

**To:** Impact Assessment Agency of Canada (IAAC)  
**From:** Canadian Coalition for Nuclear Responsibility (CCNR)  
**Re:** Comments on the Integrated Tailored Impact Statement Guidelines for the Deep Geological Repository (DGR) For Canada's Used Nuclear Fuel Project  
**Date:** May 10 2026

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The Canadian Coalition for Nuclear Responsibility (CCNR) has reviewed the Draft Integrated Tailored Impact Statement Guidelines for the Deep Geological Repository (DGR) For Canada's Used Nuclear Fuel, a Project of the Nuclear Waste Management Organization (NWMO), and offers the following comments on those Draft Guidelines.

### **Stated Purpose of the Project**

The stated purpose of the project is highly suspect because it is couched in self-contradictory language. In its Initial Description of the project (p.v) the proponent states

“Canada’s nuclear power plants have provided, and are expected to continue providing, clean, reliable, and low-carbon energy for decades. However, used nuclear fuel remains radioactive for a very long time and therefore requires careful, permanent management to avoid placing a burden on future generations.”

Nuclear Waste Management Organization (NWMO)  
**Initial Project Description**  
Deep Geological Repository (DGR) for Canada’s Used Nuclear Fuel Project  
December 2025

It is ironic that nuclear power is described, in two consecutive sentences, as a “clean” energy source, but one whose waste byproducts nevertheless remain dangerously radioactive for such “a very long time”, that extraordinary measures are required to “avoid placing a burden on future generations.”

It is a stunning example of cognitive dissonance; that is, “the mental discomfort or psychological stress experienced when a person holds two or more contradictory beliefs, values, or attitudes, or acts in a way that goes against them.” On the one hand,

the proponent asserts that nuclear power is essentially a problem-free technology, and on the other hand is ready to expend upwards of \$26 billion dollars and 160 years of effort to “solve” what is a glaringly obvious problem – long-lived highly toxic garbage.

The contradiction in terminology is not just psychologically uncomfortable, but also self-defeating – for NWMO goes on to enunciate (p.v-vi) its goal, accompanied by a declaration of the industry’s intentions that belie that goal altogether.

“If implemented, the project would:

- provide a permanent and **safe disposal solution** for used nuclear fuel;
- support Canada’s commitments to climate action and achieving net-zero by 2050 by **ensuring nuclear energy remains** a sustainable and socially responsible energy source;
- **eliminate the need for future generations** to actively manage used nuclear fuel, thereby reducing long-term environmental risks and advancing intergenerational equity in managing Canada’s nuclear legacy.”

A careful reading shows that the “safe disposal solution” for used nuclear fuel is not really intended to unburden future generations altogether by “eliminating the need to actively manage used nuclear fuel”, but rather to perpetuate the hazards of keeping used nuclear fuel at the surface by “ensuring nuclear energy remains ... sustainable” as an energy source. Thus the DGR is not designed to “get rid” of used fuel once and for all, but rather to clear the decks of older waste and make room for newer waste. The industry has no intentions of ever stopping the production of that toxic waste material.

This is no small matter. Already the Agency is dealing with three major proposals for new nuclear plants: the 4800 megawatt Peace River Nuclear Project, the 4800 megawatt Bruce C project, and the 10,000 megawatt Wesleyville project, with more projects to come.... Already there are over 20,000 megawatts of new nuclear electricity production planned (including the Darlington New Build). If these new plants are all built, the annual production of used nuclear fuel in Canada will triple. And that is not the end of the story. Further nuclear expansion in other provinces and territories is also planned. To maintain credibility, the Agency cannot turn a blind eye to these contradictions. The NWMO project currently under review by the Agency is only designated to deal with the

waste produced by Canada's existing operational fleet of 17 CANDU reactors (plus the waste produced by seven shut-down power reactors and a handful of research reactors owned by Atomic Energy of Canada Limited). That is less than one-third of the volume of high-level radioactive waste now foreseen. It is patently false that the currently proposed DGR project will "eliminate the need for future generations to actively manage used nuclear fuel." The stated goal of the project is, in that sense, fraudulent.

