



OMG Consultation Department comments on Initial Project Document

Energy Alberta Peace River Nuclear Power Project

Summary

This document provides comments on the Initial Projection Description (“IPD”) for the Peace River Nuclear Power Project (“the Project”), submitted by Energy Alberta to the Impact Assessment Agency of Canada on April 11th, 2025. The Otipemisiwak Métis Government (“OMG”) Consultation Department assesses that the Project presents important economic opportunities for OMG citizens and their businesses, and we hope to ensure that such opportunities are maximized through close cooperation between the OMG and Energy Alberta. At the same time, the project will have some impacts on the ability of Citizens of the Métis Nation within Alberta to exercise their s.35 rights to carry out traditional land uses in, around, and downstream of the Project area (comprising proposed Project Sites 1 and 2). There are also environmental concerns related to the operation of the proposed Project that are inherent to this type of energy generation.

In order to more fully characterize these concerns and potential impacts, the OMG requires additional time and financial support to conduct detailed community engagements and a traditional land use study of the Project area. Our existing general land use data indicates Métis hunting, fishing and plant harvesting within the Project area and nearby.

- Three identified hunting areas overlap directly with both proposed Project sites,
- Métis fishing areas on the Peace River are within 500m of the proposed Project sites, and overlap with proposed water draw locations,
- Métis traditional plant and berry harvesting occurs along the shores of the Peace River (with similar vicinity and overlap as fishing above), and the shores of the Whitemud River about 2400m northwest of the Project area.

The OMG Consultation Department believes much more detail and measurable commitments are required regarding Indigenous economic opportunities and capacity building. Such a large and long-term project has the potential to transform the state of Indigenous economic development in Alberta, and commitments are required to guarantee Indigenous participation.

Other specific comments about the IPD include:



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- 1) There is a lack of discussion of tritium production, management, and leakage prevention, a known issue for other CANDU reactors.
- 2) Greenhouse Gas (GHG) numbers in the IPD do not seem to include the embedded energy (energy used in fabrication, e.g. production of concrete) of the reactor and infrastructure, nor the GHGs released in fabrication of fuel for operation.
- 3) Induced seismic activity near Peace River.
- 4) Cumulative effects on Peace River water quality.

Section 1: Métis Traditional Land Uses in the project area:

As noted in the summary, the traditional land use data presented below is preliminary, based on a desktop analysis of pre-existing data collected through broad and generalized Traditional Knowledge Studies. For a full and focused assessment of Métis traditional land uses, value areas, and rights exercise in the Project area and the potential impacts on those uses from the Project, community consultations and a traditional land use field study must be completed. As there is no time or funding to complete such work during this phase in the impact assessment and licensing process, the OMG will depend on further opportunities and funding by proponent or regulator at later stages.

Harvesting Areas

- Both proposed Project Site footprints are completely within Provincially recognized Métis Harvesting Areas A and C (see Figure 1 below,) as per the 2018 *Métis Harvesting in Alberta Policy*.

