



McArthur River, Key Lake & Rabbit Lake Licence Renewals

CNSC Staff Presentation



Commission Hearings

June 7 & 8, 2023

CMD 23-H6.C & CMD 23-H7.C



Presentation Outline

- Purpose of Hearing
- Overview of Facilities
- Review of Licence Applications
- Regulatory Oversight
- Performance Assessment Summary
- Indigenous and Public Engagement
- Other Matters of Regulatory Interest
- Recommended Licence Periods
- Conclusions and Recommendations



Purpose of Hearing

Cameco has applied to the Commission to renew operating licences for 20 years for the following facilities:

- McArthur River Operation (MRO) - uranium mine site
- Key Lake Operation (KLO) - uranium mill site
- Rabbit Lake Operation (RLO) –uranium mine and mill site

CNSC Staff recommend that the Commission:

- Renew the operating licences for these operations
- Delegate authority as set out in CMD 23-H6 and CMD 23-H7
- Put in place a regulatory hold point for enhanced CNSC staff oversight, should Cameco elect to restart operations at RLO

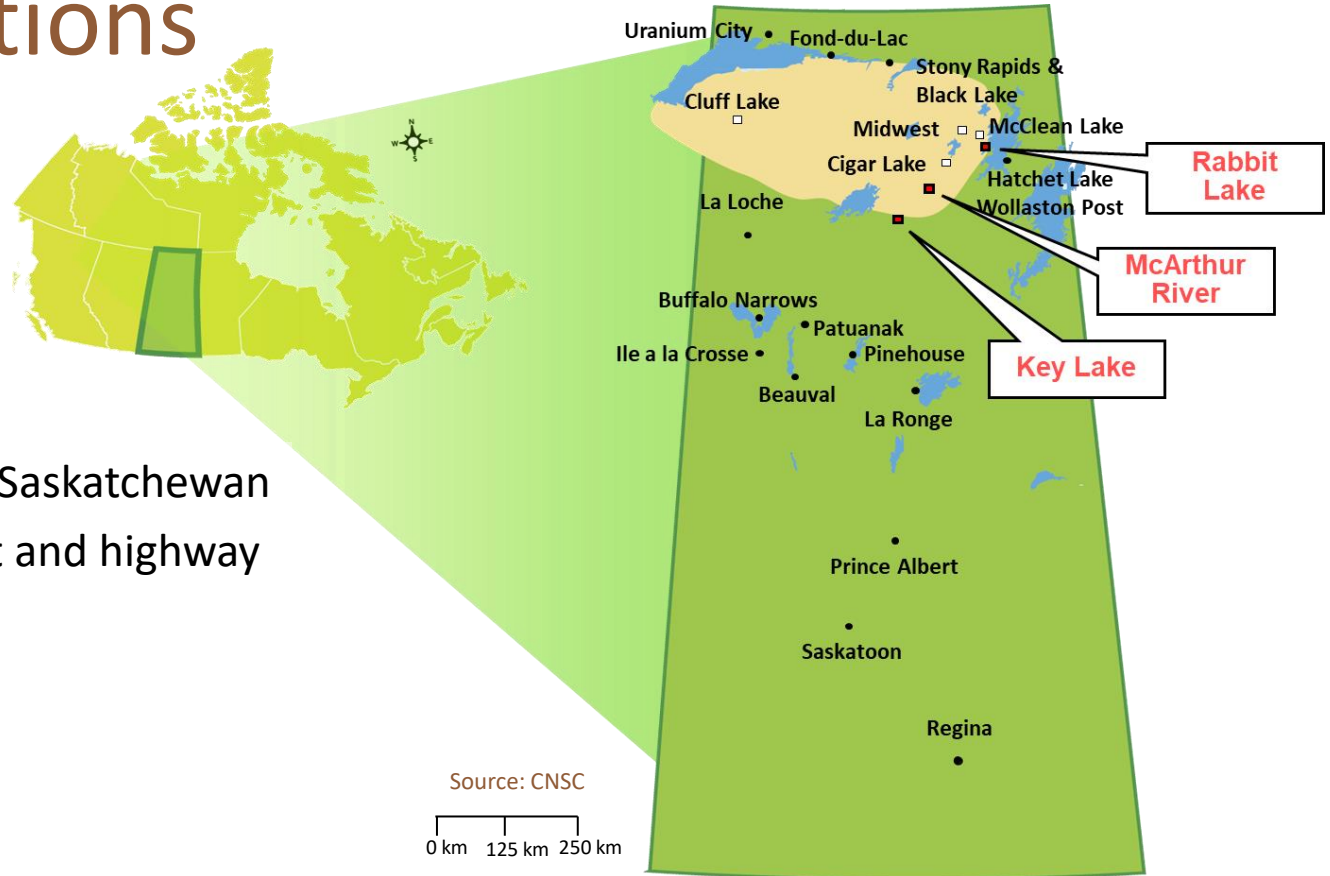


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OVERVIEW OF FACILITIES



Site Locations



- Located in Northern Saskatchewan
- Accessible by aircraft and highway



McArthur River Operation

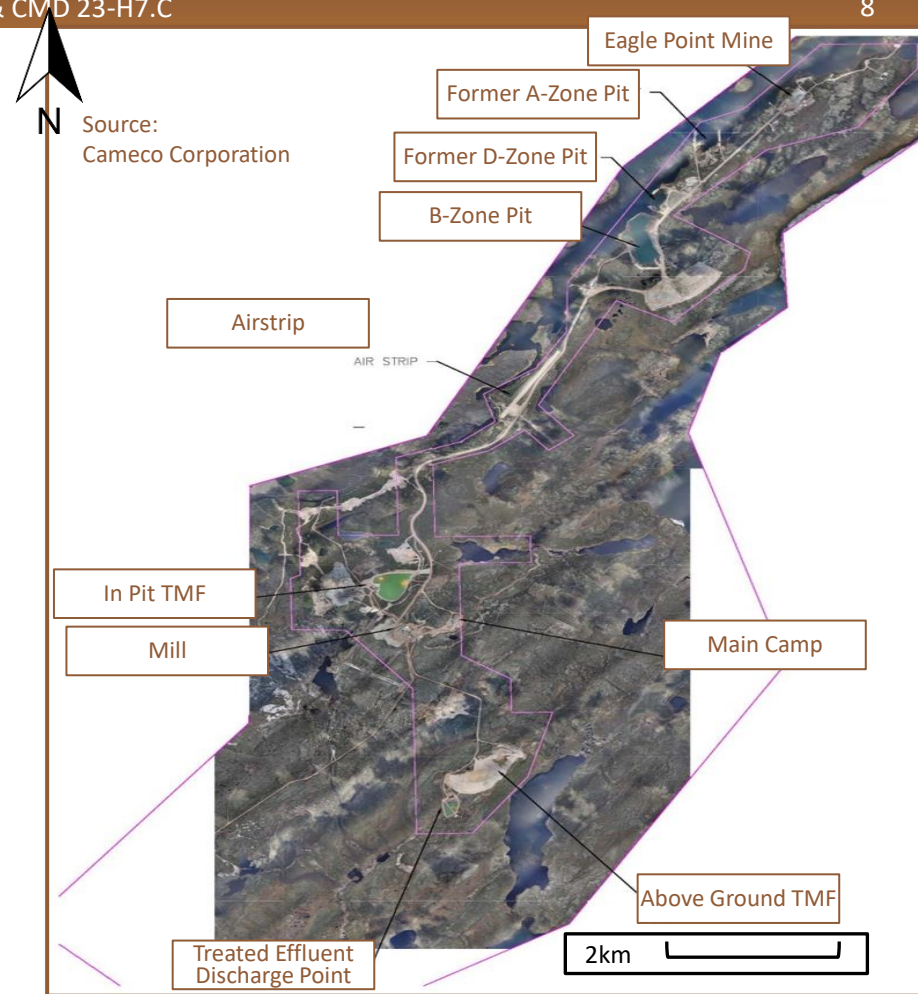
- Uranium mine
- Operational since 1999
- In care and maintenance 2017-2022
- Currently operating





Rabbit Lake Operation

- Uranium mine and mill
- Operational since 1975
- In care and maintenance
2016 to present





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REVIEW OF LICENCE APPLICATIONS



CNSC's Review of the Licence Applications

Renewal applications submitted for Cameco-operated MRO, KLO & RLO in 2021.

