



Supplementary Information

Presentation from Canadian Nuclear Laboratories

In the Matter of the

Chalk River Laboratories

Application for the renewal of the Nuclear
Research and Test Establishment Operating
Licence

Commission Public Hearing

January 23-25, 2018

Renseignements supplémentaires

Présentation des Laboratoires Nucléaires Canadiens

À l'égard des

Laboratoires de Chalk River

Demande de renouvellement du permis
d'exploitation d'établissement de recherche et
d'essais nucléaires

Audience publique de la Commission

23-25 janvier 2018

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Canadian Nuclear Laboratories

Mark Lesinski | President & CEO, CNL

January 23, 2018



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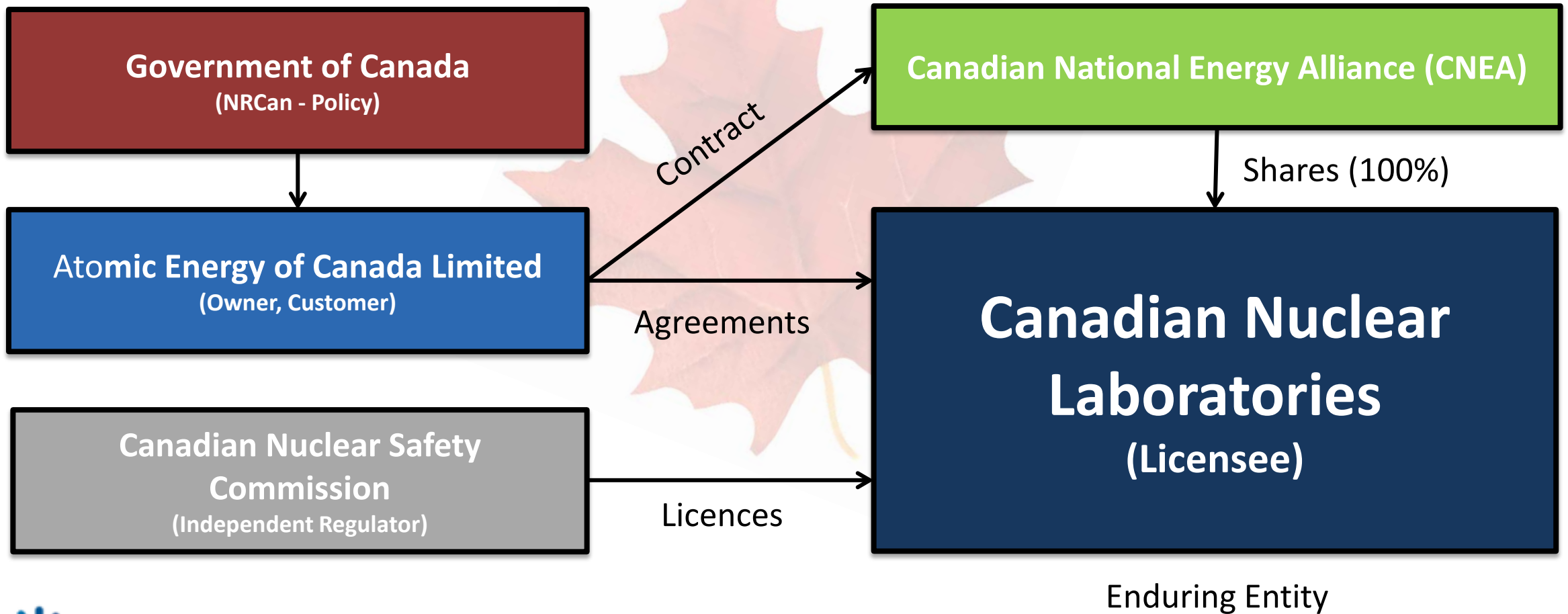
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GoCo Management Model

