

March 23, 2023

Competitive Procurement Process: Contract to Manage Canadian Nuclear Laboratories





Land Acknowledgement

AECL acknowledges with gratitude that we operate on territories that have, since time immemorial, been the traditional lands of Indigenous Peoples in Canada.

Safety

- Fire exits
- Stay with AECL/CNL escorts at all times
- Site alarms
- Designated walkways
- Weather

Rules of Engagement

- Photo taking is restricted
- To maintain fairness in the process, AECL may choose not to answer questions about the procurement process during this briefing or the site tour
- Summary of this briefing, including presentation and Qs&As, will be posted on AECL's website for this procurement

Agenda

1. Overview of AECL
 - Background
 - Objectives/Priorities for the Next GoCo Contract Period
2. Procurement Process
 - Schedule
 - What to Expect

Overview of AECL





Cleaning up the Government of Canada's radioactive waste

To protect the environment and enable nuclear science and technology, we are addressing legacy wastes and new liabilities

**We are a federal
Crown corporation**



Driving nuclear innovation

Science is at the core of everything we do

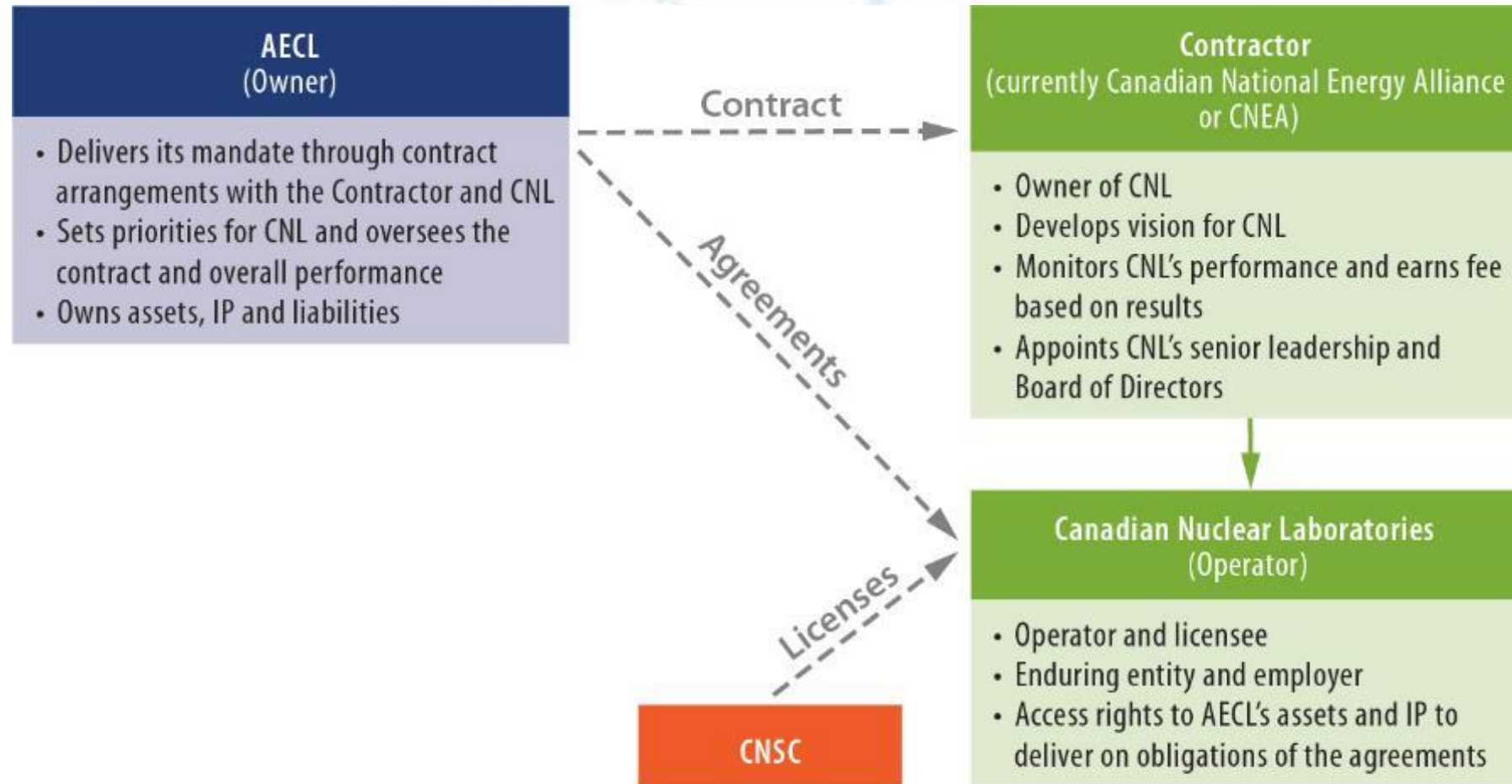


AECL Sites and Assets

- **Laboratories:** Chalk River Laboratories and National Innovation Centre for Cyber Security
- **Legacy AECL research sites** (in decommissioning): Whiteshell, Nuclear Power Demonstration, Douglas Point, Gentilly-1, + large decommissioning and remediation scope at Chalk River
- **Sites contaminated with historic low-level radioactive waste and/or NORM** for which the government has accepted responsibility: Port Hope Area Initiative and Northern Transportation Route



Government-owned, Contractor-operated model



AECL Video Introduction

Objectives and Priorities for the Next GoCo Contract Period

Objectives for Next Contract: Three Missions

AECL's intent is that CNL leverages its capabilities and resources to successfully deliver on the 'Primary Missions' and their individual and collective objectives. The Missions are:

- **Science & Technology (S&T):** Strengthen CNL's role as Canada's National Nuclear Laboratories by delivering on federal priorities in science & technology, pursuing valuable collaborations and partnerships, and advancing nuclear innovation for the public good. Grow third party commercial services and revenue by leveraging existing capabilities and assets.
- **Decommissioning & Waste Management (DWM):** Optimize, with consideration for acceleration opportunities, decommissioning, environmental remediation and waste management activities to reduce AECL liabilities, as well as risks and costs over the long term; and
