Institutional Control Program for Decommissioned Mine and/or Mill Sites in Saskatchewan

Technical Briefing
October 3, 2018
CMD 18-M38.A

CNSC Staff Presentation

Former Beaverlodge Mill, 1954
Presentation Outline

- Purpose of presentation
- Background
- Decommissioning
- Institutional Control Program (ICP) in Saskatchewan
- International obligations
- CNSC’s role in the ICP
- Monitoring and maintenance of sites in the ICP
- Other Canadian mine and mill sites
- Conclusions
Purpose of Presentation

• Describe the principle of Institutional Control (IC) in the context of the lifecycle management of uranium mines and mills in Canada
• Provide information on the Institutional Control Program (ICP) in Saskatchewan
• Outline how the ICP provides assurance of future regulatory oversight to the CNSC
BACKGROUND
Background

**Institutional Control (IC)**

- IC is the control of residual risks at a site after it has been decommissioned*
- Controls can include:
  - active measures (requiring activities on the site such as water treatment, monitoring, maintenance, etc.)
  - passive measures (such as land use restrictions, etc.)
- Provincial Regulatory oversight is required
  - CNSC licensing is no longer required if site is below clearance levels or site holder receives Commission exemption

* from *Waste Management, Volume II: Assessing the Long-Term Safety of Radioactive Waste Management (REGDOC-2.11.1)*
Background

Institutional Control Program

• ICP can protect interests of the land owner (province or territory) by ensuring funds are available for long-term monitoring or maintenance of properties
• ICP provides a mechanism for licensees to be released from licensing obligations
• In the absence of ICP, ongoing monitoring and maintenance of decommissioned uranium mine and/or mill sites will continue to be done by a licensee for as long as required
Background

Saskatchewan Uranium Mine and/or Mill Sites

Operating

• Cigar Lake Operation (mine)
• McArthur River Operation (mine)
• Rabbit Lake Operation (mine/mill)
• Key Lake Operation (mine)
• McClean Lake Operation (mill)

Decommissioned

• Beaverlodge Project
• Cluff Lake Project

Remediation Projects

• Gunnar
• Lorado
Background

Saskatchewan Uranium Mines and Mills Life Cycle

Exploration

Site Preparation and Construction

Uranium Mine / Mill Operation

Mine / Mill Decommissioning

Transition Phase Monitoring

End State Criteria / Objectives Met

Institutional Control

Responsibility returns to the province upon transfer to ICP
Commission Meeting, October 3, 2018
CMD 18-M38.A - Institutional Control Program for Decommissioned Mine and/or Mill Sites in Saskatchewan

DECOMMISSIONING
Decommissioning

Decommission Planning

• Planning for decommissioning and the establishment of financial guarantee required as part of the lifecycle of the facility, including:
  ➢ preliminary decommissioning plan (early in life-cycle of the activity or facility)
  ➢ detailed decommissioning plan (prior to decommissioning)

• CNSC regulatory lifecycle oversight ensures:
  ➢ protection of the health and safety of persons
  ➢ continued protection of the environment
Decommissioning
End-State Criteria

• As part of decommissioning planning and implementation process, proposed physical, chemical and radiological end-state condition of the site (post decommissioning) is established

• CNSC has a Memorandum of Understanding (MOU) with the Saskatchewan Ministry of Environment (SMOE) to collaborate on the decommissioning process, including the establishment of end-state criteria

• Primary objective is to leave areas safe for traditional land uses and in an ecological condition consistent with surrounding area

• Land use restrictions may be required post decommissioning and during IC
Decommissioning

Financial Guarantees

- Decommissioning plans provide cost basis for financial guarantees, ensuring all decommissioning work can be completed as planned
- Financial guarantees required by CNSC are separate from funds or financial guarantees required by ICP
- ICP requires funds be provided for monitoring and maintenance and unforeseen events

Funds available to decommission, monitor and manage sites
INSTITUTIONAL CONTROL PROGRAM
IN SASKATCHEWAN
ICP in Saskatchewan

Background

• Province of Saskatchewan is unique in Canada in that it has established an ICP
• ICP has been in place since 2007
• First uranium properties in the ICP were 5 properties from the Beaverlodge Project in 2009
• Future applications for inclusion in ICP are anticipated to include properties from the Beaverlodge Project (2018/19) and the Cluff Lake Project (2019+)
• Expectation is that all currently active and remediating mine/mill sites in Saskatchewan will enter ICP (post decommissioning)
ICP in Saskatchewan

What is the ICP?

