



UPDATE ON CANADIAN NUCLEAR SAFETY COMMISSION ACTIVITIES



Peter Elder

Vice-President and Chief Science Officer Technical Support Branch

Federal Provincial and Territorial Radiation Protection Committee (FPTRPC) Meeting

October 23, 2018, Ottawa, ON



CANADIAN NUCLEAR SAFETY COMMISSION



- Established in 2000 under the *Nuclear Safety and Control Act* (NSCA)
- Reports to Parliament through the Minister of Natural Resources
- Created to replace the Atomic Energy Control Board (founded in 1946)



THE CNSC REGULATES ALL NUCLEAR FACILITIES AND ACTIVITIES IN CANADA



Uranium mines and mills



Uranium fuel fabrication and processing



Nuclear power plants



Nuclear substance processing



Industrial and medical applications



Nuclear research and educational activities



Transportation of nuclear substances



Nuclear security and safeguards



Import and export controls



Waste management facilities



CNSC STAFF LOCATED ACROSS CANADA



AVAILABLE 24/7

Headquarters (HQ) in Ottawa
4 Site Offices at Power Plants
1 site Office at Chalk River
4 Regional Offices

Licensees: 1,700

Licences: 2,500

TRANSPARENT, SCIENCE-BASED DECISION MAKING



- Quasi-judicial administrative tribunal
- Agent of the Crown (duty to consult)
- Reports to Parliament through Minister of Natural Resources
- Commission members are independent and part-time
- Commission hearings are public and webcast
- Decisions are reviewable by Federal Court



INDEPENDENT COMMISSION

Ms. Rumina Velshi



CNSC President and CEO
August 22, 2018
Five-year term

Dr. Sandor Demeter



Reappointed
March 12, 2018
Five-year term

Mr. Timothy Berube



Appointed
March 12, 2018
Four-year term

Dr. Marcel Lacroix



Appointed
March 12, 2018
Four-year term

Ms. Kathy Penney



Appointed
March 12, 2018
Four-year term



CANADA'S NUCLEAR POWER PLANTS

Bruce A (top), Bruce B (bottom)



BRUCE NUCLEAR GENERATING STATION (ON)

- licence renewal granted in October 2018 authorizes Bruce Power to undertake licensed activities related to the refurbishment of Bruce NGS units 3 to 8



CANADA'S NUCLEAR POWER PLANTS



DARLINGTON NUCLEAR GENERATING STATION (ON)

- refurbishment project began in October 2016 and is scheduled for completion by 2026



CANADA'S NUCLEAR POWER PLANTS



PICKERING NUCLEAR GENERATING STATION (ON)

- licence renewal granted in August 2018 based on intent to cease commercial operations in December 2024, followed by post-shutdown activities and stabilization



CANADA'S NUCLEAR POWER PLANTS

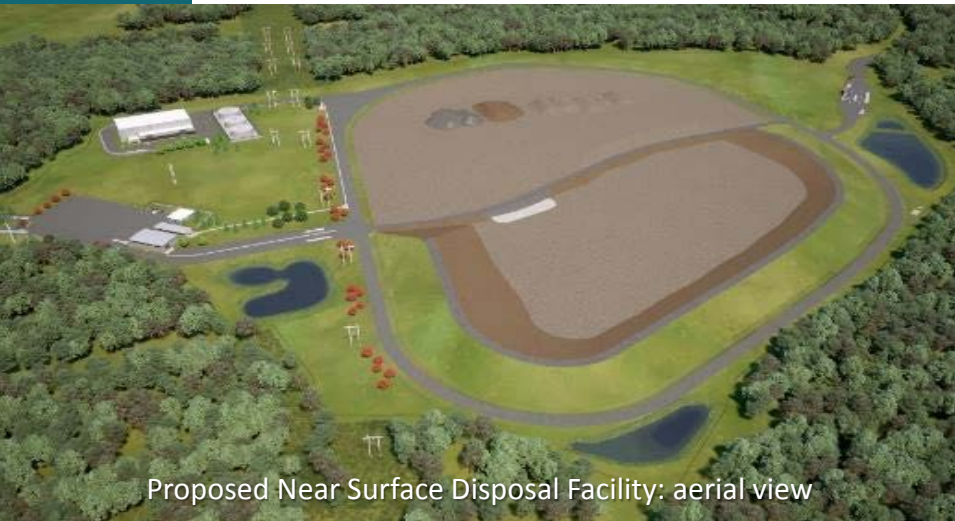


POINT LEPREAU NUCLEAR GENERATING STATION (NB)

- refurbishment completed and returned to service in 2012, licence expires June 2022



CANADIAN NUCLEAR LABORATORIES (CNL)