In fact, no one intends to move used nuclear fuel into a DGR until it has been out of the reactor for at least 30 years. Consequently, there will always be thirty years worth of unburied waste at the surface (either in wet storage or dry storage) for each and every operating nuclear reactor, no matter how fast the older used fuel may be buried. Based on existing plans in Canada, the quantity of unburied used nuclear fuel under thirty years of age will be tripled – or more than tripled – and will keep growing thereafter. This is hardly "eliminating" the need for future generations to manage used nuclear fuel.

As long as new nuclear reactors are being built and old ones are continuing to operate, there is no possibility of achieving the visionary dream of all used fuel safely locked away in underground chambers. Such a dream is a complete fantasy. It would only be possible if nuclear power were phased out completely.

Instead, a picture emerges of an increasing number of reactors in operation, each with its core full of intensely radioactive used fuel, and each surrounded by at least thirty years worth of additional unburied used fuel in wet and dry storage. Even if all the older fuel (more than 30 years old) were instantly transported over thousands of kilometres to the site of the DGR, the remaining catastrophe potential at each reactor site would be only marginally diminished.

Meanwhile additional risks of fuel damage and radioactive releases would arise in countless locations across the country due to the vicissitudes of travel along some of the most hazardous routes in Canada. Thousands of citizens – perhaps millions – would encounter truckloads of high-level radioactive waste passing through their communities,

along their highways, over their bridges, for many decades to come. Severe transport accidents, even if very infrequent, could result in radioactive contamination of people and the environment in locations far removed from the generating stations. The combined efforts of moving spent fuel to a repository location while expanding the production of nuclear electricity at many new sites may very well make the country less safe than it would have been if traffic of spent fuel were precluded.

In its report on nuclear energy in Ontario entitled “A Race Against Time”, the Ontario Royal Commission on Electric Power Planning concluded as follows:

“The hazards associated with transportation, in particular the possibility of accidents and the threat of hijacking, are real possibilities. Hence, the minimization of handling and transporting spent fuel is a desirable objective. (p. 91)

We prefer on-site (i.e. generating station site) spent fuel storage to a centralized facility. We believe that a central facility would presuppose the [reprocessing of spent fuel](#); it would also involve more transportation and social and environmental problems. (p. 95)

Royal Commission on Electric Power Planning  
A Race Against Time, 1978

CCNR believes that the Guidelines should include an entire section on transportation – including (a) routine gamma and neutron exposures (i.e. to those in vehicles following a transport, to those passing the transport in the opposite direction, to those being repeatedly exposed along the route, to those irradiated during stops), (b) container designs and testing of same, (c) severe accident scenarios (fires of greater intensity and duration than those tested for, drops of greater distances and impacts, sidewise collisions that might bypass impact limiters, et cetera), and (d) emergency measures planning and the role of first responders.

## **Alternatives to the Project**

The Impact Assessment Act clearly states that the Agency “must” consider “alternatives to the project,” as well as alternative means of carrying out the project. However on page 9 of the Draft Guidelines, we read

“In the Initial Project Description, the proponent described the ‘alternatives to’ the project that are technically and economically feasible to meet the need for the project and achieve its purpose. This analysis was carried out through their *Choosing a Way Forward* study process pursuant to the *Nuclear Fuel Waste Act*. IAAC and the CNSC determined that this information is sufficient and no additional information is required in the Impact Statement related to ‘alternatives to’.”

CCNR strongly disagrees with this determination. A great many Canadians are unaware of the fact that there is an alternative to the proposed DGR project that is economically and technically feasible, and that does not involve moving used nuclear fuel off-site. It is simply called: continued storage at reactor sites. The nuclear industry agrees that this method is safe and can be continued for centuries without undue difficulty, provided that the wastes are repackaged when necessary.

When NWMO published “Choosing A Way Forward”, four options were laid out. The Government of Canada decided to choose the fourth option – the DGR option, rebranded as “Adaptive Phased Management”. But there was no public process by which the pros and cons of the “reactor-site storage” alternative could be discussed. The Government of Canada did not take the opportunity to solicit other perspectives. At that time CCNR published a critical commentary on “Choosing a Way Forward”, entitled “Following the Path Backward” ( [www.ccnr.org/follow\\_path\\_back.pdf](http://www.ccnr.org/follow_path_back.pdf) ). However there was no public forum or avenue by which any non-industry point of view could be heard. There was simply no mechanism for dissenting voices to be weighed in the balance.

