Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 21-M34.3

Date: 2021-11-11
File / dossier : 6.02.04
Edocs pdf : 6680414

Oral Presentation

Written submission from the English River First Nation

Exposé oral

Mémoire de la Première Nation d'English River

Regulatory Oversight Report for Uranium Mines, Mills, Historic, and Decommissioned Sites in Canada: 2020

Rapport de surveillance réglementaire des mines et usines de concentration d'uranium et des sites historiques et déclassés au Canada : 2020

Commission Meeting

Réunion de la Commission

December 15, 2021

Le 15 décembre 2021

Canada

English River
First Nation

English River First Nation
Lands & Resources Office
301-2555 Grasswood Road
Saskatoon, SK S7T OKI

Tel: 306.649.611 1 Fax: 306.664.8923 E: cheyenna.campbell@desnedhe.com

November 11, 2021

Canadian Nuclear Safety Commission
P.O. Box 1046, Station B
280 Slater Street
Ottawa, Ontario K1P5S9

"VIA EMAIL cnsc.interventions.ccsn@canada.ca"

RE: ERFN Intervention- Regulatory Oversight Report for Uranium Mines, Mills, Historic and Decommissioned Sites in Canada: 2020

This submission is made on behalf of the English River First Nation (ERFN).

English River First Nation is made up of 19 reserves, most of which are located in Northern Saskatchewan. ERFN has a population of approximately 1650 people. The on reserve members of the First Nation reside at two small remote Northern Saskatchewan reserves called Patuanak and La Plonge. These reserves are located approximately 600 km north of Saskatoon. Approximately half of ERFN's population resides off reserve.

On October 8, 2021, ERFN participated in the Canadian Nuclear Safety Commission (CNSC) Annual Indigenous Virtual Engagement Session. This engagement session allowed ERFN to receive concise and clear information regarding the Uranium Mines and Mills. The small digital session encouraged conversation and questions in a safe environment. ERFN considers this engagement session invaluable and a good example of open and effective Indigenous engagement with the CNSC.

In addition to attending the CNSC Virtual Engagement Session, ERFN has also engaged Robin Kusch to assist the Nation in reviewing and understanding the technical and scientific aspects of the Regulatory Oversight Report for Uranium Mines, Mills, Historic and Decommissioned Sites in Canada for the 2020 year.

This topic is of great importance to the people of the ERFN, because of the presence of the Uranium Mines and Mills located within English River First Nation Ancestral Territory. The people of ERFN have subsisted on this land for generations- fishing,

hunting, gathering, and living.

As stated, ERFN has enlisted Robin Kusch to help ERFN review and understand the technical information contained within the submission documents. Mrs. Kusch has outlined questions that have arisen as a result of her review. These questions have been posed to both Cameco and Orano, and we look forward to receiving their response in due course.

ERFN concludes that there is no reason to object to the CNSC's conclusions in the 2020 RoR. Further, ERFN does not take issue with the finding that the operations and historical and decommissioned sites are being managed effectively in terms of the SCAs. The RoR concludes that adequate protections are in place to protect the environment and humans during operation and closure/decommissioning activities.

Sincerely,

Cheyenna Campbell B.A., LL.B.
English River First Nation
Lands & Resources Manager

Technical Memorandum

Review of the Regulatory Oversight Report for Uranium Mines, Mills, Historic and Decommissioned Sites in Canada: 2020

October 26, 2021

Table of Contents

Background Information

This technical memorandum has been prepared for the English River First Nation (ERFN), and provides a summary and review of the Regulatory Oversight Report for Uranium Mines, Mills, Historic and Decommissioned Sites in Canada: 2020 (CMD 21-M34; 2020 RoR) with the intent to inform the ERFN's Intervener Submission. The Commission Member Document (CMD) was 222 pages, the review effort included summarizing relevant information relating to concerns expressed by ERFN from the documents for presentation to ERFN members.

