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John F.G Hannaford  
Deputy Minister  
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Dear John F.G. Hannaford:

The provinces of Saskatchewan, Ontario, New Brunswick and Alberta are committed to collaborating on the development and deployment of small modular reactors (SMRs). We are united in our fight against climate change and our pursuit of all possible solutions to reduce greenhouse gas emissions while enabling economic growth. Nuclear energy is one of those solutions, and the provinces have concluded that SMRs can be an economically feasible solution to provide reliable and clean baseload power.

Canada has a strong track record of safety over the last 50 years for managing, storing and transporting radioactive waste from existing nuclear reactors. We have a world-class nuclear regulator and experienced nuclear operators committed to protecting the public and the environment. Ontario and New Brunswick will continue to rely on nuclear energy in their electricity supply mix through refurbishment and long-term operation of existing nuclear reactors, and now all four provinces are looking to SMRs as an innovative approach for new nuclear opportunities.

Through the lens of potentially deploying SMRs, including “micro-reactors,” across Canada, we reviewed the draft policy on radioactive waste management and decommissioning. Our review focuses on the perspective of low and intermediate level waste, as we recognize that high-level waste is managed through a well-known federal framework that future SMR developers are already leveraging and including in their deployment plans.

The pursuit of SMRs across several regions of Canada will require a paradigm shift in the approach to radioactive waste management. In the next 15 years we may see municipalities, power companies, oilsands companies, remote mines and Indigenous communities invest in or operate SMRs to provide reliable and clean baseload electricity, as well as industrial heat and district heating. In these scenarios, SMRs will be located across the country far from existing radioactive waste storage facilities. Radioactive waste management solutions need to support this potential dynamic, which may no longer be centred around sites hosting large-scale reactors or research facilities which are maintained by provincially owned utilities or federal agencies.

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The draft waste management policy should provide sufficient certainty and clarity on how radioactive waste will be managed across Canada for distributed SMRs. This certainty and clarity are required by future SMR owners, and the public of Canada, in support of near-term engagement, consultation, impact assessment and licensing for future SMR projects.

We recommend:

1. To ensure the integrated strategy for radioactive waste management meets SMR waste scenarios across Canada, the federal government should expand oversight of the strategy into a leadership role. The current policy only provides a framework for leadership by waste owners and producers.
2. In its oversight of the integrated strategy for radioactive waste management, the federal government should recognize that SMRs will require a different approach to ensure future waste owners, with much smaller quantities of waste, can afford to manage radioactive waste responsibly and efficiently. The waste owners of the future are not the same as the waste owners of today and a distinction may be necessary based on each SMR stream requiring a different approach to waste. Unlike the current bulk waste owners and producers in Canada, future owners may not have the scale or quantities of waste necessary to enable participation as expected by the policy, or to develop their own waste disposal solutions. These new smaller entities will require a national integrated strategy that will accept their waste for a reasonable fee.
3. Given that nuclear energy is fully under federal jurisdiction, the federal government must (rather than may) accept responsibility for managing of radioactive waste liabilities if the producer no longer exists, and the current owner cannot reasonably be held responsible.
4. As per this letter and the recently released Strategic Plan by our provinces, "A Strategic Plan for the Deployment of Small Modular Reactors", the federal government should continue to work closely with provincial governments in the development of a national integrated strategy.
5. The federal government should commit to providing national leadership, not only international leadership, for ongoing scientific, technical and safety learning, as well as collaboration, innovation, practices and research in radioactive waste management and decommissioning.
6. The federal government should recognize the role of nuclear waste owners and producers in international collaborations and their role in driving Canadian leadership.
7. The Government of Canada's policy views and future decisions on specific advanced fuel cycle approaches (e.g., enrichment, reprocessing, breeding, direct use of light water reactor fuel in CANDU reactors) requires collaboration with provincial governments.

A policy on reprocessing technologies can be a major obstacle for investment, to slow progress and innovation and to negatively impact SMR designs that are not only considering recycling but evaluating used fuel processing to convert waste streams into more stable forms. It should also be noted that federal jurisdiction already mandates a robust review of safety, environmental and non-proliferation issues through the CNSC for any nuclear project in Canada.

8. We understand that the Government of Canada does not support mass disposal of international waste in Canada. Nevertheless, the policy should recognize there may be exceptions for specialized waste in very limited situations that require international disposal.

We appreciate the opportunity to provide feedback on the Draft Modernized Policy for Radioactive Waste Management and Decommissioning, and look forward to working with the federal government on this strategy to ensure support for the deployment of SMRs by all potential operators in Canada.

Sincerely,



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