Canada’s Approach to Decommissioning: The Regulator’s Perspective

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nuclearsafety.gc.ca
Canadian Nuclear Safety Commission (CNSC)

- Nuclear regulation falls under federal jurisdiction
- The CNSC is Canada’s sole nuclear regulator
- Regulates all nuclear-related facilities and activities
- Composed of 800 staff and the Commission
- Independent, quasi-judicial tribunal and court of record
  - consists of up to seven members appointed under the authority of the Nuclear Safety and Control Act (NSCA)
  - reports to Parliament through Minister of Natural Resources
- Commission hearings are public and webcast

**Transparent, science-based decision making**
CNSC-Regulated Facilities and Activities

- Uranium mines and mills
- Uranium fuel fabrication and processing
- Nuclear power plants
- Nuclear substance processing
- Industrial and medical applications
- Nuclear research and education
- Transport
- Import/export control
- Security and safeguards
- Waste management facilities

*From cradle to grave*
Commission Hearings and Meetings

• Public hearing process

• Independent, quasi-judicial tribunal and court of record
  – consists of up to seven members appointed under the authority of the Nuclear Safety and Control Act (NSCA)

• Public participation during CNSC hearings or meetings
  – use of webcasts for public hearings/meetings
  – often held in local communities
Stages of Licensing Nuclear Facilities

Staged approach / Early planning

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

Each stage requires a CNSC licence
Planning for decommissioning and financial guarantee are required for stages 1–4
CNSC Regulatory Framework

- **Nuclear Safety and Control Act (NSCA) – 2000**
- CNSC regulations – performance based with prescriptive requirements
- Applicants need to demonstrate that their proposed decommissioning strategy and activities meet CNSC requirements

*Safety case is the driver*
CNSC Regulatory Oversight

- CNSC oversight is conducted through verification and enforcement
- Regulatory oversight activities include:
  - onsite inspections and desktop reviews
  - assessments, reviews and evaluations of licensee programs, processes and reports
  - review of information provided by licensees including mandatory reports
- The nature of the oversight is commensurate with the risk associated with the licensed site

Transparency through regular reporting to the Commission
Decommissioning Planning

Preliminary Decommissioning Plan (PDP)

• Required for all licensed activities encompassing a facility’s life cycle
• Provides basis for cost estimate for decommissioning
• For major facilities, required to be updated and reviewed at a frequency of five years or when requested by the Commission

The PDP does not authorize the conduct of decommissioning activities
Decommissioning Planning (cont.)

Detailed Decommissioning Plan (DDP)

- Filed with the CNSC prior to decommissioning
- Required for appropriate licensing action
- Refines and adds procedural and organization detail to the PDP
- The safety case in support of DDP is the basis for staff’s recommendation and licensing decisions to authorize decommissioning

*Once approved, the DDP is incorporated into the licensing basis*
Financial Guarantees (FGs) for Decommissioning

• Required as part of the licence application
• Required through the entire lifecycle of the facility
• Approved by the Commission
• Required to be updated and reviewed every five years or when requested by the Commission (along with PDPs and cost estimates)
• Annual reporting on status of FG

Cover all decommissioning, dismantling, disposal of waste and any long-term monitoring
Long-Term Waste Management

- Integral part of decommissioning planning
- Facilities to accept the waste generated from decommissioning should be planned, approved and constructed before that waste is generated
- Concrete solutions needed not only for used nuclear fuel but also for low- and intermediate-level wastes

Deferring the problem to future generations is not a viable option
Challenges

- Not in my back yard (NIMBY)
- Science is often ignored by politicians and special interest parties
- Long lead times required for disposal facilities
- Maintaining flexibility in potential decommissioning approaches with the safety case being the driver

*Industry, proponents, politicians and regulators have an equal role in disseminating the science behind the safety cases*
Public Engagement Is a Priority

• Public hearing process
• Participant Funding Program
• Indigenous and public consultations
• Extensive outreach and engagement program
• Requirement for licensees to communicate

CNSC recognizes, supports and encourages the involvement of the public and Indigenous peoples in all CNSC processes

Building trust is a continuous process
Modernization of the CNSC’s Waste and Decommissioning Framework

• Developing, consolidating and updating regulatory documents including:
  – REGDOC-1.1.4, Licence Application Guide: *Licence to Decommission Reactor Facilities* (new)
  – REGDOC-1.2.1, *Repositories and Waste Facilities* (new)
  – REGDOC-2.11.1, *Waste Programs* (new)
  – REGDOC-2.11.2, *Decommissioning Planning* (update to G-219)
  – REGDOC-3.3.1, *Financial Guarantees* (update to G-206)

  – What We Heard report will be published late 2017
Summary

- Canada has a strong regulatory framework that provides for decommissioning of nuclear facilities and related activities.
- Canada has experience in decommissioning nuclear facilities.
- Long-term waste management must be an integral part of decommissioning planning.
- Industry, proponents, politicians and regulators have equal role to play in disseminating the science behind the safety cases.
Thank You!