CNSC staff assessed:

- Regulatory requirements, including the *Nuclear Safety and Control Act (NSCA)*, associated regulations, guides and standards for all **14 safety and control areas (SCAs)**
- Cameco's past performance and record (compliance activities and environmental monitoring)
- Cameco's public information, community outreach, and Indigenous engagement activities

CNSC staff's view is that the applications submitted by Cameco are complete



Review of Licence Applications

Environmental Protection Reviews as per the NSCA

- CNSC staff conducted environmental protection reviews (EPRs) as per the NSCA for the McArthur, Key and Rabbit licence renewals
- The EPRs assessed the environmental and health effects of the MRO, KLO & RLO and are available on the [CNSC website](#) and as CMDs
- CNSC staff's assessment was based on information submitted by Cameco, as well as compliance and independent verification activities conducted by CNSC staff

CNSC staff have found that Cameco has and will continue to make adequate provisions for the protection of the environment and the health and safety of persons



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REGULATORY OVERSIGHT



Regulatory Oversight

Compliance Verification Activities

- Both MRO and KLO underwent periods of care and maintenance during the licence period, while RLO remains in care and maintenance since mid-2016
- CNSC staff's compliance verification activities include:
 - Desktop reviews and technical assessments of licensee applications, routine reports, and updates to licensing basis documents (programs, environmental risk assessments, preliminary decommissioning plans, etc.)
 - Desktop reviews of licensee event reports, including corrective actions
 - Inspections, both on site and remote

Inspections Conducted during Licence Period

Site	McArthur	Key	Rabbit
Inspections	42	44	38



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PERFORMANCE ASSESSMENT OVERVIEW



Performance Assessment

Safety and Control Area Performance Highlights

- Regulatory oversight is performed in accordance with a standard set of safety and control areas (SCAs)
- CNSC staff assessment of licensee performance against all 14 SCAs for each of the MRO, KLO and RLO are detailed in written CMDs
- Cameco maintained a satisfactory rating across all SCAs for each of the MRO, KLO and RLO sites during the current licence period
- Three SCAs are highlighted in this presentation:
 - Radiation protection
 - Conventional health and safety
 - Environmental protection

Safety and Control Areas

Management System

Human Performance Management

Operating Performance

Safety Analysis

Physical Design

Fitness for Service

Radiation Protection**Conventional Health and Safety****Environmental Protection**

Emergency Management and Fire Protection

Waste Management

Security

Safeguards and Non-Proliferation

Packaging and Transport



Performance Assessment

Radiation Protection (1/2)

- CNSC staff verified Cameco's radiation protection (RP) program meets the *Radiation Protection Regulations* through:
 - Effective implementation of an RP program
 - Ascertaining and recording doses to workers
 - Ensuring no exceedances of prescribed dose limits

Radiation Protection Action Level Exceedances during Licence Period (to May 2023)

