



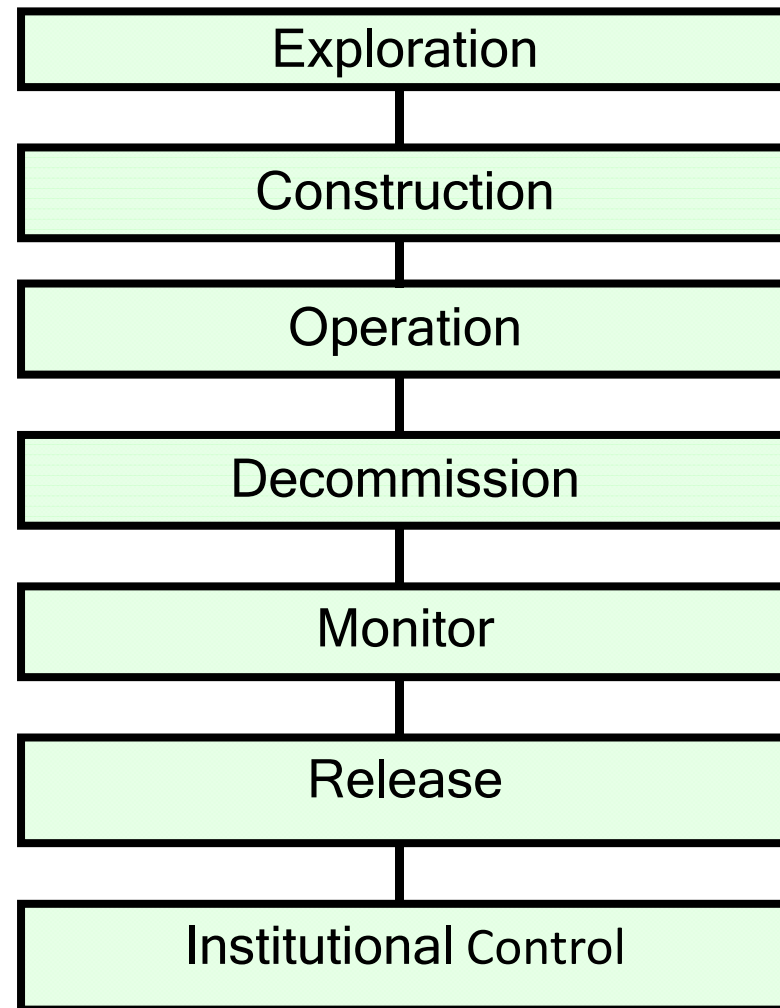
# **Institutional Control Program**

**Long Term Care and Control of Decommissioned Mine/Mill Sites  
Located On Crown Land**

**Saskatchewan Ministry of the Economy**

**June 2014**

## The Life Cycle of a Mine



## Institutional Control Program

- Establishes an endpoint for mining company activities on sites located on Crown land
- Establishes funding for the long-term care and control of the closed sites
- Company responsibilities for sites under the *Environmental Management and Protection Act* remain

# Institutional Control Program

- **Establishes an Institutional Control Registry**
- **Establishes an Institutional Control Monitoring and Maintenance Fund and an Institutional Control Unforeseen Events Fund**

# Institutional Control Registry

## The functions of the Registry include:

- Establishing a formal record
- Defining site specific requirements for acceptance
- Conducting site activities (monitoring and maintenance)
- Providing public access to records
- Maintains fund records and financial assurances

# Example: Registry Record

<b>IC REGISTRY</b>	ICR #	ICR-06
<b>SITE DATA</b>	Date of Acceptance	November 1, 2008
	Name	Bullwinkle Mine
<b>SITE LOCATION</b>	Site Holder/Operator	Boris Incorporated
	Original Operator	Rocky Incorporated
	Region	La Ronge
	NTS	73-P-07
	UTM-N	6136138
<b>SITE DESCRIPTION</b>	UTM-E	507533
	Zone	NAD 83
	Commodity/Mineral	Gold
	Operational History	1961-1964
	Operation Description	Site consisted of one decline, two raises to surface, one mill and tailings management area.
<b>SITE PERMITS</b>	Release Description	Adit filled, tailings management area decommissioned, mill dismantled and hauled off site, waste rock contoured, site revegetated.
	Release from Decommissioning and Reclamation	IR-111
	Operating Permit at time of Release	SERM-9090, issued October 31, 1998
	Mineral Disposition	ML 9999
	Mineral Release/Crown Mineral Reserve	CR-9191
	Surface Lease Agreement	Surrendered
	Surface Lease Agreement at time of Release	SNA-5050, issued October 31, 2003
	CNSC Exemption (if applicable)	N/A
	CNSC License at time of exemption (if applicable)	N/A
	<b>SITE CONTROLS</b>	Land Use Restrictions
Monitoring/Inspection Requirements		Recommended 5 year frequency, beginning 2013 as per submitted plan.
Date of last monitoring		April 30, 2008
Maintenance/Inspection Requirements		No maintenance frequency required, maintenance required based on visual inspection of engineered structure at time of monitoring inspection as per submitted plan.
Date of last maintenance		October 31, 1998
<b>SITE RECORDS</b>	Site holder application	May 30, 2008
	Monitoring and Maintenance Plan	on file at Energy and Resources (IC Registry).
	Financial Assurance Plan/Type	Corporate Bond
	Monitoring and Maintenance Fund Account	\$50,000
	Decommissioning and Reclamation Plan	on file with Environment
	Mine/mill plans (as-built)	on file with Labour and Workplace Safety
	Mine/mill historical maps/plans	on file with Energy and Resources (Mines Branch)
	Saskatchewan Mineral Deposit Index reference	0759
	Mineral Assessment files	73P07-0009;-0020;-0024;-0045;-0034;-0050;-0090;-0120;-0121;-0155;-0162;-0201;73P07-0252
	CNSC License/Exemption	N/A
<b>ADDITIONAL</b>	Comments	

