear that given our capacity constraints and limited resources we expected more meaningful and adapted efforts from CNL in the NSDF consultation process.

KZA organized a community dinner and hybrid meeting with CNSC, CNL, and AECL (via videoconference only) in Maniwaki on November 17, 2022.⁴⁰ The event was advertised in the KZA community flyer on November 2, 2022 and weekly thereafter. The flier also included a one-page fact sheet on the NSDF prepared by CNL. CNSC, CNL, and AECL acknowledged that this was not consultation, that it was rather them providing the community with information.⁴¹

In light of this meeting, it appeared that the NSDF had no social acceptability within our community. Indeed, all the community members present spoke against the project. Among other things, such as general concerns with regards to the risks associated with nuclear waste and the adverse impact that the project could have on their traditional territory and rights exercised therein, the following concerns were raised by community members:

- the predictability and reliability of a science that is based on simulations and modelling that have not stood the test of time;
- the dangers and risks associated to the transportation of nuclear waste onto the CRL site;
- the cumulative effects of past site contamination;
- the possibility of oversight given the multiple stakeholders in the project;
- the proximity of the proposed site to the Kichi Sibì watershed;
- the lack of ownership, accountability and liability given the multiple stakeholders in the project;

³⁹ KZA's three attendees were: Councillor Douglas Odjick, KZA's Consultation Coordinator Valérie Brazeau, and KZA's NRW Manager Erik Higgins.

⁴⁰ Transcript of Community information session with CNL and CNSC (November 17, 2022), BOD, Tab 10; Audio Recording of Community information session with CNL and CNSC (November 17, 2022), BOD, Tab 11 ["Audio Recording of Community information session with CNL and CNSC"].

⁴¹ Audio Recording of Community information session with CNL and CNSC, at 00:20:15.

- the lack of substantive and meaningful engagement with KZA in the early phases of the NSDF; and
- KZA's limited resources regarding consultation issues, limiting their capacity to properly respond to consultation and meeting requests.

KZA was also actively focusing on recruiting additional resources to assist with the NSDF consultation in Fall 2022. As we explained in our December 2022 extension request to the CNSC,⁴² the specificity and complexity of the NSDF made it extremely difficult for KZA to retain consultants and experts. Our previous attempts in Fall 2021 were largely unsuccessful, particularly given that most experts in the field were already engaged by CNL, CNSC, or another intervenor.

Following the July 2022 hearing and the extension to gather more information, we faced issues balancing the tight timelines we were facing with the time needed to conduct a thorough request for proposal process and KZA's recruitment policy. KZA's recruitment policy, which includes the hiring of consultants, requires a first round of hiring in our community to stimulate job opportunities by and for the community and to involve our members in community management. Jobs must first be posted for at least one month in the community prior to moving to broader hiring.

The first request for proposal for a community consultation coordinator was posted in the KZA community flier on September 15, 2022. After the one-month deadline had expired, no candidates had applied. KZA broadened its search for a coordinator to outside the community, but was unsuccessful in finding a candidate. Although the nuclear experts contacted were unable to assist, KZA was successful in retaining a sole practitioner in November 2022 to assist with an interim technical review of the NSDF. We also reached out to a community knowledge keeper, Verna McGregor, about assisting with consultation, but she was not formally engaged until February 2023.

During this time, our consultation team was also working on determining KZA's position on the NSDF, particularly in light of the comments we received from our membership during the Community Information Session. We were also working with CNSC on preparing and reviewing the Joint RIA.

At this stage, it was now mid-December with the holiday season and the June 2022 Procedural Direction's January 31, 2023 deadline for supplemental submissions was fast approaching. KZA's support team was still incomplete, we had had one opportunity to engage with the community, and were still in the process of assessing whether we would be willing to provide our consent for the NSDF. We requested an extension for the supplemental submission deadline.

After receiving notice that the deadline in the Procedural Direction was being extended from January 31, 2023 to May 1, 2023, we continued to work and meet with CNSC on the RIA. We also worked internally to being properly synthesizing our concerns regarding the NSDF and identifying areas where we required additional information.

⁴² KZA letter to the CNSC, "Kitigan Zibi Anishinabeg ("KZA") Requests re Canadian Nuclear Laboratories ("CNL") Application to Construct a Near Surface Disposal Facility ("NSDF")" (December 20, 2022).

We met again with CNL on March 8, 2023 to discuss the November 2022 Community Information Session. We requested another meeting with CNL to discuss their Consolidated Commitment List, which was not prepared based on meaningful engagement with us and does not respond to our concerns, and potential agreement(s) between KZA and CNL. We also set recurring monthly meeting dates with CNL. We advised CNL that we did not have the capacity to discuss the Nuclear Power Demonstration Closure Project in addition to the NSDF at this time.

On March 28, we attended a meeting with CNL and KFN. We made inquiries about the proposed routine planned releases of tritium from the NSDF's Waste Water Treatment Plant ("WWTP"). CNL informed us that they did not expect the background levels of tritium in the Ottawa River to change much as a result of the installation and operation of the NSDF.

As we moved into April, we had only just begun the process of identifying gaps and concerns and engaging with our membership. We had to redirect our energies into preparing submissions for the May 1 deadline, as well as considering how to approach our final submissions. We still had a monthly meeting with CNL on April 12, 2023, where we made inquiries about CNL's plans for intermediate-level waste and high-level waste from the CRL site. This inquiry was prompted by concerns about intermediate- and high-level waste at the CRL site. We were subsequently informed that intermediate- and high-level waste will continue to be dealt with in accordance with CNL's Integrated Waste Strategy. We note that we did not have time to discuss the Consolidated Commitment List at this meeting.

