

Enclosure

Government Response to the Fourth Report of the Standing Committee on Environment and Sustainable Development (ENVI) for its Report, entitled: Canada and Radioactive Waste Management: Important Decisions for the Future

The Standing Committee on Environment and Sustainable Development's (the Committee) study of nuclear waste governance focused on the environmental, economic and social implications of nuclear power and medical isotopes, highlighting that the radioactive wastes generated by their production and use require robust control and management. Protecting the health and safety of Canadians and the environment is the Government of Canada's top priority when it comes to nuclear energy, including the management of radioactive waste for generations to come. The Government is committed to continuous improvement to ensure that safe solutions are in place for managing radioactive waste and decommissioning, now and in the future.

The Government of Canada thanks both the members of the Standing Committee and all the witnesses who appeared before it for sharing their perspectives and testimony. The Government of Canada concurs with the Committee's overall assessment of important issues related to nuclear energy, radioactive waste management and oversight, along with their impacts on the protection of human health and the environment. The Government of Canada is generally supportive of the spirit of the report and concurs with, or supports the general intent of, the twelve (12) recommendations.

The Government response addresses the Committee's recommendations below, grouped in four themes:

Public accounting of radioactive waste management and related data management (Recommendations 1, 8, 9 and 11):

Executive summary of responses to recommendations under Theme 1: Public accounting of radioactive waste management and related data management (Recommendations 1, 8, 9 and 11), elaborated below.

The government supports Recommendation 1, having recently participated in an audit by the Office of the Auditor General of Canada's (OAG) Commissioner of the Environment and Sustainable Development to the Parliament of Canada, and would participate in any future audits set out by the OAG. The government agrees with, and currently addresses, Recommendation 8 through conformity with the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management (the Joint Convention) and is working with waste owners to provide as much detail as feasible in the Inventory Report. The government agrees with the spirit of Recommendation 9 and has protocols in place to preserve documentation with Library and Archives Canada (LAC) that are aligned with the Nuclear Energy Agency (NEA) reports. Lastly, Recommendation

11 is being addressed by a range of initiatives from Natural Resources Canada (NRCan), the Canadian Nuclear Safety Commission (CNSC), Atomic Energy Canada Limited (AECL), and the Nuclear Waste Management Organization (NWMO) to provide open, transparent, and up to date information in communications and on websites for the public to access.

Detailed response:

These recommendations are generally in line with the Government of Canada's commitment to openness and transparency regarding the accounting and data management of radioactive waste. The organizations implicated in these recommendations, namely NRCan, the CNSC, AECL, and the NWMO, have undertaken a number of initiatives related to the open, transparent, accurate, comprehensible, and timely communication of information related to radioactive wastes in Canada.

With regard to Recommendation 1 of a public audit of Canada's radioactive waste governance, as an independent body in the federal framework, the OAG, including the Commissioner of the Environment and Sustainable Development (CESD), determines of its own accord which audits it will conduct. Accordingly, the OAG CESD tabled the results of its audit of the management of low- and intermediate-level radioactive wastes (LILW) in Canada on October 4, 2022. This audit focused on whether NRCan, the CNSC, and AECL adequately managed LILW. The scope of the audit included determining if adequate governance and oversight are in place regarding radioactive waste systems, processes, and inventories. The tabled Independent Auditor's Report, "Management of Low and Intermediate Level Radioactive Waste", found that NRCan, the CNSC, and AECL "did a good job of managing the low and intermediate level radioactive waste that makes up 99.5% of Canada's radioactive waste output."

The outcomes of this audit were overall positive with five total recommendations being addressed to the CNSC and AECL relating to information management with no implication for the immediate health and safety of Canadians, Indigenous peoples, or the environment. Both AECL and the CNSC have responded to the OAG's recommendations, developing an action plan and they have implemented or are implementing its commitments accordingly. More details on the responses from these agencies can be found in the CESD report on the OAG's website.

With respect to the records management practices outlined in Recommendation 9, NRCan and the CNSC have policies and regulatory requirements in place or under development to ensure that records related to radioactive wastes are managed adequately now, and in the future, with openness, transparency, and accuracy. The Government agrees in principle with the importance of knowledge management and maintaining records. However, the preservation of these records for the lifespan of the radioactive waste, as is elaborated below in NEA documentation, would be impossible to demonstrate.

