

NRCan Draft Policy:

Modernizing Canada's Policy for Radioactive Waste Management and Decommissioning

Response by: 

Associate Professor
Faculty of Energy Systems and Nuclear Science
Ontario Tech University
Oshawa, Ontario

■■■■ Comment on NRCan Draft Policy: Modernizing Canada's Policy for Radioactive Waste Management and Decommissioning

Thank you for this opportunity to comment on this draft of "Modernizing Canada's Policy for Radioactive Waste Management and Decommissioning" released for public comment. I have enjoyed participating in the Round Table discussions, as well as many NWMO led public discussion sessions. I have spent my professional life associated with the Radioactive Waste Management program in Canada, starting my career at the Whiteshell Laboratories and spending almost 25 years in the Canadian Used Fuel Disposal Program (under various names) before moving to Ontario Tech University (then UOIT) to teach radioactive waste management design to students in the Nuclear Engineering programme. Although my main research interest is the corrosion of waste containers, my academic teaching and CSA N292 committee work has provided me with valuable insights into the whole of the radioactive waste management problem in Canada. I have had the pleasure of watching the Port Hope Area Initiative grow to completion, and was involved at the beginning of the OPG DGR project (although I did not know it at the time). I have watched the maturation of the public consultation process in Canada. Over the past 15 years at OTU, I feel that I am independent of the Canadian radioactive waste management project, but remain firmly involved with the programme.

This draft framework provides a balanced and thoughtful policy. The three specific policy principles are appropriate, and essential, for assuring the health, safety, and security of people and the environment, in Canada and Internationally. I was pleased to see this broad and flexible approach that eschews dictating regulations, and activities for managing radioactive waste and decommissioning. A prescriptive policy will inhibit innovation and development of new technologies that will generate better solutions than available today. It is advantageous for the policy to provide guidance, not law. The issues are complicated both technically and socially; great wisdom is necessary to safely guide Canada to viable solutions for all types of waste.

There are areas of the policy framework that I feel could be improved.

Policy Statement 2 regarding the commitment to openness, transparency, and inclusion is important and a vigorous application of this policy will be critical to producing a radioactive waste disposal facility and completing decommissioning activities underway. There are problems with the statement that could impede this progress and lead to stalemates or the implementation of poor solutions.

I have been impressed by the Indigenous representation at the various events I attended. The representatives were thoughtful and accommodating and were constructive in their discussions. The failure of OPG's DGR project shows that we have work to do, and the SON should not be criticized for their opinion. Instead, this is an example of the process working correctly: OPG had not yet reached constructive engagement with the SON people. OPG's decision to walk away from the project is an unfortunate decision that also should not be judged. I am confident we can learn from this engagement and develop better processes, we can build success and develop partnerships between waste management organizations and Indigenous communities. Unfortunately, I am less confident that we will have the same success with some of the other interested individuals, particularly some special interest groups. The groups that are not interested in a solution, groups that object without responsibility to contribute to a solution, groups who hide behind the engagement process are a danger to building timely solutions. The

possibility of actions by unreasonable people exposes a deficiency in the policy statement that assumes participation by reasonable people. The Federal Government, and the waste owners and operators are directed to work collaboratively with the public, to collaborate and find solutions, but there is no reciprocal responsibility on special interest groups, and no mediation process to overcome an impasse. In the past, this would not be a significant problem, but in today's society it is. You just need to look at the Freedom Convoy to see how an intractable organization can refuse to participate and engage a then produce chaos. At this point in our history, it would be wise to recognize this issue in the policy. The guidance must be fair, equitable, and avoid bias favouring commercial needs. Without a mediation process, the goal of completing infrastructure by 2050 becomes impossible, not simply difficult. Policy statement 2, "encouraging a timely development of infrastructure", is at risk because of malicious use of the consultation activities.

Item 1.2, "has established a legislative and regulatory regime, centered on an independent nuclear regulator, to oversee and regulate radioactive waste management and decommissioning, including funding and operational responsibilities in accordance with approved waste disposal and decommissioning plans." This relies on an *independent* nuclear regulator, which can be seen as a problem for balanced participation. During various open houses and consultation events, members of the public questioned the independence of the regulator. The Impact Assessment (IA) hearings currently in progress for the CNL Near Surface Disposal Facility (NSDF) project highlights this concern. The previous environmental assessments were conducted by the Impact Assessment Agency (IAA) and were independent of the CNSC. The CNSC participated and provided advice on regulatory matters. This role is appropriate. For the NSDF project, the CNSC is conducting the IA, and the staff is firmly in support of the proposal. This means the "judge" and their consultants are firmly on the side of the proponent. This does not have the appearance of an independent process. While item 1.2 clearly places the independent regulator in charge of regulation and oversight, it is not clear that this regulator is independent in the areas of environmental assessment. This is a separate field. It should be clear that the safety of the environment has regulatory control and oversight by environmental authorities (e.g., the IAA), not nuclear authorities. The CNSC must be part of the process, they have a critical role to play to ensure that technical standards and requirements are met and the proposal is safe from a nuclear safety perspective. The policy should be clear on what "independence" means and how it is applied.

