Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

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Written Submission from Judith Fox Lee

Mémoire de Judith Fox Lee

In the matter of the

À l'égard d'

Ontario Power Generation Inc.

Ontario Power Generation Inc.

Application to renew power reactor operating licence for the Darlington Nuclear Generating Station

Demande concernant le renouvellement du permis d'exploitation d'un réacteur de puissance pour la centrale nucléaire de Darlington

Commission Public Hearing
Part-2

Audience publique de la Commission
Partie-2

June 24-26, 2025

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Canada

INTERVENTION TO THE CNSC COMMISSIONERS
BERUBÉ , HARDIE, HOPWOOD, LACROIX, REMENDA and PRESIDENT TREMBLAY
for the Record of the Part 2 Public Licensing Hearing
for Ontario Power Generation's Application to Renew the
Power Reactor Operating Licence for the Darlington Nuclear Generating Station for 30 Years
June 24 - 26, 2025

Pursuant to the Canadian Nuclear Safety Commission Rule 19 of Procedure, I have an interest in this matter and information that I realize would be useful to the Commission in coming to an important and valid decision regarding OPG's application. Thank you for your serious consideration in your on-going efforts to **regulate the use of nuclear energy and materials in Canada to protect the health, safety, security of Canadians and our environment** on behalf of all Canadians.

As a citizen environmentalist for over fifty years, I posit that the current, extremely dire global situation means we cannot continue with a 'business as usual' (BAU) approach to the generation of our necessary energy sources. Instead, I recommend that Ontario radically change direction in energy planning, and in the context of this current application, should reject OPG's request outright. Since I don't seriously believe you will be willing to take this action, because of the huge implications for the status quo of current investments and other economic and energy factors, then I recommend instead, limiting their application for a renewed licence to operate for a **maximum of a five to ten year range**.

My reason for this specific recommendation is that given the intensity and rate of change in our world environment, the many climate/weather-related issues, global political volatility, and universally noted unpredictability of trends and risks at this moment, all make planning for a 30-year period is truly unrealistic, uncalled for, and without merit. The Canadian public deserves to have official hearing input points on our nuclear program at minimum every ten years…. And every five years would be preferable, to give us more flexibility and choices. We deserve the right to directly and officially question the government's rationale for their nuclear industry plans and operations more often, not less. The government has avoided having scrutiny of this branch of operations, and seems to want to keep it that way, as do the many private actors who benefit from this industry. Other related reasons will be presented throughout my submission.

Cutting directly to the heart of these most urgent matters, I present to you (below) a personal email communication I had with Dr. Mark Z. Jacobson, Professor of Civil and Environmental Engineering at Stanford University, Director, Atmosphere/Energy Program in that Department (2004 - Present), and Senior Fellow at the Woods Institute for the Environment and at the Precourt Institute for Energy. See web page: http://web.stanford.edu/group/efmh/jacobson

Professor Jacobson's career has focused on better understanding air pollution and global warming problems and developing large-scale clean, renewable energy solutions to them. Toward that end, he has developed and applied three-dimensional atmosphere-biosphere-ocean computer models and solvers to simulate air pollution, weather,

climate, and renewable energy. He has also developed roadmaps for over 140 states and countries, including Canada, with specific, real world details on how to attain 100% clean, renewable energy for all purposes, using computer models to examine grid stability in the presence of high penetrations of renewable energy.

I deeply believe that CNS Commissioners need to actually and seriously consider alternative viewpoints if we are to not only survive this time of global climate emergency, but turn it around, and return to be able to thrive as a species, and enable other species to thrive, resurrect our many greatly destroyed environments and habitats, and clean up our global messes. And to be frank, nuclear wastes are a serious concern because of their EXTREMELY long-lived natures, their strong natural potential to damage living cells, and cause cancers and other genetic disruption. Not to imply it is the only mess we need to contend with, but it is a unique and particularly dangerous one, of many. And given that it is now widely acknowledged that we must eliminate 80% of carbon emissions by 2030–a short time away, to avoid the very worst of climate disasters, then many current, established practices need to change now. While it is obviously true that nuclear power is not carbon-based, still, with a little discernment, we can see that that characteristic alone is not sufficient to guarantee it is a safe and advisable approach. Please read on!