Operation of Canada's National Nuclear Laboratory



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CNL Governance

Board of Directors

Mark Morant, Chair of the Board

Keith Wettlaufer
Independent Director,
Chair of the Audit
Committee

Howard Shearer
Independent Director,
Chair of the Science &
Technology Committee

Mark Lesinski
Director, CNL Chief
Executive Officer

Monica Steedman
Director, CNL Vice-
President Finance & Chief
Financial Officer

David Cox
Director, Vice-President
Operations & Chief
Nuclear Officer

Kevin Daniels
Director, Vice-President
Health, Safety, Security,
Environment & Quality



Facts About GoCo Management Model

Setting the Record Straight

- CNL stands on its own
- Fresh leadership perspectives
- Organizational agility
- All deliverables are important
- Safety is paramount

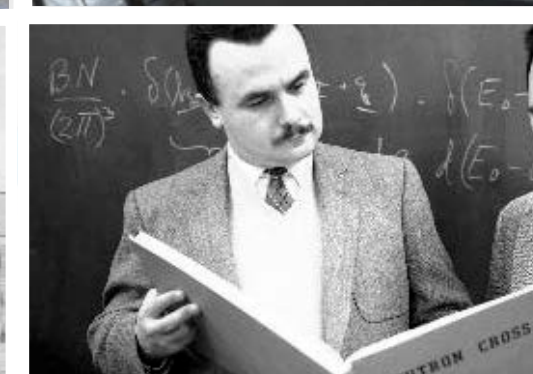
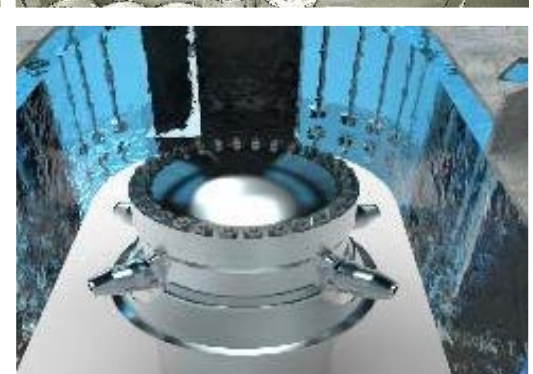
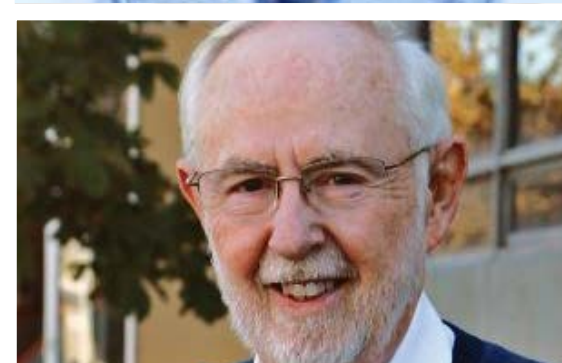
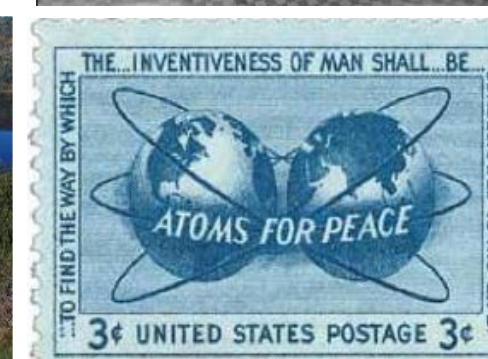
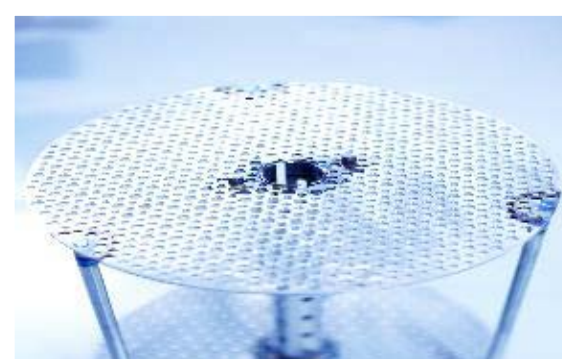
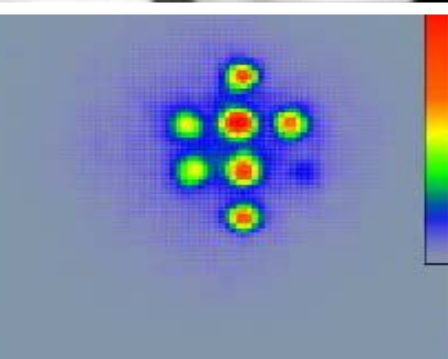
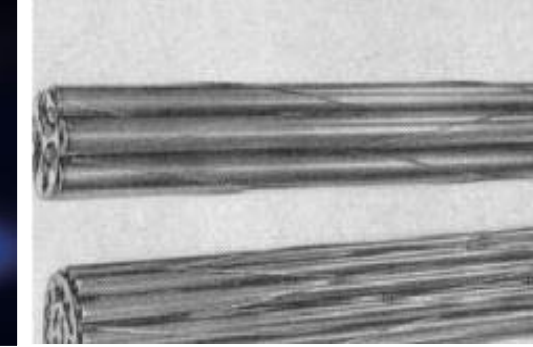
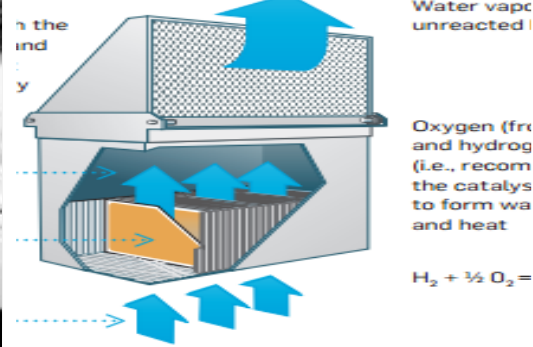