# Program Costs

- **Types of costs:**
  - Administration of the Institutional Control Registry
  - Monitoring of sites contained within the Registry
  - Maintenance of sites contained within the Registry
  - Unanticipated future costs of sites within the Registry

# Uranium - A Special Case

- **Federal Constitutional Authority for Nuclear Facilities**
- **National and International Obligations**
  - **Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (IAEA)**
  - **The *Nuclear Safety Control Act* and Regulatory Framework (Canadian Nuclear Safety Commission)**
- **Licence Exemption**



## IC Process

- **Company makes application**
  - Typically addressed to SE and the CNSC, if required, as the responsible environmental regulators. – responsibility for licence exemption and site release from further responsibility (decommissioning and monitoring).
  - Copy of application to ER for initiating IC Process – responsibility for mineral tenure and future site management plans, establishing funding requirements for the plans.
  - Copy of application to FNMR (Northern Affairs) – administrative responsibility for surface lease release/revision.

## IC Process (cont'd1)

- **Application to include:**
  - SE and CNSC identified requirements for release/ exemption. Should typically include a monitoring and maintenance plan that would ensure site continues to meet requirements and goals of decommissioning and reclamation plan. Monitoring and maintenance plan may be revised based on CNSC/SE/ER requirements.
  - ER requirements of costs for performing the identified monitoring and maintenance plan. (in today's dollars, financial factors calculated separately).
  - Estimated major failure event and cost for purposes of determining financial assurance.

## IC Process (cont'd2)

- **Application to include:**
  - Identify lands to enter program – mineral lease, or portions thereof, to be established as Crown Reserve and mineral rights to be surrendered. This is an ER Mines Branch responsibility.
  - Identify lands to enter program – surface lease, or portions thereof, to be surrendered or to be renegotiated with revised land schedule. Typically requires consultation with impact communities. SE confirms impacted lands, FNMR Northern Affairs administers surrender.
  - Identify recommended future land use and restrictions.

# IC Procedure

- **Typical Procedure:**
  - SE and CNSC review application – perform final inspection. Final inspections may include ER personnel or have included members of impact communities as part of consultation requirements. If additional work is required, an additional inspection may be required.
  - SE and CNSC confirm release and exemption can be issued and initiate process. This includes presentation to the Commission.