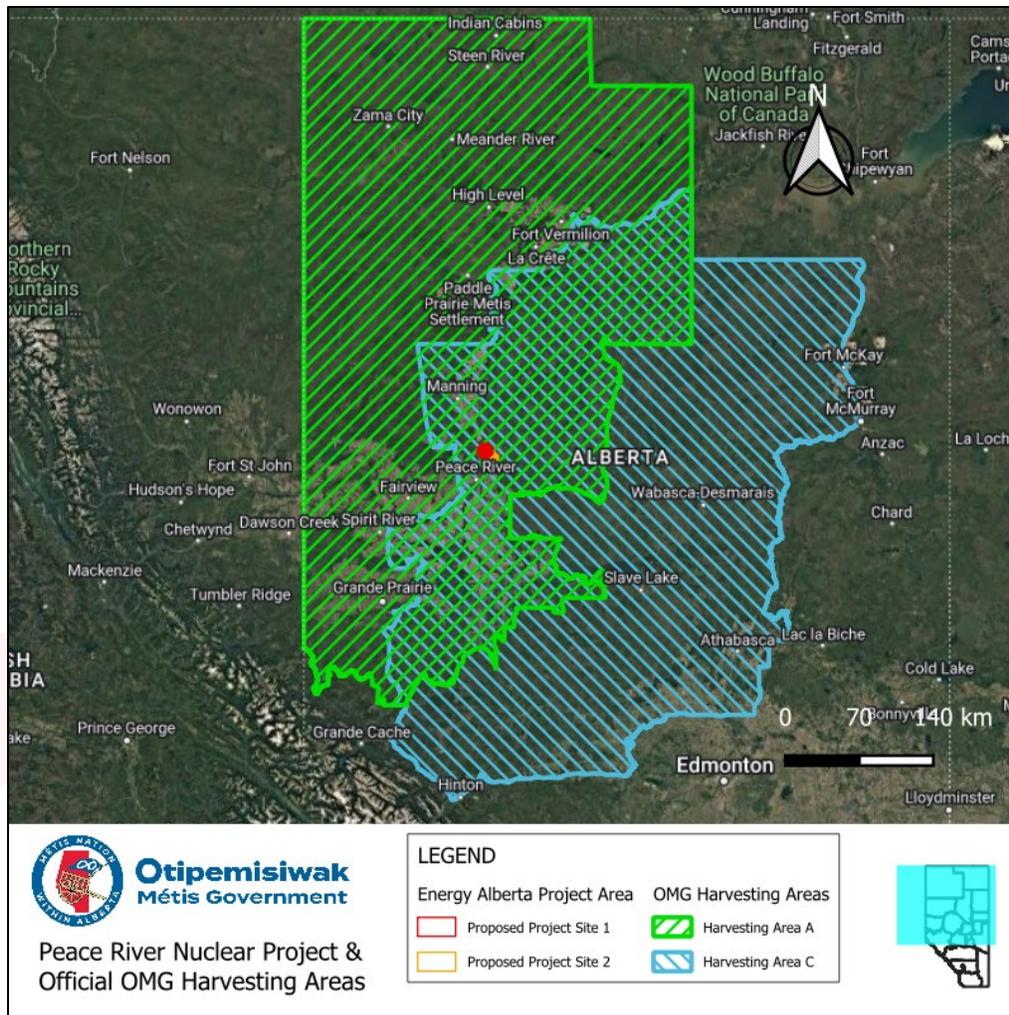


Figure 1: Official OMG Harvesting Areas

Hunting

- Three identified traditional hunting areas overlap with the Project footprint.
- Hunting areas 1 and 3 (see Figure 2 below) are large multi-species hunting areas overlapping from South & North.
- Hunting area 2 is specifically for hunting black bear.