- **Site Development & Investment (Capital):** Deliver an integrated, optimally configured capital expenditure and asset management program. Ensure that AECL's real property, sites, buildings and facilities are safely and securely managed, and capabilities, resources and infrastructure are maintained.

Objectives for Next Contract

In delivering the Mission work, CNL is expected to:

- Drive innovation through the enhancement and development of new collaborations across academic and research networks and national and international industries
- Leverage capabilities to deliver on federal research priorities and grow third-party revenues
- Continue the revitalization of the Chalk River Laboratories to transform it into a more efficient, modern nuclear science and technology campus
- Optimize the delivery of the decommissioning and waste management program to reduce AECL's liabilities safely and cost effectively
- Build and maintain meaningful collaborative relationships with Indigenous communities based on healing and reconciliation
- Ensure that CNL sustains a robust health, safety, security and environment culture, that it is compliant and efficiently managed, and that capabilities, resources and infrastructure required to satisfy AECL's mandate are maintained
- Drive organizational transformation and build the capabilities of CNL staff
- Optimize delivery and cost of site operations

What We Are Looking For in our next Contractor

- Highly capable, experienced, integrated and inspirational leadership team and corporate reachback in the following areas:
 - Operating a national, scientific laboratory
 - Leveraging a laboratory's assets to advance innovation and third-party services
 - Completing large, complex and accelerated nuclear clean-up, waste management and closure projects
 - Effectively engaging with the regulators to secure timely approvals of mission critical projects
 - Executing nuclear facility and infrastructure construction projects
 - Transforming workforce culture and capability
 - Maximizing the operational efficiency and asset management of a three-mission laboratory
 - Improving and maintaining a world-class nuclear and conventional safety culture
 - Building and maintaining long-term relationships with Indigenous and local communities
 - Effective program and project planning and management
 - Proven project cost and schedule performance



Science and Technology

Striving for the greatest possible impact on achieving AECL's objectives, managing S&T capabilities and exploiting intellectual property to meet these objectives.