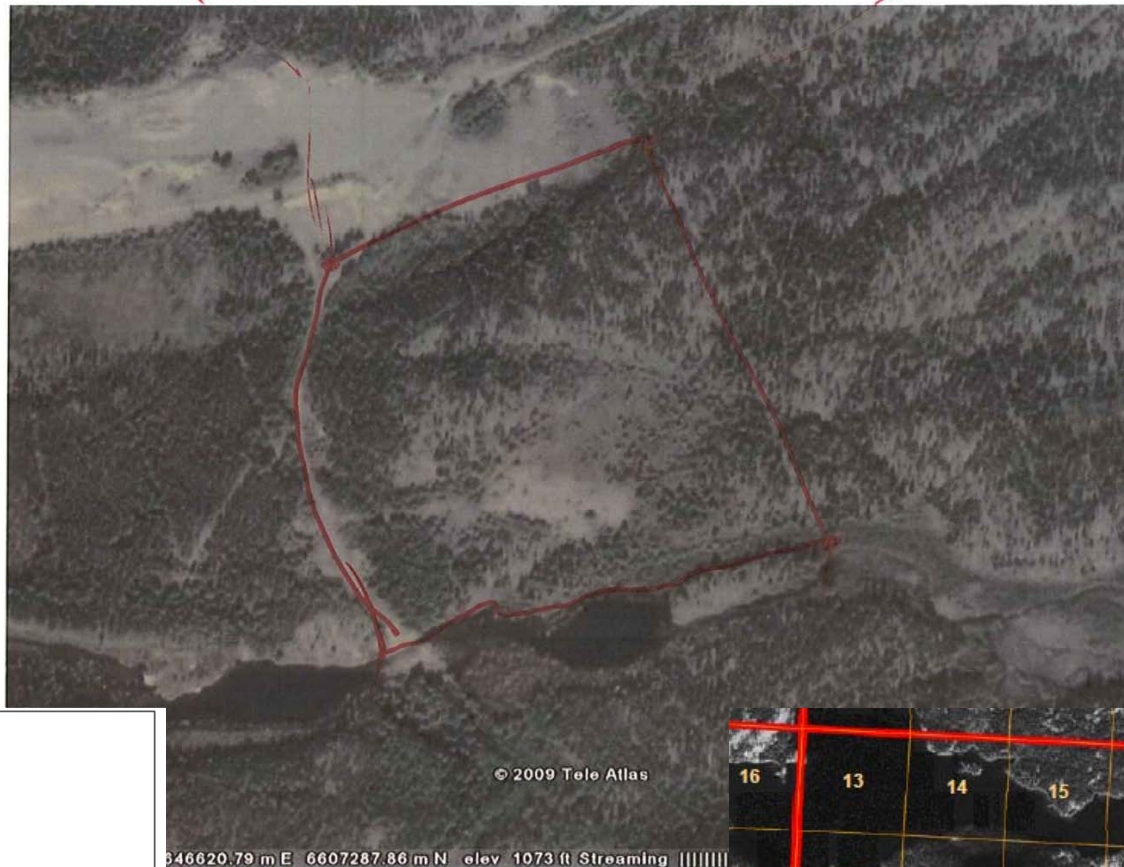
## IC Procedure (cont'd1)

- **Typical Procedure:**
  - ER proceeds with establishment of Crown Reserve. Lands included are typically disturbed or impacted lands as identified by SE plus buffer. May require survey or may use theoretical grid. Public notice is issued.
  - FNMR proceeds with surrender/revision of surface lease. Renegotiation and consultation dependent on disturbed or impacted lands.

# Example Site Impact Area

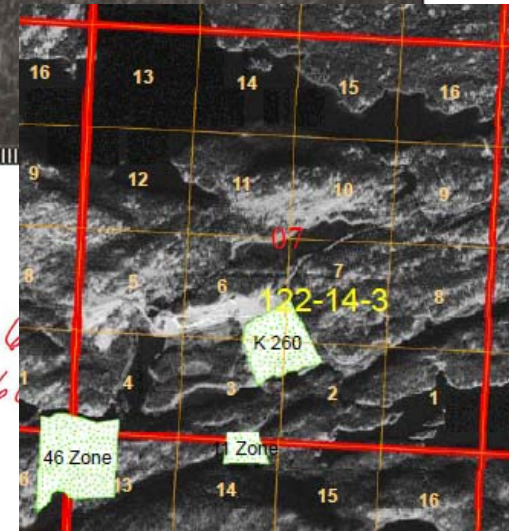
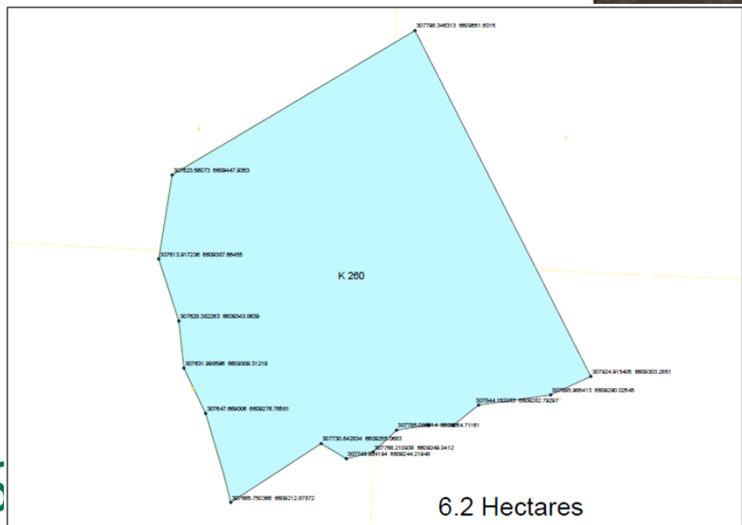
646483.66 E  
6607364.09 N