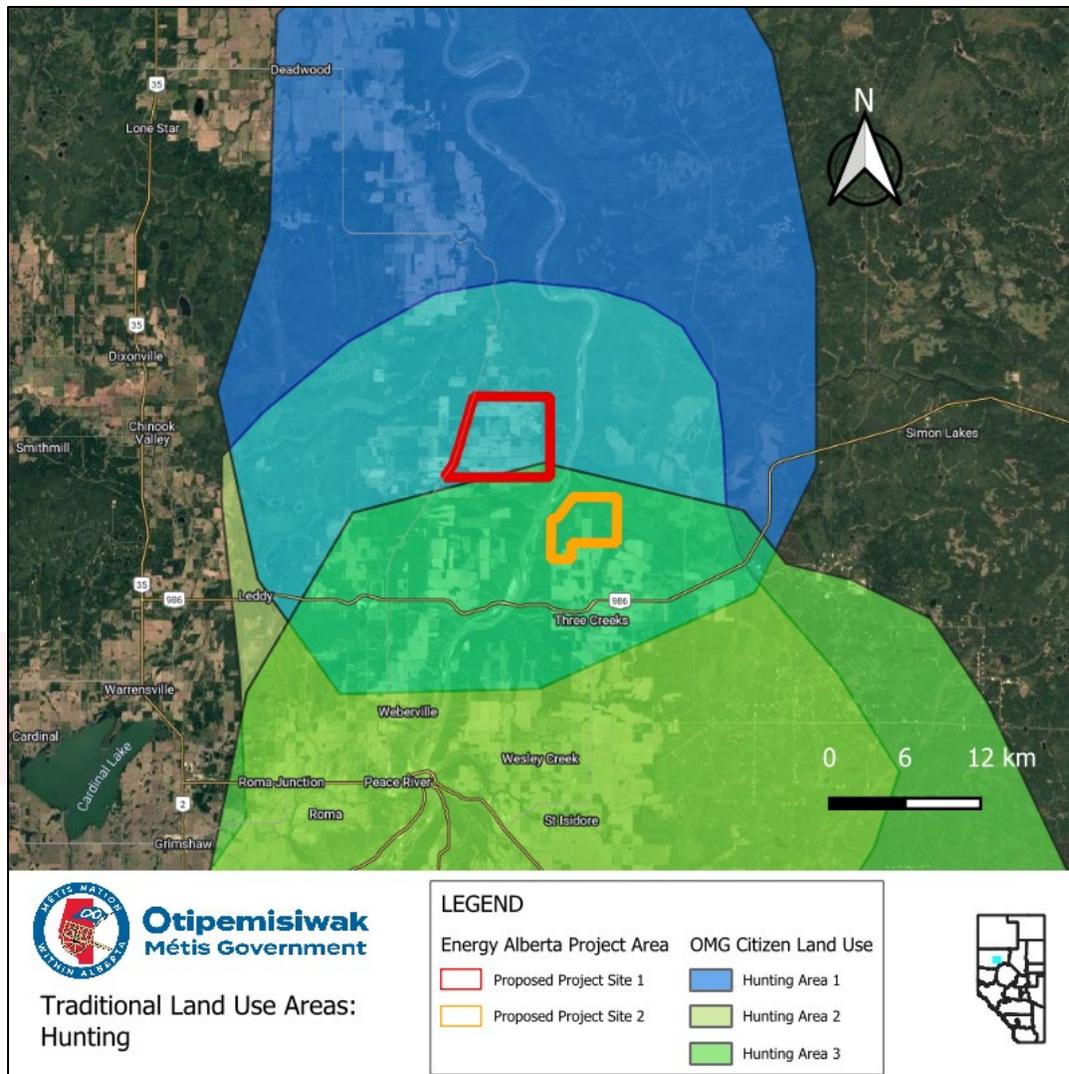


Figure 2: Hunting areas

As determined by a Stantec Traditional Land Use study conducted for the OMG in 2020, species hunted by OMG citizens in this area for subsistence and utilitarian materials (grease, hides) include, but are not limited to: antelope (pronghorn), bear (including black and grizzly), bison, wild boar, caribou, cougar, deer (including white-tailed and mule), elk, feral horse, goat, moose, beaver, coyote, fox, muskrat, rabbit, squirrel, duck (including mallard), goose (Canada goose), grouse (including spruce grouse and spruce hen), mudhen, partridge, pelican, pheasant, prairie



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chicken, sheep, turkey, and other waterfowl, migratory birds, and game birds. Bird eggs are also harvested.

Fishing

- The Peace River is identified by multiple citizens as a fishing area, including the stretch north of the town of Peace River that bisects the two proposed Project sites. (see Figure 3 below)
- Leddy Lake and Lake St. Germain, about 11km to the southwest of proposed Project Site 1, are also identified traditional fishing areas.
- Cardinal Lake, a little furth southwest, is also an identified fishing lake.

