

Decommissioning the Douglas Point facility

Municipality of Kincardine

2020 February 03



Canadian Nuclear Laboratories | Laboratoires Nucléaires Canadiens

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Outline

- Introduction to CNL
- Project Overview
 - Location of site
 - History of Douglas Point
 - Decommissioning plans
 - Licence amendment
 - Environmental Protection
- Questions to think about



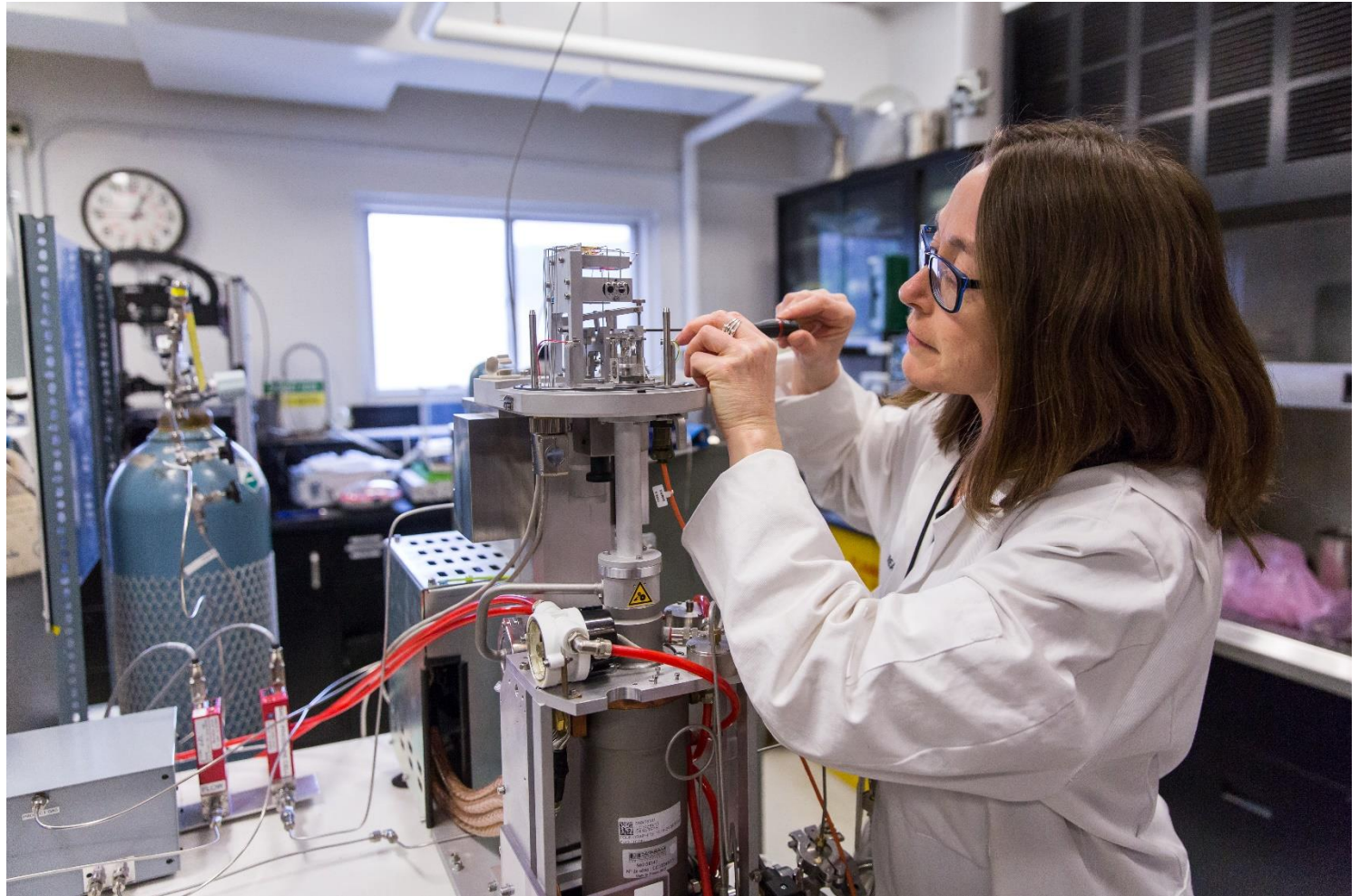
Introduction to Canadian Nuclear Laboratories