CNL Mandate

1. Reduce Government of Canada's nuclear legacy and historic waste liabilities
2. Leverage CNL's science and technology capabilities
3. Rebuild facilities and supporting infrastructure at the Chalk River Laboratories site





CNL has an **absolute commitment** to safety

CNL has **operated safely** during the current licence period, and made improvements that will **continue to enhance** safety

CNL **will continue** to meet its regulatory obligations during the proposed licence period





Legacy of NRU Reactor

- Over 1 billion life-saving medical procedures
- Major international facility for physics research
- Ground-breaking innovations spanning multiple industries



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Transformation of Chalk River Campus



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Waste Processing & Storage

- Repatriation of Highly-Enriched Uranium
- Improvements to waste storage capabilities
- Operation of Fuel Packaging and Storage facility
- Hazard reduction in legacy liquid tanks
- Comprehensive interim waste storage plan









Major Infrastructure Improvements

- Delivery of natural gas and potable water to the Chalk River site
- Construction of new sanitary sewage facility
- New storm water management system
- New switch yard plans to improve electrical system





Seven Strategic Initiatives

- Alpha Therapies
- Hydrogen Technology
- Advanced Fuels
- Cyber Security
- Reactor Life Extension
- Nuclear Forensics
- Small Modular & Advanced Reactors





CNL Safety & Performance

David Cox | Vice-President, Operations & Chief Nuclear Officer, CNL



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CNL Regulatory Performance (2011 - 2017)

Chalk River Laboratories Nuclear Site

- Fitness for Service
- Management System
- Conventional Health & Safety
- Human Performance
- Radiation Protection
- Environmental Protection
- Indigenous Community Engagement
- Public Information Program
- Closure of NRU Reactor





Fitness for Service

- Fitness for Service rating improved
- Physical changes have improved system reliability
- Extensive capital program underway
- NRU improvements to equipment performance, maintenance, reactor systems



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Management System

- Management System rating improved
- Up-to-date, compliant and agile framework
- Captures requirements of GoCo management model
- Applies to all management activities