Introduction

English River First Nation

ERFN is a Dene and Cree First Nation located in Northern Saskatchewan. ERFN's two largest reserves are La Plonge Reserve and Wapachewunak, located approximately 600 km north of Saskatoon, Saskatchewan. The ERFN is a signatory to Treaty 10 and is comprised of nineteen different reserves:

- La Plonge 192,
- Elak Dase 192A,
- Knee Lake 192B,
- Dipper Rapids 192C,
- Wapachewunak 192D,
- Ile a la Crosse 192 E,
- Primeau Lake 192F,
- Cree Lake 192G,
- Grasswoods 192J,
- Leaf Rapids 192P,
- English River (Porter Lake) 192H,
- English River FN Barkwell Bay No. 192I,
- English River FN Haultain Lake No. 192K,
- English River FN Flatstone Lake No. 192L,
- English River FN Cable Bay Cree Lake No. 192M,
- English River First Nation Cable Bay Cree Lake192N,
- English River FN Beauval Forks No. 192O,
- Slush Lake Reserve No. 192Q, and
- Mawdsley Lake Reserve No.192R.

The ERFN is rising to the challenge of ensuring sustainable development in the vicinity of their communities and within ERFN Ancestral Territory, and recognizes the unique and important role they have to play in Northern Saskatchewan. While remaining true to traditional values as "keepers of the land," members also pursue opportunities to participate in the development of ERFN's resources (e.g., forestry, industry and workforce).

ERFN established Des Nedhe Development LP in 1991 to create sustainable employment and business opportunities for English River members. Since its inception, Des Nedhe Development has invested in established companies that are leaders in Saskatchewan's mining and construction industry and expanded its portfolio into the areas of retail and real estate development and management. The

company takes pride in its strong focus on growth through investment, experienced management team and history of delivering solid financial results. Looking forward, Des Nedhe is exploring new opportunities across the Country, in multiple sectors, and is positioned to play an important role in Canada's economic future.

Saskatchewan Uranium Industry

The Athabasca Basin of northern Saskatchewan has been the site of several major uranium discoveries and Saskatchewan is recognized as a world leader in uranium production. The uranium is exclusively used for electricity generation at nuclear power plants, which is a non-carbon emitting energy source and provides about 15% of Canada's electricity needs. The uranium industry is a significant economic driver in northern Saskatchewan.

Collaboration Agreement

All of the uranium mines, mills, and historical and decommissioned sites in northern Saskatchewan are considered of interest to the communities of ERFN. In northern Saskatchewan, the industry leaders Orano and Cameco Corporation have entered into formal agreements with Indigenous communities, including ERFN (referred to as collaboration agreement (CAs) or impact benefit agreements (IBAs). These agreements provide Indigenous communities with workforce and business development programs, dedicated community engagement programs, community investment monies and mechanisms to collaborate around environmental stewardship. These industry leaders have also entered into several trapper compensation agreements with individual land users who are affected by their activities.

These agreements are part of the effort undertaken in recent history to engage and respect local communities, First Nations, Metis Nations and local land users during the planning and execution of industrial developments. Execution of these agreements ensures that engagement occurs with the intent to minimize the potential and perceived negative impacts from a development, as well as optimize potential positive impacts. Signing of these agreements conveys a general trust in the industry's performance and is recognition of a positive working relationship with the industry leaders.

Consultation

Consultation is recognized by the Canadian Nuclear Safety Commission (CNSC) as an important part of the process to develop the details of its regulatory framework. In recent years, specifically since 2018, ERFN has witnessed an evolution in the consultation process that they view as positive. Now there is more readily available and approachable ways to have direct dialogue between the CNSC and First Nations, which ERFN sees as invaluable to the process of building and maintaining trust in Canada's Nuclear Industry. The outcome of feeling like you have no power in a situation is a state of forced apathy, the direct engagement with ERFN has resulted in a sense of relevance and with the consultation process a sense of consequence. As well, there is a seriousness conveyed about their concerns when during hearings CNSC members reiterate or even directly represent the views the First Nations have conveyed to them directly. Previously, ERFN felt as though their views were filtered through the proponents of projects and/or operating companies to the CNSC and as such could see their perspectives being softened, deemphasized, devalued, or even lost.