History

- Chalk River Laboratories - Birthplace of Canada's nuclear industry
- Supplied Cobalt-60 for first cancer treatment in Canada
- Developed CANDU® power reactor technology
- Supported numerous Nobel Prize winning research
- Major international facility for physics and health research
- Ground-breaking innovations spanning multiple industries
- R&D spanning the full nuclear lifecycle



8 Strategic Initiatives

1. vSMR / Advanced Reactors
2. Alpha Therapies
3. Hydrogen
4. Advanced Fuels
5. Life Extension
6. Nuclear Forensics
7. Cyber Security
8. Environmental Remediation Management



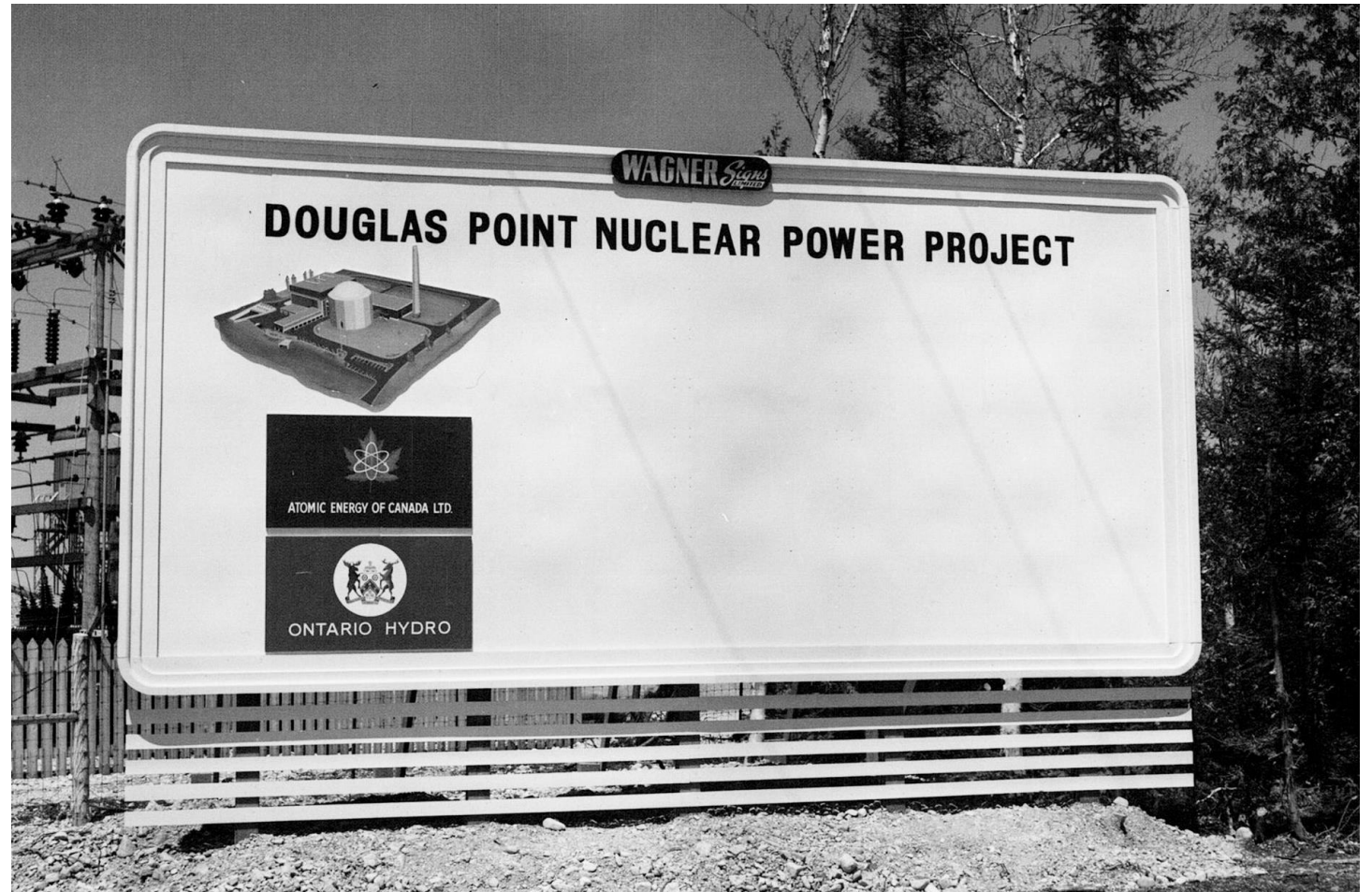
Indigenous Engagement

- CNL is working on building long-term relationships with Indigenous peoples that have traditional territories and modern-day interests near its operations
- Working closely with AECL, our owner, on approach to engagement
- Relationships are evolving beyond the scope of a single project
- MOUs in other traditional territories
- Engaging with local Indigenous communities is a priority



Public Engagement

- Initiating engagements with communities in the region
- Reaching out to inform local governments and elected officials
- Sharing communication materials with the visitors to the Bruce Power Site
- Publishing resources on our webpage: www.cnl.ca/DP
- Online feedback form
- Looking to learn and try best practices recommended by local organizations and communities

