

Transmitted by email to nrcan.radwastereview-examendechetsradioactifs.mcan@canada.ca

From [REDACTED], Killaloe Ontario, [REDACTED]

May 26, 2021

RE: RADIOACTIVE WASTE MANAGEMENT IN CANADA (NRCan Policy Development)

Dear Mr. Delaney and members of the Rad Waste Review Committee:

We have attended the recent Natural Resources Canada (NRCan) radioactive waste policy roundtables, which covered classification, storage, transportation, decommissioning, and other relevant topics. We appreciate that NRCan gave the public an opportunity to learn and voice our opinions on this important issue. Unfortunately, NRCan's discussion papers for these sessions usually skimmed the surface, and could be misleading due to the information omitted. However, all these sessions were attended by public health and environmental advocates, including lawyers and non-industry scientists (some of whom worked previously for the government). Those experts were deeply knowledgeable and forthcoming.

There is so much that the public does not know about the growing piles of radioactive waste in this country. Until very recently, we were two of those uninformed people. The whole issue was something we had vague nightmares about, but it seemed so complicated and so removed from our worlds. Our eyes are now opened. What we have learned is both scary and very demoralizing regarding your government.

The Public is Deliberately Left in the Dark on Radioactive Waste Issues

We elect politicians to help ensure we can stay healthy, safe and secure in our communities, but you are not royalty. Electors expect our politicians to keep us informed and consult with us on major issues. Multiple generations are very concerned about this issue. The collaborators on this submission are a grandmother of 70 years and a younger university-educated woman in her thirties, who met through attending the NRCan sessions. We realized we shared the view that our elected officials are betraying us by allowing industry to pile up this waste. There is no good plan for what to do with it.

Here are some issues we learned about in the past few months. When radioactive wastes are being transported through our communities, there are no clear regulations, and you leave it up to the industry to decide if communities should be notified. Your staff do not even seem to have their own clear definitions of various levels of waste and how much hazard they pose to the health of people and the environment in our communities. Your government promised the public it is ensuring safe management and production of nuclear energy and waste, but in reality, there are huge temporary stockpiles of waste. Too often no one pays attention until they leak or plume. Sometimes the people in local communities are not told about the contamination, or cannot get access to the data collected about the disaster. Old reactors and core reactor components, not in operation but not properly decommissioned, are found in very populated and also environmentally fragile areas. This is true in more places than can be counted – more so because no responsible public agency is keeping track of what is where, or how much, etc.

Conflict of Interests: The Fox Guarding the Hen House

It seems most decisions about nuclear safety and policies are made behind closed doors. Although community members may drink water containing leaked nuclear waste (Ottawa River) or watch their children playing near wafting dust from piles of contaminated soil (Port Hope, Ontario), the only members of the public allowed behind those closed doors are the lobbyists from the nuclear industry. They are very powerful in getting their way.

Worst of all, the cabinet minister responsible for this vital caretaking role is also clearly mandated to promote more nuclear power development! While the minister is tackling the second job with gusto, he had to be pushed into starting to look at the first job by the International Atomic Energy Agency. Your entire government is promoting development of a new generation of “small” nuclear power reactors (SMRS) as “green energy”, but your minister responsible for dealing with the radioactive waste does not know what to do about the hazardous stockpiles and decommissioning the aging reactors we already have in Canada.

It is because the Minister of Natural Resources has a clear conflict in his mandate that this original submission is also addressed to other relevant cabinet ministers.

The Need for an Independent Public Nuclear Agency

Now that our eyes are opened, we are outraged by the way your government is managing nuclear energy and their radioactive wastes. We urgently need an arms-length, independent public agency to oversee the entire industrial process from uranium mining to reactor decommissioning. We cannot trust the nuclear industry to regulate and monitor itself, as it has basically been doing for decades. The interest of the industry is to make profits, not what is best for Indigenous Peoples and Canadians in nearby communities. Certainly, industry is not preoccupied with protecting the natural environment or worrying about problems down the road for future generations. The interests of the public and of the natural environment must be your government’s first priority. This is why a truly independent oversight agency needs to be established to implement good public legislated policy and engage with the public, as well as regulate and monitor on an ongoing basis,

Accidents Waiting to Happen

Nuclear incidents are never included in insurance contracts in Canada. Not if, but when a nuclear accident occurs, the bulk of the astronomical bill will be footed by the government, therefore us taxpayers, and a small portion by the owners. During the course of learning about all of this, we realized the pitiful amount that industry deposits with your government to pay for meltdown damage. “It can’t happen here” may be the reason they are allowed to get away with this, but we are pretty sure that this is what people thought about Chernobyl and Fukushima. Adequate deposits to cover costs of major nuclear accidents must be part of your government’s new policy.