Below this paragraph is Dr. Jacobson's communication with me from January 2025, including links to his documents which, with specific facts about our current energy supplies, detail how Canada can transition right NOW, off of both carbon-based and nuclear power. His main point is that given the long lead time to new and refurbished nuclear builds, and their excessive costs of **3 -4 times greater** than current wind, water and solar (WWS) installations, (levelized, and not even including the humongous costs of waste storage) that **nuclear is actually slowing down the needed global transition to net zero emissions in energy sourcing**. Of course, we know that nuclear is not a carbon-based energy source, but it *is* based on an ionizing radiation-source of energy and that is not worth it, nor needed, as he proves:

> . "Here is our plan for Canada to go to 100% clean, renewable energy for all energy purposes while saving money, **improving health and climate, and using little land**.
>
> https://web.stanford.edu/group/efmh/jacobson/Articles/I/149Country/24-WWS-Canada.pdf
>
> It has been published in this paper:
>
> https://web.stanford.edu/group/efmh/jacobson/Articles/Others/24-Firebricks.pdf
>
> Also, here are the reasons nuclear is not needed or helpful and the seven main problems associated with it, in detail:
>
> https://web.stanford.edu/group/efmh/jacobson/WWSStillNMN/SNMN-WhyNotNuclear.pdf

That is from a new book (not yet published) called *Still No Miracles Needed*. However, the original book, *No Miracles Needed*, which contains a similar section, is published.

https://web.stanford.edu/group/efmh/jacobson/WWSNoMN/NoMiracles.html "

In case you are not going to open the paper on the reasons nuclear is not needed or helpful and the seven main problems associated with it, in detail, I present to you here the index of what it covers, in case you realize how important this information is–and hopefully decide to read it:

"8.10. Why Not Nuclear Electricity?
8.10.1. Risks Affecting Nuclear's Ability to Address Global Warming and Air Pollution
8.10.1.1. Delays Between Planning and Operation and due to Refurbishing Reactors
8.10.1.2. Air Pollution and Global Warming Relevant Emissions from Nuclear
8.10.1.3. Nuclear Costs
8.10.2. Risks Affecting Nuclear's Ability to Address Environmental Security
8.10.2.1. Weapons Proliferation Risk
8.10.2.2. Meltdown Risk
8.10.2.3. Radioactive Waste Risks
8.10.2.4. Uranium Mining Health Risks and Land Impacts
8.10. Why Not Nuclear Electricity?

In evaluating solutions to global warming, air pollution, and energy security, two important questions that arise are
(1) should new nuclear electricity-producing plants be built to help solve these problems,

and (2) should existing, aged nuclear plants be kept open as long as possible to help solve the problems?"

So I am not being facetious in the least when I recommend this paper and also, most importantly, his other paper which outlines in complex detail how this urgent transition can realistically be achieved here in Canada, how the newest large scale solar and wind installations complement each other and how two different very improved energy storage systems would provide all the 'gap' coverage that a modern society such as ours would require. I hope you consider his body of work 'required reading" to be a responsible nuclear safety commissioner for Canada.

At so many hearings, the CNSC has heard from so many dedicated citizens who espouse and attempt to communicate this alternative viewpoint to the Commission. Many. like myself, are life-long environmental activists, scientists, and others who simply care so deeply about our dear earth. The vast majority of us receive zero compensation for our activities in this field. We just care that much about our environment and about what we are leaving for all future generations, and accept the inconvenience of the moral imperative to act on what we see. Even the previous CNSC President, Madam Velchi agreed when it was pointed out in a hearing that, almost exclusively, the intervenors who were speaking in support of various nuclear projects

were either paid employees, students studying to become nuclear engineers, or business owners and others who directly benefit from the nuclear industry! I hope you will ask yourself why is there such a credibility gap and such a difference of opinions between us?

