

An analysis of radioactive waste reports by the House of Commons Environment Committee and by the Office of the Auditor General

Nuclear Waste Watch, December 2022

We analyze two radioactive waste reports released in fall 2022.

The Commissioner of the Environment and Sustainable Development is appointed by the Auditor General of Canada to provide “objective, independent analysis and recommendations on the federal government’s efforts to protect the environment,” and reports to Parliament at least once a year. In October 2022 the Commissioner released a report entitled *Management of Low and Intermediate Level Radioactive Waste*. This report contains five recommendations, along with responses from Atomic Energy of Canada Limited (AECL) and the Canadian Nuclear Safety Commission (CNSC).

The House of Commons Standing Committee on Environment and Sustainable Development studies programs and legislation of various federal agencies, as well as the Commissioner’s reports. In February 2022 the Committee adopted a motion from Bloc MP Monique Pauzé to “undertake a study for a comprehensive review of nuclear waste governance in Canada and its impacts on the environment.” In September 2022 the Committee released *Canada and Radioactive Waste Management: Important Decisions for the Future* to Parliament. The Committee requested a government response to the 12 recommendations in its report.

The report’s first recommendation is “that the Auditor General of Canada conduct a public audit of Canada’s radioactive waste governance.” It appears that the Committee was unable to address governance matters and is seeking the Auditor General’s help. The report departs from the Committee’s original mandate and reaches conclusions that are not supported by evidence it obtained from its witnesses or briefs, notably, that a deep geological repository is “the safest way to store high level radioactive waste.”

The report from the Environment Commissioner also does not address waste governance. It deals with obscure matters related to CNSC’s “digital strategy” and “compliance verification activities,” and AECL’s waste inventory reporting. Despite its limited scope, the Commissioner’s report was released under the headline “Government does a good job of managing low- and intermediate- level radioactive waste.” This conclusion, which is not supported by evidence, suggests a much greater breadth and level of detail than what is found in the report.

Overall, both reports are disappointing. Evidence is lacking that Canada's radioactive waste is managed in a safe and cost-effective manner -- or even if this is possible.

The Commissioner's Report

Despite its title -- *Management of Low and Intermediate Level Radioactive Waste* -- this report has very little to do with management of radioactive waste. The report's title and the "scope of the audit" (Exhibit 6.2) suggest a broad examination of all types of low and intermediate waste found in Canada, ranging from uranium mine tailings to commercial nuclear power reactor "refurbishment" wastes. However, the audit report covers only wastes managed by AECL, a federal crown corporation established in 1952.

Three of the report's five recommendations deal with the CNSC. The CNSC does not manage waste -- it regulates nuclear activities. It is supposedly "independent" from government and nuclear industry bodies that manage waste. However, most impartial observers agree that the CNSC has been "captured" by the nuclear industry and acts to promote the industry's interests in areas such as developing "small modular reactors".

The report recommends improvements to two obscure matters related to the CNSC's internal performance: its "compliance verification activities" and its "digital strategy." Specifically, it calls for the CNSC to "document the rationale used throughout its planning of compliance verification activities," to "capture its compliance verification information in an integrated way," and to "develop a detailed implementation plan for its digital strategy." In these recommendations, staff members in the Commissioner's office appear to have gone off on a tangent that has essentially nothing to do with radioactive waste management.

Two other recommendations deal with the "historic waste" and "legacy waste" managed by AECL. Exactly what these terms mean is not clear; indeed, the report says that AECL could only provide "limited details on legacy waste" during the audit.

The report says that AECL's information on historic and legacy wastes is "known to be incomplete", that AECL's waste database has errors, and that AECL does not examine the waste inventory records submitted by its contractor Canadian Nuclear Laboratories (CNL) to ensure they are complete and accurate.

It should be noted here that AECL has contracted out its waste management responsibilities (and hence the government's responsibilities) to CNL, a privately-owned company, under a 10-year, 10+ billion-dollar "Government-owned, Contractor-operated" (GoCo) contract. The report did not examine if CNL is managing federal radioactive waste in a safe and cost-effective manner. As shown in the *Public Accounts of Canada*,

AECL's 70 years of operation have left taxpayers with a \$16 billion liability (undiscounted) that has remained essentially unchanged under the GoCo model.

The report was also intended to examine the performance of Natural Resources Canada (NRCan), the federal department charged with promoting nuclear energy (under the *Nuclear Energy Act*). It has no recommendations related to this department. NRCan is only involved in policy making and has no current role in waste management.

Despite its limited scope, the Commissioner's report was released under the headline "Government does a good job of managing low- and intermediate- level radioactive waste." This conclusion is clearly unsupported by facts. It conveys a false impression that the radioactive waste problem is solved. The same day the report was released, the CNSC issued its own news release, headlined "OAG performance audit concludes low- and intermediate-level radioactive waste is effectively regulated in Canada."

Those who take time to examine the report's meagre contents can only shake their heads and wonder how much influence government nuclear agencies (AECL, CNSC, and NRCan) have over the supposedly independent Office of the Auditor General.