646629.77  
6607462.45



646620.79 m E 6607287.86 m N elev 1073 ft Streaming

646548.35 E  
6607139.97 N



## IC Procedure (cont'd2)

- **Typical Procedure:**
  - ER determines financial factors to calculate funding requirements based on monitoring and maintenance schedule. Inflation is calculated as a multi-year average, rate of return is determined in discussion with Ministry of Finance and company. Monitoring and Maintenance/ Unforeseen Events funding requirements are calculated.
  - Financial assurance requirements are determined based on cost of major failure event. Company can identify type of financial assurance to employ (ER may have to review company status to qualify for type such as letter)



Example: Minesite calculation for 70 years - no tailings or engineered structures requiring inspections only with estimated cost of \$5,000 per inspection

## Example Site Calculation

	Year	Obligation cost (2008 dollars)	Sask. Inflation Rate* (10 yr avg to Jun 2009)	FVR	Obligation future value (in year required)	Sask. Rate of Return* (Inflation plus 2.0%)	DRR	Obligation Contribution
Enter in ICP	2009		2.76%	1.000		4.76%	1.000	
	2010		2.76%	1.028		4.76%	0.955	
	2011		2.76%	1.056		4.76%	0.911	
	2012		2.76%	1.085		4.76%	0.870	
	2013		2.76%	1.115		4.76%	0.830	
	2014	\$ 5,000	2.76%	1.146	\$ 5,729.15	4.76%	0.793	\$4,540.60
	2015		2.76%	1.177		4.76%	0.757	
	2016		2.76%	1.210		4.76%	0.722	
	2017		2.76%	1.243		4.76%	0.689	
	2018		2.76%	1.278		4.76%	0.658	
	2019	\$5,000	2.76%	1.313	\$ 6,564.64	4.76%	0.628	\$ 4,123.41
	2020		2.76%	1.349		4.76%	0.600	
	2021		2.76%	1.386		4.76%	0.572	

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	2017		2.76%	1.269		4.76%	0.642	
	2018		2.76%	1.304		4.76%	0.610	
	2019	\$ 5,000	2.76%	1.340	\$ 11,024.57	4.76%	0.579	\$ 1,297.10
Closed site with engineered structures, apply percentage:					10%			
						Contribution to SCMM Fund		\$ 15,461.78
						Contribution to ICUE Fund		\$ 1,546.18
						<b>Total Contribution</b>		<b>\$ 17,007.96</b>

\*Saskatchewan inflation rate and rate of return from Institution Control Fund factor document June 2009.



## IC Procedure (cont'd3)

- **Typical Procedure:**
  - For ownership purposes, CNSC licence exemption, SE Release, FNMR surface lease surrender, ER acceptance into Registry occur on the same day that the funds and financial assurance are paid.
  - SE issues Miscellaneous Use Permit to the Registry/ER for continuous surface responsibility and land use restrictions. MUP matches ER's mineral Crown Reserve established for protection of mineral tenure.

## IC Procedure (cont'd4)

- **Typical Procedure:**
  - The company is required to provide a list of all pertinent documentation to the list to be placed on file with the Registry. All non confidential documents that are not being maintained in the corporate archives should also be submitted.
  - Provincial and federal departments and agencies should also transfer files to the Registry if no longer required for ministry use. This ensures site specific files are archived by the province under the Registry rather than by multiple departments.

# IC Future Site Management

- **Future Plan:**
  - ER performs monitoring program as required by plan. ER can employ third party or use government resources. Monitoring results are audited by ER/SE (CNSC) to ensure site performance.
  - ER performs maintenance program as required by monitoring results and plan. ER can employ third party or use government resources. Maintenance results are inspected by ER/SE/LRWS (CNSC) to ensure work is satisfactory.

# IC Management

- **Long Term:**
  - ER reviews program and publishes Registry report every 5 years. Includes reviews that funds are sufficient for monitoring and maintenance plan requirements.
  - The Unforeseen Events Fund is essentially a “rainy day fund”. The intent is that there is no planned access of the funds under normal operating scenarios. Ultimately the investment should build until it is sufficient to replace the requirement for financial assurances and the existing financial assurances will be returned to the company.

## Contact Lake Example

In April 2008, Cameco applied to enter the former Contact Lake Gold Mine Site into the IC Program. They had to:

- meet the environmental conditions and requirements to receive the Release from Environment
- meet requirements for surrender of the Surface Lease Agreement
- surrender the mineral rights for the establishment of a Crown Reserve
- pay a registration fee and deposits into the ICMM and ICUE funds
- submit a monitoring and maintenance program

Cameco met the conditions and the site was accepted in May 2009

# Institutional Control Program

- An important component of mining regulation
- Saskatchewan is an international leader
- Institutional Control is a “Win – Win – Win” solution



