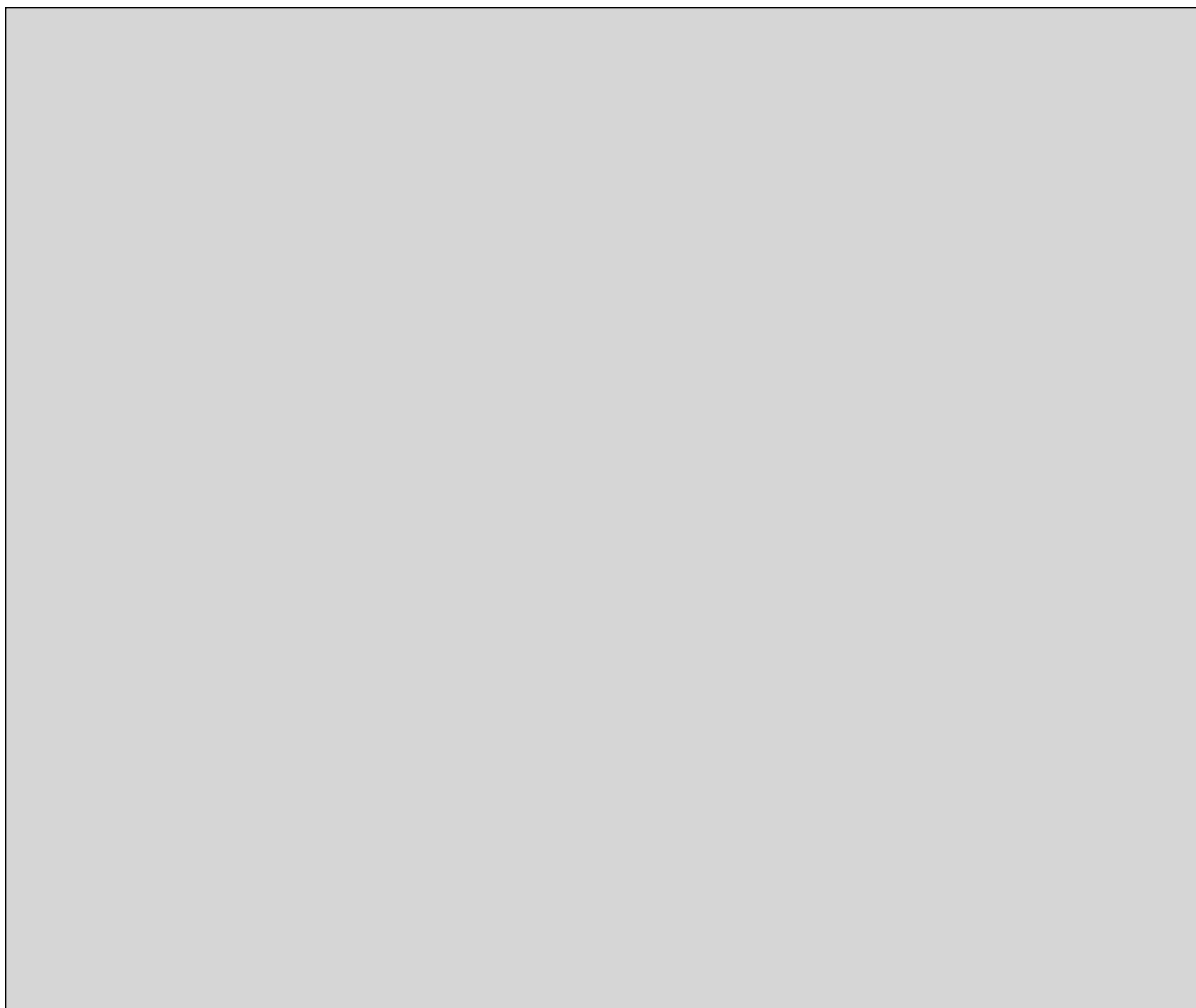


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BACKGROUND PAPER
ON THE STATUS OF THE LEGAL AND ADMINISTRATIVE
ARRANGEMENTS FOR HIGH-LEVEL RADIOACTIVE WASTE MANAGEMENT
IN CANADA