Bringing forward innovative concepts and research proposals that are aligned with AECL objectives.

Deliver first-rate service to commercial partners, public or private stakeholders, and the science and technology community through user facility operation and effective planning, management, and delivery of S&T programs.

Federal S&T Priorities

Delivering an integrated, effective, project-based and customer-focused science and technology mission that serves the needs of the Government of Canada.

Canada remains a global player in areas of energy, health, safety, security and environmental remediation.

Highly qualified personnel are developed and retained.

Canada maintains unique technical knowledge and understanding of advance reactor designs in support of industry and regulation.

Canada actively and effectively meets its obligations related to international energy, regulatory and security.





Federal Nuclear Science & Technology Work Plan

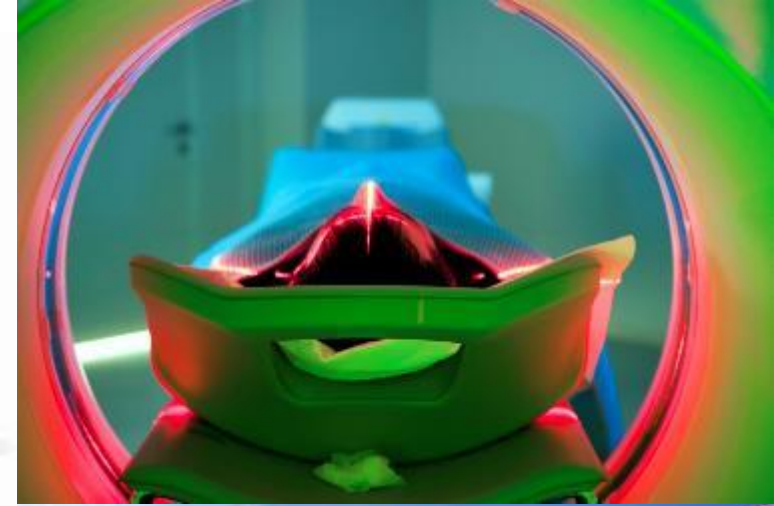
Four theme areas:

- Supporting the development of biological applications and understanding the implications of radiation on living things
- Supporting environmental stewardship and radioactive waste management
- Enhancing national and global security, nuclear preparedness and emergency response
- Supporting safe, secure and responsible use and development of nuclear technologies



Innovation

- Pursuit of nuclear innovation for the public good
 - Advancement of Actinium-225 isotope production in contribution to the development of advanced cancer treatment therapies
 - Working with industry to demonstrate Small Modular Reactor technology at an AECL site
 - Advancement of hydrogen production technologies and energy storage techniques
 - Other endeavours – e.g., fusion



Innovation



CNL is expected to:

- Leverage capabilities and assets to grow third party commercial services, including expanding and diversifying CNL's commercial portfolio and partnerships.
- Advance collaborations and partnerships with academia, industry and research organizations to accelerate technology development and deployment, reduce barriers to innovation, and turn research into reality.

Revitalization of the Chalk River Laboratories



Revitalization of the Chalk River Laboratories

Work to date

- As part of the GoCo model implementation, the Government of Canada invested in the revitalization of the Chalk River Laboratories, including:
 - New science facilities investment to build a modern nuclear science and technology campus
 - Site infrastructure investment to support existing and aging infrastructure systems and facilities
- More than \$1.3B will have been invested in science and site infrastructure under the current GoCo contract:
 - Three new non-nuclear facilities totaling 200,000 sq ft of security, logistics, office, maintenance, and equipment shops
 - New tritium laboratory
 - Renovation (e.g., biological research facility) and bridging (e.g., hot cells) projects
 - Site utility upgrades to support new facilities
 - Partial construction of an Advanced Nuclear Materials Research Centre (ANMRC) with final completion to occur in the next GoCo contract

