

Decommissioning the Douglas Point Prototype Reactor

Quick Facts

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What is Douglas Point?

- Douglas Point was Canada’s first full-scale nuclear power plant. It was a joint project between [Atomic Energy of Canada Limited \(AECL\)](#), as owner, and Ontario Hydro (now [Ontario Power Generation](#)), as operator.
- The reactor itself was a 200 megawatt prototype CANDU® reactor that ran from 1967 until 1984 when it was permanently shut down having achieved its objectives.
- As a prototype nuclear reactor, Douglas Point demonstrated that a CANDU® nuclear plant could be scaled up for commercial power generation, a legacy that helped Ontario get where we are today with roughly half our energy coming from clean, reliable, low-cost nuclear power.
- After operations at Douglas Point ceased, the fuel was removed and transferred to storage and the reactor coolant drained. Since 1987, the facility has been in a safe shutdown state, a phase of decommissioning referred to as “storage with surveillance”.
- The facility is now known as the Douglas Point Waste Facility (DPWF), and the next phase of decommissioning is being planned with the focus remaining on the health, safety and security of the public, workers and the environment.

Where is it?

- The Douglas Point facility, consisting of the permanently shut down, partially decommissioned prototype CANDU® reactor and its associated structures and ancillaries, is located on the [Bruce Power](#) site in the County of Bruce in the Province of Ontario.

Why is CNL decommissioning the Douglas Point facility?

- The Douglas Point reactor ceased operations in 1984. It is now a partially decommissioned facility, owned by [AECL](#), a federal Crown corporation.
- CNL is responsible for managing AECL’s assets through the [Government-owned, Contractor-operated model](#). This includes decommissioning Douglas Point.
- Decommissioning Douglas Point will help minimize and consolidate Canada’s nuclear waste liabilities and reduce risk.
- Throughout the project, from the planning stages to the end, CNL’s primary consideration is protecting humans and the environment.

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How does CNL plan to complete decommissioning?

- The plan is to eventually remove the entire facility.
- CNL plans to work to achieve removal with decommissioning activities planning to last several decades.

What is the timeline?

- There are three phases to the decommissioning of the Douglas Point prototype reactor.
- At present, Douglas Point is in Phase 2 of its planned decommissioning, the “storage with surveillance” phase.
- Phase 1 was completed in 1987, when the fuel was removed and transferred to dry storage and the reactor coolant drained.
- In Phase 2 the reactor is in a safe shutdown state and the facility is repaired and maintained as necessary. For example, the fire alarm and detection system is routinely inspected to ensure it is in working order.
- Phase 3 is the next planned decommissioning phase for the Douglas Point facility and is anticipated to extend from 2020 to 2070.
- Within Phase 3 there are five sub-phases and numerous regulatory decisions.
- Public and Indigenous participation will be essential to these regulatory decisions.
- By 2070 the facility and its associated waste will be removed from the site.

What’s going on right now?

- In July of 2019 CNL applied for a licence amendment with Canada’s nuclear regulator, the [Canadian Nuclear Safety Commission \(CNSC\)](#).
- If granted this amendment would change the current license from a licence for a waste facility to a decommissioning licence. This is the first step to transition Douglas Point out of “storage with surveillance” and into Phase 3.
- A public hearing to make a decision on the proposed decommissioning licensing amendment to the Douglas Point waste facility is planned for spring of 2020.
- A licence amendment is necessary for further decommissioning activities to begin, but there will also be future regulatory processes where public and Indigenous input will help shape the decommissioning project.
- CNL has initiated engagement with stakeholders to ensure that the public and Indigenous groups will be involved throughout the process.

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What will CNL do with the waste from the decommissioning?

- All waste from decommissioning activities for the Douglas Point Waste Facility is being carefully categorized or “characterized” and each type of waste will be managed in an appropriate way according to waste type.
 - **Radioactive waste (i.e. contaminated soil, contaminated demolition debris, used fuel):**
 - Radioactive waste from the decommissioning of the Douglas Point Waste Facility will be packaged in licensed containers and [safely transported](#) to the Chalk River site, in Ontario.
 - Radioactive material has been transported safely nationally and internationally for over 45 years by road, rail, water and air without a single radiological incident. Transporting this waste is a highly regulated, ongoing activity.
 - Given the stringent safety, security and licensing requirements that govern waste facilities, it makes sense to consolidate all radioactive waste in one facility, at the Chalk River Laboratories site.
 - As for the spent fuel, in Canada [the Nuclear Waste Management Organization \(NWMO\)](#) has the mandate for designing and implementing the plan for the safe, long-term management of used nuclear fuel. All used fuel from the Douglas Point Waste Facility is destined for the repository that the NWMO is responsible for planning and building.
 - **Non-radioactive waste (i.e. demolition debris from the administration building):**
 - Clean waste, which is waste that is characterized and found not to be radioactive, will be recycled where possible and where not, sent to licensed local landfills.
 - Clean recyclable waste such as, scrap metal and cardboard, is sent off site to recycling facilities.
 - **Designated substances (i.e. asbestos, polychlorinated biphenyls (PCBs), lead, asphalt roofing material, hydrocarbons and other hazardous waste found on industrial sites):**
 - Designated substances are sent off site to special facilities that are licensed to receive and handle this type of industrial waste.

How can I learn more?

- www.cnl.ca/DP
- Ask us: communications@CNL.ca