Worth mentioning, too, are the numerous top level nuclear developers, engineers, scientists, and doctors from the past 75 plus years who were first leaders in this field and then wound up deserters once they fully comprehended and honestly evaluated the field they had made significant contributions in, including some of the top engineers and others on some of Canada's historic nuclear developments. Also noted are Dr. John Gofman,co-discoverer of the nucleotide Uranium-233 and its fissionability along with other isotopes of uranium and protactinium. Dr Rosalie Bertell of Canada studied the health effects of ionizing radiation deeply as an an internationally recognized environmental epidemiologist, cancer researcher and public health advocate. These people, and so many others, who first believed in the nuclear dream, were willing to publicly adjust their allegiances once they fully saw what nuclear was delivering to the world.

I hope you can read Dr. Jacobson's papers and consider in your own hearts exactly why you think the nuclear option is so right and safe and health-promoting! And maybe consider starting to make decisions which can at least give way to a future with more options that are way gentler to the earth and all its living creatures, its water and air quality, and the safety of our food and land. Especially now that it has been clearly demonstrated by Dr. Jacobson and others that we do not need nuclear to move to net zero, and in fact it turns out to be an expensive hindrance and health risk to us all. The powerfully vested financial interests of the past decades have worked hard to keep this truth hidden and make false projections that nuclear energy is clean, green and safe. How can something that remains so dangerous to living cells for so long (tens of thousands and even millions of years, as you know) that has to be keep out of our environment all that time (an impossible task) and guarded from terror risks from violent aggressors– be considered 'safe' in any sense? Why, why, why burden ourselves in this hopeless way, I truly ask you all. I would very much welcome hearing your personal answers to these honest and critical questions by email to my address on record there. I would appreciate that!

That brings me to **one critical point from the hearing in January for the licence to build the first of the potentially four BWRX-300 reactors for the Darlington New Nuclear Project**. In that hearing, during my intervention, I was asking about the immediate proximity of Darlington's power stations to Lake Ontario, and expressing how so many indigenous and other citizens repeatedly mentioned the sacredness of our precious bodies of water during numerous hearings. And how at hearings about facilities at Darlington, and Pickering, Chalk River, and at Bruce Peninsula, these admonitions have not been headed by the CNSC or the operators and planners of these installations and sites.

Well, at that time, the OPG staff proudly explained that absolutely no nuclear materials are planned to be emitted to Lake Ontario, and that the radioactive water in contact with the fuel is totally separate from the lake water which is used to cool parts of the plant. ***Well, I did not have***

the presence of mind then to report back that this is not any meaningful reassurance, for two reasons:

First of all, there is always the potential for *unplanned* emergency radiological leaks of tritium or carbon 14 or gases such as iodine 131 or the noble gases – Of course, the plants are designed to keep these and many, many other radiological substances produced in the internal reactions – out of the environment, but as we all have noted in life, unplanned and unhoped for accidents, including major nuclear accidents, do occur! And they bring risks to our health.

And secondly, very commonly, and actually planned for in the operation of the Darlington and most other nuclear plants, are the water releases from the plant which are *not radiological* in content, but are still dangerous to our precious water of life: These releases are an example of ***thermal pollution:***

Thermal pollution from nuclear power plants can severely impact aquatic life by altering water temperatures, reducing dissolved oxygen, and changing the composition of ecosystems. Warm water from these plants can create habitats unsuitable for native species, leading to biodiversity loss and potential species extinction.

A few examples of how thermal pollution damages aquatic life:

- **Reduced oxygen levels**:
  Warm water holds less dissolved oxygen than cool water, leading to hypoxic (low oxygen) conditions. This can suffocate fish and other aquatic organisms.
- **Algae blooms:**
  Warm water can promote rapid algae growth, leading to algal blooms that consume oxygen and block sunlight, further harming aquatic life.
- **Habitat changes:**
  Thermal pollution can alter the composition of aquatic communities, with native species being replaced by more heat-tolerant species. This can disrupt food chains and ecosystem function.
- **Direct mortality:**
  Some organisms are particularly sensitive to temperature changes and may experience direct mortality from the heated water.
- **Impact on plankton:**
  Plankton, which form the base of the food web, can be significantly affected by thermal pollution, leading to changes in their abundance and community structure.
- **Altered metabolism:**
  Increased water temperatures can accelerate the metabolism of aquatic animals, leading to increased energy consumption and potentially reducing their overall health.
- **Migration and distribution changes:**
  Some species may migrate away from areas affected by thermal pollution, leading to changes in their distribution and abundance.