The Committee's Report

The first recommendation in the House of Commons standing committee report is that the Auditor General conduct a "public audit of Canada's radioactive waste governance." If acted upon, this recommendation will provide an opportunity for Parliament and the public to assess whether the current GoCo arrangement is providing "value for money".

Recommendation 2 is that "any research and development work related to small modular reactor (SMR) technology rigorously document and categorize in their analyses the radioactive waste that will be generated, and that a plan be developed to manage this waste." This is a recommendation that could be helpful, but the CNSC has already shown its intent to disregard it. On October 11th the CNSC, together with the Natural Sciences and Engineering Research Council of Canada, launched a new Small Modular Reactors Research Grant Initiative. This Grant Initiative omits, as a research topic, the wastes that would be produced by the various types of proposed new nuclear reactors.

Nonetheless, Recommendation 2 suggests a point that may be worth pursuing: There should be no SMR licensing without an SMR-specific strategy for both interim and long-term waste management; one that is developed and reviewed with Indigenous and public engagement.

Recommendation 3 is “that the Government of Canada prioritize the building of a deep geological repository (DGR) and acknowledge that it is the safest way to store high level radioactive waste.” This seems odd in a report that was supposed to address waste governance. Neither the briefs nor the witness presentations to the Committee provide any technical discussions of DGRs or even detailed descriptions of them. That the Committee would issue such a bold pronouncement after making so little effort to understand the science of high-level waste management is shocking. Recommendation 3 is rendered absurd by Recommendation 4, which is to use “science... as the foundational component in decision making for future waste management projects.”

Furthermore, in using the term “store” in Recommendation 3, the Committee failed to recognize the distinction between waste storage and waste disposal. “Storage” allows wastes to be retrieved should problems arise; “disposal” implies no intent to retrieve. These are important distinctions with significant policy implications.

Recommendation 5 is “that the Government of Canada invest in research in reducing, reusing, and recycling nuclear waste.” This will be interpreted as an endorsement of research into reprocessing (or “recycling”) spent CANDU fuel to extract plutonium.

Scientific research has already demonstrated conclusively that nuclear fuel waste reprocessing is highly dangerous from a safety and weapons proliferation perspective and is infeasible from an economic perspective – particularly for CANDU reactor wastes. But the federal government has already devoted tens of millions of dollars to unworkable reprocessing schemes promoted by unscrupulous foreign companies. It will undoubtedly express support for this recommendation.

Recommendations 6 and 7 call on NRCan and the CNSC to follow international safety standards for intermediate-level wastes and other waste types, or to provide a justification for not following them. The CNSC has already demonstrated a willingness to ignore safety standards that conflict with the economic interests of the nuclear industry. A 2014 International Atomic Energy Agency safety standard, *Decommissioning of Facilities*, says “Entombment, in which all or part of the facility is encased in a structurally long-lived material, is not considered a decommissioning strategy and is not an option in the case of planned permanent shutdown.” But a 2021 CNSC regulatory document, *Decommissioning*, says that in-situ decommissioning, “in which some or all of the radioactive contaminants are disposed of in place,” is a strategy that “should be considered.” This lends support to proposals to “entomb” and abandon federal research reactors and their intermediate-level waste contents next to major Canadian rivers.

Recommendations 8 and 9 call for additional detail in Canada's inventory of radioactive waste -- such as source and level of radioactivity -- and for preservation of records for the hazardous lifespan of the waste. These are important and will likely be accepted. However, without public pressure they will likely be ignored, owing to the additional burdens they would impose on the nuclear industry and on government nuclear agencies such as AECL and CNSC.

Recommendation 10 calls on the government to "work with Indigenous communities to co-develop a consultation framework that upholds the right of Indigenous peoples to free, prior and informed consent as set out in article 29.2 of the United Nations Declaration on the Rights of Indigenous Peoples." This is a very important recommendation. Time will tell if current projects that involve permanent disposal of the federal government's own radioactive waste on unceded Indigenous territory will be allowed to proceed in the absence of such a consultation framework.

Recommendation 11 calls for the CNSC, NRCan, AECL, and two non-government bodies (Canadian Nuclear Laboratories and the Nuclear Waste Management Organization) to "review their communications and websites," make documents "easy to find", and summarize "relevant technical documents... for the layperson." Recommendation 12 is for the government "to invest in scientific-based public education initiatives on nuclear energy and nuclear waste storage. The five bodies mentioned in Recommendation 11 already invest heavily in public relations and are skilled at "spinning" information about nuclear energy and nuclear waste, while claiming that this information is "science-based". They will need no encouragement to continue.

Predictably, in the report's Summary, the first paragraph says that "There are environmental, economic and social benefits to society from nuclear power and medical isotopes." The final paragraph says that "As Canada seeks to decarbonize its energy grid and achieve net zero emissions by 2050, nuclear power will be part of the energy mix."

Radioactive waste is portrayed as an unfortunate but necessary side effect of these imperatives. This uncritical support for the nuclear industry creates a very one-sided picture in the House of Commons report. A minority report written by the Bloc Quebecois recognizes that nuclear energy entails costs as well as benefits for Canadians. The main body of the report does not. This is a major failure in a disappointing report.