



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Canada



Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2021



CNSC Staff Presentation

Commission Meeting
December 15, 2022
CMD 22-M36.A

e-DOC 6799551 (PPTX)

e-DOC 6931721 (PDF)



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CMD 22-M36.A – 2021 ROR for Uranium Mines and Mills in Canada

Presentation Outline

- Commission Member Document (CMD) submission
- Regulatory efforts
- Key Safety and Control Area (SCA) information
- Indigenous engagement activities
- Key themes from interventions
- Conclusions

UNPROTECTED/NON PROTÉGÉ

ORIGINAL/ORIGINAL
CMD: 22-M36

ORIGINAL/ORIGINAL
CMD: 22-M36

Date signed/Signé le : 08 SEPTEMBER 2022

Reference CMD(s)/CMD(s) de référence : **20-M25 19-M36**

Annual Program Report	Rapport annuel sur les programmes
Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2021	Rapport de surveillance réglementaire des mines et usines de concentration d'uranium au Canada : 2021
Public Meeting	Réunion publique

e-Doc 6762204 (WORD)
e-Doc 6809634 (PDF)

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Errata

- Dashboard incorrectly showed 12 inspections and 15 notices of non-compliances (NNCs), rather than the correct 18 inspections and 19 NNCs
- Date of information in table 2.8 should show as 2020, not 2021
- Safety significance of the action level exceedance in table J-1, and the lost-time injuries in table K-1, should be medium
- Figure 2.10 should show 5 spills for McClean Lake in 2021

None of these items change the overall conclusion in the report



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Commission Member Document Submission

- Includes information on the 2021 calendar year for 5 operational sites
- Describes regulatory efforts by CNSC staff
- Focuses on 3 safety and control areas:
 - Radiation protection
 - Environmental protection
 - Conventional health and safety
- Includes Indigenous engagement activities

Note:

Facilities in red were in care and maintenance in 2021.





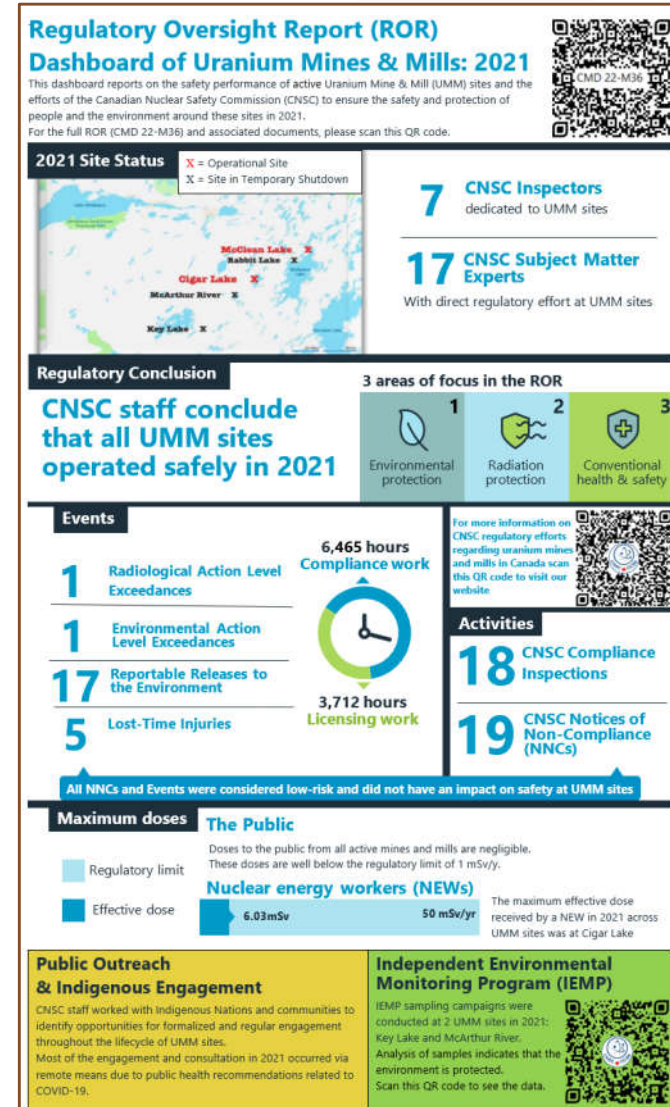
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New in 2022: Regulatory Oversight Report Dashboard

ROR dashboard was developed to be:

- Included in 2021 UMM ROR (CMD 22-M36, appendix P)
- Used to complement engagement activities with Indigenous Nations and communities
- QR codes added for fast access to the CNSC's online information





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Regulatory Efforts

Most inspections in 2021 were performed virtually.
All notices of non-compliance (NNCs) identified as low safety significance.



