

World-class cleanup at Chalk River Labs

Did you know that Canada's \$8 billion nuclear waste legacy is in danger of being abandoned in sub-standard facilities and allowed to leak into our rivers and drinking water. Instead, let's use our expertise to turn Canada into a world leader in the cleanup and safe storage of radioactive waste.

WORLD-CLASS NUCLEAR WASTE CLEANUP would protect health, drinking water, property values and peace of mind.

What do experts say is needed?

The International Atomic Energy Agency says that radioactive waste facilities must be carefully sited and waste placed below ground to keep radioactive materials out of air and water and protect current and future generations. The IAEA says that siting a facility for long-lived waste in a "stable geological formation" is "fundamentally important." It says that nuclear reactor entombment should only be used in the case of an emergency, such as a meltdown.

Retired AECL scientists say that IAEA guidance must be followed, that Canada has an obligation to follow the guidelines as a signatory to the *Joint Convention on the Safety of Radioactive Waste Management*.

First Nations, in a Joint Declaration, endorsed by resolution at the Assembly of First Nations, say that nuclear waste should be managed according to five principles: 1) no abandonment, 2) monitored and retrievable storage 3) better containment, more packaging, 2) away from drinking water and major water bodies and 5) no unnecessary transport (exports and imports)

The Canadian Coalition for Nuclear Responsibility says radioactive waste should be carefully managed in monitored and retrievable condition so that repairs to packaging can be made as needed, to keep the contents out of the biosphere, our air, soil and drinking water. The CCNR suggests that a "rolling stewardship" strategy whereby each generation teaches each subsequent generation how to look after the wastes and keep them out of the biosphere.

Some countries such as Finland have made good progress building facilities to keep radioactive waste out of the biosphere. Finland puts radioactive wastes produced by its four nuclear reactors in bedrock geological facilities 100 meters deep. It has over 25 years of experience with these facilities. They will also house the radioactive remains of the reactors when they are shut down and dismantled.

WORLD-CLASS NUCLEAR WASTE CLEANUP would bring money into the Ottawa Valley economy and support good careers for generations of valley residents.

WORLD-CLASS NUCLEAR WASTE CLEANUP would involve:

- Thoroughly characterizing all wastes
- Careful packaging and labelling of the wastes. Repairing packages when they fail and improving them if safer packaging materials become available.
- Regional mapping to locate a site with stable bedrock
- Construction and operation of an underground storage facility. This would be ongoing for the foreseeable future. An underground facility is the only safe place to put materials that will be radioactive and hazardous for thousands of years.
- While waiting for all of the above steps to be completed, wastes should be stored in above ground monitored and reinforced (and shielded if necessary) concrete warehouses; such facilities were pioneered by Atomic Energy of Canada Limited in the 1990s.

WORLD-CLASS NUCLEAR WASTE STORAGE FACILITIES would protect future generations.

For more information:

***Petition and Letter to the Auditor General of Canada
Ottawa River Institute, December 2019***