Leadership Role

Also recently, specifically starting in 2018, members of ERFN gained a heightened awareness of the external factors that can affect the mining industry and that life-of-mine estimates based on resource delineation are just projections. As such, the communities have started to shift their engagement focus from operational performance and economic benefits to the long-term environmental effects of closure and associated reclamation uncertainties. Key concerns of the ERFN communities, as reported in 2017, remain to be the:

- operation and ultimate closure of the Key Lake Operations, due to the long-term (1000s of year) management of tailings and linkages to Wheeler River system that is an area of heightened value; and
- operation and ultimate closure of McArthur River Operation and Key Lake Operations, due to potential for cumulative effects on the Wheeler River system.

The Wheeler River region is recognized as an important cultural, ecological, and sustainability resources (i.e., drinking water, food and air) area for the communities of ERFN. The prevalence of the importance of the resources (clean air, water, soil, and country foods) in this area is likely to only increase in value to local land users following closure of local operations.

However, in general, ERFN is dedicated to stewardship of the land for future generations and doesn't take this responsibility lightly. Often in relation to First Nation consultation and engagement the focus is on the spatial extent of their traditional and current land use, and it is conveyed that their concerns should be limited to these areas. However, it is recognized that the climate and environments around the world are changing, and there is no way to know in the future where the traditional resources that could be necessary to support future generations will be located within northern Saskatchewan or even Canada. As such, ERFN has interest in uranium operations and sites from two perspectives: (1) protection of all lands in northern Saskatchewan and (2) gaining an increased understanding of operational and long-term tailings management methods / technologies.

Summary of Regulatory Oversight Report

- Bulk of inspections were conducted remotely in 2020, 11 non-compliances were issued to active sites and 1 to historic/decommissioned site, all were of low safety significance, and all concerns raised were addressed.
- All safety and control area (SCAs) were rated satisfactory for all mines, mills and historic and decommissioned sites.
    - SCAs = Management Systems, Human Performance Management, Operating Performance, Safety Analysis, Physical Design, Fitness for Service, Radiation Protection, Conventional Health & Safety, Environmental Protections, Emergency Management and Fire Protection, Waste Management, Security, Safeguards and Non-proliferation, and Packaging and Transport
- No workers exceeded their regulatory radiation dose limit, maximum individual radiation dose to a worker was less than 9% the annual regulatory limit (McClean Lake Operation 4.28 mSv).

- Two lost-time injuries occurred at McClean Lake Operation, appropriate corrective measures were implemented.
    - March 16, 2020 drill bit jammed injuring the worker's hand
    - May 13, 2020 knee injury when worker kneeling to clean #1 calciner stood up
- All authorized discharged water met the federal or provincial discharge limits, and air and vegetation samples analyzed had levels well below regulatory limits.
- There were 6 unauthorized releases, all releases were corrected, and no lasting impacts to environment will occur.
- As part of the CNSC's Independent Environmental Monitoring Program (IEMP) 2020, fish, blueberries, Labrador tea and water were collected in the vicinity of Cigar Lake Operation (CLO) confirms Cameco's environmental monitoring program and shows country foods and water remain safe to eat and drink.
- The Eastern Athabasca Regional Monitoring Program (EARMP) continued in 2020-2021 providing additional chemistry data for samples collected from northern Saskatchewan (water, berries, and fish and mammal tissue). The EARMP illustrates that radiological and non-radiological exposures to residents consuming country foods are similar to that experienced by the general Canadian population, as such the water and country foods are safe for consumption.