CNSC inspector discussing findings with licensee at Rabbit Lake, 2022
Source: CNSC

	2017	2018	2019	2020	2021
Number of Inspections	30	26	20	17	18
Notices of non-compliances	23	31	23	11	19



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Regulating with the Province of Saskatchewan

- CNSC staff actively collaborate with provincial counterparts in Saskatchewan
- In particular:
 - Ministry of Environment
 - Ministry of Labour Relations and Workplace Safety
 - Ministry of Energy and Resources
- Work on updating the memorandum of understanding with the Government of Saskatchewan underway

CNSC and Saskatchewan benefit from regulatory collaboration



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Reportable Events in 2021

REGDOC-3.1.2, *Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills*, requires licensees to report to CNSC staff on various events.

- 2 action level exceedances:
 - 1 radiological action level exceedance
 - 1 environmental action level exceedance
- 15 spills recorded
- 5 lost time injuries

CNSC staff reviewed all event reports
and are satisfied with the responses



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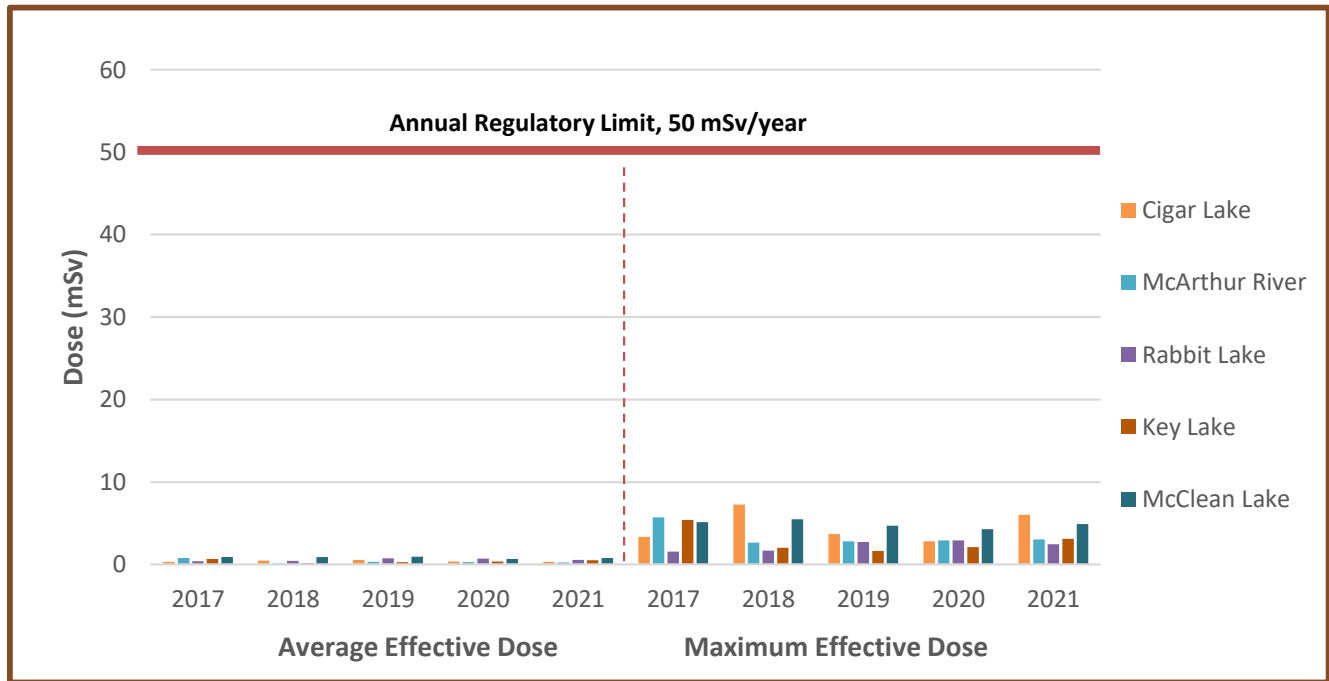
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Radiation Protection

Radiation protection programs implemented by licensees consistent with ALARA principles

CNSC staff rated the radiation protection SCA at all 5 operating facilities as satisfactory in 2021