The Organisation for Economic Co-operation and Development (OECD) NEA's Radioactive Waste Management Committee established the Working Party on Information, Data and Knowledge Management (WP-IDKM), which published their final report "*Preservation of Records, Knowledge and Memory (RK&M) Across Generations*" in 2019. This document speaks to a systemic RK&M preservation strategy, noting that due to the uncertainty of the future, the success of RK&M preservation remains impossible to predict or demonstrate. The target of a successful RK&M preservation strategy is therefore to maintain records "as long as possible". The RK&M report establishes that in order to meet the goals of protecting and informing future generations, in line with the Government's priorities, information retained must be "transferrable, accessible and digestible for and by a variety of actors over time".

Canada's regulatory framework for radioactive wastes includes requirements on record keeping, including requirements for record retention that are aligned with the NEA's Radioactive Waste Management Committee's best practices. Canada requires the maintenance of records for 10 years after the issuance of a licence to abandon a facility. CNSC and NRCan staff participate in, and will continue to participate in, international committees and working groups, including the NEA's Radioactive Waste Management Committee, that consider knowledge management for long-term waste management facilities.

With respect to long-term management of radioactive wastes in deep geological repositories (DGR), NRCan and the CNSC recognize the importance of providing sufficient information for current and future generations to ensure an adequate understanding of these projects. LAC is responsible for acquiring, preserving, and providing access to the documentary heritage of Canada. The *Library and Archives of Canada Act* paragraph 12(1), states that "No government or ministerial record, whether or not it is surplus property of a government institution, shall be disposed of, including by being destroyed, without the written consent of the Librarian and Archivist or of a person to whom the Librarian and Archivist has, in writing, delegated the power to give such consents." The disposition authorizations issued to CNSC and NRCan do identify some records relating to radioactive wastes as having archival value for LAC. As such, records transferred by NRCan, CNSC, and AECL to LAC on matters pertaining to radioactive waste management are stored by LAC for future generations. LAC also preserves NRCan and CNSC publications provided through depository services, including reports such as the Joint Convention reports and Canada's radioactive waste inventory reports. LAC preserves its digital holdings on at least two separate Linear Tape-Open (LTO) data tapes stored in secure vaults in the climate-controlled Gatineau Preservation Centre. LTO tapes allow for a long preservation timespan; they are rated for 25 years when stored at 21 degrees Celsius and 40% relative humidity. Recently, for select de-classified collections, LAC stores three additional copies geographically distributed within Government of Canada-secured private cloud servers within Canada.

In modernizing its radioactive waste and decommissioning policy, which is targeted to be

finalized in the next few months, NRCan considers the long timescales associated with the management of radioactive waste and the related obligations to ensure ongoing stewardship of radioactive waste disposal facilities and sites, so that they remain safe and secure for people and the environment in the long-term. NRCan is also looking to set out a strong policy framework that reflects the values and principles of Canadians while continuing to meet international standards based on the best available science. Beyond recognizing the timescale of stewardship practices, NRCan is considering policy direction on waste generators and owners to characterize, classify, and document their radioactive waste in order to define and implement waste management and decommissioning solutions that are commensurate with their risks in both the short- and long-term.

The Government of Canada agrees with Recommendations 8 and 11 that focus on the disclosure and communication of information to the public. As a matter of course, NRCan, the CNSC, AECL, and NWMO strive to communicate openly, transparently, accurately, and effectively with the public on matters related to radioactive wastes in Canada. Continuous improvement in communicating the topics of radioactive waste and nuclear would benefit the public and stakeholders. Several related initiatives are already underway.

In 2019, for instance, NRCan updated radioactive waste information on its website. Since then, officials regularly monitor and adjust the website content as necessary.

Another recent example of NRCan's strong public communications was during engagement on modernizing Canada's radioactive waste and decommissioning policy. Over a period of seven months, from November 2020 until May 2021, NRCan, with the support of other federal departments with responsibilities for radioactive waste (Environment and Climate Change Canada, Global Affairs Canada, Health Canada, Transport Canada, and CNSC), conducted inclusive engagement process to solicit the views and perspectives on how to modernize Canada's radioactive waste policy. Discussion papers on radioactive waste and decommissioning topics were provided as background and context for discussion and feedback. Public interest groups, industry, Indigenous peoples, youth, academia, and other levels of government were engaged through over 150 meetings and engagement sessions, and more than 600 written submissions. Utilizing the feedback and input received, on February 1, 2022, a draft modernized Policy for Radioactive Waste Management and Decommissioning was released for a 60-day public comment period, as well as a final What We Heard report. Views and perspectives, and written feedback from both the initial engagement period and the public comment period are available publicly online.