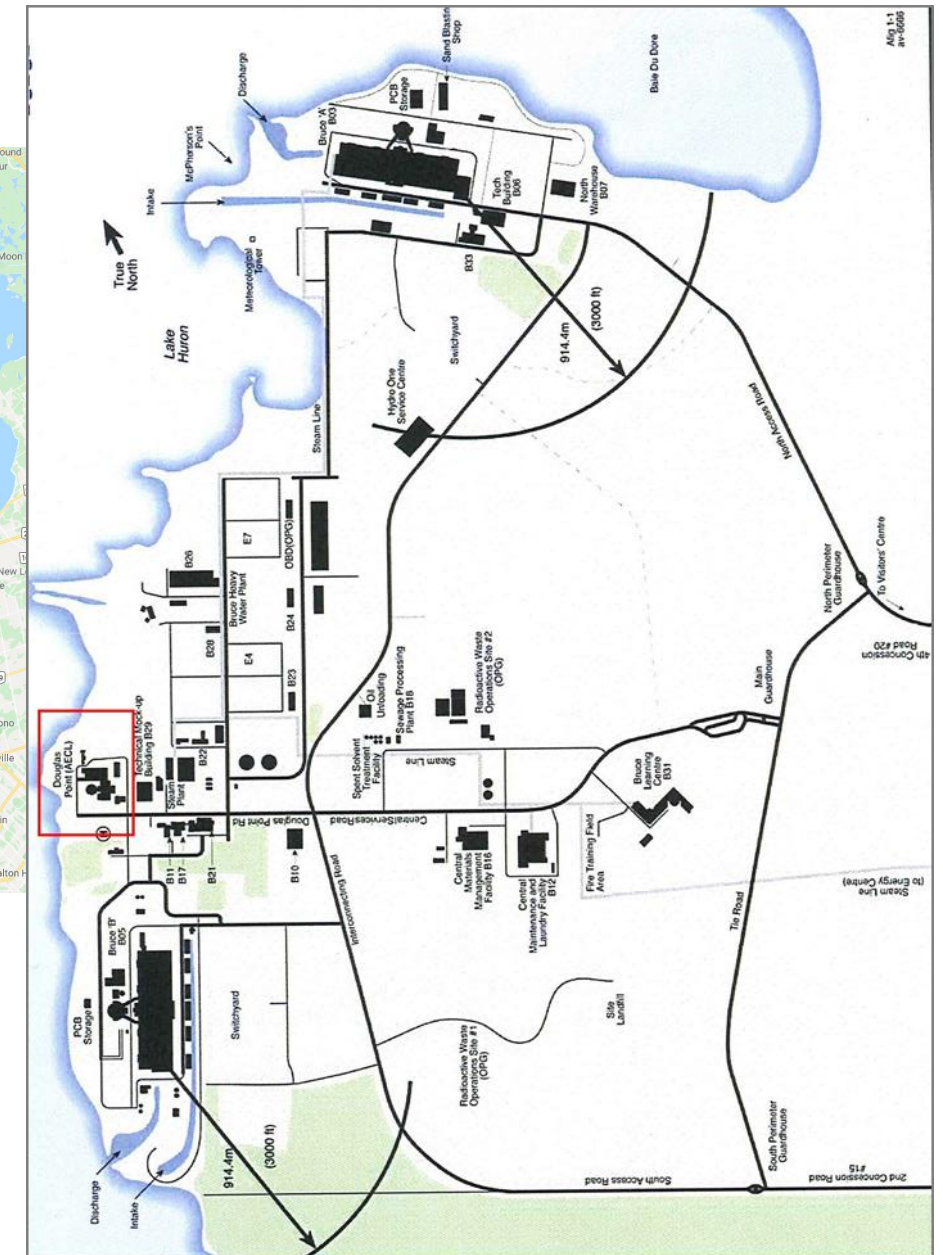
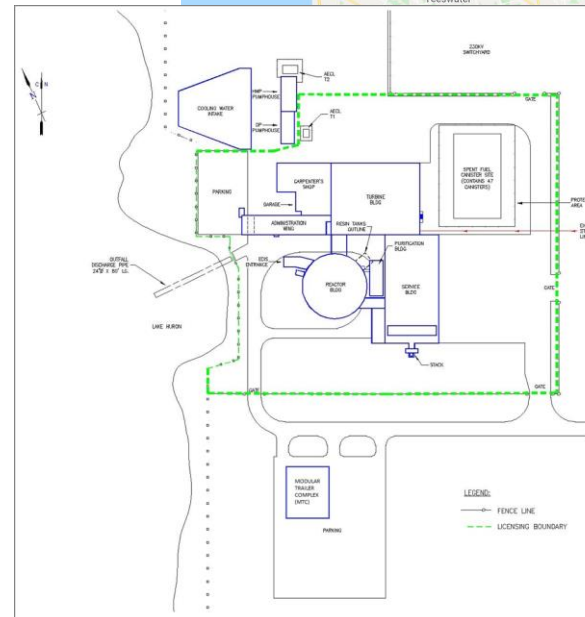
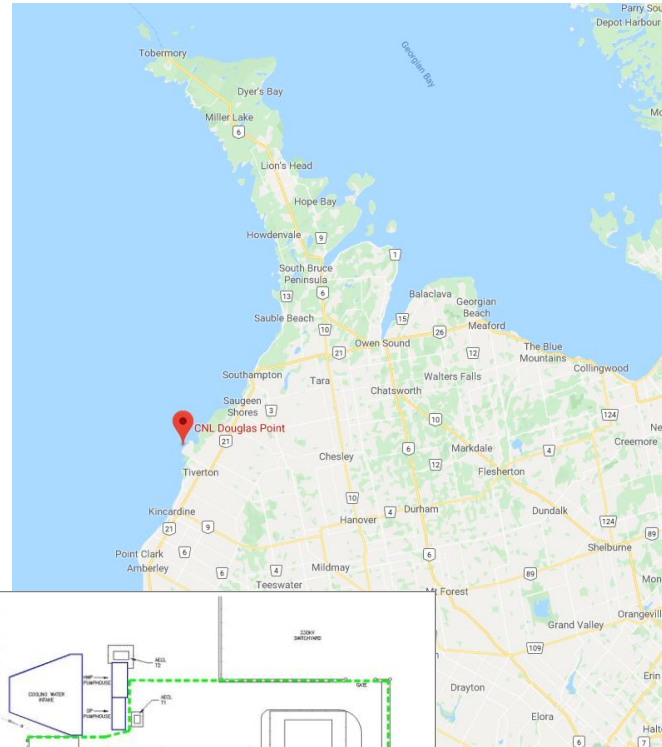


Project Overview



Location

- In the Municipality of Kincardine
- The Douglas Point site (5.5 ha) is located within the middle of the Bruce Power site (932 ha) – a site which is 150 times the size of the Douglas Point site