4. OUTSTANDING CONCERNS

Although KZA has not been able to undertake the necessary due diligence to provide a fulsome commentary on the potential infringements the NSDF poses to our rights, as well as concerns we feel have not been adequately addressed, we provide the following high-level and non-exhaustive supplemental summary of our concerns, based primarily on the work we have been able to complete since July 2022.

Our primary concern continues to be the proximity of the NSDF to the Kichi Sibì, which forms the basis for many of the other concerns we have raised regarding the NSDF.

4.1 Site Location, Selection Process, and Facility Type

We have several concerns regarding the site selection process, particularly the decision to host the NSDF at CRL. First, we were only contacted about the proposed NSDF *after* CRL had been selected to host the NSDF. Second, we have yet to receive a sufficient justification as to why non-AECL owned sites were not considered.

In addition, we have several technical concerns about the site selection process that was used, which is tied to concerns regarding the nature of waste that is being proposed for the NSDF. The mischaracterization of the facility type, combined with the type of waste used at the NSDF, has broad repercussions for the EA as a whole and renders the conclusions regarding the safety and impacts of the project unreliable.

- (a) *No Initial Consultation with KZA*

KZA was not consulted and had no input into AECL and CNL’s decision to select CRL as the host of the NSDF. Any discussions we had regarding site selection have pertained to site selection within the CRL footprint. The fallacy here is that we had no input into the decision to host the NSDF at CRL rather than another location, such as an off-site location proximate to CRL but further from the Kichi Sibi.

By the time we were first contacted by CNL in summer 2016, it was clear that CRL had already been selected as the NSDF host. We should have been engaged much sooner than this. CNL’s Site Selection Report⁴³ was issued October 26, 2016, just three months after we were first given notice of the proposed NSDF.⁴⁴ This public and Indigenous engagement began far too late. Other than engagement with the Algonquins of Pikwakanagan, who were informed about the NSDF in fall 2015, engagement only began in summer 2016, once CRL had clearly been selected as the appropriate host for the NSDF.⁴⁵

Furthermore, although KZA raised the issue of the lack of consultation for the site-selection process during its bi-weekly meetings with CNSC staff, these concerns were rejected by the latter, who claimed that the “[d]etermination of location and type of Project is out of the scope of the CNSC’s decision making authority. The CNSC can only decide on a Project as proposed and therefore recommend this information be included in [...] KZA’s submission.”⁴⁶

(b) *Insufficient Justification for Site Host Location*

We have also not received sufficient justification as to why the NSDF could not have been situated off the CRL footprint. The majority of the justification we have seen focuses on why CRL was more appropriate *than other AECL-owned sites*. We have seen no substantive and satisfactory explanation as to why other non-AECL-owned locations were not seriously considered.

The record is clear that KZA, KFN, and the AANTC have repeated and consistently expressed concerns about the proximity of the NSDF to the Kichi Sibi. We have never received a satisfactory response to this concern. Any questions we raise regarding site selection are always answered in the context of the potential sites *at CRL*. While the East Mattawa Road (“EMR”) site may well be the best option *within the CRL footprint*, these answers do not respond to our concern about the NSDF’s proximity to Kichi Sibi. For example, the Indigenous Engagement Report focuses instead on explaining why the EMR site and mitigation measures address this concern.⁴⁷ The absence of any meaningful discussion on why a proximate off-site location is not an appropriate accommodation measure is a significant concern to KZA.

The only explanation we have seen focuses on a *perceived public concern about waste transportation*. Even so, these concerns were never thoroughly explored. There is no indication that any consideration was given to whether there would be actual public concern about waste

⁴³ CNL, “Near Surface Disposal Facility Site Selection Report” (October 26, 2016) [CNL, “Site Selection Report”].

⁴⁴ CNL, “Indigenous Engagement Report” (January 21, 2022), p. 133 [CNL, “Indigenous Engagement Report”].

⁴⁵ CNL, “Site Selection Report”, pp. 5-2 to 5-3.

⁴⁶ CNSC & KZA, “Draft KZA RIA - Near Surface Disposal Facility Project” (January 19, 2023), p. 3, BOD, Tab 12.

⁴⁷ CNL, “Indigenous Engagement Report”, p. 127.

transportation to a site adjacent to the CRL footprint that could not be addressed through mitigation measures such as the construction of a private road.

There is also no indication that the “public concerns related to waste transportation” CRL cites as the basis for keeping the waste at CRL go beyond concerns about transporting the waste *on public roads to other CNL sites*. The Site Selection Report contains no substantive consideration for site alternatives beyond CNL-operated sites:

The alternatives considered feasible for locating the NSDF were On-site, at CRL, or Off-site at WL [Whiteshell Laboratories in Pinawa, Manitoba] or the NPD [Nuclear Power Demonstration] reactor site [in Rolphton, Ontario]. [...] The comparative evaluation between facility location alternatives showed the On-site location is preferable to the Off-site. The key differentiating factors are the close proximity of the CRL site to the legacy and future decommissioning waste and the associated cost of transporting waste from CRL to an Off-site location (economic feasibility), and the public concerns related to waste transportation for the non-CRL options (environmental effects). Additionally, both WL and NPD sites are scheduled to be closed within the next decade and will not have the service sand management infrastructure required to safely and securely operate the NSDF (technical feasibility). As such, the WL and NPD sites are less preferred than CRL site.⁴⁸ [emphasis added]

While there may have been public opposition for transporting the waste off-site to Manitoba or Rolphton, Ontario, the public may very well have agreed to transport the waste to a location proximate to CRL, but further from the Kichi Sibi, via private road. These are the types of matters that should have formed part of public and Indigenous engagement.