The CNSC plays an important role in the communication of regulatory requirements to the nuclear industry, the public, Indigenous peoples, and communities. The CNSC has been reviewing and revising its website content and other public-facing communications materials since early 2022. This work will result in the completion and approval of a CNSC Waste Communications plan, an ongoing revision of the CNSC's waste webpages — to make them more user-friendly, accessible, and transparent — expected to be completed by

the end of fiscal year, and the creation of a waste explainer video. In addition, the CNSC makes licensing decisions and establishes regulatory requirements for nuclear facilities through a public proceeding that includes live webcasts. Members of the public are welcome to observe the proceedings or to formally participate as intervenors.

A similar recommendation to Recommendation 11 was addressed to AECL in the CESD's audit of radioactive waste management practices. As a result, AECL developed additional webpages on its website to explain the linkage between its reported waste inventories and the progress they are making on managing their waste in a sustainable manner. This includes providing additional information on monitoring activities and forecasted timelines to place the waste in modern disposal or long-term waste management facilities.

Going forward, the CNSC will also be looking at new and innovative ways to communicate and explain radioactive waste to the general public, and ensure all technical documentation is offered in a plain language format in the CNSC's digital and analog communications products.

Canada's *Nuclear Fuel Waste Act* (NFWA), which came into force in 2002, establishes the oversight that the Government of Canada and the Minister of NRCan will exercise in regard to the long-term management of nuclear fuel waste in Canada. The NFWA established the NWMO, responsible for the long-term management of Canada's nuclear fuel waste. Under the NFWA, the NWMO is required to submit annual and triennial reports to the Minister of NRCan and make available to the public the study, report and financial statements. The Minister of NRCan tables NWMO's annual report in both Houses of Parliament. The Minister of NRCan also issues a public statement on NRCan's website on NWMO's annual reports. The NWMO is committed to being open and transparent in their processes, communications, and decision-making. In accordance with NWMO's transparency policy, in addition to the information the NWMO shares through its Indigenous and public engagement activities, the NWMO endeavours to make material publicly available and accessible on its website (e.g., implementation plans, NWMO-commissioned reports, reports from engagement activities, documents describing processes, updates, etc.).

Recommendation 8 highlights the importance of timely, detailed, and accurate public communication of information related to radioactive wastes. This is addressed through the Government's ongoing work on the radioactive waste inventory report. Canada makes public its radioactive waste inventory every three years through the following two activities. Firstly, Canada's National Report for the Joint Convention. As a contracting party to the Joint Convention, Canada reports, and will continue to report, on its radioactive waste inventory in accordance with the articles of the Joint Convention, which provides the inventory reporting requirements. Canada's 7th National report includes: the volume and radioactivity for each facility that stores low and intermediate level wastes, along with the description of the stored waste; the number of fuel bundles and kilograms of uranium for each facility that stores spent fuel; and mass of uranium tailings and waste rock for the mine and mill sites. During each review cycle, including the review meeting that took place

in 2022, the Canada is found to be in conformity with the Joint Convention. Secondly, NRCan publishes more detailed radioactive waste data in a triennial Inventory Report, which is made publicly available. For radioactivity, the information is currently being requested in NRCan's data collection and provided by the waste owner if available in accordance with the Joint Convention.

Canada's nuclear regulatory framework is in alignment with international standards regarding the characterization of radioactive wastes. The CNSC requires, and will continue to require, all waste generators and/or owners to maintain records of waste inventory under their control, including the relevant characteristics of the waste, such as principal radionuclides and activities presentation, and origin of waste packages. As part of the CNSC's regulatory oversight, CNSC staff compliance activities verify licensee's inventories to ensure they meet regulatory requirements.

Science, technology, research, and development related to nuclear sciences and radioactive wastes (Recommendations 2, 5, and 12):

Executive summary of responses to recommendations under Theme 2: Science, technology, research, and development related to nuclear sciences and radioactive wastes (Recommendations 2, 5, and 12), elaborated below.

