



Alberta Wilderness Association
"Defending Wild Alberta through Awareness and Action"

May 14, 2025

Integrated Review Team for the Proposed Peace River Nuclear Power Project
Impact Assessment Agency of Canada / Government of Canada
Sent by E-mail: peacenuclear-nucleairepaix@iaac-aeic.gc.ca

Dear Integrated Review Team,

Re: Proposed Peace River Nuclear Project

Alberta Wilderness Association (AWA) appreciates the opportunity to provide comments on the Initial Project Description for the proposed Peace River Nuclear Project and participate in the integrated assessment process.

Founded in 1965, AWA strives to help Albertans understand the intrinsic values that wildlife and wilderness provide and encourage communities to participate in conservation initiatives that will ensure a legacy for future generations. With over 10,000 members in Alberta and across Canada, AWA is dedicated to conserving Alberta's wilderness and advocating for conservation strategies that protect Canada's biodiversity.

Preamble

AWA recognizes and emphasizes the need for Alberta to transition to sustainable, non-emitting sources of energy to reach net-zero emissions by 2050 to help address and mitigate climate change. Climate change is primarily driven by greenhouse gas (GHG) emissions released by the combustion of fossil fuels such as coal, oil, and gas.

Transitioning to non-emitting energies in Alberta would significantly reduce provincial emissions and energy demand. It would also help Canada meet its climate commitments, as Alberta's fossil fuel industry is responsible for 22 percent of Canada's total emissions. As a country with one of the highest per-capita emissions, Canada must do more to meet global climate goals and avoid catastrophic warming beyond 1.5 °C.

AWA supports an immediate phase down and timely phase out of fossil fuel production in Alberta in line with international climate commitments. However, all future development of non-emitting energy sources needs to happen in a responsible, sustainable, and equitable manner, to prevent further damage to Alberta's environment and avoid repeating the harms caused by extractive industries to Indigenous Nations and local communities.

Detailed Comments

The proponent's assert the purpose and need for the nuclear project is to meet electricity needs and reach net-zero emissions. The proponents state this project is the best choice to achieve these goals, as they consider existing solar and wind technologies as insufficient alternatives.

Researchers have proposed paths to net-zero in Alberta and Canada that do not require nuclear power, which contradicts the proponent's assertion nuclear is needed in the province^{1,2}. Further, many of the cons listed by the proponent's like "Land Use and Aesthetics", "Environmental Impact", and "Economic Concerns" are deficits shared with the proposed project. For example, they state that a detriment of solar and wind power is that they "can displace agriculture and natural habitats and may be considered unsightly". Both site options for the project are located on "predominantly agricultural land", in a region where agriculture is one of the major industries and key economies. The options are also in close proximity or overlap with Key Wildlife and Biodiversity Zones, which means the project may also displace or otherwise negatively impact natural habitats.

Similarly, in their specific remarks about the environmental impact of alternatives, it would be disingenuous to suggest nuclear projects don't also "disrupt ecosystems and involve hazardous materials".

Current nuclear power generation (including uranium mines and mills) can pollute surface and groundwater with radioactive and hazardous pollutants³. Most nuclear reactors require large amounts of cooling water and are generally located near rivers, lakes, or oceans, which typically are places high in biodiversity. Many watersheds in Alberta, including the Peace River where this project is being proposed, are already over-strained from the cumulative impacts of human activity.

Greenhouse gases, particularly carbon dioxide, are produced throughout the life cycle of nuclear energy projects, including during construction of reactors; operation of uranium mining equipment; milling of uranium ore; mill tailings management activities; refining and conversion operations; transportation of uranium between milling; refining and conversion

¹ Noel, W. & Jeyakumar, B. 2023. [Zeroing In: Pathways to an affordable net-zero grid in Alberta](#). Pembina Institute.

² Thomas, S. & Green, T. 2022. [Shifting Power: Zero-Emissions Electricity Across Canada by 2035](#). David Suzuki Foundation.

³ Canadian Nuclear Safety Commission. 2021. [Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2019](#).

facilities; and transportation of radioactive wastes⁴. As demand for uranium grows because of new electricity generation and new plant construction, CO² levels will rise in tandem.

Further, uranium mining and refining risks the release of and environmental exposure to all the harmful substances associated with mining, including lead and arsenic³. Hazardous, carcinogenic, persistent, and bioaccumulating, they negatively impact the ecosystems they are introduced to.