Data from tables 2.3 and 2.4 in CMD 22-M36



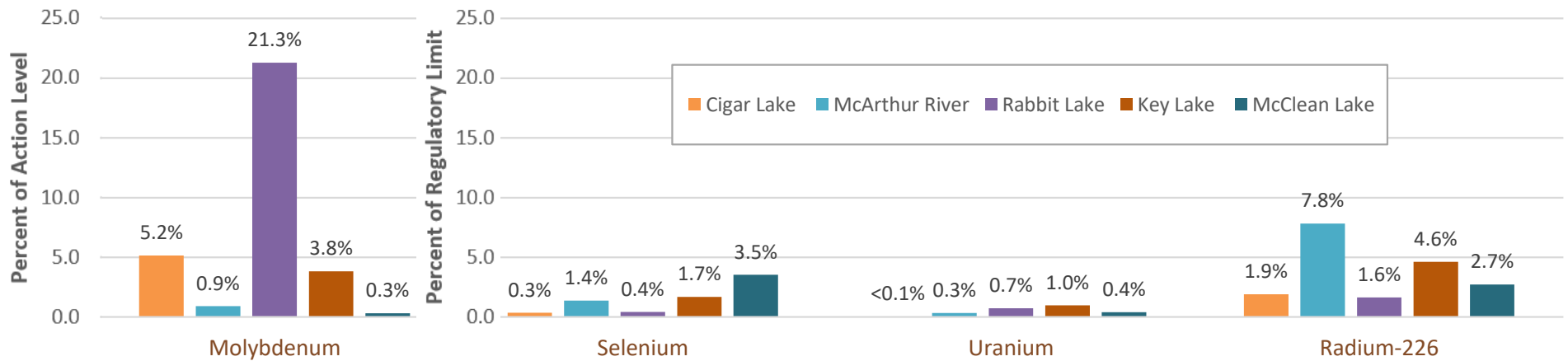
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Environmental Protection

Environmental monitoring programs were effectively implemented

CNSC staff rated the environmental protection SCA at all 5 operating facilities as satisfactory in 2021



Data from tables 2.5 to 2.8 in CMD 22-M36



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Conventional Health and Safety

- Conventional health and safety programs were effectively implemented
- CNSC staff rated the conventional health and safety SCA at all 5 operating facilities as satisfactory in 2021

	Cigar Lake	McArthur River	Rabbit Lake	Key Lake	McClellan Lake
Lost-time injuries	2	0	0	0	3
Severity rate	6.31	0	0	0	49.8
Frequency rate	0.37	0	0	0	0.9
Total recordable incident rate	2.97	0.70	1.04	1.33	5.6



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CNSC Staff Assessment

- All SCA ratings satisfactory
- Verified through compliance activities
 - Activities still performed remotely where possible due to COVID-19
 - 1 inspection performed on site for facilities covered by this ROR

CNSC staff confirmed licensees operated safely in 2021



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Independent Environmental Monitoring Program (IEMP)

- Builds trust with Indigenous Nations and Communities and the public via an independent, technical and accessible environmental sampling program
- Supports ongoing compliance verification activities
- In 2021, samples collected in publicly accessible areas near the Key Lake and McArthur River operations
- In consultation with traditional land users, samples included:
 - Water
 - Labrador tea, wild blueberries
 - Fish and moose meat
(moose meat provided by English River First Nation)



There were no IEMP results of concern

Results provided at
www.nuclearsafety.gc.ca/IEMP



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Indigenous Engagement Activities

Over 65 engagement activities and meetings took place in 2021.

- Topics included, but were not limited to:
 - Licence applications and amendments
 - Environmental assessments
 - Independent environmental monitoring program
 - Participant funding program opportunities
- Engagement culminated in a 2021 ROR meeting held on September 15, 2022 in Saskatoon:
 - Sites covered by 2021 UMM ROR with information on some future and historic projects
 - Presented hybrid with opportunities for all participants to ask questions throughout
 - Provided dashboard of 2021 regulatory information and activities



September 15, 2022, engagement session, discussing Key Lake Operation. Source: CNSC



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Interventions Key Themes

Information on spills and incidents
need to be communicated in a more
comprehensible way

Recommend future ROR engagement
sessions allow sufficient time for
discussion in a 2-day meeting

Concerns about increasing
contaminants in treated
effluent releases

Recommend clarification on the
effectiveness of virtual inspections
versus in-person inspections



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2022 Inspector's Order

- October 16-21, 2022 Cigar Lake inspection identified that waste rock Stockpile "C" was over approved volume
- CNSC inspector's order issued October 28, 2022, and available on CNSC's website
- Cameco did not exercise their right to an opportunity to be heard
- Order confirmed as written by Designated Officer on November 23, 2022
- Cameco's submissions are being analyzed by CNSC staff
- Environment and persons remain protected



Waste Stockpile "C"

Source: Saskatchewan Ministry of Environment





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Conclusions

CNSC staff confirm that all operational mines and mills in 2021 had:

- Satisfactory performance
- Comprehensive radiation protection programs that adequately control radiation exposures, keeping doses ALARA
- Comprehensive environmental protection programs to protect the environment
- Comprehensive health and safety programs to protect workers



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ANNEX I – ACTION LEVELS & REGULATORY LIMITS



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Regulatory Limits and Action Levels