Revitalization of the Chalk River Laboratories

Work remaining

- Similar revitalization work is expected to be done in the next GoCo contract including :
 - Completion of the ANMRC
 - New electrical transformer station/switchyard, energy center, microgrid and distribution network
 - Numerous facility renovation and renewal projects
 - Various site infrastructure upgrade projects (e.g., fire water, high pressure steam to hot water heating system and site distribution)



Decommissioning and Waste Management (DWM)

Six main areas of focus as part of expected contract scope:

1. Chalk River Laboratories facilities decommissioning, environmental restoration and waste management, including completion of a low-level waste disposal facility
2. Closure of the Whiteshell Laboratories
3. Closure of the Nuclear Power Demonstration reactor
4. Advancing decommissioning of prototype reactors at Douglas Point and Gentilly-1
5. Completion of Port Hope Area Initiative, including remediation of residential properties
6. Remediation activities as part of the Low-level Radioactive Waste Management Office

Current Annual budget: \$500M-\$1B

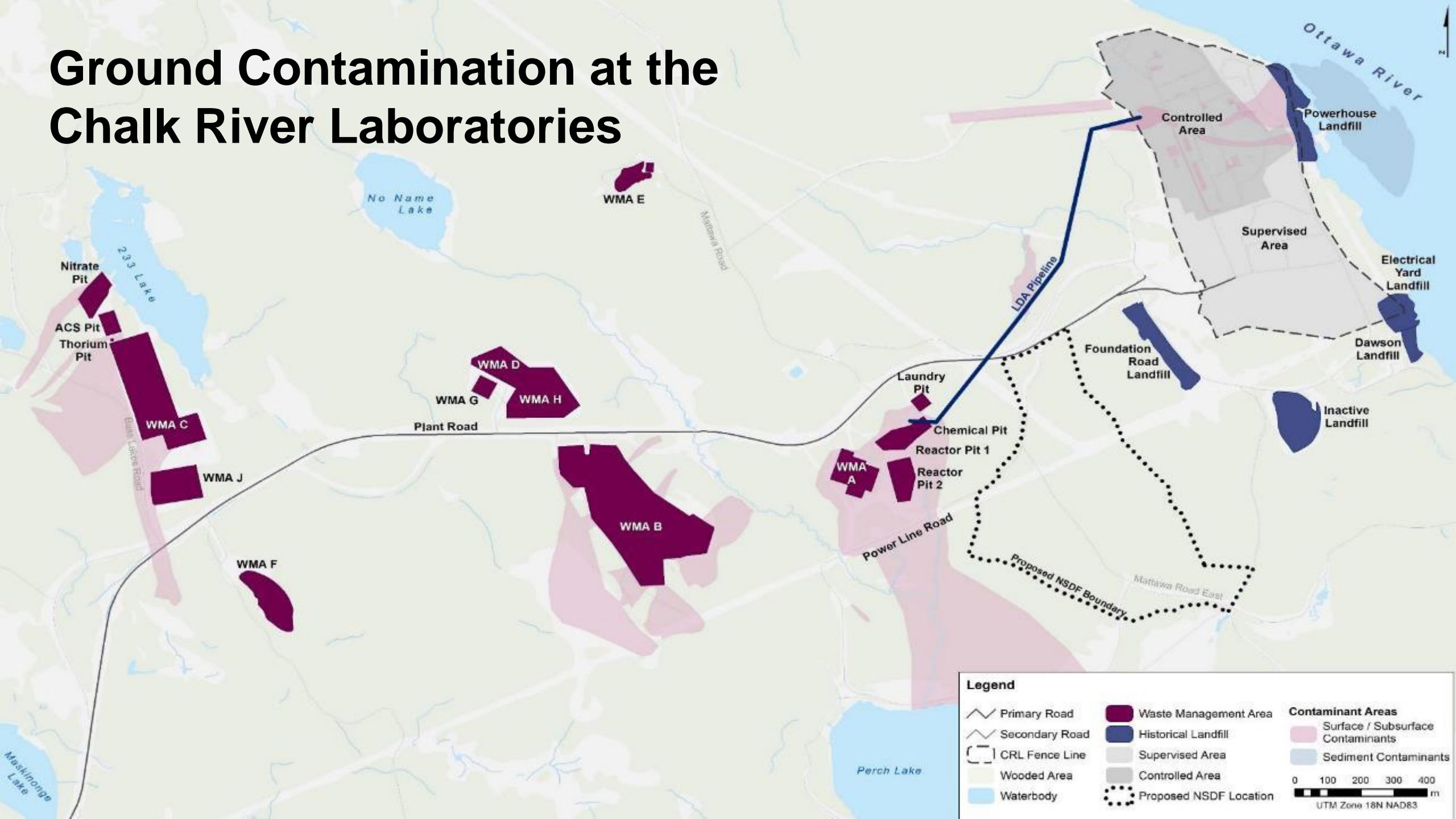


Chalk River Laboratories

- Facilities decommissioning
- Environmental restoration
- Waste management, processing, storage and disposal
- New construction of waste treatment facilities



Ground Contamination at the Chalk River Laboratories

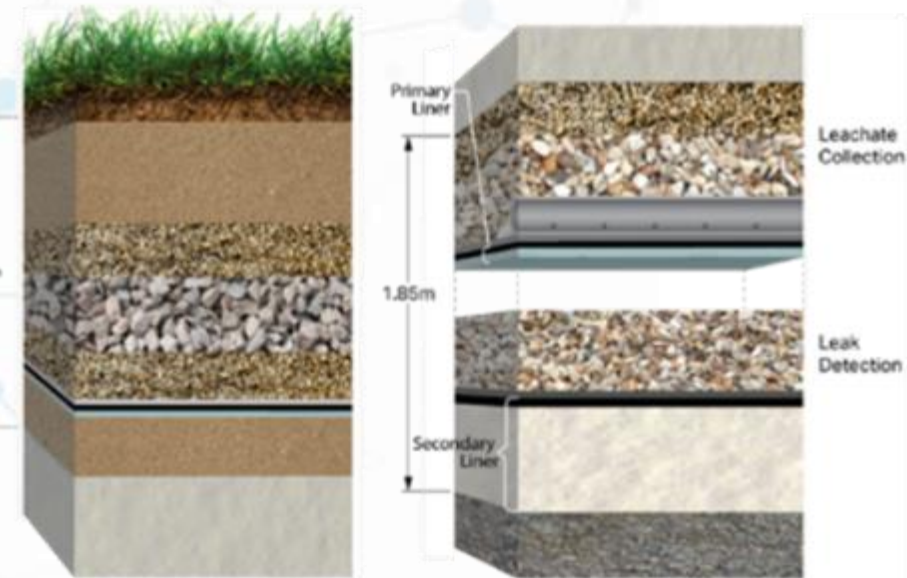