The only passage on this topic in the Site Selection Report explains that during public engagement in July 2016, “[s]ome stakeholders expressed their satisfaction with the location of the facility on the CRL site, close to the waste proposed for disposal in the NSDF, and therefore not requiring transport on public roads.”⁴⁹ It is not clear whether this was transportation on public roads to other CNL-operated sites, or in general. Furthermore, we see no concrete evidence in the Stakeholder Activities Report to suggest this concern was in fact genuinely expressed during public consultation.⁵⁰

The only information we seem to have for why CNL and AECL only considered sites under their ownership and control is found in Section 2.5.4 of the EIS. This passage highlights the lack of adequate consideration given to off-site locations proximate to CRL:

⁴⁸ CNL, “[Site Selection Report](#)”, p. 3-1.

⁴⁹ CNL, “[Site Selection Report](#)”, p. 5-1.

⁵⁰ CNL, “[Environmental Assessment Stakeholder Activities Report – NDF and NPD Closure Projects](#)” (March 14, 2017).

AECL and CNL's preference for an LLW disposal was a technically feasible site on lands currently under AECL ownership and CNL control, ideally close to the location of generation and/or storage of the waste and in an area that is already covered by a nuclear licence.

Previous endeavours by AECL in planning and siting for radioactive waste disposal had already deemed the CRL site technically sufficient. The CRL site is the most suitable host site for AECL/CNL's LLW disposal due to its complex history (e.g., past waste management practices) and the vast majority of waste is already at or will be generated at the CRL site thereby significantly reducing the need for transportation. Low-level waste is by far the largest volume among radioactive waste categories (i.e., in the millions of cubic meters), thus facility siting must underpin the impact of transportation. Similar to national research sites in the US, the CRL site is fairly complex with higher levels of environmental contamination and large volumes of waste thus amalgamation of the associated liabilities at this location is practical. As the owner of the CRL site and associated liabilities, AECL (a federal Crown corporation) will continue to put in place measures to ensure that the site is managed and controlled (e.g., restricting the land use of the NSDF Project footprint) for as long as necessary.

CNL also considered locating the facility at alternative sites owned by AECL for the Government of Canada and operated by CNL, specifically WL in Pinawa, Manitoba, and the NPD prototype reactor site in Rolphton, Ontario. The land at these sites is controlled by CNL and are likely to have suitable technical characteristics to safely manage the waste. The non-CRL options are more likely to raise public concerns related to transportation safety of larger volumes of LLW radioactive wastes. Also, both WL and NPD are scheduled to be closed within the next decade, and therefore, will not have the services and management infrastructure required to safely and securely operate the NSDF.

Without further explanation, it appears to us that it was too logistically complicated, and perhaps potentially expensive, to host the NSDF off-site. It was unverifiable *assumed* there would be public concerns about transportation on *public* roads.⁵¹ This assumption was never tested, nor were mitigated measures such as private roads discussed with the public to assess whether these perceived concerns could be addressed.

(c) *Facility Type*

⁵¹ See also CNL, "Near Surface Disposal Facility Project EIS" (May 2021), Table 2.5.4-1 [CNL, "EIS"], which states that "off-site transport of large amounts of radioactive waste on public roads may raise perceived safety concerns amongst the public and Indigenous Peoples" [emphasis added].

In addition to our concerns about site selection and location, we have concerns about the type of facility CNL has chosen to use to store waste. Based on the standards set in the International Atomic Energy Agency Safety Standard SSR-5, *Disposal of Radioactive Waste* (“SSR-5”), the NSDF should not be treated as near surface disposal; it is a specific landfill disposal. This misclassification has implications on how the NSDF is developed, operated, and closed.

SSR-5 describes a “Near surface disposal” as “Disposal in a facility consisting of engineered trenches or vaults constructed on the ground surface or up to a few tens of metres below ground level. Such a facility may be designated as a disposal facility for low-level radioactive waste (LLW).” The proposed NSDF would not be a facility “consisting of engineered trenches or vaults”, constructed either on the ground surface or below ground level. It is therefore not a near surface disposal within the meaning of SSR-5.

SSR-5 describes “Specific landfill disposal” as “Disposal in a facility similar to a conventional landfill facility for industrial refuse but which may incorporate measures to cover the waste. Such a facility may be designated as a disposal facility for very low-level radioactive waste (VLLW).” The NSDF is misnamed; it would be a landfill, not a near surface disposal facility.

An engineered landfill is unsuitable for much of the waste from the AECL’s facilities. As a landfill rather than near surface disposal facility, the NSDF should only contain very low-level radioactive waste (i.e., soil and rubble with low levels of activity concentrations and very limited concentrations of longer-lived radionuclides). As discussed further below, not only will the NSDF contain low-level (rather than very low-level) waste, it will also contain waste that should more appropriately be classified as intermediate-level waste.

The NSDF above-ground design allows contaminants to migrate more readily through the biosphere than alternative designs. At some point in the future, waste containment will cease as the liner and cover fail and the mound deteriorates. Contaminants will spread via groundwater movement in the lower Perch Creek watershed. Longer-lived radioactive materials and non-radioactive hazardous materials (lead, arsenic, mercury, cadmium, etc.) will inevitably enter the Kichi Sibi. There does not appear to be any mitigation measures to ensure that leachates from these materials do not eventually make their way into the animals and plants we consume and the Kichi Sibi. Considering contamination of leachate flowing down the Kichi Sibi, KZA territory downstream from the CRL and NSDF site and the people living there are even more at risk. Safety of access to potable water for over a million people dependent in the Ottawa-Gatineau area on the access to safe drinking water. Approximately 60% of Kitigan Zibi population is located off-reserve with the majority living in Ottawa-Gatineau which is downstream from Chalk River.

In addition, the EMR location selected for the NSDF does not even meet the siting criteria AECL had previously established for its proposed very low-level waste landfill (not meeting the 10% slope restriction or the overburden thickness criterion used in the very low-level waste facility siting process), nor does it appear to follow International Atomic Energy Agency Specific Safety Guide SSG-29,⁵² which provides recommendations on how to meet the safety requirements of

⁵² International Atomic Energy Agency, “Near Surface Disposal Facilities for Radioactive Waste – Specific Safety Guide”, No. SSG-29 (2014) [IAEA, “NSDF Specific Safety Guide”].