• ICP outlines a formal regulatory process for long-term site management by the Province
• *The Reclaimed Industrial Sites Act* (RISA) and *The Reclaimed Industrial Sites Regulations* (RISR) legislate the establishment of the ICP in Saskatchewan
• Managed by Saskatchewan Ministry of Energy and Resources (MER)
ICP in Saskatchewan

What is the ICP?

- Transfer of properties/facilities into ICP occurs after all required steps are completed:
  - √ decommissioning complete
  - √ site is safe and stable
  - √ sufficient funds in place for monitoring and maintenance and unforeseen events
  - √ not regulated by any other level of government

- ICP applies to all mine and mill sites located on provincial Crown land, not just uranium properties

Process ensures only low risk sites enter ICP and remain low risk in ICP
ICP in Saskatchewan

Purpose of the ICP

The RISA [subsection 3(2)] states the purpose of the ICP is:

a) to set out the conditions by which the Government of Saskatchewan will accept responsibility for land that, in consequence of development and use, requires long-term monitoring and, in certain circumstances, maintenance;

b) to ensure that the required monitoring and maintenance are carried out on that land;

c) to provide a funding mechanism to cover costs associated with the monitoring and maintenance on that land; and

d) to ensure that certain records and information are preserved with respect to that land.

ICP is consistent with international recommendations

nuclearsafety.gc.ca
ICP in Saskatchewan

Objectives of the ICP

Primary objectives of the ICP are to:

• protect human health and safety
• protect the environment
• be sustainable
• ensure future generations are not burdened
• recognize federal jurisdiction and national and international obligations

Objectives compatible and consistent with CNSC’s objectives
Licensee applies for release/exemption from CNSC licensing (trigger for ICP)

Province states that property(ies) can be transferred (if conditions met)

Saskatchewan Ministry of Environment states intent to issue release from decommissioning and reclamation

Commission grants exemption from licensing

Property(ies) added to the ICP Registry
ICP in Saskatchewan

### Components of the ICP

<table>
<thead>
<tr>
<th>ICP Registry</th>
<th>Institutional Control Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of closed site</td>
<td>Institutional Control Monitoring and Maintenance Fund (ICMMF)</td>
</tr>
<tr>
<td>Description of its former operator/licensee</td>
<td>- for future monitoring and maintenance costs (property specific)</td>
</tr>
<tr>
<td>Site description</td>
<td>Institutional Control Unforeseen Events Fund (ICUEF)</td>
</tr>
<tr>
<td>Historical records of activities</td>
<td>- for unforeseen events (pooled fund)</td>
</tr>
<tr>
<td>Site description</td>
<td></td>
</tr>
</tbody>
</table>
ICP in Saskatchewan

Legislation Amendment

- ICP legislation reviewed regularly
- Changes to legislation proposed in 2017; expected to be finalized in late 2018
  - Province proposing to amend legislation to provide for transfer of properties out of the ICP, in order to allow companies access for exploration and/or re-mining
- MER consulted with the CNSC regarding the proposed changes to legislation
- Legislation will require MER consult with the CNSC prior to any proposed transfer from the ICP to a responsible party

CNSC staff agree with the proposed wording and continue to work cooperatively with MER
ICP in Saskatchewan

Next Steps

• Discussions initiated between MER, Saskatchewan Ministry of Environment (SMOE) and the CNSC regarding development of a cooperative arrangement or MOU to formalize our working relationship specific to ICP