And in an entirely other way, these thermal releases are notable contributors to global warming trends which we can ill afford now.

So despite all their sincere assurances, creating thermal pollution is not respecting the sacredness of our aquatic life, our water systems, nor our climate forces, which are subtly balanced in composition, (or at least used to be), and clearly are not fully understood by modern industrial cultures and societies such as ours.

Other Major Concerns:

I fear that giving Darlington NGS a 30 year licence to operate when there remain so many safety concerns would not be taking responsibility for protecting Canadian health and safety seriously enough. There are still so many unanswered questions about the safety design of the refurbished plants and the upcoming Darlington New Nuclear Project, especially in terms of incomplete designs, insufficient safety systems despite many attempts at overlapping layers, and inappropriate delegation of decisions from CNSC to their staff. All worrisome, as is the as yet incomplete Provincial Nuclear Emergency Response Plan, and the many waste management problems, including the new and untested deep repositories, and the close proximity of dry storage containers on the shores of Lake Ontario. These are just a few samples of many loose ends at Darlington. So giving a 30-year licence would amount to giving the operator a carte blanche to proceed as they will, without any further official public scrutiny for 30 years. Simply outrageous!

If, as Commissioner Hopwell stated to me in the January hearing, that the Commissioners in fact, share my deep concern that nuclear projects are carried out in complete safety, then I ask why are there no commission members who are openly critical of our nuclear industry? Why are no indigenous leaders who want to protect their lands and waters invited to be Commissioners? Scientists and engineers such as Dr. Gordon Edwards and Dr. Ole Hendrickson who speak out regularly about nuclear practices – all of these additions would so broaden the true considerations of the Commission, and beyond any doubt, improve its functioning in light of its true mandate.

As Commissioners, you are in a position of responsibility to tell the Ministry of Energy and Natural Resources that having only people who fully support the development of nuclear energy on the CNSC, precludes having a more rigorous safety process. Having people of more varied scientific persuasions would guarantee a more genuine process. Expert intervenors who object to this, And the indigenous nations who have extremely long-lived histories of continuous residency in Ontario and their wisdom protected and handed down all that time, other municipal representatives and engaged citizens should all be included. Yes, it would be a very different CNSC – but a better one, in my opinion.

Another major concern of mine is the way that the CNSC acts as if, and reports that we are, a great and effective participating member of the International Atomic Energy Agency. Yet, we are

absolutely contravening one of their major principles and policies: separation of nuclear safety agencies from nuclear development and promotion agencies within any member government.

The IAEA strongly advocates for separating nuclear safety regulatory bodies from those responsible for promoting nuclear development and utilization within any government. This separation is crucial to ensure the independence of safety regulators and prevent potential conflicts of interest, ensuring that safety concerns are prioritized without being compromised by the interests of promoting nuclear activities.

Here's why the IAEA emphasizes this separation:

- **Independence and Objectivity:**
  Nuclear safety regulators must be able to make decisions based solely on safety considerations, without being influenced by the goals of promoting nuclear energy.
- **Avoiding Conflicts of Interest:**
  If the same body is responsible for both promoting and regulating nuclear activities, there's a risk that regulatory decisions might be influenced by the desire to advance the nuclear industry, rather than prioritizing public safety.
- **Maintaining Public Trust:**
  A clear separation of functions helps maintain public trust in the safety regulatory process, as it demonstrates that safety concerns are being addressed objectively and without undue influence from other stakeholders.
- **Effective Regulation:**
  A separate regulatory body can focus its resources and expertise on ensuring the saoperation of nuclear facilities, without having to balance that with the promotion of nuclear technologies.