Addressing the need for long-term waste management solutions

Near surface disposal facility

Highly engineered, multi-layer protection facility to contain and isolate **1 million** cubic meters of low-level waste





Whiteshell Laboratories

CNL is accelerating work to reduce risks and protect the environment; site closure is targeted for 2027, about 30 years ahead of schedule

Decommissioning and remediation

- Waste management area with LLW, ILW and HLW
- Building demo underway
- Proposal for in-situ disposal of WR-1 reactor under regulatory approval process



Whiteshell Laboratories – Work



Main Campus

- 30 buildings demolished
- Modular office complex installed
- Final draft Environmental Impact Statement for WR-1 in-situ disposal submitted to regulator
- WR-1 work on-going until 2027

Waste Management Area (WMA)

- 5 buildings demolished - Protected area expanded
- Cask loading facility installation started – Fuel transfers until 2027
- Modular office complex installed
- Standpipes/bunkers waste retrieval system fabrication near completion – operations until 2027





Nuclear Power Demonstration Reactor

- Proposal for in situ disposal of the NPD reactor under regulatory approval process
- Work done to date:
 - Asbestos removed from active systems to allow access without additional PPE
 - Completed characterization of facility and surrounding lands
 - Upgraded power supply to the site
 - Developed draft Environmental Impact Statement and supporting documents