Item 1.10. "decommissioning facilities and sites within an appropriate timeframe to avoid transferring the responsibility to future generations, recognizing that alternative approaches may be justified, subject to approval by the regulator." On the surface, this item conforms to the user-pay principle, we need to pay for the solution to our waste problem. However, the timescale of the problem makes this policy statement impossible, or at least incongruent with long-term safety. It is clear that even planning these activities takes a long time, and it is also clear that the current generation may start some of these projects, but it may be our grandchildren that complete the work. This is a transfer of responsibility, and it is unavoidable. The sentiment of this policy guideline is correct, but the wording is problematic. It is, in some respects, not consistent with a seven generation view of the problem. It must be recognized that our children will and should bear some responsibility; they also have a responsibility to their children. It is not passing the responsibility that is the issue, it is passing the problem that is the issue. Our responsibility should be to solve the problem, then plan and fund the solution. The solution should be the best possible one, which means it should also include options that allow for unforeseen technological advances as well as unforeseen social disasters. This is our

responsibility. Our children are responsible for understanding the plan and executing the plan to the best of their ability. This will include planning for what comes next. We must decommission sites to avoid transferring the problem to future generations, but we cannot avoid transferring the responsibility of performing the work to the next generation.

As part of this responsibility to future generations, and as part of policy item 2 regarding “openness, transparency and inclusive engagement”, policy item 3 “commit(ment) to global excellence”, item 2.8 “commitment to ongoing scientific, technical, and safety training”, ensuring future generations have the knowledge to act responsibly is key to achieving these policy objectives. The policy should speak to general education. While much of the responsibility for education is outside the scope of this Federal Department, it should not shirk its responsibility to influence education, federally and provincially. To have effective “open, transparent and inclusive engagement”, the participants must be generally knowledgeable and critical thinkers. Specialized education in nuclear science and technology (as stated in item 2.8) is not the goal. It is the broader, good fundamental knowledge of science and technology that is necessary to promote effective and inclusive engagement. A commitment to “global excellence” means a commitment to an educated public. Without a strong pool of educated citizens, there can be no development of international experts. In this guideline, the policy could encourage government agencies, and particularly nuclear industry participants, to develop educational opportunities, particularly opportunities for those outside of post-secondary institutions. We do not need a citizenry of nuclear experts, just smart people.

Item 3.4, “is committed to the principles whereby Canadian-generated radioactive waste must be disposed of in Canada, and radioactive waste generated in other countries are not to be disposed of in Canada, recognizing that exceptions may be made to allow for the repatriation of disused radioactive sources to Canada.” This item is well intentioned, but poorly considered. I presume the intent arises from the public’s general opinion that we should take care of our own waste and not ship it outside of Canada. The corollary to be fair would be to not accept other country’s waste. Unfortunately, this is like saying I will not sell you a car, so I should not buy one from you either. The important aspect of the existing policy is that waste should not be transferred to a country that is less safe than Canada, that is, the regulatory and safety regime does not meet the requirements of Canada and the CNSC. If a country meets or exceeds Canadian requirements, then it should be expected that the safety of their public and their environment is assured. The second part is trickier and is more pertinent to decommissioning than to long-term management of waste. This policy statement does not allow for repatriation of waste – only of disused sources. Canada is deficient on waste processing facilities – we cannot effectively decontaminate or process large contaminated objects. Other countries have facilities for decontaminating large objects, and volume reducing large objects. Those that have an associated commercial enterprise, return the radioactive waste, concentrated waste now, to the owner. The policy statement item 3.4 does not allow this. The consequence is that either large objects must be dealt with using an expensive and space consuming solution, or the federal government will build a processing facility. Building a facility will be expensive and a money losing venture unless it may accept international waste for processing (and return to the originators). The inability to send waste to other countries may complicate which vendors can be chosen for implementing SMR technology. The vendors that require the used fuel to be returned to the originating country, processed, and then the waste returned to the electricity generator could be excluded from consideration because of item 3.4. The important aspect of transborder waste movement must be determined. It may be sufficient to restrict the regulatory approval for a

second country to meet or exceed Canadian regulation before transfer, and not restrict the transfer itself.

The final point is a minor issue with item 2.7, which is not clear and awkward. It seems this policy statement is to require waste producers and operators to collaborate on projects. This is not appropriate, nor is it welcome. The industry should be encouraged to collaborate where appropriate, but item 2.7 is neither optional nor encouraging.

The policy statement is well considered, and should be effective for many years. There are issues related to education, responsible engagement, future responsibility, independent oversight, and transborder movement of waste. I hope you find my comments helpful. If you have any questions or need clarification, I am happy to discuss this with you.

Sincerely,

█

█