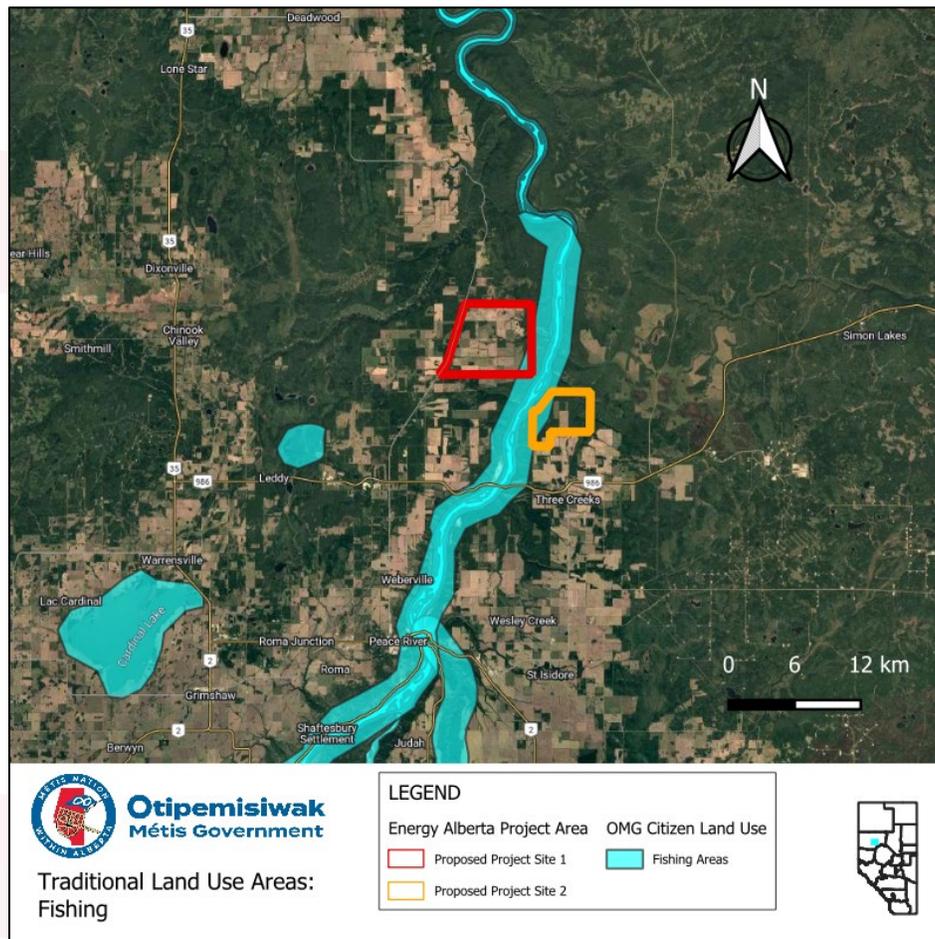


Figure 3: Fishing Areas



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Species harvested by Metis citizens in this area include, but are not limited to: goldeye, grayling, jackfish (northern pike), ling, perch, pickerel, sucker, trout (rainbow, bull, and brook), walleye, and whitefish.

Plant Gathering & Berry Picking

- Metis citizens have identified several traditional plant and berry harvesting areas in or near the Project area (see Figure 4 below).
- The shores of the Peace River itself, including the stretch between the two proposed Project sites, is a well-known spot.
- The shores of the Whitemud River are also a known location, with its closest point about 2500m northwest of Proposed Project Site 1.
- Other citizens identified a larger area (Area 3 in Figure 4) to the south and west (with the closest point about 2400m from the West project site).



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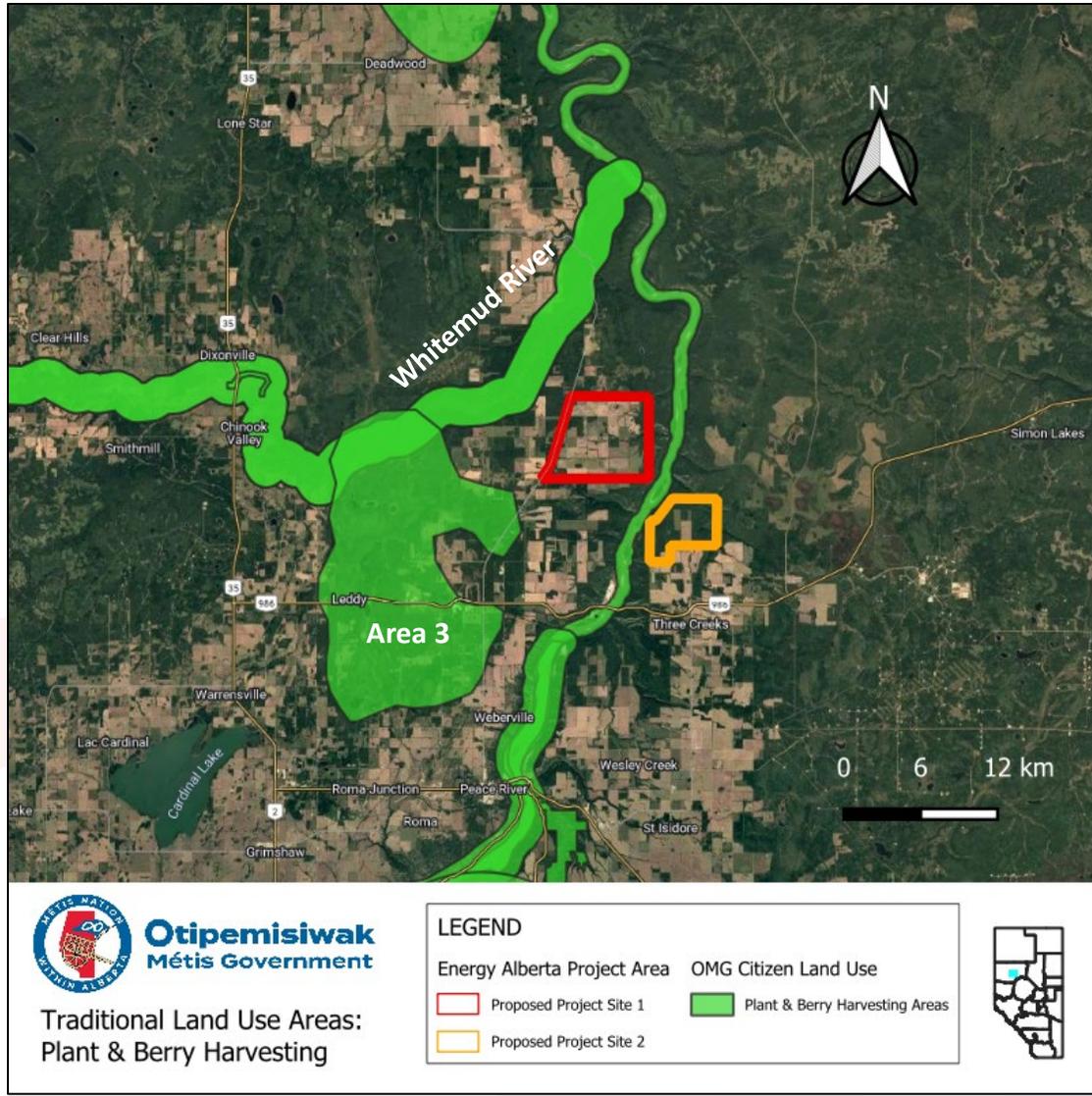


