April 21, 2026

RE: Comments: to the IAAC re: to its Draft Integrated Tailored Impact Statement Guidelines: New Nuclear at Wesleyville Project.

Hello,

I are writing to comment on two issues:

1) Alternatives to the proposed project; and

2) Management options for used nuclear fuel.

1) Alternatives to the proposed project

Ontario Power Generation (OPG)'s request for permission from the Impact Assessment Agency ofCanada (IAAC) to build the world's largest nuclear station in Port Hope, Ontario would cost about $230 billion and cause our electricity rates to skyrocket.

The IAAC's Draft Guidelines state that it is not planning to examine whether there are lower cost alternatives to providing our power since OPG told it that "there are no alternatives to the project that are technically and economically feasible".

However, contrary to OPG's assertion, the facts are as follows:

1)The Ontario's Independent Electricity System Operator (IESO) recently announced that it is procuring new wind and solar power at an average cost of only 8.8 cents per kWh. - 30% cheaper than OPG's current price of nuclear energy - and 60% cheaper than OPG's proposed price for its nuclear energy next year.

2) One of the world's most respected financial advisory and asset management companies, Lazard, states that new wind and solar combined with storage is 50% cheaper than new nuclear reactors.

3) wind and solar combined with lithium-ion batteries can provide Ontario with reliable 24/7 electricity at a lower cost than new nuclear reactors (IESO).

4) All of Ontario's electricity needs could be met by Great Lakes offshore wind power with a lakebed footprint of less than one square km.

5) Additionally, solar farms with a footprint equal to 4/10ths of 1% of Ontario's land area could also meet all of Ontario's electricity needs.

Recommendation #1: The IAAC should evaluate if Ontario's electricity needs could be met at a lower cost through an integrated combination of energy efficiency, demand management, wind and solar energy, water power, and energy storage.

2) Options to manage used nuclear fuel

The Nuclear Waste Management Organization (NWMO), owned by Canada's nuclear power companies, suggests that radioactive nuclear wastes must be fully isolated from people and the environment for one million years or more.

Ontario Power Generation (OPG) is proposing three sequential methods for the storage of its nuclear reactors' wastes: a) wet storage; b) dry storage; and c) offsite storage in a deep geological repository (DGR).

Wet Storage

Freshly discharged spent nuclear fuel is so hot that it must be put in wet storage pools to cool down. If the storage pool loses water due to a terrorist attack or other disruption (e.g., earthquake), the nuclear fuel rods could catch fire and release radiation to the atmosphere.

According to the U.S. Nuclear Regulatory Commission, a fire in a densely packed U.S. spent-fuel pool could release 100 times as much radiation into the air as was released by the Fukushima accident. This could require the evacuation of millions of people and cause 20,000 cancers.

Fortunately, the adverse consequences of a pool fire can be dramatically reduced by transferring the spent fuel rods to dry storage when they have cooled enough to do so.

According to GE-Hitachi, the spent fuel rods from OPG's proposed new nuclear reactors at Darlington could be transferred to dry storage after they have been in a wet storage pool for 2.5 years. Nevertheless, OPG is proposing to keep them in wet storage for 7 to 8 years.

More than 50% of the spent fuel rods at the Pickering Nuclear Station have been in wet storage for more than 10 years.

OPG is jeopardizing the safety of people, the lands and waters. This is unacceptable.

Dry Storage

According to the U.S. National Research Council, dry storage is safer than wet storage for two reasons:

1. It is a passive system that relies on natural air circulation for cooling; and

2. It divides the inventory of the spent fuel among a large number of discrete, robust containers. These factors make it more difficult to attack a large amount of spent fuel at one time and reduce the consequences of such attacks.

Currently, the dry storage containers at the Pickering, Darlington and Bruce Nuclear Stations are housed in conventional warehouse buildings on the edge of Lakes Ontario and Huron.

In Germany, six nuclear stations have on-site, above-ground, attack-resistant reinforced concrete vaults for the storage of their nuclear wastes. The concrete walls and roofs of these vaults are approximately 1.2 and 1.3 metres thick respectively.

The International Joint Commission's Great Lakes Water Quality Board is calling for OPG's interim on-site storage facilities to be "hardened" to protect them from terrorist attacks, and located away from shorelines to prevent them from being compromised by flooding and erosion.

According to a report prepared for OPG, the total capital cost of building above ground, attack-resistant, reinforced concrete vaults at the Bruce, Pickering and Darlington Nuclear Stations would be $236 million (2002$) per station.

Nevertheless, OPG has chosen not to do so. **This project needs to be carried out, starting now.**

Deep Geological Repository

In the long-term, OPG is hoping that its nuclear wastes can be transferred offsite to a permanent storage facility located on First Nations' traditional territories where they would be placed in caverns 500 to 1,000 metres below ground. That is, in a deep geological repository (DGR).

According to the NWMO, if a radioactive release occurs in a DGR "it may be difficult for a future generation to detect the breach in a timely way and take corrective action."

There is no DGR facility for high-level nuclear fuel wastes currently operating anywhere in the world despite decades of effort on the part of the nuclear industry to establish such a facility. In Canada, after almost 50 years of trying to solve the long-term radioactive waste problem, there is still no site accepted by a "host" community and there is no completed design for the DGR itself.

In addition, the used-fuel transfer facility is still in the conceptual stage, as is the transportation system for getting waste from nuclear stations to the DGR. As a consequence, the high-level nuclear wastes at OPG's nuclear stations may remain onsite far into the future.

(See Clean Air Alliance: June 2025 - Port Hope's Electricity Future: Wind & Solar or New Nuclear?)

Recommendation #2: The IAAC should evaluate the benefits and costs of transferring the proposed nuclear station's used fuel from wet to dry storage as soon as physically possible.

Recommendation #3: The IAAC should evaluate the benefits and costs of establishing onsite, above-ground, attack-resistant reinforced concrete vaults for the interim and/or long-term storage of the proposed nuclear station's used fuel.

Thank you for a full consideration of alternatives to OPG's proposed project, and of the recommendations above re: the management options for used nuclear fuel.

Belinda Cole

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