Licensing Uranium Mines and Mills in Canada

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Written for the public and potential applicants

Available on CNSC Website

Provides an overview of:
- the CNSC and its regulatory framework
- the licensing process
- opportunities for public participation
The following licensing steps are described:

- pre-application consultation
- initiating the licensing process
- Aboriginal consultation
- environmental assessment
- technical review of the licence application
- public involvement
- Commission Tribunal decision and issuance of the licence
CNSC Regulatory Framework

Elements of the Regulatory Framework

- Enabling Legislation
- Requirements
- Guidance
- Management System
  - Guidance
    - Guidance Documents
    - Staff Review Procedures
    - INFO-Documents
  - Regulatory Documents
  - Licences, Certificates, Licence Conditions and Orders
  - Act
Uranium Mining in Canada
Stages of licensing

1. Site preparation and construction
2. Site operation
3. Decommissioning
4. Release from licensing

Public Hearings

Financial guarantees are required
Public Hearings Provide Opportunity for Input into Licensing Processes

- Public hearings give affected parties and members of the public the opportunity to be heard before the Commission
- Commission hearings are public and webcast on the Internet
- Engaging affected Canadians in their communities (e.g., Aboriginal Peoples in northern Saskatchewan)

Application (NSCA + regs) → Environmental Assessment (CEAA) → Public Hearing → Licence
- Site/Construct
- Operation
- Decommission
- Release

Licensee Obligations
- Safety
- Quality assurance
- Monitoring
- Reporting

CNSC Compliance Verification
- Inspections
- Program review
- Records review
Public Involvement in the Process
The CNSC consults with aboriginal groups whose rights may be affected by any activity the CNSC regulates.

The CNSC requires proponents to consult early and often.

The CNSC seeks to work with other federal, provincial, and/or territorial regulatory departments to assure effective consultation.
Protection of the Environment
Regulatory Approach

- Assessment
- Monitoring
- Controls
Application Steps, with EIA

Company Project Assessment Done:

- Site Characterization, Prelim. Plans
- Pre-Application Discussions *, Scoping
- Application And EIA Submitted
- Reg. Acceptance Review
- Draft EIA out for Public Review

* Includes public
Application Steps, with EIA (cont’d)

EIA*: Country Env’l. Impact Assessment Review Process Followed

- Public Comment* includes Public understanding
- Final EIA and Tech. Reg. Review
- Public Hearing or Formal Decision
- Licensing Doc. Review, Acceptance
- License Hearing Or Decision

*NOTE: Includes Public understanding
License Application general content, that forms basis for the EIA:

- Proposed activities
- Site Characteristics
- Mine Plans
- Mill process and equipment
- Waste management system
- Radiation, Env. And Worker Safety

- Operations (Organization, Security)
- Transportation
- Decommissioning
- Financial Assurance
- Assess Accidents
- Quality Assurance
- Alternatives
- Public Involvement
EIA Information

EIA general content:

- Description of the Proposed Activities
- Description of the Affected Environment
- Identification of Adverse or Cumulative Impacts
- Alternatives to the Proposed Action
- Defined study area
- Comments from the public that are received
- Baseline Env’t data
- Environmental effects of malfunctions or accidents
- Transportation issues
- Atmospheric Env.
- Geology, Hydrogeology
- Aquatic Env.
- Terrestrial Env.
- Socio-economic impacts
- Human Health and Safety
* BEST PRACTICE IN ENVIRONMENTAL MANAGEMENT OF URANIUM MINING, NF-T-1.2, IAEA 2010:

- “The objective of this report is to provide both operators and regulators with guidelines and examples of the implementation of the principles of best practice to the uranium mining and processing industry.”
- “…requires extensive planning so that they (U facilities) are socially, environmentally and economically sustainable and are accepted by society.”
- “…effective environmental management must anticipate, prevent and correct the causes of environmental degradation.”
EIA

- An EIA is a process used to predict and minimise environmental effects of proposed initiatives before they are fully planned or undertaken.
- The EIA process is a planning and decision-making tool involving all regulatory bodies, as well as a public consultation tool that is used to inform and engage members of the public and other interested parties in a proposed activity in their region. Start with the end in mind!
- The objectives of an environmental assessment are to:
  - incorporate environmental factors into decision making
  - identify potential environmental impacts of a proposed project, and
  - to outline ways of minimising or avoiding adverse environmental effects before a project is licensed and initiated.
Conventional Uranium Ore-fed Mill includes:

- Detailed Mill Process Operations, and waste produced
- Waste management system operations manual
- Tailings Management Area
- Radiation, Env. And Worker Safety Programmes
- Emissions (air, water, g.water)
- Decommissioning Plans up to date

- Financial Assurance
- Emergency Response
- Spills and Clean-up plans
- Quality Assurance (Change Management)
- Records and inventories
- Operators training
- In-line monitoring systems and detectors
- Preventative maintenance
- Daily checks, monitoring
Information from the Operator

Safety Assessment Information updated for Operations:

- Design Principles and Requirements fulfilled
  - engineering principles followed, standards used, redundant safety systems in place and operating

- Hazard Analysis
  - Operational hazards identified and controlled

- Operational methods, controls
  - qualified supervisors on site, engineering controls functioning, monitoring and maintenance done, records kept, etc.
Worker Radiation Protection Framework
(CNSC Approach, Expectations)

Management Controls
- Risk assessments
- Work and process controls
- ALARA program
- Training

Engineering Controls
- Mining or Processing method, ventilation and dust control
- Monitoring (internal and external)
  - Individual dosimeters
  - Continuous monitors with warning lights
  - Area/time monitoring
- Time-distance-shielding

Administrative Controls
- Dose limits, action levels, codes of practice, records
- National Dose Registry (NDR), medical surveillance
- Periodic and event reporting
Key License Conditions - under NSC Act

- Licensee name, location, license period
- Licensed activities clearly defined, scoped
- General conduct and legal direction
- Reference Documents specified
Protect the Public

- Measure key parameters in the environment
- Estimate potential dose to the public
- Start with the end in mind…
Concluding Comments

- CNSC is Canada’s nuclear regulator, and responsible for licensing, compliance and enforcement of uranium mining industry in Canada:
  - increasing environmental standards
  - resulting changes to milling, effluent treatment and tailings management facilities
  - Strong and effective licensing process
  - continuing innovation, and plan with decommissioning in mind.

- Licensees must have high reliability performance, learn and continually improve through the ALARA process and self-report on events.

- Further details can be found at:
  - nuclearsafety.gc.ca
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Questions?

CNSC Public Hearing, Saskatoon

Thank you!