SSR-5.⁵³ Notably, there is no evidence the siting process undertook the “area survey” stage recommended by SSG-29, which recommends a “regional mapping or investigation phase”.⁵⁴ Instead, CNL only considered sites on the CRL property.

(d) *Waste Type*

Not only will the NSDF contain low-level waste, but some of the waste intended for the NSDF should in fact be classified as intermediate-level waste. Furthermore, we share the concerns of other intervenor groups that materials other than low-level waste could make its way into the landfill. The lack of appropriate monitoring and the above-ground nature of the NSDF make this possibility particularly alarming.

(i) Misclassification of Waste

As proposed, the NSDF would include waste with *high* levels of activity concentration – high enough that shielding would be required. Most of the initial radioactivity in the NSDF would be in packages containing high-activity spent or disused cobalt-60 “sealed sources”. Waste requiring shielding, such as disused sources, constitutes ILW:

intermediate-level waste (*déchet de moyenne activité*):
Radioactive solid waste that typically exhibits levels of penetrating radiation sufficient to require shielding during handling and interim storage.⁵⁵

The IAEA defines low level waste as “Radioactive waste that is above clearance levels, but with limited amounts of long-lived radionuclides,” adding that this “covers a very broad range of waste.” Of the 31 radionuclides (counting plutonium-239 and plutonium-240 separately), in the proposed NSDF licensed inventory, 23 have half-lives exceeding 1600 years. Most of the radionuclides in the NSDF waste by mass would be composed of the very long-lived alpha emitters uranium-238 and thorium-232, with half-lives of millions to billions of years.

This waste is clearly not very low-level waste. Arguably, it is also not even entirely low-level waste. The IAEA says that intermediate-level waste “may contain long lived radionuclides, in particular, alpha emitting radionuclides that will not decay to a level of activity concentration acceptable for near surface disposal during the time for which institutional controls can be relied upon.”

Given that the half lives of most of the radionuclides in the NSDF licensed inventory are far longer than the proposed 300-year institutional control period, the NSDF does not represent a safe way to contain and isolate the bulk of the waste intended for placement.

(ii) Inadequate Monitoring Approach

⁵³ See Ole Hendrickson, “Low Level Radioactive Waste Disposal – Guidance on Facility Types and Siting – Implications for the NSDF Project” (2023), BOD, Tab 13.

⁵⁴ IAEA, “NSDF Specific Safety Guide”, Appendix I, s. I.6.

⁵⁵ CNSC, “REGDOC-3.6, Glossary of CNSC Terminology” (February 2022), Glossary – I.

Significant quantities of intermediate-level waste exist in Chalk River and Whiteshell waste, yet the EIS fails to address how CNL will avoid exceeding the limits in the NSDF *Waste Acceptance Criteria* for alpha-emitting radionuclides. This waste inventory was used to assess the long-term safety of the NSDF; any exceedance of the limits raises concerns about the safety and reliability of the NSDF.

Quantities and concentrations of alpha emitters exceeding the NSDF Waste Acceptance Criteria⁵⁶ occur in stored waste packages, in bulk soils found in various waste management areas, and in waste from decommissioned buildings. The IAEA General Safety Guide GSG-1 classifies this type of waste as intermediate-level waste, and even high-level waste in some cases.⁵⁷ These types of research activities were carried out at Chalk River and Whiteshell Laboratories.

Identifying and segregating alpha-emitting intermediate-level waste “hot spots” at a sufficient level of precision to avoid placement in the NSDF is neither economically nor physically feasible. The NSDF, as an engineered landfill, is the wrong type of facility to isolate and contain the long-lived alpha emitters present in the AECL research facility waste. Such a large quantity of a long-lived alpha emitter in a surface repository clearly represents an unacceptable risk to future generations.

Adding to our concerns is the fact that the CNSC would not oversee waste disposal on a regular basis, but instead would only require an annual report of material put in the NSDF. Greater accountability and transparency would be needed to avoid exceedances of the licensed waste inventory found in the NSDF Waste Acceptance Criteria. As it currently stands, CNL could dispose of excessively radioactive materials and oversized debris using an “Infrequently Performed Operations” provision in the Waste Acceptance Criteria. Difficult-to-measure radioactivity would only be estimated by “scaling” to cesium-137, an imprecise method that could greatly underestimate total quantities of long-lived alpha emitters.

(e) Conclusions on Site Selection

The NSDF site selection is critical issue and one that has not yet been adequately addressed. One meaningful mitigation measure would be to consider alternative location and moving the NSDF further away from the Kichi Sibi, on a naturally safe site, as stated by the IAEA. Indeed, the disposal facility’s host environment should be selected based on criteria that contains the radionuclides associated with the waste. The NSDF must be sited where relevant features (geology, topography, hydrology) provide best isolation of the radioactive waste. Our input and involvement earlier on in the process was crucial and unfortunately absent.

4.2 Tritium

Our concerns regarding high threshold for tritium releases from the NSDF have not been sufficiently addressed. Although CNL modelling suggest that tritium levels may be below the 7,000Bq/L threshold once it reaches the Kichi Sibi, their tritium contamination modelling for Perch Lake includes an ‘ecological risk benchmark’ of 17,400,000 Bq/L. There are no mechanisms

⁵⁶ CNL, “Near Surface Disposal Facility Waste Acceptance Criteria” (November 11, 2020).

⁵⁷ International Atomic Energy Agency, “Classification of Radioactive Waste – General Safety Guide”, No. GSG-1 (2009), p. 38 [IAEA, “NSDF General Safety Guide”].

in place to restrict the flow from Perch Lake to the Ottawa River and withhold water if levels do rise above the maximum threshold. It is therefore a wise precautionary approach to not release water from the treatment facility if tritium levels are above 7000Bq/L.