Legislation changes will have no impact on existing or future ICP applications
Commission Meeting, October 3, 2018
CMD 18-M38.A - Institutional Control Program for Decommissioned Mine and/or Mill Sites in Saskatchewan

INTERNATIONAL OBLIGATIONS
International Obligations

• A primary objective of the ICP is to not only recognize CNSC’s regulatory role, but also international obligations

• Meets requirements of the *Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*

ICP meets requirements of Joint Convention
CNSC’S ROLE IN THE ICP

Commission Meeting, October 3, 2018
CMD 18-M38.A - Institutional Control Program for Decommissioned Mine and/or Mill Sites in Saskatchewan

nuclearsafety.gc.ca
CNSC’s Role In The ICP

Regulatory Authority

• Province only accepts post decommissioned sites into the ICP if they are either not licensed or are exempted from CNSC licensing (subsection 3(f) of the RISR)

• Legislative Authority
  - Section 7 of the *Nuclear Safety and Control Act*
  - Section 11 of the *General Nuclear Safety and Control Regulations*
CNSC’s Role In The ICP Regulatory Authority

• CNSC staff review detailed environmental data and predictions in their assessment of the request to release sites to the ICP and make recommendations to Commission

• CNSC staff recommendations are based on protection of the environment, health and safety of persons and maintaining national security

• Commission decides whether to exempt licensee or any other person from requiring a licence under the NSCA with respect to the properties under consideration
Once Commission exempts the activity, person, ...etc. (as per section 7 of NSCA) from CNSC licensing, regulatory control is maintained entirely by province.

Commission retains the authority under the NSCA to re-determine its exemption decision.

Exemptions only considered if sites are safe.
MONITORING AND MAINTENANCE IN THE ICP
Monitoring and Maintenance of Sites in the ICP

Frequency of inspections and reporting

- Monitoring and maintenance programs managed by province
- Province prepares ICP registry reports annually which include:
  - property details, funds deposited, land use restrictions, etc.
  - reports publically available through ICP Web page
Monitoring and Maintenance of Sites in the ICP

Frequency and reporting

• Monitoring and maintenance frequency is specific to each site
• Monitoring schedule for sites currently in ICP is every 5 years
  ➢ monitoring report for Beaverlodge sites transferred to the ICP in 2009 prepared in 2014
• Reports available to public by request

Monitoring and maintenance ensure sites remain safe
Other Canadian Mine and Mill Sites

• Province of Saskatchewan currently the only Canadian jurisdiction with a legislated ICP for mine/mill sites

• Experience gained from Saskatchewan’s ICP will assist CNSC staff in working with other jurisdictions that want to develop their own ICP

• Any exemption request will be reviewed on a case-by-case basis based on section 11 of the *General Nuclear Safety and Control Regulations*
Other Canadian Mine and Mill Sites

• In absence of an IC program, monitoring and maintenance conducted by licensee

• CNSC continues to exert regulatory authority:
  ➢ regular CNSC inspections are conducted
  ➢ sites required to have financial guarantees in place
  ➢ regular reporting and updates to the Commission

Regulatory oversight ensures risks are managed and sites are safe
CONCLUSIONS
Conclusions

• Decommissioning reduces the regulatory oversight requirements due to the low-risk nature of the remediated site

• Primary decommissioning objective: return sites to a condition that allows traditional land use

• ICP is effective in ensuring properties accepted are safe, secure and stable, and will:
  a) protect the environment and the health and safety of persons
  b) maintain national security
  c) achieve conformity with measures of control and international obligations to which Canada has agreed
Conclusions

- Commission may grant exemptions from CNSC licensing to allow sites to be transferred into ICP when all required conditions are met
- ICP provides effective control of any residual risks at a site after it has been decommissioned
- ICP is well established and managed by a competent authority
- If there is no ICP, the CNSC continues to exercise regulatory control