The government supports Recommendation 2, currently addressed through the Federal Nuclear Science and Technology (FNST) work plan, commitments in the Small Modular Reactor (SMR) Action Plan, Budget 2022 program funding, and other programs such as those through the Natural Sciences and Engineering Research Council (NSERC). The government currently addresses Recommendation 5 through its support of the CNSCs regulatory framework around waste minimization, the potential inclusion of waste optimization and minimization in the modernized radioactive waste policy, and through funding provided to the FNST work plan and the Budget 2022 programing. Lastly, Recommendation 12 is being addressed by a range of initiatives from NRCan, the CNSC, and AECL to provide educational opportunities and materials, as well as support for higher education programs and resources such as the University Network of Excellence in Nuclear Engineering (UNENE), TRIUMF and the Nuclear Education, Skills, and Technology (NEST) initiative.

Detailed response:

The Government's top priority with respect to nuclear energy and radioactive waste is ensuring the health, safety, and security of persons in Canada and protection of the environment. This includes ensuring that long-term solutions are in place for all of Canada's existing and future waste, including those from new technologies such as SMRs. During engagement on the modernization of its policy, NRCan heard input regarding the importance of waste minimization and optimization for waste management and that the policy should align with International Atomic Energy Agency (IAEA) standards in this

area.

Canada's nuclear regulatory framework requires licensee waste management programs to include preventing generation, reducing volume and radioactivity, reusing and recycling materials and components, and disposing of the waste. When making regulatory decisions about the management of radioactive waste, the CNSC considers the extent to which the owner of the waste has addressed minimizing the generation of radioactive waste to the extent practicable.

An ongoing initiative that directly supports research and development (R&D) related to radioactive wastes in Canada was approved through Budget 2022. The Government proposed to provide \$120.6 million over five years to fund initiatives related to SMRs. This includes \$69.9 million allocated to NRCAN to undertake research to minimize waste generated from these reactors; support the creation of a fuel supply chain; strengthen international nuclear cooperation agreements; and enhance domestic safety and security policies and practices. As a part of the funding to support waste minimization, it is anticipated that the program will support other research initiatives related to waste characterization for these novel technologies. The program from this funding is expected to be accessible early in 2023.

Through the SMR Action Plan, the Government of Canada has previously acknowledged the SMR Roadmap recommendation for a national SMR R&D program. Consequently, there have been significant investments to build SMR R&D capacity in Canada. This includes investments to revitalize AECL's facilities which aim to host an SMR demonstration project by 2026. AECL also works with Canadian Nuclear Laboratories (CNL) to support its Canadian Nuclear Research initiative (CNRI) – a program to accelerate the deployment of SMRs in Canada by enabling research and development.

Additionally, over \$260 million is being invested to support AECL's FNST work plan until September 2025. The purpose of the FNST work plan is to perform nuclear-related science and technology (S&T) research to support core federal roles and responsibilities while maintaining necessary capabilities and expertise at the Chalk River Laboratories, Canada's largest science and technology campus, including on SMRs. The FNST is structured around four research themes that align with core government responsibilities for nuclear S&T. Theme Area 2 supports environmental stewardship and radioactive waste management, and in recent years includes research into SMR waste streams. NRCAN and the CNSC are active members in the governance of the FNST in order to contribute to the FNST program of work.

Additionally, the Government provides support through several different programs and institutions, such as the NSERC, the NSERC Alliance grant program, and the Canada Foundation for Innovation, that university and college researchers and industry can leverage to advance research related to the nuclear sector, including radioactive wastes. Beyond the generation of new research and scientific knowledge, the Government agrees

with the recommendation that scientific information and education related to nuclear energy and nuclear waste storage should be accessible to the public. There are several ongoing initiatives, supported by NRCan, CNSC, AECL and NWMO, that address this from a range of angles.

The Government of Canada supports, through the provision of funding and expert personnel, the UNENE. UNENE is a network of Canadian universities, industry, governments, and international institutions dedicated to excellence in nuclear science, technology, and engineering. With its partners and funding organizations, UNENE works to advance nuclear knowledge, build capacity, and heighten visibility of Canada's strength as a global partner, and to elevate the role of nuclear in advancing global sustainability, prosperity, and a clean energy future. UNENE serves as a bridge between universities, industry, and government, as well as governmental organizations and their representatives. NRCan and the CNSC both work with UNENE to identify trends and areas of national interest in nuclear science and technology.