Findings from Report Review

I have reviewed the CMD21-M34 identifying questions and comments community members would likely have, taking into consideration my engagement with EFRN and the knowledge and understanding I have of the uranium industry and regulatory requirements. The review was completed in this manner to critically review the 2020 RoR in a concise and culturally aware manner. As stated above, the review effort included summarizing relevant information for presentation to ERFN members.

Effluent and Emissions Control Program

The 2020 RoR provides an improved description of the effluent and emissions control program, as compared to the 2017 RoR report I reviewed for ERFN in 2018. As well, since 2018 ERFN has demonstrated an increased understanding of the overall environmental protection program / process employed by the nuclear industry in Canada, which I would in part attribute to their discussions with the CNSC.

As indicated on page 26 (pg 33/222), as part of the environmental code of practice, administrative and actions levels are set out for select contaminants of potential concerns (COPC), which are identified

through the environmental risk assessment (ERAs) process completed by each site. These COPCs[1] are recognized as having the potential to cause adverse environmental effects (i.e., levels in the receiving environment are or are predicted to increase as a result of activities at site to a meaningful degree). These ERAs are updated at minimum every 5 years, as such the lists of COPCs monitored for each site can change. Site environmental monitoring programs relative to the ERA predictions are provided in an environmental performance report (EPR) that is typically completed every 5 years. The environmental protection program applies to authorized releases. Administrative and Action Level exceedances are described below.

Administrative Level Exceedance

- Does not represent a loss of control of the environmental protection program and does not represent an increased risk to environment.
- Does not require notification to CNSC.
- Triggers internal review by the site to determine if environmental controls / mitigation are functioning as intended (e.g., function as a potential early warning).

Action Level Exceedance

- Does represent a loss of control of the environmental protection program and an increased risk to environment.
- Does require notification to CNSC.
- Triggers immediate investigation, and subsequent corrective actions and preventative measures to restore environmental protection program.

Action Level exceedances reported to the CNSC are provided in Appendix H (radiological) and Appendix J (Environmental). In 2020 there was one radiological exceedance, which occurred at CLO. In September 2020, when a welder repairing the 480-clarifier tank had his respirator monitoring pump fail a pump being worn by a watchperson was used to finish the job. When both pump filters were analyzed, the first filter indicated the worker could potentially have been exposed to 1.8 mSv. Urine sample analysis was assessed determining a 0.68 mSv exposure, and in combination with other exposures the worker received previously in the week the 7-day exposure was derived at 1.17 mSv. As such, the worker

[1] COPCs include: radium-22, molybdenum, selenium, uranium, arsenic, copper, lead, nickel, zinc, total suspended solids, and pH.

exceeded the weekly Action Level of 1 mSv. Corrective actions were implemented, which CNSC concluded were acceptable.

In 2020, there was one environmental exceedance, which was in relation to the selenium concentration in effluent of the JEB Water Treatment Plant at MLO. As such, this exceedance is discussed below in the MLO subsection of the Treated Effluent Concerns section.

Treated Effluent Concerns

Cigar Lake Operations - Arsenic in Seru Bay

Refer to page 48 (pg 55 / 222), CLO treated effluent concentrations continued to meet discharge limits. In other words, there were no exceedances of the Action Levels established in the environmental code of practice. In 2016, the CLO EPR indicated an increasing arsenic trend in effluent released to Seru Bay. Cameco implemented several mitigation techniques to reduce loadings and mean concentrations changed from 0.095 mg/L in 2019 to 0.066 mg/L in 2020. CNSC staff will continue to review effluent quality results to verify that effluent treatment performance remains effective.