Gentilly-1 and Douglas Point

- Maintain sites in safe shutdown
- Accelerate reactor decommissioning





Port Hope Area Initiative



Community driven initiative to cleanup and safely manage historic low-level radioactive waste in Port Hope and Clarington, Ontario

Environmental remediation progress

2 near surface containment facilities constructed

2.7 million tonnes of waste and contaminated soils emplaced



Port Granby



Port Hope





Low-level Radioactive Waste Management Office

Clean-up of sites contaminated with historic low-level radioactive waste / NORM, mostly in the Northwest Territories and the Greater Toronto Area



Reconciliation



Advancing science, decommissioning and environmental remediation through partnerships and reconciliation

AECL Priorities:

1. Listening, understanding, improving, and taking meaningful actions to advance reconciliation with Indigenous nations and communities on whose lands we operate.
2. Continuous learning about Indigenous history, culture, traditions, and worldviews.
3. Integrating Indigenous knowledge and values into AECL's policies, procedures, practices, and projects so that they become embedded in all that we do.
4. Finding ways to empower and enable Indigenous nations and communities to participate in projects across AECL sites, contributing to the economic prosperity of these communities

Safe Management of AECL Sites and Assets

Services to enable the safe, efficient, and effective delivery of site operations, including those unique to nuclear licensed sites, such as:

- Health, safety, security and environmental protection (HSSE)
- Corporate services functions (e.g., Human Resources, finance, project management office, Information Technology, Supply Chain, etc.)
- Nuclear site operations
- Regulatory compliance
- Site and asset maintenance
- Engineering and quality assurance
- Communications, stakeholder and Indigenous engagement

Organizational Transformation and Optimized Delivery

Contractor to continue to drive organizational transformation and build the capabilities of CNL staff

- Leverage executive leadership and reachback resources to demonstrate tangible transformation and improvement in overall CNL performance
- Provide leadership in mentoring and building knowledge capacity and developing capabilities of CNL Staff