Once released to the environment, tritium is incorporated in organisms as organically bound tritium (“**OBT**”). The EA Report makes no mention of OBT. Although the EIS has OBT data, it does not discuss risks and uncertainties associated with OBT such as its much longer retention in the body or its possible accumulation in the environment.

OBT is retained in organisms much longer than tritiated water. This has consequences for radiation dose estimates. The radiation dose from ingestion of OBT is significantly higher than from a comparable intake of tritiated water. Plants and animals often have higher tritium concentrations in OBT than in tissue water. A 2013 paper by AECL scientists says the environmental behavior of OBT is poorly known.⁵⁸ To evaluate the radiation dose from OBT accurately, further study is required.

4.3 Cumulative Effects

The NSDF does not exist in a vacuum. A comprehensive cumulative effects review is necessary to properly assess the NSDF’s impacts on KZA’s exercise of rights and on the environment. It is crucial to know how the environment and the exercise of our rights have already been impacted in order to understand their vulnerability to new harmful impacts of the NSDF. Having said this, a fulsome cumulative effects review will require more time than currently allotted to KZA in this licensing process. Given this gap in information, the RIA and EA remain incomplete and deeper consultation is needed.

The NSDF’s contamination risks, combined to the ongoing contamination at the CRL site, directly affects KZA culture and the relationship we have with the land and animals within our territory. Simply the *perceived* threat of impacts to our already impacted community will lead to self-censorship. Indeed, the NSDF project contamination risks will increase our membership’s avoiding of the local area. KZA culture breathes through and live within Anishinabe occupation on its land and through traditional activities. Avoiding the territory is being unable to practice traditional activities: it deprives KZA of a part of its culture.

Considering the cultural genocide that KZA and Indigenous peoples have suffered, particularly as a result of the residential school system legacy, projects decreasing the quality and the accessibility of sacred sites, cultural activities and relationship to the land significantly contribute to the existing impacts we, as Indigenous peoples, are already living with. Therefore, KZA considers the impacts of the NSDF to be definitively of critical importance from a cultural, spiritual and ecological perspective.

(a) *Wildlife*

KZA remains deeply concerned about wildlife inhabiting and travelling on the CRL site and future NSDF site, including the Perch Lake and wetlands, as they are a part of CNL global wastewater

⁵⁸ S.B. Kim, N. Baglan, P.A. Davis. “Current understanding of organically bound tritium (OBT) in the environment”, J Environ Radioact (December 2013), 126:83-91.

treatment. These combined to the old forest of the CRL and NSDF site are shelter to a wide diversity of species, and many are culturally and traditionally significant to KZA. KZA continues to feel the impacts to wildlife on the territory and is concerned about additional impacts on already vulnerable populations. These concerns derive not only from our broad concerns around the health of the environment, but also because many of the animals we harvest on our traditional territory are migratory. Impacts to animals in and around the CRL site can have far reaching impacts. For example, a migratory bird or a moose who drinks contaminated water or consumes contaminated cattail roots in Perch Lake could easily be hunted and consumed by our membership a short time later.

The mitigation measures identified in CNL's EIS are insufficient and incomplete to address potential biophysical effects from the Project in relation to water and wildlife and concerns around a healthy environment. The EIS itself recognizes that states "[b]oth aquatic and terrestrial species will be exposed to contaminated surface water and sediment in the East Swamp Stream, Perch Lake, Perch Creek and Ottawa River". The impacts of these exposures are not adequately documented and KZA is concerned about the repercussion of these exposures on the surrounding environment, waters and wildlife. When considering the cumulative effects of the NSDF, it is also very important to adopt an ecosystem approach, i.e. considering the effects (actual or potential) of the activities on adjacent and other ecosystems and their services. Ecosystems are highly interconnected. The permanent habitat loss for wildlife resulting from the NSDF would have an impact on all the ecosystems network. Currently, the EIS does not properly analyze how losing 37 hectares of habitat will affect the surrounding ecosystem beyond the fences of the CRL. The significant loss of forested area in the NSDF project may have ripple effects on the flora and fauna in the surrounding areas where KZA exercises their rights. Studies still have to be conducted to fill this gap and complete the EA, using an ecosystem approach and assessing the cumulative effects, in order to assess the true NSDF's impacts on KZA's Indigenous rights and interests.

Concerned by the cumulative impacts from past and current activities across the Kichi Sibi watershed, KZA members are already adapting their traditional activities to protect those species.

(i) Moose

Our traditional knowledge tells us that the moose's diet includes aquatic roots in swamps, such as the cattail root, which Anishinabe people know absorb contaminants. It is for this same reason CNL decided to plant cattail and other plants in its water management pond: to treat a part of its wastewater, plants pumping and accumulating contaminants.

Our concern comes is that the moose that have been observed at the CRL site (and any other animals consuming those contaminated plants) are being exposed to this toxicity in their habitat and food. These animals can travel afterward through our whole traditional territory where our hunters can ultimately consume them. Moose is a major species in our food consumption and livelihood.

Since 2019, some Anishinabe communities, including Kitigan Zibi, have expressed concerns about the state of the moose population in the réserve faunique La Vérendrye and surrounding areas. As pressure tactics intensified in the fall of 2020, the Quebec-Algonquin Nation Table on Moose was established to develop sustainable solutions for cohabitation between Anishinabe community members and non-Aboriginal hunters. These discussions led to the conclusion of the

Framework Agreement on Moose Management between the Anishinaabe Nation and the Government of Quebec.