ERFN became aware during the review of 2017 RoR, in 2016 that the most recent CLO ERA showed that arsenic levels in water and/or sediment of Seru Bay (Waterbury Lake) would be elevated above those predicted in the 2011 environmental assessment (EA) if mitigation wasn't implemented. Taking into account corrective actions implemented by Cameco, the predicted water and/or sediment contaminant levels in the receiving environment in the revised ERA (2017) were within the predictions made in the 2011 EA. Through the 2021 CLO Licence Renewal, ERFN was able to engage with Cameco to fully understand the rectification of the environmental protection program to reduce arsenic loadings to Seru Bay, and ERFN supported the renewal of the CLO operational license in 2021. As stated in the CMD21-M34, the CNSC has verified that arsenic loadings to the environment have decreased steadily since 2016.

McArthur River Operations – Molybdenum
Care and Maintenance since 2019

Refer to page 62 (pg 69 / 222), the CNSC staff verified that treated effluent released to the environment was below regulatory requirements and has remained stable or improved over the past 5 years. It is, however, indicated that molybdenum had been identified as posing a risk and Cameco implemented process changes prior to 2018 to address this risk. The reader is left to assume that the risk was identified via ERA effort, the risk was to the aquatic environment, and following the ERA being updated to consider the implemented mitigation the risk was avoided. Currently, molybdenum concentrations in treated effluent have been reduced by 90%, however, this is due to the operation being in Care and Maintenance.

Rabbit Lake Operation – None
Care and Maintenance since 2017

Key Lake Operation – None[2]
Care and Maintenance since 2018

Refer to page 93 (pg 100 / 222), monitoring confirms that this effluent is within design specifications and the predictions outlined in the ERA. The treated effluent from

- the mill that is discharged to Wolfe Lake in the David Creek system (David Creek system), and
- from the reverse osmosis treatment plant that treats flow from the dewatering wells of the Gaertner and Deilmann pits and discharges to Horsefly Lake (McDonald Lake system)

met all regulatory limits. Additional treatment components were installed from 2007 to 2009 to the to reduce molybdenum and selenium concentrations in the effluent. From 2016 to 2020, concentrations have been stable or declining demonstrating effective control of the discharge quality.

McClean Lake Operation - Selenium in McClean Lake's East Basin

In the 2017 RoR, it was stated that the MLO ERA (2016) showed that selenium levels in the vicinity of the discharge location into the East Basin (McClean Lake) in the future would be above those predicted in the Environmental Impact Statement (EIS). An adaptive management plan was developed, and on page 96 of the 2017 RoR it was concluded that CNSC staff would continue to review reported selenium concentration in effluent to ensure the receiving environment remained protected. In 2020, one Action Level exceedance of selenium occurred in the effluent from the JEB Water Treatment Plant (March 28, 2020). In response, CNSC requested a long-term solution to reduce selenium loading to the environment. In September 2020, Orano submitted an updated Selenium Adaptive Management Plan that detailed continuous improvement techniques currently being implemented in the short-term. As reported in Appendix J on page 204 (pg 211 / 222), Orano intends to continue releasing effluent that periodically exceeds the Action Level. Subsequent exceedances will be tracked and reported in the quarterly and annual reports to the CNSC, in conjunction with the corresponding report of selenium mass loadings. The exceedance and the continued exceedances have been deemed to have a low significance rating[3]. However, the CNSC has asked Orano to verify that a long-term treatment solution would be implemented by the fourth quarter of 2021 (before end of 2021).

[2] Minor editing error noticed – figure numbering in text of section 6 is mismatched, for example, text refers to Figure 2.5 instead of Figure 6.5.
[3] Incident results in or has a reasonable potential to have a negligible impact, i.e., no potential for a significant adverse effect.

Uncontrolled Releases

Key Lake Operations – 2 Minor Events

March 17, 2020 – 3,000 L untreated water from reverse osmosis treatment plant was released to the ground outside of the building. Contaminated material was collected and placed on the Gaertner special waste pad.

October 27, 2020 – 12,000 L untreated water from the mine shop was released to the ground outside the building. The frozen water / material was collected and placed on the above ground tailings management facility.