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July 22, 2003

EXECUTIVE SUMMARY

Evolution of Legal and Administrative Arrangements for High-Level Radioactive Waste Management in Canada

The research sector of the atomic energy industry in Canada was initially operated by the National Research Council of Canada. The Atomic Energy Control Board (AECB) was established in 1946. This federal administrative tribunal was responsible for controlling and supervising the development, application and use of atomic energy in Canada. The AECB also exercised authority over research and development of atomic energy in Canada. Not long after the AECB was established, Atomic Energy of Canada Limited was incorporated as a Crown Corporation to develop peaceful uses of nuclear energy. This responsibility was removed from the AECB's mandate while the focus of the AECB's activities turned towards the regulation of employee health and safety and defining licensing provisions for nuclear facilities.

The Minister of Natural Resources released Canada's *Radioactive Policy Framework* in 1996, which addressed and defined all classes of radioactive wastes. Canada's principles for the management of radioactive waste as established by the 1996 policy were reiterated and built upon in the 1998 *Government of Canada Response to Recommendations of the Nuclear Fuel Waste Management and Disposal Concept Environmental Assessment Panel*. The contents of the 1998 response have since been implemented through the *Nuclear Fuel Waste Act* and the Nuclear Waste Management Organization.

The risks associated with nuclear substances, including national security, and the health and safety of persons and the environment are presently regulated by the Canadian Nuclear Safety Commission (CNSC). The CNSC is also responsible for disseminating information to the public regarding its own activities and the effects of Canada's nuclear energy activities on the environment and on the health and safety of persons.

Constitutional Authority Over the Management of High-Level Radioactive Waste in Canada

A recent Supreme Court of Canada decision concluded that the federal government has legislative authority over the development and control of nuclear energy in Canada due to the constitutionally valid declaration that was then included in the *Atomic Energy Control Act*. Similar declarations are now included in the *Nuclear Energy Act* and the *Nuclear Safety and Control Act*. These declarations establish that works and undertakings for the production, use and application of nuclear energy, research or investigation with respect to nuclear energy and the production, refining or treatment of nuclear substances are for the general advantage of Canada and therefore fall within federal jurisdiction.

The wording of these declarations may be seen to be non-exhaustive. Accordingly, some aspects of nuclear waste management may also be regulated by provincial and territorial governments.

Extending jurisdiction to provincial and territorial governments also creates the potential for the involvement of the municipal governments, as matters within provincial jurisdiction that are of local concern are often conferred onto municipalities. In fact, the Supreme Court of Canada recently affirmed that municipal by-laws may validly address issues that are also addressed in legislation that is adopted by a higher level of government, as long as there is no conflict between the provisions implemented by the different levels of government.

The constitutional authority for the federal government to legislate residual matters not listed in the *Constitution Act, 1867* may also be used to support the conclusion that legislation addressing high-level nuclear waste management falls within federal jurisdiction.

Federal Legislation

Canada's *Nuclear Fuel Waste Act* and the *Nuclear Safety and Control Act* are relevant to the management of high-level radioactive waste. The *Nuclear Fuel Waste Act* provides a framework for a future decision in Canada regarding the long-term management of nuclear fuel waste based on a comprehensive, integrated and economically sound approach. This Act provides for the establishment of the NWMO and describes the duties of the organization: to present the Government of Canada with potential approaches and realistic recommendations for the management of nuclear fuel waste; and to implement the adopted approach.