Douglas Point - Then and Now



History

- Canada's first full-scale nuclear power plant
- Joint project between AECL and Ontario Hydro (now Ontario Power Generation)
- 200 MW prototype CANDU® reactor
- Ran from 1967 – 1984
- By 1986, the fuel was removed and reactor coolant drained
- Phase 1 of decommissioning: fuel was transferred to dry storage on site by the end of 1987
- Phase 2 of decommissioning: since 1987 the facility has been in a safe shutdown state, known as the “storage with surveillance” phase
- Phase 3 of decommissioning: planned to occur from 2020 to 2070



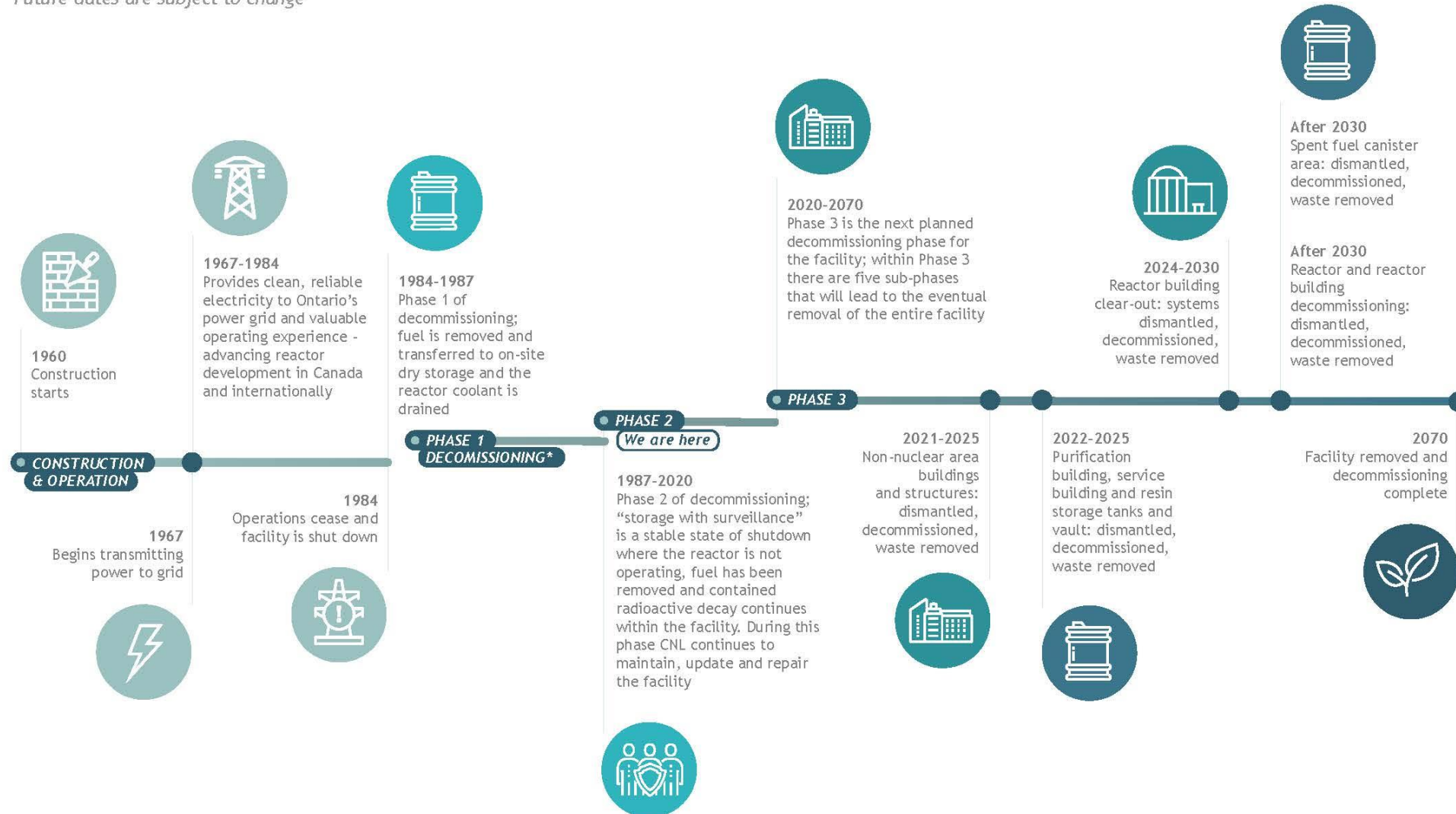
Decommissioning Plan

- Remove all waste from the site by 2070
- All waste characterized and managed according to type
- Non-radioactive waste destined for conventional landfills
- Designated substances destined for specialized disposal facilities
- Low-level and intermediate-level waste safely transported back to Chalk River Laboratories
- Used fuel destined for the Nuclear Waste Management Organization (NWMO)
- Input from Indigenous communities and the public (including local government) will be incorporated



Douglas Point Prototype Reactor Decommissioning Timeline

Future dates are subject to change



Licence Amendment

- Application for a licence amendment submitted to the Canadian Nuclear Safety Commission in 2019 July
- Hearing for the licence amendment is planned for spring 2020
- This amendment, if granted, is necessary for the next phase of decommissioning activities to commence, but the amendment alone is not sufficient to complete decommissioning
- Additional submissions would need to be approved
- Hearing on the licence amendment is public
- Information on how the public, Indigenous groups and local government can participate can be found on the regulator's website:

<https://nuclearsafety.gc.ca/eng/the-commission/hearings/participate/index.cfm>



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Environmental Remediation Management
Reactor Decommissioning
Prototype Reactor Decommissioning

22-CNNO-19-0008-L
KS-2019-007

2019 July 18

Mr. M. Leblanc
Commission Secretary
Canadian Nuclear Safety Commission
280 Slater Street, P.O. Box 1046, Station B
Ottawa, Ontario, K1P 5S9

Dear Mr. Leblanc:

Application for Licence Amendment to Proceed with Phase 3 Decommissioning
at Douglas Point Waste Facility