To create opportunities to engage youth and develop the next generation of leaders, Canada is a founding member of the NEST initiative under the OECD-NEA, with a seat on the Management Board. The NEST framework helps support nuclear skills capacity building, knowledge transfer and technical innovation in an international context. The focus of the initiative is to establish international networks between universities, academia, research institutes and industry that allows university students to undertake research at leading international organizations: Canada, through various academic and research institutions, participates in 4 of the 6 current NEST projects, including the NEST SMR project for which McMaster University is the leading organization.

TRIUMF is a particle accelerator laboratory conducting research in nuclear and particle physics, nuclear medicine as well as materials and accelerator science. These research areas require large-scale, expensive facilities for experimentation. As such, TRIUMF maintains unique scientific infrastructure which is accessed by members of the Canadian and international scientific communities. In addition, TRIUMF collaborates on international projects which allows Canadian researchers access to international facilities. TRIUMF receives operational funding from the federal government through a contribution agreement with the National Research Council (NRC). Beyond performing advanced research and providing necessary equipment and facilities, TRIUMF also contributes to the scientific community by fostering the training of highly qualified personnel and attracting highly qualified personnel to Canada.

These initiatives focus on capacity building and the support of formal education in nuclear energy and nuclear science domains. The CNSC and AECL also engage in public education practices.

Using funds appropriated to the CNSC by the Parliament of Canada, the CNSC supports several public education initiatives related to nuclear. The CNSC regularly hosts Meet the

Nuclear Regulator webinars with interested stakeholders and members of the public, providing an opportunity to learn more about the various aspects of what and how the CNSC regulates, including nuclear energy and radioactive waste storage.

The CNSC supports "Let's Talk Science", a charitable education and outreach organization that creates and delivers unique learning programs and services that engage children, youth and educators in science, technology, engineering, and math (STEM). The CNSC's support aims to enhance student and teacher understanding of nuclear science and technology, including nuclear energy, nuclear medicine and radiation facts and safety.

The CNSC also supports Canadian Nuclear Society (CNS) outreach activities, seminars, training courses and conferences. Notably, the CNS organizes a "Geiger Kit Program" that provides hands-on radiation awareness education in Canadian classrooms through experiments and radiation detection activities. With the CNSC's support, the CNS also participates in high-school science teacher conferences and science fairs for youth, produces "Knowing Nuclear" videos for YouTube and engages with Indigenous communities. Additionally, the CNSC announced that it will host Canada's first NEA International Mentoring Workshop in May 2023. The event will be co-chaired by CNSC President Rumina Velshi, and Curve Lake First Nation (CLFN) Chief Emeritus Emily Whetung, and Korean Institute of Nuclear Safety's Vice President Yeonhee Hah. The 2023 workshop in Canada will bring together Grade 9 Indigenous girls and accomplished Canadian and international mentors. It will weave together Indigenous Knowledge and western science to engage and inspire participants.

AECL has a long history of advancing innovation and research and development in nuclear for Canada. AECL's work over the last 70 years has led to the development of a home-grown technology and formed the backbone for Canada being the leader it is today in medical isotope production. These activities have been underpinned by engagement and communications regarding the role of nuclear energy in the lives of Canadian. To this day, AECL remains committed to promoting the role of nuclear and science, and it does so through various public and Indigenous engagement forums.

As AECL delivers its mandate through a Government-owned, Contractor-operated model, the operation and management of its sites are contracted out to CNL. CNL has an active external communications function which promotes nuclear science and technology and the activities carried out at AECL's sites. Other initiatives supported by CNL include the provision of educational resources for high school instruction, opening their facilities to tours, and the sponsorship of the local chapter of the North American Young Generation in Nuclear (NAYGN), which offers speaker series and professional development opportunities for young Canadians.

Project planning and decision-making mechanisms for radioactive waste-related items (Recommendations 3, 4, 6 and 7):

Executive summary of responses to recommendations under Theme 3: Project planning and decision-making mechanisms for radioactive waste-related items (Recommendations 3, 4, 6 and 7), elaborated below.