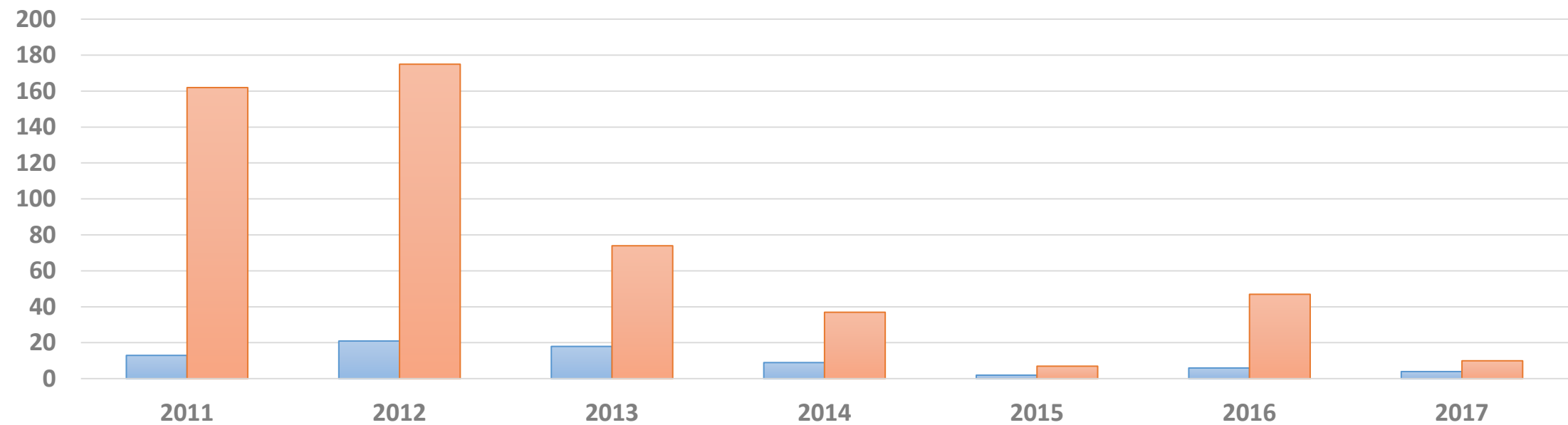


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Summary of Injury Data

Chalk River Laboratories



Year	2011	2012	2013	2014	2015	2016	2017
Lost-time Injuries	13	21	18	9	2	6	4
Working Days Lost	162	175	74	37	7	47	10



Human Performance

- Builds on strong safety culture, promotes safe work practices and encourage learning
- Resulted in performance improvements
- Unplanned events decreased, quality of reporting improved





Radiation Protection

- Numerous program assessments and audits
- Re-designation of radiological areas
- Improvements to source term reduction, shielding, containment
- No regulatory limit exceeded during licence period