Accidents are not always site explosions, but also occur during transportation. The public is not aware of the frequent movement of radioactive waste through their communities via trains and trucks. As taxpayers, we want the government to have firm policies that keep waste in place until there is a final resting place where it can be safely stored in perpetuity.

Accidents also arise from poor waste storage plans. The above ground “mound” proposed to cover a giant pile of nuclear waste at the Chalk River nuclear facility is not a final disposal solution. It will be simply a gathering of various forms of highly toxic elements from all over Canada, put under a dome with a liner, in hopes that it will stay intact and not seep into the surrounding wetlands and river down the road, into the Ottawa River. Why are you bringing everything to this inadequate location, upriver from the drinking water of millions of people?

Chalk River nuclear waste and toxins have already seeped into Perch Lake, contaminating the nearby wetlands and the Ottawa River, located just meters away. The City of Ottawa has recently voted to officially voice their concerns about proposed “near surface nuclear waste facility” at Chalk River. The Ottawa is keeping a close eye on the evolving situation at a municipal level, but the same level of concern should be demonstrated at higher levels of government.

Along the way in this learning, we found out that Canada considers 7000 becquerels/litre of the nuclear waste toxin tritium in our drinking water to be a safe level for human health. This is appalling and should be changed in your new policy. By contrast, the US national limit is 740 B/L, the European Union limit is 100 B/L, and California's limit is 15 B/L.

Some Essential Components for Canada’s New Radioactive Waste Management Policy

Your new policy must include an adequate intergovernmental coordinated emergency plan to deal with site-based accidents. This policy must take into account contingencies such as: not everyone has a vehicle to escape quickly. For example, during the Katrina hurricane in New Orleans in 2005, most fatalities were people who could not get away using the emergency evacuation plans, which were designed for fully physically-able people who had access to cars with lots of fuel in them.

Apparently in decommissioning used nuclear reactor rods, the safest known way is to first let them cool in pools of water. Industry says they only keep them in these irradiated bays of water for six to ten years. However, citizen scientists have sifted through an enormous amount of documentation, cross-checking data, and discerned they are often left in this vulnerable state for much longer. Lots of things can happen around those pools of water because they are not closed, dry facilities. There is a much greater risk of contaminated leakage, especially because escalating climate change means more severe storms, other forms of extreme weather, and rising sea levels. Policy and regulation must address this.

According to NRCan, “entombment in situ” is a reasonable solution for “legacy” reactors; in other words, reactors constructed without plans for how to deal with the trash when the reactor stopped working. This is not the way to go. The International Atomic Energy Agency has a very clear policy about this matter: *“Entombment, in which all or part of the facility is encased in a structurally long-lived material, should not be considered an acceptable strategy for planned decommissioning. It might be considered as a last option for managing facilities that have been damaged in an accident if other options are not possible owing to high exposures of workers or technical difficulties.”* Canada agreed to uphold this IAEA policy as recently as 2019. Why is NRCan now advocating the opposite as a suitable strategy? Worse still, now your government is promoting a new generation of reactors that will produce

significant quantities of waste that cannot be predicted at the moment, so begins again the cycle of “legacy” waste.

Regarding the potential for deep geological repositories (DGR), where NRCan and the industry assert high level radioactive waste could be stored “forever”, the big unsolved problem is making sure they never leak after they are filled and closed. Sweden has state-of-the-art facilities, but they still struggle with corrosion of their underground “storage/disposal” containers because of heat and humidity. Anything stored in the ground can seep into underground fresh water sources as it corrodes or rots. These aquifers, etc., are not properly mapped across Canada, and sometimes they move around underground too. There is also the threat of earthquakes, as has been learned from unconventional gas and oil fracking, when drilling into the earth’s rock layer and filling that space with other substances. The industry keeps claiming it is ready to go with DGRs but there is much to resolve.