Within the 2020 RoR there is no reporting of nor follow-up pertaining to the groundwater monitoring well data that in 2019 demonstrated an increase in uranium in the vicinity of molybdenum extraction building. In a letter dated August 29, 2019 from Cameco to ERFN (Cheyenna Campbell) it was concluded this was the result of a leak in the floor of the building which is located on mill terrace. As well, it is stated that a Corrective Action Plan would be developed in 2020 with the oversight of the CNSC and Saskatchewan Ministry of Environment. ERFN was not reassured in 2019 by Cameco's statements that the contamination would move only several meters per year and the mill terrace was well over 300 m away from the nearest waterbody. However, through ongoing engagement with Cameco, ERFN is confident that a continued flow of information and quarterly updates on the remediation process will reassure the membership. I did a quick check in the 2019 RoR for Uranium Mines and Mills, specifically, Section 5.1 Reportable Events (LINK) and there was no information provided on the uncontrolled release from the molybdenum extraction building in this report. I'm not sure why this particular release would differ from the other leaks and not be included in this section of the RoR.

McClean Lake Operation – 4 Low Safety Significant Events

February 18, 2020 – 360 kg of molten sulphur released during offloading. The frozen sulphur was collected and placed in the contaminated landfill.

February 21, 2020 – 0.3 m^3 ethylene glycol leaked from pipe. The contaminated snow and soil was collected and placed in the Sue C contaminated landfill[4].

[4] There is no volume reported in Appendix I

June 11, 2020 – 34.4 m^3 anhydrous ammonia released from pipeline. The contaminated soil was collected and placed in the hydrocarbon landfarm.

July 11, 2020 – 3 m^3 sulphuric acid released into secondary containment through hole in pipeline[5]. Secondary containment was repaired.

Decommissioning and Remediation

On page 120 (pg 127 / 222) the objective of remediation is provided, which is to establish long-term, stable conditions that ensure the safe use of each site by current and future generations.

Gunnar Legacy Uranium Mine

Gunnar legacy mine operated from 1955 to 1963, the site is located on the north shore of Lake Athabasca, and in 1964 at closure little decommissioning let alone remediation was performed. Remediation plans are currently being implemented which consist of cleanup of: mine tailings, waste rock piles, a mine shaft, and demolition debris. CNSC verified that the Saskatchewan Research Council (SRC) remediating the site, maintained an environmental protection program that verifies the protection of people, and an environmental monitoring program that measures existing conditions at site. Monitoring data was consistent with the previous years and within the 2014 EIS. With the exception of uranium concentrations increasing in Langley Bay, which appear to be the result of the remediation activities themselves (in other words, as a result of cleanup requiring the disturbance of contaminated-material). CNSC will continue to review the annual data to determine whether this is a long-term trend.

Larado Uranium Mill

The Lorado mill operated from 1957 to 1960, and the site is located 8 km south of Uranium City, the site was abandoned without any decommissioning or remediation being preformed. In 2016 SRC completed all remediation work planned for the site, which was followed by ongoing monitoring of the local environment. In June 2019, SRC submitted an application to transition the site into the long-term monitoring and maintenance program, and the license was amended in July 2020 with the long-term objective to transfer the remediated site into the Saskatchewan Institutional Control Program (ICP) after a period of 10 to 15 years post-remediation (i.e., after additional monitoring to confirm a safe and stable site).

[5] In Appendix I it is stated that about 457 m^3 of sulphuric acid was released but the area underground the acid could be released to was 3 m^3.

CNSC confirmed that the SRC environmental program verifies that the environment and health and safety of persons are protected.

Beaverlodge Uranium Mine and Mill

The Beaverlodge mine and mill operated from 1952 to 1982, the site is located near Uranium City, and consists of 70 individual properties. The site is now focused on preparing various properties for eventual transfer to ICP, with Cameco conducting the remedial activities. Five of the 70 properties have already been released from CNSC licensing and transferred to the ICP, and in December 2019 CNSC accepted the release of an additional 19 to ICP and the release of one location from all government programs (i.e., one property no longer has any risks to be managed).