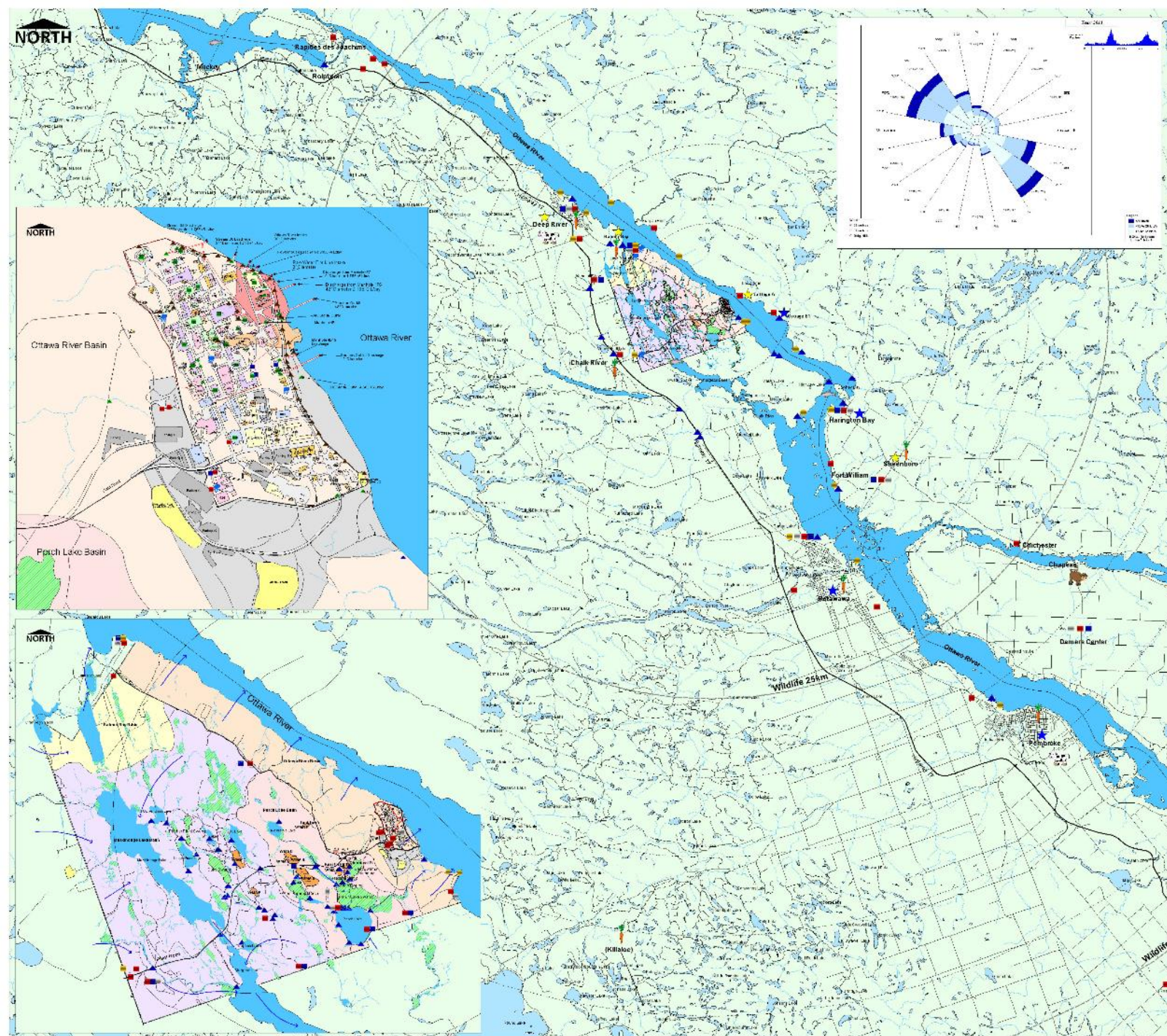


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CNL's Environment Policy ensures protection of the environment and sustainability as an **integral component of CNL's decision-making** in all of its business activities.





Environmental Monitoring

- ~400 sampling locations
- ~350,000 analyses performed during licence period
- Over 60 years of monitoring activities



Environmental Improvements

- Noble gas and Iodine emissions ceased
- Nitrogen and Sulfur Oxides, particulates and mercury emissions reduced by over 80%
- Greenhouse gas emissions reduced by over 25%
- Elimination of Argon-41 emissions



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Environmental Remediation

- Reactive barriers at Waste Management Area A and Nitrate Plant mitigating plume dispersal
- Waste Management Area C capped
- Operating Pump and Treat systems
- Development of screening levels
- Higher capacity Spring B Facility under construction
- Comprehensive environmental data management system under development





Environmental Stewardship Council

- Established to build relationships with environmental groups and stakeholders
- Council meets three times per year
- Presented with information about CNL environmental practices



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Indigenous Engagement

- Algonquins of Pikwakanagan career day and tour
- Earthwalkers youth group annual visit and field work with cultural resources team
- Project engagement through implementation of Aboriginal Engagement regulatory document



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Public Information Program

- Builds public awareness and understanding
- Social media campaign with 5,000 followers
- Bilingual newsletter distributed to 50,000 homes
- Education program with local schools
- 2017 Open House welcomed 1,700 visitors



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Closure of NRU Reactor

- Permanent shutdown plan in place
- Safe and compliant transition to decommissioning
- Includes shutdown of ancillary facilities
- 'Retain, Retrain and Redeploy' HR plan for staff
- Finishing its service in safe condition



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Annual Employee Survey

- Overall employee outlook significantly improved
- Employees seeing organizational improvement
- Employees recognize commitment to safety
- Optimism about company's future



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Thank You. Questions?



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