Nuclear energy also has an additional environmental impact not shared by solar or wind. Each stage of the production process generates radioactive and otherwise hazardous waste. No proven solution exists for dealing with highly radioactive, spent nuclear fuel. Current best practices suggest storing it in deep geological repositories that require extensive care and monitoring, and over no short term⁵. These best practices also acknowledge the fact the containers holding the spent fuel will inevitably degrade and that the repositories design will have to withstand the climate and earth changing over hundreds and thousands of years. Canada does not have any such repository yet, our existing nuclear waste, over 3 million bundles of depleted fuel rods is all held in interim facilities⁵. The required materials and waste produced will also need to be handled, transported, and stored, which introduces an inherent safety and security risk of exposing people and the environment to radioactive, dangerous, and/or toxic materials.

Finally, in the proponent's statement about economic concerns, the capital costs of nuclear projects are considerable, and Canada has long history of heavily subsidizing the industry to make projects viable. Many completed projects have been well over budget and exceed projected timelines, like the Darlington Nuclear Generating Station which similarly is comprised of four CANDU nuclear reactors. With a final construction cost of \$14.4 billion and a total output of 3,512 MWe, its completion equates to \$4,100/kWe. Another \$12.8 billion has been required in recent years for refurbishment of the station. Comparatively, solar and wind currently cost \$1,643/kWe and \$1,586/kWe respectively to construct and charge a low power price of \$0.07/kWh and \$0.05/kWh, which is projected to go down in the coming years^{6,7}.

In considering alternatives, AWA would encourage a more robust and comprehensive comparison between nuclear and its alternatives, including wind and solar, but also other

⁴ Intergovernmental Panel on Climate Change. 2011. [Renewable Energy in the Context of Sustainable Development](#).

⁵ Nuclear Waste Management Organization. 2023. [Canada's deep geological repository](#).

⁶ Clean Energy Canada & Dunsky Energy + Climate. 2022. [Cost of Renewable Generation in Canada: Final Report](#).

⁷ Alberta Electric System Operator. 2021. [Long-term Outlook](#).

potential renewable energy sources like geothermal and run-of-river hydroelectric power. The comparison of environmental impacts, cost-benefit analyses, and deployment timelines should reflect the technologies over their entire operating life cycles, including supply chains and waste management.

While the project design considers earthquakes and tornados, AWA would like to see design planning for wildfires; both proposed sites are within 10 km of a wildfire that occurred in 2023. The project design must also evaluate any risk of nuclear proliferation associated with its development. Extensive precautions must be taken to monitor and catalogue all of the nuclear material used within the operation, to prevent and protect against this threat⁸. In this regard, the project will still carry inherent risk greater than existing energy alternatives.

AWA would like to see the integrated assessment address any liabilities and potential costs of accidents associated with the nuclear project. The economic, environmental, and health damage caused by an incident have historically been the burden of the public, as insurers won't touch the industry, vendors assume no responsibility, and operators have been known to absolve responsibility.

Since the emergence of nuclear energy in the 50s, Canada has had nine incidents alone. The cause of these incidents is most often “human error, failures of *safety culture*, or the result of inadequate oversight”⁸. Alberta’s regulating bodies are already fraught managing existing industries⁹. Repeated audits have found they operate ineffectively, failing to meet the necessary criteria in many areas including⁹:

- risk management practices,
- goals, performance measurement, and public accountability,
- assessing information from supporting organizations,
- timely closure of inactive sites,
- collecting sufficient financial security and minimizing risk of inappropriate licence transfers, and
- suspension, abandonment, remediation, and reclamation regulatory processes.

There is also a storied history of companies responsible for failed operations in Alberta defaulting and skipping out on their remediation and reclamation; to use oil and gas as an example, as of 2023 there are 3124 orphan well sites and 2561 orphan pipelines to be

⁸ McClenaghan, T. 2022. Regulating the Nuclear Power Industry — the Need for Independence of the Regulator.

⁹ Office of the Auditor General, Alberta. 2023. [Liability Management of \(Non-Oil Sands\) Oil and Gas Infrastructure](#).

decommissioned, and 6892 sites that still require reclamation¹⁰. When regulators fail to hold companies responsible, the public assumes all the risk.

Following the 2011 Fukushima Daiichi nuclear accident, a key finding in the investigations following found that to strengthen nuclear safety and installations, “it is essential that the regulatory body is independent and possesses legal authority, technical competence and a strong safety culture”¹¹.

The federal regulator, the Canada Nuclear Safety Commission (CNSC), has been criticized for being captured by the nuclear industry, with critics stating CNSC is unable to effectively regulate nuclear because they facilitate its development⁸. This criticism comes from a lack of transparency and public engagement, suppression of information, questionable assessment metrics (they assume severe accidents happen once every hundred thousand operating reactor years. In practice, a severe nuclear reactor accident has occurred at a rate of once every 20 years), failure to disclose risk, use of industry-appointed standards and overuse of guidance over binding commitments. The workforce of the CNSC is known to be overly permeable with that of industry, with employees commonly moving back and forth between the licenser and the licensee. These criticisms are concerning, considering the CNSC’s focus should be as a stringent regulator of safety first and foremost⁸.