The IAEA's stance on this issue is strongly reflected in its Safety Standards and other guidance documents, which emphasize the importance of an independent and effective regulatory framework for nuclear safety. With the strong support of the IAEA's Commission on Safety Standards, the IAEA is working to promote this approach globally for all member countries to have this clear governmental, legal and regulatory framework for safety. Canada is NOT compliant with this critically important principle, despite the fact that it has been encouraged and demanded by a full range of civil society organizations and other groups here in Canada. Here are some excerpts from a Backgrounder paper from the Canadian Environmental Law Association (CELA) from 2022:

BACKGROUNDER – NEED FOR SEPARATION OF MINISTERIAL REPORTING BY CANADIAN NUCLEAR SAFETY COMMISSION AND ATOMIC ENERGY OF CANADA LIMITED:
RECOMMENDATION
The nuclear safety regulator in Canada and the Crown agency Atomic Energy Control Limited should each report to a separate Minister of the Crown. This can be accomplished by naming separate responsible Ministers for each of the applicable statutes, namely the Nuclear Safety and Control Act, and the Nuclear Energy Act. **No new legislation is required.**

This Backgrounder provides rationale for a change so that the nuclear safety regulator, the Canadian Nuclear Safety Commission, reports to and through a separate Minister of the Crown than those agencies and departments that promote the development and use of nuclear power (Atomic Energy of Canada Limited and Natural Resources Canada). This is consistent with guidance of the International Atomic Energy Agency, and has been recommended for many decades in trusted Canadian reviews and reports. The legislative mechanisms to appoint separate Ministers are already in place because of amendments made to the relevant pieces of legislation in 1997, but **action has never since been taken to separate these Ministerial reporting relationships and functions**

The consequences of continuing with the status quo in Ministerial accountability over nuclear matters will be a continuing serious lack of trust in the CNSC as a regulator and may lead to increased risk of hazards to the public and the environment. It is in the interests of the government, the public, and the nuclear industry that this long-standing issue be corrected as quickly as possible.

BACKGROUND AND JUSTIFICATION

Importance of separation of responsibility and independent oversight of nuclear activities

Investigations of many of the nuclear accidents that have occurred worldwide show that they have been enabled by a lack of clear boundaries and improper allocation of responsibility between nuclear plant operators and regulators.

The on-going and unresolved problem of independence in respect of the safety regulator arises from the fact that the Canadian nuclear regulator, the CNSC, reports to Parliament through the same minister as does AECL, that is through the Minister of Natural Resources. This is also contrary to the IAEA General Safety Guide which Canada claims to respect.

Ministerial oversight conflict

The inherent conflict between safety regulation of nuclear power and promotion of the production and use of radioactive substances is embodied in the reporting relationship between the CNSC, the Minister of Natural Resources Canada and the Parliament of Canada because the explicit requirement for promotion and utilization of nuclear power falls to that Minister by way of responsibility for the Nuclear Energy Act.

An alternative approach could have protection of the environment from radionuclides overseen by Environment and Climate Change Canada (ECCC). A parliamentary committee in 1988 called for this reporting relationship to be with Environment Canada. The on-going and unresolved problem of independence in respect of the safety regulator arises from the fact that the Canadian nuclear regulator, the CNSC, reports to Parliament through the same minister as does AECL, that is through the Minister of Natural Resources. This is also contrary to the IAEA General Safety Guide, as discussed further below.

This inherent conflict of interest in aims (protection of the public and the environment, versus promotion of the industry) had existed in legislation until the prior statute was revoked and replaced with the current legislation, the Nuclear Safety Control Act in 1997. At that time, the former Atomic Energy Control Board was renamed the Canadian Nuclear Safety Commission, as it remains today, and the mandate of “promotion” and “utilization” was removed and placed with Atomic Energy Canada Limited and the Minister under the Nuclear Energy Act. Prior legislation had also attempted to separate the Ministerial reporting relationships, but had not been passed.When legislation was eventually passed in 1997 to establish the Canadian Nuclear Safety Commission in place of the former Atomic Energy Control Board, it was separated entirely from the legislation that deals with the functions of Atomic Energy of Canada Limited.Each statute has a provision or mechanism for the GIC to name the responsible Minister.