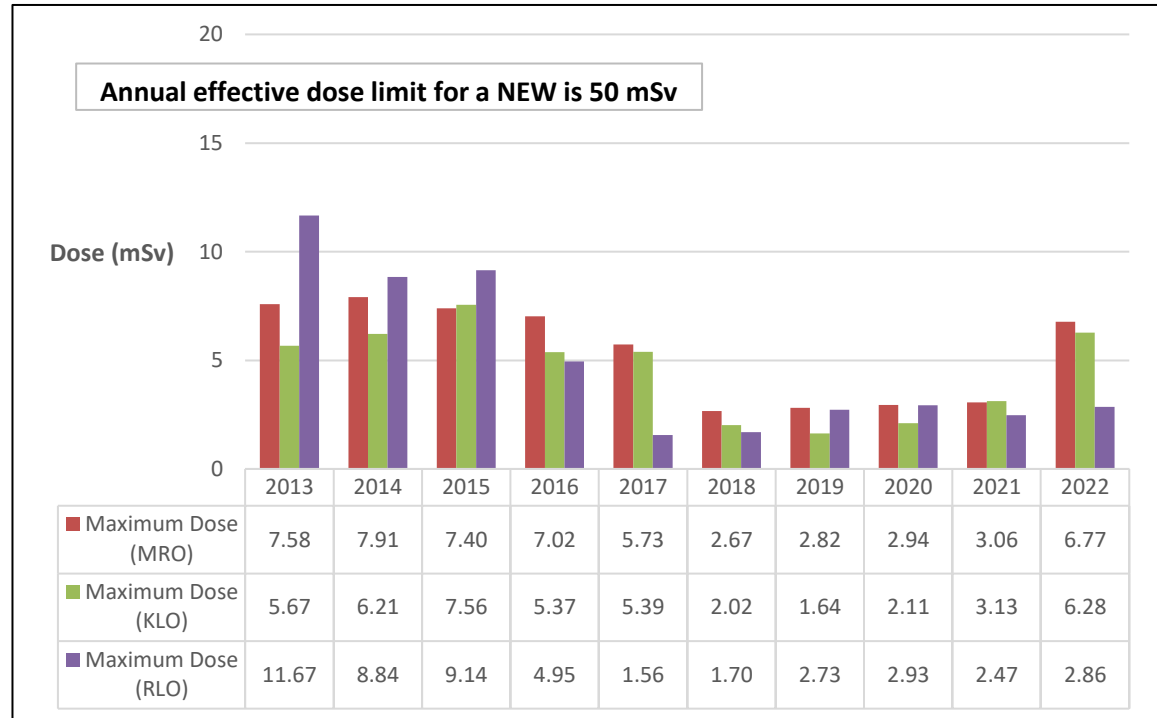
Site	McArthur	Key	Rabbit
Exceedances	9	13	0



Performance Assessment

Radiation Protection (2/2)

Nuclear Energy Worker exposures at all three sites continue to be below regulatory limits





Performance Assessment

Conventional Health and Safety

- CNSC staff and Saskatchewan Labour Relations and Workplace Safety inspectors conduct regular inspections on health and safety
- CNSC staff verified Cameco has been proactive in identifying and managing risks to improve safety performance
- A lost time injury (LTI) is an injury that takes place at work and results in the worker being unable to return to work for a period of time

Cameco's
health and
safety
programs
remain
effective

Lost Time Injuries during the Licence Period

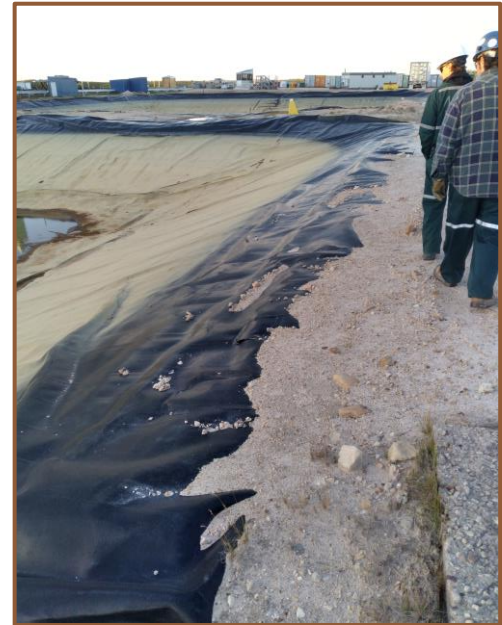
Site	McArthur	Key	Rabbit
LTIs	5	2	6



Performance Assessment

Environmental Protection (1/2)

- Cameco has implemented and maintained its environmental protection programs in accordance with regulatory requirements
- Cameco's environmental monitoring program results confirmed that the environment and human health remain protected
 - Concentrations of contaminants of potential concern in treated effluent (molybdenum, uranium and selenium) met requirements
- Cameco's updated environmental risk assessments for the MRO, KLO and RLO were consistent with previous environmental risk assessments



CNSC Inspecting Treated Effluent
Monitoring Pond #4 (KLO) (source: CNSC)



Performance Assessment

Environmental Protection (2/2)

- For all reportable events, CNSC staff ensured that Cameco's corrective actions and preventative measures were adequate and were implemented