(ii) Bears

In the same way, the fact that at least three bear dens are within the proposed footprint of the NSDF is deeply concerning KZA. Bears are sacred to KZA and Omàmìwininiwag. The construction of the NSDF will require destroying these bears' homes and displacing them. It is not lost on KZA that those very same processes that displaced us from our traditional lands are being used against the animals and living beings on the territory. We view this as an affront to KZA and Omàmìwininiwag history and culture.

(iii) Blanding's Turtle

We continue to hold some concerns about certain aspects of the Blanding's turtle mitigation plan, namely around predation of the nesting mounds and the permanent effect of the NSDF on the regional and local Blanding's turtle population.

The use of artificial nesting mounds to counter the loss of potential nesting habitat comes with its own complications and specifications. We do not disagree that these nesting mounds have proven to be a good alternative in other projects, in some instance even being preferred to natural nesting areas if maintained and properly located. However, this approach as currently proposed risks creating an ecological trap where predators, often very wise and observant animals, would come to recognize the shape and overall look of nesting sites with time and target them.

In response to the heightened risk of long-term predation in nesting mounds, the mitigation plan proposes *weekly* monitoring of various nesting areas and apply protective cages around newly formed nest. Our extensive on the ground experience with the snapping turtle, wood turtle and painted turtle indicate that predators usually find nests shortly after being laid. Therefore, we propose nest monitoring be *daily* instead of weekly, at least for the extent of the nesting season.

Furthermore, the cap of 30 cages is much too restrictive and should be at least doubled if not removed altogether.

Finally, the EIS does not provide sufficient proof that the sensory disturbance during the construction and operation of the NSDF would be negligible for the turtles. We disagree with CNL's conclusion in the EIS that records of this species nesting in active sand and gravel pits and along roadsides "suggests Blanding's turtles can tolerate some level of anthropogenic sensory disturbances."⁵⁹ A turtle found in an active sandpit does not prove that the turtle was not highly disturbed and distressed, nor does it prove or even suggest that Blanding's turtle can tolerate anthropogenic sensory disturbance without being distressed. It could very well indicate that these turtles were so conditioned by their habits to go through that sandpit for foraging activities that they would go through the pit despite the heightened stress and disturbance imposed on them by anthropogenic activities, potentially affecting their reproductive capabilities. A stressed animal

⁵⁹ CNL, "EIS", p. 5-574.

will put less energy into choosing the best micro habitat, or might limit its foraging. These may both be the case with the Blanding's turtles observed in the EIS.

Although we accept that the turtles have virtually no hearing, they do see light and feel vibration through the ground.

It would be unreasonable to conclude that the NSDF will have no significant adverse effects on the Blanding's turtle population before strengthening and better analyzing these mitigation measures.

(iv) Fish and Freshwater Wildlife

There is an urgent need to identify and protect the community of fish and freshwater mussels living in the area comprised between Pembroke and upstream towards Chalk River. The same goes for what appears to be one of Canada's most significant freshwater mussel communities downstream of Pembroke, near the town of Westmeath, at the Rapides Paquette, Fitzpatrick Island.

The segment of the Kichi Sibi between Rolphton Hydro Dam and Bryson Hydro Dam is home to large populations of endangered Hickorynut mussels (*Obovaria olivaria*), who (with other mussels) purify millions of liters of water for downstream communities.

This area is also habitat for the healthiest remaining population of the threatened Lake Sturgeon (*Acipenser fulvescens*), a species deeply rooted into KZA culture that we have always been fishing and that is still very important in KZA today's livelihood and fishing activities. In addition to being a culturally important species, the Lake Sturgeon plays an essential ecological role in the ecosystem, since many mussels species need this fish in their life cycle. Indeed the Hickorynut mussels, like many other mussels, have a special larval stage called "glochidium", during which they hitch a ride on fish gills, grow up for a time, and then detach in a new environment (scattering tool), without notable ill effect on fish mobility or breathing capacity. This relationship is a mutual one because, once adult, the mussels act as filtration devices in the new environment, which helps the fish populations in return. In Anishinabe traditional knowledge, this relationship shows that all living form is as important on Turtle Island, as each of them is a part of the greater life of all.

Both the American eel (*Anguilla rostrata*) and Lake Sturgeon are two significant cultural species that KZA has fished since time immemorial. However, they are now threatened and missing from the river. KZA can no longer rely on fishing these species as livelihood, and further contamination to the Kichi Sibi increase this possibility. KZA has already halted the fishing of these species as a precautionary measure in order to preserve them, but increased impacts to their population could have a more permanent impact on these species. There is a serious risk that they disappear altogether.

(v) Eastern Wolf

Wolf is another major cultural species to KZA, known as important animal teacher who share cooperative relationships hunting and caring for each other. Impacts of the NSDF to the Eastern Wolf (*C.Lyacaon lyacaon*), a threatened species, have not been sufficiently assessed. KZA's sister community, KFN, has collected data on the status and range of Eastern Wolf (*C.Lyacaon lyacaon*), which is a threatened species, upstream of Chalk River in the Kichi Sibi watershed. It is highly likely that the NSDF footprint is home to Eastern Wolf.

(b) *Other Activities at CRL*

KZA has never been consulted on the implementing of the Chalk River nuclear site on its territory. The site creation went on without KZA’s free, prior and informed consent and KZA has never agreed to its continued operation. In addition, KZA has never given its free, prior and informed consent to nuclear activity-related strategies and regulations. We have consistently expressed our opposition to further nuclear development and activity in Algonquin territory.

The historic and ongoing uses of the CRL site must be taken into account when assessing the impact of the NSDF on the environment and our rights. These other activities include emissions from facility operations, management of wastes currently on site, imports of off-site waste, remediation of contaminated areas, and decommissioning of unused structures at CRL.