Unfortunately, despite this former plan to separate Ministerial responsibility, governments in Canada have continued to name the same Minister, that of Natural Resources Canada, as the delegated Minister under each statute. As a result, at present both the CNSC and AECL report to Parliament through the same Minister. One could envisage the difficulty if the regulator’s report raised issues whereby one of its licensees, the AECL or AECL’s contractors was out of compliance with regulatory requirements, or if governmental directives over safety and nuclear promotion were at cross-purposes. Similarly, the Minister and Cabinet have respective powers to issue policy directives to the CNSC and to the AECL.

Policy directives could be at cross purposes. In theory the mandates and visions of the AECL as a developer of new nuclear technology and of the CNSC as a safety regulator should not be fully aligned.

Each has a different priority and focus. The AECL states that its vision is “driving nuclear opportunity for Canada.” AECL describes its role as delivering on The Federal Nuclear Science and Technology Work Plan across fifteen departments of the Canadian federal government.

The ongoing failure to correct this issue, where the CNSC and the AECL report to the same Minister, contravenes the *Convention on Nuclear Safety* to which Canada is a party, which says “Each Contracting Party shall take the appropriate steps to ensure an effective separation between the functions of the regulatory body and those of any other body or organization concerned with the promotion or utilization of nuclear energy.”

Other bodies have recommended in the past that Ministerial oversight of nuclear regulatory functions and the nuclear development and promotion functions should be separated between different federal Ministers. The Standing Committee on Environment and Forestry recommended in 1988 that the regulator should be responsible to Environment Canada, rather than to the Department of Energy, Mines and Resources. Similarly, the Advisory Committee on Nuclear Safety responded to a recommendation of the Ontario Nuclear Safety Review, agreeing that the AECB as it then was, and the AECL should report to Parliament through different ministers of the Crown.

In a recent response to a Petition filed through the Commissioner of Environment and Sustainable Development, which was developed together with the Ministers of Environment and Climate Change, Foreign Affairs, Justice, Finance, and the President of the Treasury Board, then Natural Resources Minister O'Regan confirmed that the Governor in Council "has the authority to designate another Minister for the purposes of the Nuclear Safety Control Act. The result would be to change the Minister who is responsible to Parliament for the CNSC and through whom the CNSC's annual reports are tabled in Parliament." A corresponding change, he noted, would need to be made under the Financial Administration Act. His response stated that, "As with any decision respecting the machinery of government or the mandate of ministers, a decision to change the reporting relationship for a government entity would be made by the Prime Minister of Canada as per the Privy Council Office Guide for Ministers, Open and Accountable Government."

Wouldn't it be a true shame if a nuclear accident occurred under the current entwined, unsatisfactory state of affairs, after so many different but complementary recommendations have been made with the same goal in mind, which would comply with the IAEA so much more? This is why the CNSC is known by many around the world to be a captured regulator.

The now privatized owners of a number of nuclear agencies are more than happy to have access to the public purse strings through this very cosy and under-monitored state of affairs. This is my blunt assessment. They are more than willing to burden future generations with the unfathomably large nuclear debt, which will only be increasing as more attempts at nuclear waste management are experimented with. I am not personally willing to do that at all. I think we need to stop the nuclear bleeding now… but I don't truly have any true hope for it, unless the Commission suddenly takes the reins and puts its foot down. Are you prepared to do this?

Thirty years is a long time to give free reign to a mixed safety regulator/developer/promoter in this era of great uncertainty. Why not give them licences in 5 year increments, and review with official hearings how things are progressing internally and also out in the world of alternative developments at those intervals? What have you got against doing that? It would only provide an opportunity for greater oversight, and perhaps more Parliamentary- and Ministerial-responsibility taking, which I believe wholeheartedly would mean a vastly improved environment for more public safety. CNSC staff already talk of "framework perspectives" and "internal benchmarking" and "executing compliance verification" and "review analyses to be satisfied that the applicant remains within the licencing basis, before moving on to the next step." That all sounds good, but if it were being done within 5 year licences instead of a hugely vague 30 year licence, public safety would be much better protected.