Continue optimization of delivery and cost of operations

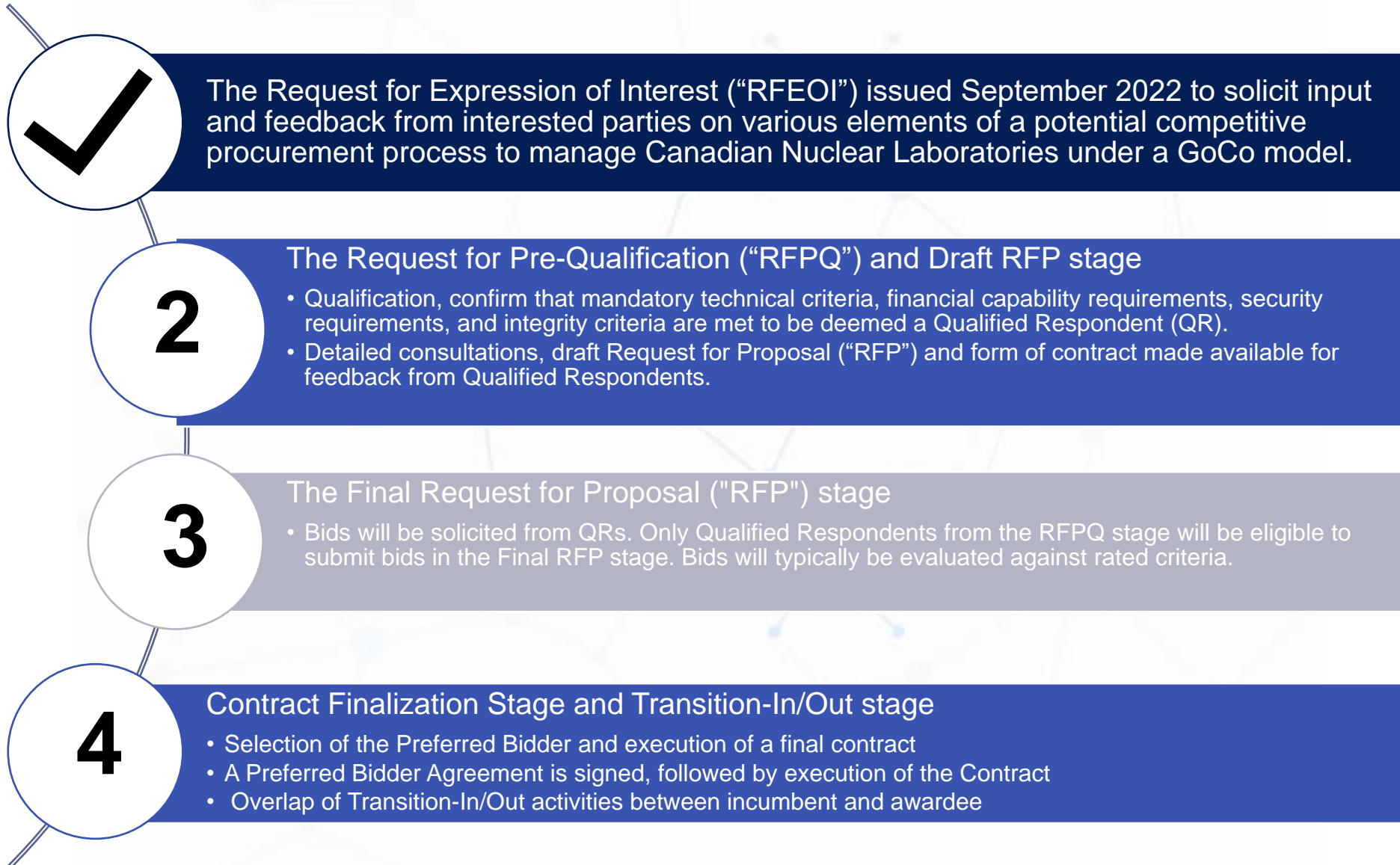
- Leadership demonstrates organizational efficiency and optimized delivery of the work through cost and schedule performance
- Overhead costs are managed to provide best value to the Missions which bear the costs

CNL Video: Imagine the future for Canada's national
nuclear laboratory



Procurement Process

Procurement Process



Anticipated Schedule

Date	Milestone
Fall 2022	Procurement Planning
Spring 2023	Release Request for Pre-Qualification
Spring 2023 – Spring 2024	Engage Qualified Respondents in a Draft Request for Proposal process
Spring 2024	Release Final Request for Proposal
Spring/Summer 2024	Bid Preparation (Qualified Respondents)
Fall 2024 – Spring 2025	Bid Evaluation
Spring/Summer 2025	Selection of Preferred Bidder
	Contract Award and Transition-In

Terms of Engagement

- AECL is the contracting authority for this procurement
 - Stephanie Lemay is the Contracting Officer
- ALL communications on the procurement to go through AECL official channels
- Adherence to conflict of interest requirements and procurement code of conduct set out in the RFPQ necessary throughout the process
- Canadian Nuclear Safety Commission is offering to meet with Qualified Respondents; details will be outlined in the RFPQ
- AECL anticipates making public the list of Qualified Respondents (including, as appropriate, team members)
- Other terms of engagement to be outlined in RFPQ

What to Expect

- AECL will run a fair and transparent process
- AECL does not have a real or apparent preference for the incumbent contractor
- AECL is looking for the best possible bidder and expects robust competition
- Looking to qualify respondents (either individual companies or teams) who can deliver all of the scope – see slide 14 ‘What we are looking for in our next contractor’
- Security Clearance Requirements to be outlined in RFPQ; given time required to process, Respondents will be encouraged to submit their information as soon as possible once the RFPQ is published (and ideally before their full Response)
- Once qualified, Qualified Respondents will have access to data room, draft documents
- Detailed consultations on draft RFP (including draft contracts) with Qualified Respondents: group and individual
- Additional site tours anticipated
- Role of Fairness Monitor (Samson and Associates)

Questions