Proposed Near Surface Disposal Facility: aerial view

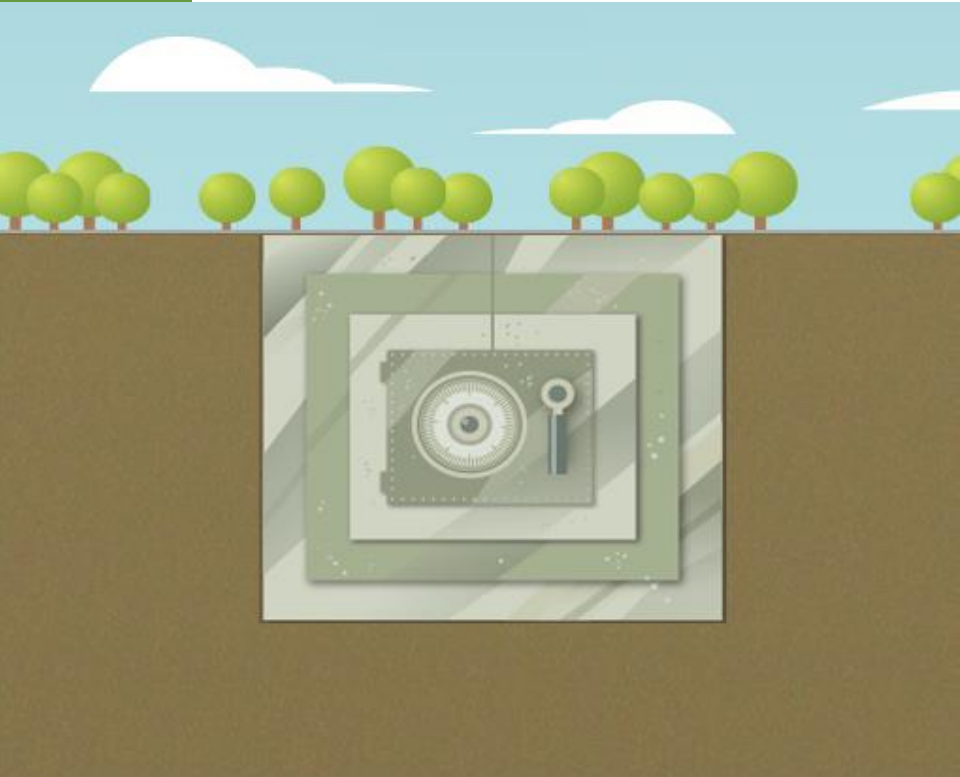
EA PROCESS DELAYED WAITING FOR RESPONSE FROM CNL

THREE ENVIRONMENTAL ASSESSMENTS UNDERWAY FOR DECOMMISSIONING

- Near Surface Disposal Facility (NSDP) Project (Chalk River)
- Nuclear Power Demonstration (NPD) Closure Project (Rolphton)
- Decommissioning of the Whiteshell Reactor #1 (Pinawa)



OPG DEEP GEOLOGICAL REPOSITORY (DGR)



DEEP GEOLOGICAL REPOSITORY

- Ontario Power Generation proposal for a low- and medium-level facility on Bruce nuclear site
- Environmental assessment was completed in 2015
- Decision from Minister of Environment and Climate Change Canada pending



NUCLEAR WASTE MANAGEMENT ORGANIZATION (NWMO)



NWMO Learn more communities

1. South Bruce
2. Hornepayne
3. Huron-Kinloss
4. Ignace
5. Manitouwadge

FINDING A SITE FOR HIGH-LEVEL RADIOACTIVE WASTE

- There are 5 communities remaining in the NWMO's learn more process (out of 22 original communities – 19 in Ontario, 3 in Saskatchewan)



PORT HOPE AREA INITIATIVE



Aerial view of Port Hope and Granby

PORT HOPE AND PORT GRANBY

- Implementation phase (facility construction ongoing)
- Port Hope waste nuclear substance licence – valid until December 31, 2022
- Port Granby waste nuclear substance licence – valid until December 31, 2021



SMALL MODULAR REACTORS (SMRS)

Example of an SMR technology: Facility cross-section Terrestrial Energy Integral Molten Salt Reactor (IMSR-4000)
(Courtesy of Terrestrial Energy)



- Global interest for SMR technologies
- CNSC is participating in the Canadian SMR Roadmap
- ***REGDOC-1.1.5 , Licence Application Guide: Small Modular Reactor Facilities –*** Public consultation ended Sept. 28, 2018
- Currently undertaking 10 vendor design reviews
- The CNSC and Government of Canada are cooperating and sharing information with a number of countries on SMR technologies



EMERGENCY PREPAREDNESS



EXERCISE SYNERGY OCTOBER 2018 – POINT LEPREAU

- Fourth emergency exercise focused on consequence management, evacuation, decontamination and recovery