These activities continue to have devastating impacts on the environment and contribute to our growing concerns about adding further development and activity within the CRL footprint. For example, CNL recently reported a significant increase in environmental spills at CRL, notably due the large amount of construction activities occurring at the site.⁶⁰

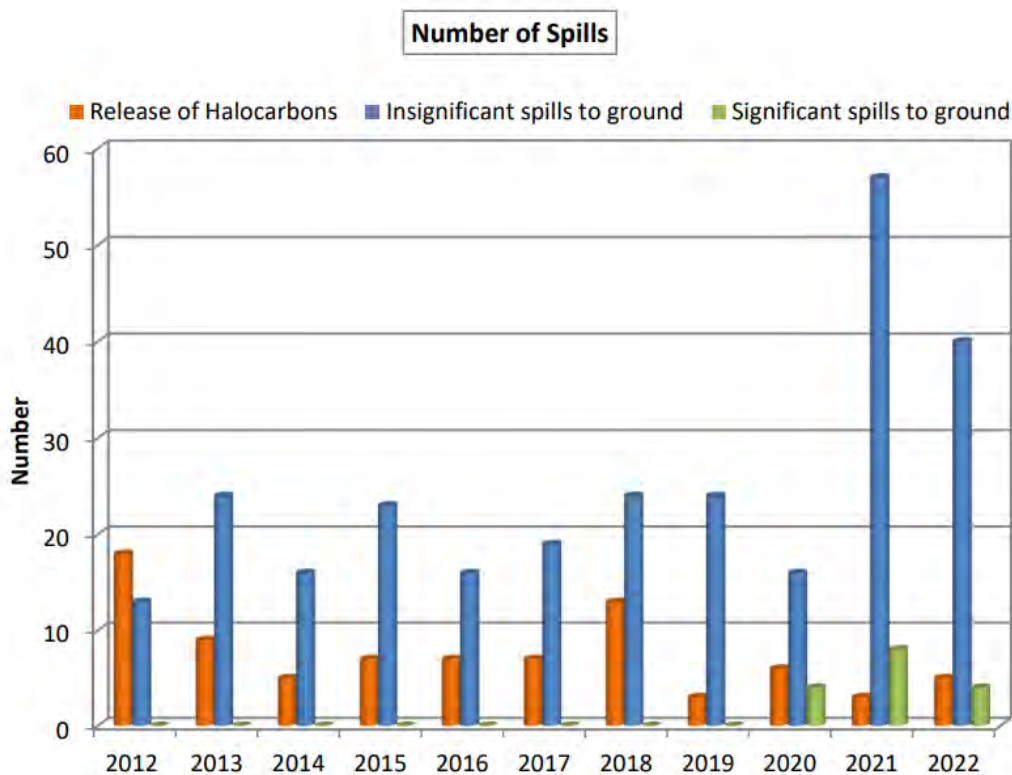


Figure 7: Number of Spills at CRL Site. Source: [CRL Environmental Performance Report – March 2023](#)

Additionally, the ongoing lack of finality regarding intermediate- and high-level waste further concerns us, as there is no clear timeframe for when the intermediate- and high-level waste from AECL and CNL’s facilities will leave the CRL site. We understand that this waste at Chalk River will ultimately be managed according to an Adaptive Management Plan by the Nuclear Waste

⁶⁰ CNL, “[Environmental Performance – Chalk River Laboratories, 2023 March Report](#)” (March 2023), p. 3.

Management Organization. However, this plan includes interim storage at Chalk River until permanent management off-site in a deep geological repository is possible (i.e. approved by the CNSC with a willing host community). The plan also involves consolidating its intermediate- and high-level waste across the multiple facilities it manages for transport to, and storage at, Chalk River. Timelines for the proposed deep geological repository are still unknown, and as such CNL is proposing to increase quantities of intermediate- and high-level waste and transport it through Algonquin territory for a similarly undetermined amount of time.

Although CNL and CNSC documents promote the NSDF project as a means of “enabling decommissioning and environmental remediation activities,”⁶¹ they do not specify which existing buildings and waste areas would be decommissioned and/or remediated. Decommissioning and remediation activities entail major costs, as well as environmental and health risks. They expose radioactive materials to the elements, making them more mobile in the environment.

(a) Cumulative Impacts on Health

One of the primary reasons KZA has extremely heightened concerns about the impacts of the NSDF stems from our historic and ongoing exposure to unsafe levels of uranium and radium within our drinking water. Studies have demonstrated that certain parameters of renal function show abnormalities when exposed to uranium.⁶²

Exposure to radiation, even at a low dose can have adverse effects on human health. Indeed, studies have found that long-term effects of radiation exposure can cause damages to the genetic material in human cells, therefore resulting in radiation-induced cancers, such as leukaemia.⁶³ Furthermore, radiation is said to possibly increase the risk of cardiovascular diseases and other non-cancer diseases. Beyond physical harm, changes in living the environment resulting from a nuclear incident have an adverse impact on psychological health of exposed individuals, such as clinical and subclinical depression, anxiety and posttraumatic stress disorder.⁶⁴ Low-dose radiation can also cause epigenetic alterations and transgenerational effects, associated with reproductive impairment.⁶⁵ These are the realities that our membership lives with on a daily basis.

In light of the interaction of co-morbidities resulting from this underlying factor, the health risks associated with radiation could have a more significant impact for KZA than in the general population.

⁶¹ CNSC, “[Commission Member Document](#)” (February 22, 2022), p. 6.

⁶² Radiation Protection Bureau, “Effect on Kidney Function of Long-Term Ingestion of Uranium in Drinking Water by KZA members”, BOD, Tab 7.

⁶³ Kamiya et al., “Long-term effects of radiation exposure on health” *Lancet* (London, England) vol. 386,9992 (2015), pp. 469-470, BOD, Tab 14 [Kamiya et al., “Long-term effects of radiation exposure on health”; Leuraud et al., “Ionising radiation and risk of death from leukaemia and lymphoma in radiation-monitored workers (INWORKS): an international cohort study.” *The Lancet. Haematology* vol. 2,7 (2015), p. e279, BOD, Tab 15 [Leuraud et al., “Ionising radiation”].