The purpose of this letter is to submit an application to the Canadian Nuclear Safety Commission (CNSC) for an amendment of the Douglas Point Waste Facility (DPWF) Decommissioning Licence, WFDL-WA-332.02/2034 [1] to proceed with Phase 3 Decommissioning involving dismantling and demolition of all remaining facilities of the DPWF.

BACKGROUND INFORMATION

The Douglas Point Nuclear Generating Station (DPNGS) consisting of a 200 MWe (Megawatt Electrical) prototype CANada Deuterium Uranium (CANOU) Reactor, was placed in service in 1968 and was operated until 1984. The control of DPNGS was turned over from Ontario Hydro to Atomic Energy of Canada Limited (AECL) in 1985. A "Deferred Decommissioning" approach was selected by AECL. In 2000, the Atomic Energy Control Board replaced the Operating Licence of DPNGS with a Waste Facility Operating Licence [2] and identified Douglas Point Nuclear Generating Station (DPNGS) as Douglas Point Waste Facility (DPWF). In 2014 July, on the basis of continued Storage with Surveillance (SWS) activities only, the CNSC issued a 20-year Waste Facility Decommissioning Licence (WFDL) that covered all three Prototype Waste Facilities (i.e., DPWF, Gentilly-1 Waste Facility (G-1WF), and Nuclear Power Demonstration Waste Facility (NPDWf) [3]]. With the restructuring of AECL in 2015, the licence was transferred to Canadian Nuclear Laboratories (CNL), which now operates the facility on behalf of AECL.

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Environmental Protection at Douglas Point

- Douglas Point is included in the site Environmental Risk Assessment for Bruce Power.
- Small releases to air and water currently: <0.01% of the Derived Release Limits
- No current or anticipated impact during decommissioning to fish from deleterious substances, thermal emissions or fish impingement and entrainment
- No species at risk identified at the site
- Migratory birds is the biggest issue at the site from a biodiversity perspective



Questions to think about...

1. As CNL closes the site...
 - What are the most important environmental factors?
 - What are the most important social considerations?
 - What are the most important financial or economic factors?
2. How do we share information effectively with communities?
3. Other questions?



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