The failure of regulators to be competent, accountable, and independent of the nuclear industry is further complicated considering any consequences from a potential accident could be borne on the public and the environment.

AWA requests the assessment address what insurance and/or financial securities will be required of the project, to ensure the public and environment are protected in the event of an incident.

As Alberta is without clear nuclear policy and regulations, AWA emphasizes that robust and extensive public engagement is necessary to develop the appropriate legislation before the project proceeds. This would help inform the development of appropriate Exclusion and Emergency Planning Zones. All regional and sub-regional land-use planning for the region under the *Alberta Land Stewardship Act* should also be completed, to ensure the project is a compatible and sustainable land-use in the area.

AWA would like to see the assessment address the cumulative impacts of human development on the environment and Peace River watershed, in relation to the proposed

¹⁰ Orphan Well Association. 2023. [Orphan Inventory](#).

¹¹ International Atomic Energy Agency. 2015. [The Fukushima Daiichi Accident: Report by the Director General](#).

project, to determine if the project can operate sustainably within the environmental constraints of the region (i.e. how the project, in combination with existing human impacts, will affect wildlife behaviour, habitat, movement, species at risk and key/indicator species, instream flow needs, existing water licenses, etc.)

One benefit identified by the project proponent's is that "the growth of nuclear power in Canada also provides opportunities for partnerships with Indigenous Nations and Communities. These partnerships can provide new economic opportunities, the ability to develop new technical skills, and the enhancement of business capacity".

Development projects will have impacts on the communities they are near, which necessitates that extensive efforts are made at minimum to meaningfully engage and consult, and more ideally to provide opportunities for cooperation, collaboration, and co-management. Typically, development has been concentrated in remote, rural areas, and nearby Indigenous communities who have been given little say and influence over these projects.

Colonialism has threaded itself deeply into the fabric of Canada, and it is reflected in the many injustices wrought at the hands of industry (and the governments who enable them) against Indigenous peoples and rural communities. This is evident in existing nuclear operations elsewhere in the country. The license of Blind River's uranium facility in Ontario was recently renewed by CNSC, despite objections from Mississauga First Nation (MFN)¹². While the company in charge has a duty to consult under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), this has been inconsistently honoured in its forty years of operation. Local communities have often expressed concerns over the facilities environmental impacts and report negative effects to their health. Elders report that Indigenous burial grounds and artifacts had been exhumed during the construction of the facility¹².

Near Deep River, ON, Kbaowek First Nation and Kitigan Zibi Anishinabeg have raised the alarm that Canadian Nuclear Laboratories also failed to adequately consult them on the construction of a Near Surface Disposal Facility at Chalk River Laboratories¹³. The communities state that the company was uninterested in reviewing an environmental assessment together, and was "box-checking", which results in another example of Indigenous peoples being restricted access from their territories and dispossessed on the Land. Kitigan Zibi Anishinabeg and Kebaowek First Nation ultimately completed their own

¹² CBC. 2021. [Licence renewal for Cameco refinery in Blind River under review.](#)

¹³ CityNews Ottawa. 2023. [Nuclear regulator weighs decision as First Nations irate over Chalk River waste site.](#)

assessment and revealed concerns over potential impacts to cultural practices, wildlife, land, watersheds, and drinking water¹³.

In 2021, when consultation was completed on the prospect of a deep geological repository at Bruce nuclear power plant near Kincardine, ON, public opinion was extremely unfavourable. In the vote held for members of Saugeen First Nation, 85 % voted against its construction¹⁴. The First Nation also noted, that although they were glad for the recognition of their “free, prior and informed consent”, as well as the opportunity to exercise their jurisdiction in the region, those rights were notably ignored when the power plant was first established¹⁴.

AWA requests the proponent demonstrate how they will avoid repeating these past precedents and ensure meaningful engagement and inclusion of Indigenous Nations and local communities in developing the proposed project.

AWA appreciates the integrated assessment team’s consideration of these comments, concerns, and recommendations, and looks forward to participating in the continued opportunities for public consultation on the Proposed Peace River Nuclear Project.

Sincerely,

Alberta Wilderness Association
Kennedy Halvorson



Conservation Specialist
Email: cs1@abwild.ca

¹⁴ CBC. 2020. [Indigenous community votes down proposed nuclear waste bunker near Lake Huron.](#)