The Government has selected the Adaptive Phased Management (APM) and continues, per the *NFWA*, to issue annual statements in which the Government has reiterated support for the NWMO's work and Canada's DGR for its nuclear fuel waste, addressing Recommendation 3. The government currently addresses Recommendation 4 through its membership in the IAEA and the alignment of Canada's policy and regulatory frameworks with international standards founded on the best available science. The Government agrees with the spirit of Recommendation 6 and ensures that decision-making frameworks in Canada for radioactive wastes are based on international best practices and standards. Lastly, Recommendation 7 is being addressed through the CNSC's ongoing involvement with the IAEA, their commitment to implementing the recommendations made by the IAEA audit in 2019, through ensuring Canada's waste management and decommissioning regulatory framework is aligned with IAEA standards in a Canadian context, and by making public, through their public proceedings process, rationale for any deviations from IAEA standards.

Detailed response:

When making decisions on matters related to nuclear energy and radioactive wastes, the Government, its portfolio agencies, and the NWMO rely on international standards and best practices. Canada regularly engages with international fora on radioactive waste matters to ensure that its standards are aligned with international best practices.

Concerning Recommendation 4 and 7, Canada's waste management and decommissioning regulatory framework is aligned with IAEA standards, which are based on international consensus and provide guidance to Member States, including Canada, in developing their national framework. Regulatory requirements are aimed at ensuring applicants for licences demonstrate in their applications that they are qualified to carry out the activity and that they will make adequate provisions for health, safety, environmental protection, and security.

Decisions on radioactive waste management projects are made by the CNSC's independent Commission Tribunal (Commission). The Commission considers all relevant information – particularly scientific and technical – provided by project applicants, CNSC staff, Indigenous Nations, communities, and groups, and interested or concerned persons and groups during open and inclusive public hearings. Funding support is provided to eligible participants to enhance their participation in the process and the information submitted. The CNSC conducts independent scientific research in collaboration with national and international institutions. This research supports CNSC staff's review of radioactive waste-related licence applications submitted by project proponents and CNSC's staff's science-based recommendations to the Commission.

To make science-based recommendations to the Commission, CNSC staff rigorously review all submissions and supporting evidence to determine if the proposed waste management safety and control measures are adequate, meet the applicable requirements and have a sound technical basis. CNSC staff perform these assessments based on the best available science (such as technical knowledge and analytical methods), taking operating experience into consideration, as well as experience and knowledge of best practices in radioactive waste management from existing facilities in Canada and around the world.

Canada is a member of the IAEA and a signatory party to the Joint Convention. Every three years, Canada participates in the Joint Convention and the process allows Canada to perform a structured, peer-reviewed self-assessment of the appropriateness of its adopted safety measures for spent fuel and radioactive waste management. In addition, Canada has proactively requested international peer reviews. In 2019, the IAEA Integrated Regulatory Review Service (IRRS) Mission confirmed that Canada has a comprehensive and robust regulatory framework for nuclear and radiation safety that generally aligns with international standards. The IAEA noted that the “CNSC performs review and assessment based on the best available science (such as technical knowledge and analytical methods), taking operating expenses into consideration, to determine whether submitted documents and supporting evidence have a sound technical basis”. The rationale for any deviations from IAEA standards, which are guidance for IAEA Member States and applied in a country-specific context, will be made public through the CNSC’s public proceedings process.

Canada remains committed to implementing all four recommendations from the 2019 IRRS Mission, one of which is specific to the area of waste management. NRCan is leading a process to enhance Canada’s existing Radioactive Waste Policy Framework. This work includes engaging the public, including Indigenous groups, on a modernized Policy for Radioactive Waste Management and Decommissioning, as well as asking the NWMO to lead a dialogue with the public to develop Canada’s Integrated Strategy for radioactive waste. The policy modernization process was also motivated by the fact that Canada’s 1996 Radioactive Waste Policy Framework has not been updated since it was created 25 years ago and would benefit from further elaboration due to its limited level of detail.

Recommendation 3 speaks directly to the long-term management of nuclear fuel waste. Canada has been a world leader in nuclear energy since the development of the Canada Deuterium Uranium (CANDU) reactor in 1952. The Government of Canada holds the safety of Canadians and the environment as its top priority. This multigenerational commitment to safety includes the necessity of responsibly managing all radioactive waste in line with world-class safety measures. That is why Parliament passed the NFWA in 2002, which established a waste management organization, the NWMO, to be responsible for the long-term management of Canada’s nuclear fuel waste. As required by the NFWA, the NWMO undertook a 3-year study engaging with Indigenous peoples and Canadians to review the best available science to assess possible approaches for the long-term management of Canada’s nuclear fuel waste.