Licencing requires an adequate maintenance of national security, but how can OPG guarantee that no terrorist attack will happen from the lake side, which has an international border through it, or from air or land? Of course, it cannot. And this very populated location has lots of people to protect and keep safe. Another example, from around the world, last December, Russia continued to bomb Ukraine's nuclear and other energy infrastructures, and the very head of the

IAEA, went on site to be involved in assuring some semblance of safety. This is not an irrational fear of some illiterate public: No, this is the head of the largest nuclear organization in the world, working directly on site, during a full blown war, to prevent yet another nuclear disaster.

Another important licencing basis criteria for our nuclear program is to fully meet the requirements of all of Canada's international obligations, including the aforementioned engagement of the Indigenous nations as *equal partners in our nuclear safety regulation procedures,* as they pursue their rights to UNDRIP with clear procedural guarantees for informed, prior consents. A 30-year licence would preclude official hearings and public scrutiny to continue to establish if Canada is truly meeting these international obligations it claims to do, in the field of indigenous nations.

In conclusion, this request by applicant OPG can simply not make adequate provision for the health and safety of persons: nuclear energy is NOT completely safe because of its innate nature of ionizing radiation, dangerous for living cells. We here in Canada have been blessed so far by avoiding any huge nuclear disaster, and our safety record is fair, but hidden episodes tell the whole story (see below).

Exposure can cause pernicious anemia, and create horrific birth defects, as witnessed at the Marshall Islands, and in Kazakhstan where over 400 above ground tests carried out ruined it for human habitation. Around Chernobyl and Fukushima, all evacuees have yet to be allowed to return. Dangerous radioactive pollution persists with clear histories of negative health outcomes near Rocky Flats, Colorado, in Hannaford, Washington and in native communities in New Mexico which were not warned of the dangerous lack of health and safety standards in the uranu\ium mining work offered. – These are just a few of many global histories of serious persistent health problems, originally denied or hidden, contrasting with the industry's persistent, unbelievable claims of universal nuclear safety!

Ontario had two nuclear reactor accidents at Chalk River in the 1950's, with uncontrolled chain reactions, coolant leak, core damage, a meltdown, hydrogen explosions, a blasted containment cover, a fuel rupture, uranium fire, and a broken, burning fuel rod. And I'm sure the nuclear experts there were totally convinced of the absolute safety of those two reactors beforehand! Port Hope has a public history of radioactive contamination causing many sicknesses and mishandling of nuclear waste. At the Bruce Unit 1 reactor, over 500 contract workers were contaminated in 2009, with plutonium-bearing dust that they inhaled because of a simple, sad failure to give them protective respirators. Similarly, fluorspar miners in Newfoundland suffered a significantly higher incidence of lung cancers from breathing radioactive radon gas.

The powerfully misleading industry claim, that "We will never compromise on safety." is disproved by this storied, stifled and frequently hidden history of nuclear power over the past century. Yet CNSC employees still have the gall to 3talk about the " public's fear of a technology that they do not understand." In my view, the public understands it better than some employees who seem to have a magical belief in an unreal, innocent nature – based on so many cover-ups and in some cases, outright lies.

I hope that the Commission will do justice to the numerous pleas of intervenors to take a much more conservative approach to Canadian health, safety and concern for our environment as is your mandate. In this regard, short of hoping that you would turn down their licence request entirely, I fully recommend a much shorter licence period, such as 5 years, or 10 at maximum. This would provide the many members of the concerned public from many varied communities and indigenous nations the opportunity to participate in official hearings, get to more closely monitor events as they unfold, and play a much greater part in contributing to the evolving character of the Canadian nuclear industry and also to our energy provision alternatives.

Thank you very much for your time and serious consideration of my intervention.

Judith Fox Lee
Perth, ON
May 8, 2025
For the Public Record