With any waste solution approach, responsible authorities must monitor what goes into the storage area AND continue to monitor for leaks in the future. Flooding and extreme weather pose multiple threats. These storage areas must never be orphaned; they will need monitoring and repair over the millennia. Funds must be collected from industry now and set aside to solve issues that will happen down the road. The costs of fixing the problems that will inevitably arise must not fall onto taxpayers or new owners to clean up/deal with.

As regards classifying, labelling and maintaining an inventory of waste, currently things are a mess in Canada because waste producers have been given authority to name and sort it as they see fit. There is no independent agency or public scrutiny to make sure the nuclear industry is doing things the right way and to hold it accountable. There are high quality international standards for standardizing how waste is classified and inventoried. These standards promote safety and security. Canada’s new radioactive waste policy must address this through firm regulations and monitoring.

As for the matter of “recycling” decommissioned nuclear products, this is just plain foolhardy. With existing standard reactors in Canada (e.g. the Candu type), the plutonium is encased and self-protecting because transporting it without proper equipment would cause death. Some of the fissile matter produced through breaking the atoms in this old reactor fuel waste will be weapons-grade nuclear material. Apparently that form of enriched plutonium is quite easy to transport undetected, even across borders. Production of weapons-grade plutonium is something Canada agreed not to do decades ago, for obvious reasons. Make no mistake. There will be clients for this weapons-grade nuclear product, as well as perhaps some people interested in obtaining it for their own purposes. Nearly a century working with fissile material has taught scientists that there is a very real, deadly possibility that additional products will arise from this “recycling” process. These products could be expected to be even more toxic than the original waste and pose a host of new waste management issues. There are so many reasons not to do the route of processing nuclear waste for reuse. It is hard to imagine why anyone thinks it is a good idea.

Importing Waste from Other Countries

Recently major news media reported that former Prime Minister Jean Chretien is working as a nuclear industry consultant, advocating other countries send their radioactive waste to Labrador. Some social

responsibility advocates suggest that this importation may have already begun in an informal manner, without public notice of any sort. While alarming, the details are vague. It would be great if your government could confirm or deny this. This is not the sort of thing that gets much public exposure in the “wild west” regulatory regime the nuclear industry operates, but implementation of this plan is fraught with difficulty. To begin with, it is unclear if the original Innu and Inuit peoples have agreed to this use of their territory, and as Canada has agreed to uphold the international law regarding the rights of Indigenous Peoples, “free, prior, informed consent” is essential.

The short-term revenue stream from this proposal is a serious loss-leader! The bottom line is we already have a serious and costly problem on our hands dealing with our own aging nuclear plants and all their associated waste. There is no social benefit in importing other countries’ nuclear waste.

Reduction at Source

When Lucien Bouchard was the federal Minister of the Environment almost three decades ago, he said that nuclear waste policies should include the possibility of “reduction at source”. In other words: stopping the production of nuclear energy would mean an end to the production of the toxic waste.

Bouchard was outranked by the Minister of Energy at the time, Jake Epp, who is now Chairman of Ontario Power Generation, the largest single producer of high-level nuclear waste in Canada. He insisted that stopping new nuclear energy development was not an option. However, the government of Brian Mulroney agreed to convene a public commission to air issues about nuclear waste, which was known as the Seaborne Panel. The chairman of this panel, Blair Seaborne, was also told that stopping production was not an option, though he believed the government’s promise that a separate public hearing would be held on that specific matter. This separate hearing never happened. So, today we have an enormous and growing pile of all sorts of nuclear and radioactive waste, with no viable plan for how to deal with it.

Enough is enough! We want nuclear energy phased out! SMRs are the hallucinatory dreamchild of the nuclear industry. They have been tried for decades and never worked. Invest in the other renewable energy technologies which are better for the environment and cheaper. No more taxpayer handouts going to the nuclear industry! No small modular reactors! Canada CAN reach net zero goals without nuclear energy. It is simply a matter of political will and policies to make that happen.

Scientists have not figured out a way to store nuclear waste safely. “Safely” means forever, because much of this material will be hazardous for tens of thousands of years or longer. It is in your hands to clean up the mess you have allowed to develop. You must create a strong new radioactive waste management policy that is enshrined in legislation and mandate the creation of a truly independent and transparent oversight agency to implement, review, regulate, share information with the public, and monitor compliance. We rely on you to make the proper decisions at this time, for all future well-being.

Thank you for taking the time to read this submission. We will appreciate a response from your office to these concerns.

Respectfully yours, [REDACTED] (in collaboration with [REDACTED])