As a result, in 2007, the Government of Canada selected the APM, the NWMO's recommended approach, as Canada's plan for the safe long-term management of nuclear fuel waste. APM involves centralized containment and isolation of Canada's used fuel in a DGR in an area with suitable geology and a willing and informed host community. The IAEA – the world's leading authority on nuclear safety – considers deep disposal in geological formations as a sustainable and safe way to manage high-level nuclear fuel waste. The Government's selection of APM signifies the prioritization of this approach and building a DGR for management of Canada's nuclear fuel waste and is also in alignment with other countries plans for their nuclear fuel waste.

The NWMO's effective community engagement has been central to the NWMO's success in advancing Canada's plan. Since 2010, the NWMO has been advancing Canada's APM plan through a rigorous site selection where they have been engaging with interested communities, including Indigenous peoples, performing geological assessments, and continuing R&D. After starting with 22 interested communities, the NWMO has gradually narrowed their focus to two potential siting areas; Ignace/Wabigoon Lake Ojibway First Nation and South Bruce/Saugeen Ojibway First Nation. The NWMO remains on track to select a site in 2024, making Canada one of the world's leading countries in the advancement of a DGR for the safe long-term management of nuclear fuel waste.

Through ongoing federal oversight, the NFWA requires the Minister of NRCan to table NWMO's annual and triennial report to both Houses of Parliament and issue a public statement on the NWMO's annual report on behalf of the Government of Canada. Through these statements, which are publicly available on NRCan's website, the Government has reiterated support for the NWMO's work and Canada's DGR for its nuclear fuel waste.

With respect to recommendation 6, the Government offers a clarification: The Minister of NRCan asked the NWMO to lead the dialogue to develop Canada's Integrated Strategy for radioactive waste, a process that did not directly involve the CNSC, Canada's independent regulator.

The NWMO recently published their draft Integrated Strategy for Radioactive Waste (IRWS) that was available for public comment until November 24, 2022. This draft strategy has been informed by what the NWMO heard from Canadians and Indigenous peoples who participated in their surveys or in one of their more than 70 engagement sessions since March 2021. The ISRW notes "that the International Atomic Energy Agency (IAEA) states that intermediate level radioactive waste can be disposed of in different types of facility depending on its characteristics."

In 2020, the NWMO began developing the ISRW by commissioning an international benchmarking report on the long-term management of low- and intermediate-level waste, which provided an overview of the technical options being implemented or pursued, from a survey of over 22 countries. Based on this international benchmarking study, as well as technical assessments and Indigenous and public engagement, the draft ISRW recommends

disposal of low and intermediate-level radioactive waste, which aligns with international best practices. The draft recommended disposal options also align with international standards and benchmarking.

Indigenous reconciliation and the implementation of article 29(2) of the United Nations Declaration on the Rights of Indigenous Peoples (Recommendation 10):

No relationship is more important to Canada than the one with Indigenous peoples, which requires an ongoing and sustained commitment to respectful, meaningful, two-way dialogue. The Government of Canada recognizes the recommendation and is deeply committed to advancing reconciliation and a renewed relationship with Indigenous peoples, based on the recognition of rights, respect, co-operation, and partnership.

This recommendation is broad with linkages beyond those specific to the content of the report, namely nuclear energy and radioactive waste management, and relates to the Government's commitment to implement the United Nations Declaration on the Rights of Indigenous Peoples (UN Declaration), at a federal level, in consultation and cooperation of Indigenous peoples.

In June of 2021, the *United Nations Declaration on the Rights of Indigenous Peoples Act* (UNDA, the Act) received royal assent.

The Act requires the Government of Canada to work in consultation and cooperation with Indigenous peoples, to take all necessary measures to ensure federal laws are consistent with the UN Declaration, to develop and implement an action plan to achieve its objectives and develop annual reports on progress. The Act supports the ongoing implementation of the UN Declaration at the federal level and provides an action-oriented framework for advancing the rights affirmed in the UN Declaration.

Since 2021, the Government of Canada has been working in consultation and cooperation with Indigenous peoples on the development of an action plan to achieve the objectives of the UN Declaration and meet the other requirements of the Act. Implementation of the measures that will be included in the action plan will be a whole of government effort.