The *Nuclear Safety and Control Act* prohibits certain activities involved in the management of nuclear substances. The Act also gives the CNSC the authority to issue licences to allow the possession, transfer, import, export, use and abandonment of nuclear substances. The CNSC may also issue licences required for the mining, production, refining, conversion, enrichment, processing, reprocessing, packaging, transportation and management of nuclear substances and decommission of facilities. Licensees are bound to comply with the terms and conditions of each licence as they are set by the CNSC. All of the stages involved in the disposal of nuclear substances, including interim and long-term storage and disposal and any transportation between, will require a CNSC licence. Regulations promulgated under the *Nuclear Safety and Control Act* prescribe requirements for occupational health and safety, obligations during the transportation of radioactive materials and security measures for the processing, use and storage of all classes of nuclear material. Information submitted for licence applications includes the proposed measures for the handling, storage, loading and transportation of nuclear substances while certain activities require the licensee to keep prescribed information.

Canadian laws of general application that are relevant to aspects of the management of high-level nuclear waste include the *Canadian Environmental Assessment Act*, and the *Transportation of Dangerous Goods Act, 1992*. An environmental assessment is required prior to the issuance of licences by the CNSC that authorize activities involving nuclear substances. Since all of the aspects involved in the project of managing nuclear waste, including interim and long-term storage and disposal and any transportation between, must be authorized through the issuance of a CNSC licence, each of these aspects must also be considered in the environmental assessment of the project. Certain projects, as defined by the *Comprehensive Studies List Regulations*, are required to be subject to a comprehensive study. The environmental assessment must be

conducted “as soon as practicable in the planning stages and before irrevocable decisions are made”.

While the *Transportation of Dangerous Goods Act, 1992* includes radioactive materials in its listing of dangerous goods, the *Transportation of Dangerous Goods Regulations* exempt radioactive materials from the scope of the Regulations if the radioactive materials meet specified requirements of the *Packaging and Transport of Nuclear Substances Regulations*.

Federal Policies and Guidelines

Regulatory documents issued by both the CNSC, and its predecessor, the AECB, supplement Canada’s legally binding legislation. Although these documents are not legally binding, their purpose is to provide instruction, assistance and information regarding legally binding legislative and regulatory requirements. A CNSC Policy, *Protection of the Environment* is discussed, as well as a CNSC Standard, *Reporting Requirements for Operating Nuclear Power Plants*. Regulatory Guides issued by the CNSC that are also discussed include: (a) *Decommissioning Planning for Licensed Activities*, (b) *Financial Guarantees for the Decommissioning of Licensed Activities*, (c) *Security Programs for Category I or II Nuclear Material or Certain Nuclear Facilities*, (d) *Transportation Plans for Category I, II or III Nuclear Material*. Relevant Draft Regulatory Policies are also discussed including *Managing Radioactive Wastes* and *Public Access to Information Held at the CNSC*, both of which have been issued for public consultation. Two notable Regulatory Policy Statements issued by the AECB are also discussed: *Deep Geological Disposal of Nuclear Fuel Waste: Background Information and Regulatory Requirements Regarding the Concept Assessment Phase* and *Regulatory Objectives, Requirements and Guidelines for the Disposal of Radioactive Wastes – Long Term Aspects*.

Provincial and Territorial Legislation

A variety of Provinces and Territories have legislation and regulations addressing nuclear substances.

Manitoba has adopted legislation that specifically and exclusively addresses high-level radioactive waste. The *High-Level Radioactive Waste Act* prohibits the storage of high-level radioactive waste that was produced outside of Manitoba. It is also expressly prohibited to establish facilities for the disposal of high-level radioactive wastes within the province, regardless of the jurisdiction of the waste’s origin.

Almost all Provinces and Territories, including Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, the Northwest Territories, Nunavut, Prince Edward Island and Quebec, include nuclear substances in the scope of legislation and regulations addressing the transportation of dangerous goods. Two notable exceptions are Nova Scotia and Ontario, both of which do not include radioactive materials included in Class 7 of the federal list of dangerous goods in the scope of the provincial legislation and regulations. Saskatchewan also defers to the federal list of dangerous goods in practice although the legislation and regulations

are ambiguous with respect to the adoption of the federal list of dangerous goods provided by the *Transportation of Dangerous Goods Act, 1992*. The jurisdictions that do address nuclear substances also adopt various aspects of the federal *Transportation of Dangerous Goods Regulations* prescribing safety standards, marks and documentation requirements.