There is going to be a public impact assessment process. Now is the time to debate the alternatives for the first time in public. CCNR believes that the Agency has a duty not to simply accept the proponent’s point of view on the alternatives, even though the Government has indicated its preference for the DGR approach. According to the IAA law, any alternative to the project that is technically and economically feasible “must” be properly addressed during the Impact Assessment process. Politics does not enter into it. Accordingly, CCNR believes there must be a section in the Guidelines specifically addressing the “reactor-site storage” alternative to the proposed DGR,

Some may argue that reactor-site storage is not an acceptable practice for a century or more, because of the possibility of violent external events (airplane crashes, military attacks), extreme weather events (tsunamis, earthquakes), or societal disintegration (anarchy, revolution). But if those are legitimate concerns, why are we planning to build more nuclear reactors? With new reactors operating, there is bound to be on-site storage of at least thirty years worth of used nuclear fuel, none of which can be put underground quickly. Continued onsite storage is definitely an alternative.

Some may argue – and indeed NWMO does argue – that we have to think of future generations, not just for a few centuries, but for many thousands of years into the future. But in that case there is no urgent need for the DGR right now. As long as we are intent on expanding the production of nuclear waste, would it not make more sense to wait until we decide to wind down the nuclear enterprise altogether at some future date? That way we can deal with all the waste at once instead of maintaining regiments of high-level waste here, there, and everywhere, with more on the highways every day.

At any rate, if concern for far-future civilizations is NWMO's concern, why is there no discussion of far-future civilizations in NWMO's Project Description? Indeed, how are we to communicate with far-future civilizations, when we don't even know what languages they will be speaking? If we choose to tell them nothing, what will prevent them from digging up the buried waste, perhaps without them realizing what it is? Will they imagine it is buried treasure? It will surely be clear that somebody did a gigantic excavation in the remote past. What could it be? On the other hand, if we leave a marker saying "Danger, Do Not Dig Here", I can imagine some future archaeologist rubbing his hands with glee and saying, "Folks, this looks interesting; let's dig here!".



CCNR recommends that there should be a section in the Guidelines dealing with the question of communicating with future generations, along with what information we should be communicating. Do we not have an obligation to impart to future generations the important facts about the radioactive legacy we are leaving them?

“...The Radioactive Waste Management Committee (RWMC) of the OECD NEA (Nuclear Energy Agency) launched an initiative on the “Preservation of Records, Knowledge and Memory”, hereafter “RK&M Initiative” that ran from March 2011 to April 2018. Twenty-one organisations from 14 countries, representing implementing agencies, regulators, policy makers, R&D institutions, and international archiving agencies, plus the IAEA (International Atomic Energy Agency), contributed to the work.”

Stephan Hotzel, GRS and Chair of the RK&M Initiative  
Nuclear Energy Agency (OECD)

Of course this is assuming that the DGR does not turn out to be a colossal mistake, like the Asse-2 salt mine in Germany. It was used as a deep underground nuclear waste repository for low and intermediate-level waste for decades until persistent leakage of radioactive poisons into groundwater led the German government to order the spending of over \$5 billion (equivalent) to remove the radioactive waste from the repository – a task that will take at least 30 years, a task that is ongoing today.

## **Alternative Means**

The Impact Assessment Act requires the Agency to consider alternative means of carrying out a proposed project. It seems clear that the greatest danger of experiencing radioactive releases from used nuclear fuel comes about through the handling or manipulation of individual fuel bundles that are damaged in some way – small cracks or pin holes, for example. In general, the less handling of the fuel, the better.

According to NWMO's current plans for the DGR, spent fuel will be transported to the site of the DGR where they will then be repackaged prior to emplacement in the repository. Repackaging entails removing the fuel bundles from the transport containers and repackaging them in a copper-coated steel burial container.

CCNR recommends that if the DGR Project is given the go-ahead, this final repackaging step be eliminated, thereby putting less strain on the host community. This can be accomplished by repackaging the used fuel into burial containers before shipping them to the DGR site. In this way the "willing host community" and the neighbouring environment will be better protected from inadvertent radioactive releases caused by handling damaged fuel bundles. The pre-packaged burial containers can be lowered into the DGR without ever having to open them up, greatly reducing the chances of fugitive emissions.