Reportable Environmental Protection during Licence Period

Site	McArthur	Key	Rabbit
Regulatory Limit exceedances	0	2	0
Action Level exceedances	1	2	0
Spills	9	29	17

Cameco's environmental protection programs continue to be effective in protecting the environment



Event Reporting

**Licensees must report all events as required by the NSCA,
associated Regulations and licence conditions.**

- Cameco provided reportable event notifications as required, all of which were either low or medium safety significance
- Cameco's event notifications and follow up reports were acceptable to CNSC staff
- Cameco disclosed reportable events on their website as required

CNSC staff conclude Cameco met regulatory event reporting requirements during the current licence period



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INDIGENOUS AND PUBLIC ENGAGEMENT



Indigenous Engagement

- English River First Nation
- Kineepik Métis Local #9
- Métis Nation-Saskatchewan
- Birch Narrows Dene Nation

- Lac La Ronge Indian Band
- Prince Albert Grand Council
- Ya'thi Néné Land and Resource Office





Indigenous & Public Engagement (1/2)

- In 2019, CNSC staff began annual outreach sessions with Indigenous Nations, communities and organizations, to initiate discussions on topics of interest
- In September 2022, a hybrid meeting was held in Saskatoon; many topics were discussed including Cameco's three requested licence renewals
- CNSC and licensee staff regularly participate in Northern Saskatchewan Environmental Quality Committee (NSEQC) meetings and tours
- CNSC staff met with interested Indigenous Nations and Communities into spring 2023



CNSC staff presenting in Saskatoon on September 15, 2022 (Source: CNSC)

The CNSC continues to engage with Indigenous Nations and communities to build trust and foster relationships



Indigenous & Public Engagement (2/2)

- In November 2022, CNSC Staff participated in a Northern Saskatchewan community tour focused on Cameco's renewals
- CNSC staff heard concerns from Indigenous Nations and communities over longer licence periods
- In April 2023, a radio interview with CNSC staff was aired on Missinipi Broadcasting Corporation which serves Saskatchewan's north



CNSC staff presenting in Patuanak (English River First Nation) on November 22, 2022 (Source: CNSC)



CNSC staff presenting in Fond du Lac First Nation on November 22, 2022 (Source: CNSC)



Participant Funding Program

- The CNSC provided the following funding amounts:
 - \$231,784 for the MRO and KLO application
 - \$117,235 for the RLO application
- Funding was provided to assist members of the public and Indigenous Nations and communities in providing valuable information directly to the Commission

Funding Provided to:

- English River First Nation
- Kineepik Métis Local #9
- Métis Nation-Saskatchewan
- Ya'thi Néné Land and Resource Office
- Birch Narrows Dene Nation
- Canadian Environmental Law Association



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OTHER MATTERS OF REGULATORY INTEREST



Decommissioning & Financial Guarantees

- Cameco is required to provide adequate financial guarantees in forms acceptable to the Commission for each of the MRO, KLO & RLO
- Revised Preliminary Decommissioning Plans and associated cost estimates for all 3 sites were submitted in December 2022, and are currently under review by CNSC staff

Current Financial Guarantees			
Site	McArthur	Key	Rabbit
	\$42.1M	\$222.5M	\$213.4M

Cameco's existing FGs are sufficient to complete future decommissioning activities



CNSC IEMP

- The CNSC's Independent Environmental Monitoring Program (IEMP) is an added measure to verify that the public and environment are protected
- The IEMP is separate from, but complementary to, the CNSC's ongoing compliance verification program
- Samples were collected in publicly accessible areas near MRO and KLO in 2014 and 2021, and near RLO in 2022
- Sampling plans were developed in consultation with interested Indigenous Nations and communities
- In 2021 and 2022, sampling included:
 - Surface water
 - Fish (various species)
 - Moose (MRO/KLO only)
 - Labrador tea
 - Blueberries



Moose Harvesting at English River First Nation Culture Camp in 2021 (Source: CNSC)



Fish Collection on Wollaston Lake in 2022 (Source: CNSC)