Specifically in the context of radioactive wastes, Indigenous groups are involved while the work on the modernization of the Policy for Radioactive Waste Management and Decommissioning continues. The draft policy sets out a framework for radioactive waste management. As a part of the process, NRCan developed an open approach to engage a variety of Indigenous partners including National Indigenous Organizations, Tribal Councils, regional Indigenous organizations, and individual communities. This included over 70 meetings, and 10 of 24 roundtables were with Indigenous communities or organizations. Seven written submissions from Indigenous communities were received, and several more have expressed an interest in commenting on the draft policy. As this draft policy continues to evolve, it will consider any relevant measures for the

implementation of the UN Declaration, including the measures that will be in the action plan required under UNDA.

The CNSC is working to transform how it works with Indigenous peoples and is committed to helping advance reconciliation through ongoing meaningful consultation, engagement and collaboration with Indigenous Nations and communities. In 2011, the CNSC established the Participant Funding Program (PFP) to enhance individual, not-for-profit organization, and Indigenous Nation and community participation in the CNSC's regulatory processes and to provide value-added information to the Commission through informed and topic-specific interventions. The PFP also supports the CNSC's consultation and engagement activities with Indigenous Nations and communities in relation to CNSC-regulated facilities and activities of interest, including those related to waste management. Funding provided by the PFP helps ensure that Indigenous Nations and communities can meaningfully participate in the CNSC's regulatory processes and helps the CNSC to build long-term, meaningful relationships with Indigenous peoples.

In addition, under the *Impact Assessment Act* (IAA), new facilities for the long-term management or disposal of radioactive waste may be required to undergo an Impact Assessment (IA). If the Impact Assessment Agency of Canada (IAAC) determines that an IA is required, the assessment would be referred to an integrated review panel with the CNSC. During an assessment by an integrated review panel, the regulatory requirements of the CNSC would be integrated into the impact assessment process to ensure that assessment met the legislative requirements of both the IAA and the *Nuclear Safety and Control Act*. Under the memorandum of understanding that the IAAC has with the CNSC, the assessment would benefit from the regulator's experience and expertise.

During the IA, the IAAC would provide participant funding to support the participation of various groups, including Indigenous peoples in the assessment. The IAAC's Participant Funding Program helps the public and Indigenous peoples participate and share valuable insight, perspectives, and knowledge during an assessment process. Supporting the participation of the public and Indigenous groups by reducing financial barriers means that assessments can be more open, balanced, credible and of higher quality. The integration of Indigenous participation in IA supports the Government's commitment to reconciliation by providing tools for effective and meaningful participation with Indigenous peoples during the assessment process.

NRCan remains committed to supporting the full implementation of the UN Declaration. NRCan continues to work closely with Crown-Indigenous Relations and Northern Affairs Canada and Justice Canada to support and facilitate implementation activities, including the ongoing engagement efforts with National Indigenous Organizations, Indigenous communities, Indigenous rights-holders, and other relevant partners to help inform the development of the action plan, as required under the *United Nations Declaration on the Rights of Indigenous Peoples Act*.

Conclusion

The Government of Canada extends its gratitude to the members of the Standing Committee for their work that identifies ways to further improve on Canada's commendable management of radioactive waste.

The report's recommendations support the Government of Canada's top priority of ensuring that all radioactive wastes in Canada are managed safely, and that solutions are being implemented to ensure the safe, long-term management of all of Canada's radioactive wastes, including future waste from new technologies, such as SMRs, for generations to come.

Through projects and initiatives, such as NRCan's modernization of the policy for radioactive waste management and decommissioning, Canada strives to benchmark and align with the IAEA guidance. We remain committed to continuous improvement and see the Government starting from a position of strength with the OAG having recently found that NRCan, the CNSC, and AECL "did a good job of managing the low and intermediate level radioactive waste that makes up 99.5% of Canada's radioactive waste output."

On matters related to nuclear energy and radioactive waste management, the Government continues to prioritize the health and safety of Canadians, including Indigenous peoples, and the environment. Programs related to science, research, development, and education will help maintain Canada's global leadership in the safe and secure use of nuclear technologies for decades to come and continue to build trust with the public. Finally, the Government is deeply committed to advancing reconciliation and a renewed relationship with Indigenous peoples, including NRCan's commitment to Indigenous participation and engagement throughout resource sectors, including nuclear energy and radioactive waste management policies.