An updated ERA was submitted and accepted by the CNSC in 2020, which concludes there are no risks to humans residing near, or consuming food from areas surrounding the Beaverlodge site. However, this includes respecting a precautionary fish consumption advisory which outlines lakes and creeks that fish should not be consumed from as a result of elevated selenium concentrations. Overall, the 2020 ERA concludes that the immediate and downstream environments will continue to gradually recover over time. CNSC reviewed the water quality results and found that the contaminant concentrations are generally stable and within those predicted, and concluded that Cameco has adequate measures in place at the Beaverlodge stie to protect the public and the environment.

Cluff Lake Uranium Mine and Mill

The Cluff Lake mine and mill operated from1981 to 2002, the site is located about 75 km south of Lake Athabasca, and decommissioning activities were largely completed within 5 years of closure (i.e., by 2007) and were concluded in 2013. In February 2020, Orano submitted an application to transfer the site to ICP, it is anticipated that CNSC proceedings will be held on this application in 2022.

The site is currently achieving decommissioning surface water quality objectives. The CNSC is satisfied that Orano has adequate measures in place to protect the public and the environment from residual releases from the site.

Question / Clarification

Clarification #1

Pertaining to the radiological Action Level exceedance at CLO, the reader can be assured that the corrective action overall protected that individual worker as annual worker exposures were well below the regulatory limit. The maximum individual radiation dose was less than 9% the annual regulatory limit and the maximum occurred at MLO (maximum annual dose was 4.28 mSv; regulatory annual dose limit is 50 mSv).

Question #1

Within the reporting period it is indicated that at MRO, molybdenum concentrations in treated effluent were identified as posing a risk, Cameco implemented process changes prior to 2018 to address this risk, and based on CNSC conclusion regarding the operating performance for MLO the reader is left to assume that monitoring has illustrated the mitigation has been effective and the risk avoided. In the RoR,

it is stated that currently, molybdenum concentrations in treated effluent have been reduced by 90%, however, this is due to the operation being in Care and Maintenance. As such, a level of uncertainty is conveyed regarding the assumption that the mitigation has been proven to be effective.

A question that could be asked of Cameco / CNSC would be:

- Did the monitoring data from 2018, when the mine wasn't in or transitioning to Care and Maintenance, illustrate that the mitigations implemented were adequate to reduce molybdenum effluent concentrations?

Questions #2, #3 and #4

I perceive Administrative Level exceedances as an early warning sign allowing for confirmation that appropriate mitigation is in place before an Action Level exceedance occurs. As sites are not required to notify the CNSC of Administrative Level exceedances there is no information pertaining to them in the RoR. In regards to the radiological exceedance at CLO in 2020, it is reasonable that an Administrative Level exceedance would not have proceeded the Action Level exceedance. However, from my understanding of the environmental code practice, an Administrative Level exceedance would have likely proceeded the environmental Action Level exceedance at MLO in 2020 (i.e., selenium exceedance in treated effluent), unless there was a substantial, unforeseen step-wise increase in the effluent concentration.

In addition to creating uncertainty in the environmental code of practice, by not outlining the development of an effective Administrative Level, the performance summary also fails to discuss the proceeding steps to an exceedance: (1) investigation, (2) corrective actions and preventative measures and (3) restored environmental protection program. As MLO intended for these exceedances to periodically occur[6], it would be beneficial to provide the basis the CNSC had to conclude these exceedances represent a risk of low significance rating. Furthermore, it appears MLO is still in the corrective actions and preventative measures phase of addressing the exceedance, as only an interim (i.e., short-term) Selenium Adaptive Management Plan was submitted in 2020 and CNSC has required a long-term treatment solution be implemented by the end of 2021.