Fish, moose, vegetation and water were found safe for human consumption



Eastern Athabasca Regional Monitoring Program

- The Eastern Athabasca Regional Monitoring Program (EARMP) is conducted in partnership between the Government of Saskatchewan, the CNSC, and industry
- EARMP collaborates with Indigenous Nations and communities within the Athabasca Basin to monitor the safety of traditionally harvested foods by collecting and testing samples from the region
- Complementary activity to regulatory work by the CNSC, the Province of Saskatchewan, and industry's community based monitoring programs
- The public has full access to all the data and the reports, which are available online at www.earmp.com

EARMP provides assurance that traditional country foods and surface waters are safe to consume and that the environment is protected



Interventions

- CNSC received 35 interventions for KLO & MRO, and 33 interventions for RLO
- Main themes included:
 - Indigenous engagement, including a desire for increased collaboration
 - Recommended licence periods, and associated effects on Indigenous engagement and consultation
 - Environmental impacts from the sites



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RECOMMENDED LICENCE PERIOD



Recommended Licence Period (1/4)

- CNSC staff are recommending a licence period of 20 years for MRO & KLO, and a 15 year licence for RLO, with a regulatory hold point
 - A regulatory hold point for RLO will ensure sufficient CNSC staff oversight should Cameco elect to restart operations at some or all of the RLO
- For all three sites, CNSC staff further recommend that Cameco be required to deliver a performance update to the Commission at the mid-term of the licence periods
 - CNSC staff recommend that Cameco be required to prepare and submit Indigenous Engagement reports as part of these performance updates



Recommended Licence Period (2/4)

Background and Assessment Criteria

- CNSC Staff's recommended licence periods are longer than previous CNSC licences issued for uranium mines and mills
- CMD 02-M12 presents a risk-informed process with criteria for recommending licence periods to the Commission:
 - Hazards associated with the licensed activity should be well characterized and appropriately mitigated
 - Consistent and good history of operating experience and compliance should be demonstrated
 - The licence period should align with any significant plans for the future operations of licensed activity



Recommended Licence Period (3/4)

CNSC Staff Regulatory Oversight:

- A risk-informed approach to compliance verification that is not dependent on licence period, but rather on nature of licensee activity
- A comprehensive set of CNSC Regulatory Documents and CSA standards, which are periodically reviewed, updated and implemented
- CNSC staff's Licence Conditions Handbooks for MRO, KLO and RLO clarify and manage regulatory requirements, and are subject to periodic revision by CNSC staff
- Required updates to Cameco's Environmental Risk Assessments every 5 years
- Periodic Environmental Protection Reviews (EPRs) performed by CNSC staff, with results made publicly available



Recommended Licence Period (4/4)

Public Engagement

- CNSC employs ongoing and evolving communication tools to ensure that our engagement remains effective

Indigenous Engagement

- CNSC continues to build strong relationships with Indigenous Nations and communities through Terms of Reference, IEMP collaboration, the CNSC's new Indigenous and Stakeholder Capacity Fund, etc.

Commission Involvement

- Ongoing scheduled and unscheduled reporting during licence period, including CNSC Staff's annual Regulatory Oversight Reports
- Commission consideration of financial guarantee updates, and of any licensee proposals beyond the licensing basis



Conclusions

Based on the technical assessment of Cameco's applications and supporting information, CNSC staff conclude that:

- The applications comply with the regulatory requirements
- The licensee's performance during the current licence period was satisfactory and met regulatory requirements
- The licensee's programs are satisfactory for managing their operations safely and in compliance with regulatory requirements over the recommended licence periods



Recommendations

CNSC staff recommend that the Commission:

- Conclude, pursuant to paragraphs 24(4)(a) and (b) of the *Nuclear Safety and Control Act*, that Cameco:
 - Is qualified to carry on the activities authorized by the MRO, KLO and RLO licences
 - Will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed
- Renew the operating licence for the MRO (UML-MINE-MCARTHUR.00/2043) until October 31, 2043
- Renew the operating licence for the KLO (UML-MILL-KEY.00/2043) until October 31, 2043
- Renew the operating licence for the RLO (UMOL-MINEMILL-RABBIT.00/2038) until October 31, 2038
 - Include the proposed hold point as given in licence condition 15.1 for restart of operations
- Delegate authority as set out in CMDs 23-H6 and 23-H7



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