IAEA EMERGENCY PREPAREDNESS MISSION (EPREV) – SPRING 2019

- Will look at nuclear emergency preparedness plans and procedures for Canadian nuclear facilities by operators and all levels of government



EMERGENCY PREPAREDNESS



- Provincial Nuclear Emergency Response Plan approved by Ontario Cabinet in December 2017
- Emergency Management Ontario working to update site-specific plans
- CNSC, Health Canada, and Natural Resources Canada collaborating on **REGDOC 2.10.1 *Emergency Management and Fire Protection, Volume II: Framework for Recovery after a Nuclear Emergency***



REGULATORY DOCUMENTS

DISCUSSION PAPERS

- **DIS-16-03**, *Radioactive Waste Management and Decommissioning – What We Heard Report* – Published December 2017
- **DIS-17-01**, *Framework for Recovery in the Event of a Nuclear or Radiological Emergency* – Public comment period closed in January 2018

PUBLISHED REGULATORY DOCUMENTS

- **REGDOC-2.2.4**, *Fitness for Duty, Volume II: Managing Drug and Alcohol Use* – Published December 2017
- **REGDOC-2.1.2**, *Safety Culture* – Published April 2018
- **REGDOC-2.7.3**, *Radiation Protection Guidelines for the Safe Handling of Decedents* – Published June 2018
- **REGDOC-2.2.4**, *Fitness for Duty, Volume III: Nuclear Security Officer Medical, Physical, and Psychological Fitness* – Published September 2018



REGULATORY DOCUMENTS IN PROGRESS

- **REGDOC-1.1.5**, *Licence Application Guide: Small Modular Reactor Facilities*
– public consultation ended Sept. 28, 2018
- **REGDOC-1.4.1**, *LAG: Class II Facilities and Prescribed Equipment* – under development
- **REGDOC-2.4.3**, *Nuclear Criticality Safety* – under development
- **REGDOC 2.10.1**, *Emergency Management and Fire Protection, Volume II: Framework for Recovery after a Nuclear Emergency* – public consultation ended Sept. 28, 2018
- **REGDOC 2.1.1**, *Management System* – public consultation open until Oct. 30, 2018
- **REGDOC-2.7.2**, *Dosimetry, Volume II: Technical and Quality Assurance Requirements for Dosimetry Services* – public consultation ended Sept. 7, 2018
- **REGDOC 3.1.3**, *Reporting Requirements for Class II Nuclear Facilities and Users of Prescribed Equipment, Nuclear Substances and Radiation Devices*
– public consultation open until Nov. 2, 2018



NOTABLE INTERNATIONAL EVENTS

- **International Atomic Energy Agency (IAEA) technical meeting to share experience on implementing safety improvements at existing nuclear power plants**
June 11 – 14, 2018 in Vienna, chaired by the CNSC’s Executive Vice-President and Chief Regulatory Operations Officer
- **62nd IAEA General Conference**
September 17 – 21, 2018 in Vienna
- **IAEA International Symposium on Communicating Nuclear and Radiological Emergencies to the Public**
October 1–5, 2018 in Vienna, chaired by CNSC Vice-President and Chief Communications Officer
- **IAEA Organizational Meeting for the Eighth Review Meeting of the *Convention on Nuclear Safety***
October 17, 2018 in Vienna, election of Officers and identification of topics for the next Review Meeting
- **IAEA International Conference on the Challenges Faced by Technical and Scientific Support Organizations (TSOs) in Enhancing Nuclear Safety and Security: Ensuring Effective and Sustainable Expertise**
October 15-18, 2018 in Brussels



CNSC REMAINS A WORLD CLASS REGULATOR

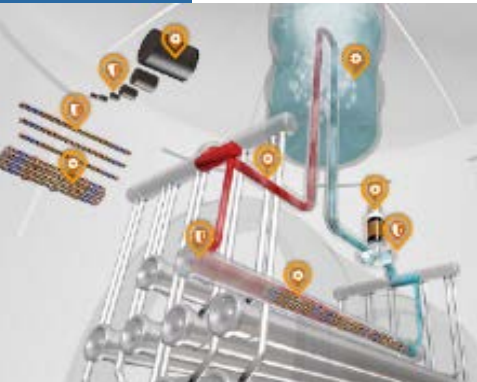


SAFETY IS OUR HIGHEST PRIORITY

- Independent
- Flexible robust regulatory framework
- Well-resourced with the capacity, expertise and agility to regulate effectively
- Forward-looking to stay ahead of the technological curve – ready for emerging technologies



STRENGTHENING PUBLIC TRUST



TRANSPARENCY

- Open/responsive and understandable information

ENGAGEMENT

- Public
- Civil society
- NGOs
- Indigenous groups
- Domestic and international



Questions

Thank You!



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Canada

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