It is not unreasonable for corrective action identification and implementation, followed by confirmation that environmental protection program has been restored to take time (year or more). However, some qualifying information would be invaluable to fostering an understanding of the CNSC's conclusions that

[6] Reader left to assume from September 2020 to Q4 2021.

there is no risk to the receiving environment and people as a result of allowing these exceedance to occur and MLOs environmental protection performance is satisfactory.

Questions that could be asked of Orano / CNSC would be:

- Was there an Administrative Level exceedance prior to the Action Level exceedance in March 2020? If yes, when was Orano first aware of this potential for exceedances?
- Can some characterization of these previous and ongoing exceedances be provided? How far above the Action Level are the selenium concentrations in the effluent? Are the volumes limite of water to be released that will exceed the Action Level? Was there ERA work required to characterize the risks from these exceedances? Have monitoring and or reporting efforts / frequencies been increased?.
- The reader is left to assume the long-term treatment solution will be communicated to the public in the next RoR, is this correct?

Questions #5 and #6

I am not clear as to why the leak from the molybdenum extraction building (occurred in 2019) was not provided in the 2019 RoR nor the follow-up to this leak in the 2020 RoR (Corrective Action Plan indicated for 2020).

Questions that could be asked of Cameco / CNSC would be:

- Would the leak from the molybdenum extraction building in 2019 not be considered a uncontrolled release?
- Was a Corrective Action Plan submitted in 2020? If yes, was this plan deemed sufficient by CNSC?

Clarification #2 and Questions #7 and #8

On page 120 (pg 127 / 222) the objective of remediation is stated as establishing long-term, stable conditions that ensure the safe use of each site by current and future generations. However, throughout the subsections reviewed in the Decommissioned Sites section of the 2020 RoR there is no qualifying information provided to characterize what is considered safe, in other words, no information is provided that pertains to the remediation goals or endpoints. Further, as ERFN often points out, as with the use of other disclaimers such as “all water released from site met discharge limits”, the use of the word “safe” in this context is based on a consensus of Western Science, which does not convey the same level of assurance and/or meaningfulness to First Nation as it does to regulators. This appears, in part at least, because there is no First Nation representation as part of gaining consensus.

This information and/or a dialogue regarding what is considered safe, in general or for each site, may be desired as part of the RoR review process; however, the RoR provides no qualifying context characterizing the end states of these sites. It is my understanding that this dialogue is intended to occur

during the development of the final decommissioning plan for a site and associated EA, as well as during the regulatory approval process for the plan[7].

Questions that could be asked of Cameco / CNSC on this general area of concern are provided below.

The updated ERA for Beaverlodge concludes there are no risks to humans residing near, or consuming food from the surrounding areas, with the caveat that the precautionary fish consumption advisory is adhered to. Beaverlodge is a legacy site that was not designed to be decommissioned nor reclaimed, in other words did not adhere to modern industry standards nor implement modern best management practices. This is reflected in the complexity and timelines for decommissioning and reclaiming this site, as compared to Cluff Lake, as well as state of the legacy site is reflected in the residual adverse effects.

- Could it be concluded that the need for a precautionary fish consumption advisory would not meet the objective of being “safe” for use by current and future generations?
- Can it be concluded that during the operation, decommissioning or closure of any modern operation, and specifically MRO and KLO, that a precautionary fish consumption advisory would not be required?

Conclusion

From my review of the information provided there is no reason to object to the CNSC’s conclusions in the 2020 RoR that the operations and historical and decommissioned sites are being managed effectively in terms of the SCAs. The RoR concludes that adequate protections are in place to protect the environment and humans during operation and closure/decommissioning activities.

Sincerely,
Robin Kusch, M.Sc.
Environmental Scientist
108 Brookside Drive,
Warman, Saskatchewan
S0K 0A1

[7] Each decommissioning plan is reviewed and approved by the CNSC.