⁶⁴ Kamiya et al., “Long-term effects of radiation exposure on health”, p. 475; Leuraud et al., “Ionising radiation”.

⁶⁵ Leung et al., “Low-Dose Radiation Can Cause Epigenetic Alterations Associated With Impairments in Both Male and Female Reproductive Cells” vol. 12, article 710143 (August 2021), BOD, Tab 16.

Furthermore, as mentioned above, throughout the history of colonization, Indigenous communities have experienced and still continue to experience collective and intergenerational trauma, which stems from systemic racism and institutionalized tactics of genocide, such as residential schools.

Adverse childhood experiences, which often result into childhood trauma have been proven to have a negative impact of mental and physical health.⁶⁶ Such trauma has been linked with increased risks of cardiovascular disease, autoimmune disease, gastrointestinal symptoms, poor dental health, obesity, and type 2 diabetes. Psychologically, childhood trauma has been associated with PTSD, insomnia, anxiety, depression, bipolar disorder, maladaptive daydreaming, hallucinations, borderline personality disorder, disruptive behavior, risky behaviors, substance abuse, antisocial behavior and eating disorders.⁶⁷

When considering the impacts a nuclear incident can have on mental health, this cannot be done in a vacuum. Indeed, it is essential that these risks be assessed in light of the psychological and physical harm colonization continues to cause upon Indigenous peoples.

(b) Quality of Experience in Exercising Rights

To KZA culture and spirituality, Omàmiwininiwag well-being comes first from and with the well-being of its land. Hence, KZA asserts its value for protection of the land as one fundamental cultural values. As stated in Article 15.1 of the United Nations Declaration on the Rights of Indigenous Peoples, “Indigenous peoples have the right to the dignity and diversity of their cultures, traditions, histories and aspirations...”⁶⁸ To KZA, soiling its land is spoiling its culture, and thus violating their values and rights: that is a direct effect of the NSDF’s contamination risks on KZA cultural dignity, affecting its rights.

Throughout the NSDF environmental assessment process, KZA raised concerns regarding the CRL site being contaminated and contaminating the surrounding land and waters as a result of historic and ongoing nuclear operations and activities. Due to this contamination, both perceived and actual, KZA members avoid using the land and resources surrounding the site to exercise their rights. Hence, they can no longer practice their traditional activities, including hunting, fishing and gathering, because of the risk to wholesomeness consumption of food from the land in this big area. In addition, as a result of the NSDF Project, members of KZA will continue to alter their land use because of environmental contamination risk and impacts in the vicinity of the site and hence continue to see their rights restricted.

Indeed, as the NSDF Project is effectively a permanent facility, it would effectively end the possibility of removing a source of risk that leads to avoidance behaviour within this part of the Kichi Sibi watershed. As a result, the proposed Project would contribute to the perpetuation of avoidance behaviours over time and deprive KZA people from practicing their traditional activities and other rights given the historical and present context of avoidance behaviours.

⁶⁶ Jiang et al., “Epigenetic Modifications in Stress Response Genes Associated with Childhood Trauma” vol. 10, article 808 (November 2019), BOD, Tab 17 [Jiang et al., “Epigenetic Modifications”].

⁶⁷ Jiang et al., “Epigenetic Modifications”, p. 2.

⁶⁸ United Nations, “*United Nations Declaration on the Rights of Indigenous Peoples*”, (A/RES/61/295), art. 15.1.

5. Closing Remarks

It is often brought forward when voicing concerns on projects that impact the unceded traditional lands of the Algonquin Nation that traditional knowledge (or “TK”) is not a science-based knowledge.

A statement was made by a KZA member, Sheldon McGregor, from an event in which this issue was raised from various scientists in attendance questioning the reliability of traditional knowledge over science based knowledge:

There is an inference that Indigenous knowledge may be below that of science based knowledge. That traditional knowledge is not a science. But my observation also is that traditional knowledge is also based on a praxeology. That the knowledge and ways of knowing was derived over the ages or millennia of trial and error because one's survival depended upon it. Traditional knowledge meant the difference between surviving or not surviving.

Praxeology is the theory of human action, based on the notion that humans engage in purposeful behavior, contrary to reflexive behavior and other unintentional behavior. The study of psychology, for example, was once considered a praxeology until the MRI was invented.

The sharing of traditional knowledge must come with cultural competency in the evaluation of the impact of the interconnectedness of the whole - that of impact site and ecosystem. Traditional knowledge includes an understanding that everything in an ecosystem and the greater environment is interconnected.

The CNSC's methodology has taken only parts of the whole, thus raising concern and the questioning of undertakings. KZA way of knowing, using and living on the land are not based on fixing small points on the land and listing of individual species. It is not consistent nor in respect of KZA way of knowing, hence not appropriate for KZA sharing its traditional knowledge at all.

The Omàmìwininiwag have been in the Kichi Sibi Watershed since time immemorial and its knowledge derived through trial and error for survival and wellbeing evolved through millennia in the caretaking of the land which is a science of the whole of the interconnectedness.

**IN THE MATTER OF
CANADIAN NUCLEAR LABORATORIES**

**Application to Amend the Nuclear Research and Test Establishment Operating
Licence for the Chalk River Laboratories Site to Authorize the Construction of a
Near Surface Disposal Facility**

BRIEF OF DOCUMENTS INDEX

TAB	DOCUMENT
1.	Le pays des Anicenabe : La revendication territoriale globale de la nation algonquine", Jacques Frenette (1988)
2.	Kitigan Zibi Anishinabeg: Contemporary Occupation and Use of Territory among the Algonquins of Maniwaki, Jacques Frenette (1993)
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