Some Provincial jurisdictions also include radioactive waste in the scope of legislation addressing waste management. For example, British Columbia's *Special Waste Management Act*, promulgated under the *Waste Management Act* prohibits the disposal of radioactive wastes in a "secured landfill" or "long-term storage facility," as defined by the Regulation. New Brunswick's *Environmental Impact Assessment Regulation*, promulgated under the *Clean Environment Act*, requires facilities that process radioactive materials to be subject to environmental impact assessments. New Brunswick also includes the addition of radioactive substances to water in the definition of "water pollution" which is generally prohibited by the *Water Quality Regulation* under the *Clean Environment Act*. Nova Scotia's *Dangerous Goods Management Regulations*, promulgated under the *Environmental Act*, note that any amount of radioactive material is characterized as a "dangerous good". These Regulations also define storage requirements, necessary approvals and contingency plans and establish an offence for management of dangerous goods or waste management goods in a manner that may cause an adverse effect unless prior written approval of the Minister or an Administrator has been attained.

Radioactive wastes that are disposed of in accordance with the CNSC or its predecessor, the AECB, are expressly excluded from Ontario's *General Waste Management Regulations*, which are promulgated under the *Environmental Protection Act*, as well as Quebec's *Regulation Respecting Hazardous Materials*, promulgated under the *Environmental Quality Act*. This leaves radioactive wastes that are not disposed of in accordance with requirements of the CNSC or the AECB subject to the regulatory requirements of these provinces.

Waste management legislation in other jurisdictions, including Manitoba, is broadly worded and open-ended and therefore may be interpreted to include nuclear waste.

Saskatchewan also addresses radioactive substances in the context of occupational health and safety through the *Radiation Health and Safety Act*, which regulates limits of exposure to radiation and requires permits for related activities.

International Treaties and Conventions

Canada has ratified a number of international treaties and conventions that address the management of radioactive waste and nuclear substances. Those that have come into force since Canada's ratification include the *Joint Convention on the Safety of Spent-Fuel Management and on the Safety of Radioactive Waste Management*, *The Convention on the Physical Protection of Nuclear Material*, the *Convention on Nuclear Safety* and the *Treaty on the Non-Proliferation of Nuclear Weapons*. Canada has also ratified the *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter* and has acceded to the *1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter* yet

at the time of writing, only the Convention had entered into force. Canada is also a non-consultative party to *The Antarctic Treaty*.

The terms of the treaties and conventions that have entered into force are enforceable against their state parties but it is only the Canadian government that may be held accountable for the implementation of these terms. Accordingly, it is the responsibility of the Canadian government to implement the terms and conditions of such international instruments into Canada's domestic legal regime. Only those international obligations that are incorporated into Canada's domestic law are legally binding upon individuals, corporations and organizations that are subject to Canadian law.

For example, one of the stated purposes of the *Nuclear Safety and Control Act* is the implementation of international measures that Canada has agreed to that address the development, production and use of nuclear energy. Accordingly, many of the Regulations promulgated under the *Nuclear Safety and Control Act* address issues that are the subject of international treaties and conventions. For example, the *Nuclear Non-Proliferation Import and Export Control Regulations* promulgated under the *Nuclear Safety and Control Act* address issues included in *The Convention on the Physical Protection of Nuclear Material*. A series of regulations promulgated under the *Nuclear Safety and Control Act* address issues included in the scope of the *Treaty on the Non-Proliferation of Nuclear Weapons* including the *Class I Nuclear Facilities Regulations*, the *General Nuclear Safety and Control Regulations*, and the *Nuclear Non-Proliferation Import and Export Control Regulations*.

Comparative Law

Canada is not alone in the development of an approach to the management of high-level nuclear waste. The regulatory frameworks implemented in other countries that are considering high-level nuclear waste disposal options provide an international context for Canada's undertaking as well as insight into alternative ways and means of proceeding.