Figure 4: Berry & plant harvesting



Section 2: Maximizing Métis Socio-Economic Benefits

The OMG consultation department asserts that much more detail and measurable results-based and distinctions-based commitments should be included in sections of the IPD and draft Indigenous Engagement Plan that address Indigenous economic opportunities and capacity building.

Clear support for Indigenous involvement in training and education initiatives

As Energy Alberta and suppliers/contractors engage with local educational institutions in Alberta to develop the necessary short- and long-term work force for this project, specific measures to guarantee Indigenous involvement are required.

Such measures should include commitments for Indigenous recruitment and integration into education programs at all levels, from community colleges to technical schools to university engineering programs.

The OMG consultation department would encourage Energy Alberta to develop a grant & scholarship program in cooperation with relevant educational institutions specifically targeted to Indigenous students, combined with active recruitment in Indigenous communities for those programs.

Detailed commitments for Indigenous business involvement

With a project this large, extending over many years, there should be clear opportunities available for Indigenous business involvement throughout all phases of the project. Up scaling the capacity of existing Indigenous businesses may be required, and this should be supported by Energy Alberta and sub-contractors. The OMG is open to ongoing discussions with Energy Alberta as to how this can be implemented.

Opportunities in the CANDU supply chain

Several large technology providers will be involved in the project, and these suppliers should also take on commitments for Indigenous business involvement. For example, the CANDU supply chain engaged by AtkinsRealis will be a significant economic driver in Canada and Indigenous business should be supported in building their capacity to take on short- and long-term roles in this. With a project this large over such a long timeframe, it could play a



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transformational role in the state of Indigenous economic development of the province and the country.

Section 3: Other Questions & Concerns

1) Tritium

- a. There is no mention in the document of how much tritium is expected to be produced by each reactor each year.
- b. There is no discussion of the management of that tritium, including how it will be captured, stored, processed for commercial purposes, or otherwise disposed of. For example, Darlington has a dedicated Tritium management building. No such building appears on plans in the IPD.
- c. What will be the tritium “derived release limits” (DRL) for the reactors installed at this site? Will they be the same, higher or lower than Darlington, for example, and why?
- d. In terms of accidents and malfunctions:
 - i. Is there any route for tritiated water to enter the Peace River?
 - ii. Is it possible for tritium to contaminate soil and groundwater at the site? What would be the routes / mechanisms for this to happen and how likely is it?
 - iii. How will heavy water released in accidents and malfunctions be recovered and dealt with?
- e. There is no infrastructure for discharge into the Peace River described in the IPD. Could you confirm that there will be no chance of discharge into the river?

2) Incineration of Low-Level Waste?

- a. How will low-level waste be dealt with on site?
- b. Will any of it be incinerated, like in Ontario? Why or why not?
 - i. If so, will the incinerator be a separate project with its own impact assessment? Or is it included in this project?



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3) Cumulative effects on the Peace River

- a. Several large contamination events have occurred to the Peace River in recent years, such as:
 - i. 2021: Mercer Peace River Pulp Ltd. Released 30,868,000 litres of effluent that was acutely lethal to fish from its pulp mill near the Town of Peace River, and was subsequently fined \$1M.
 - ii. 2016: large amounts of toxic heavy metals were released from landslides near the Site C Dam.
 - iii. 2009: Shell Canada pled guilty to releasing 12,500L of a toxic substance into the Peace River in northern Alberta and agreed to pay a \$225,000 fine.
- b. Combined with other point source and non-point source contamination (e.g. effects of the Site C dam, effluent discharges from the Town of Peace River, agricultural practices, oil and gas exploration, pipelines, and forestry activities), current water quality in the Peace River is far from ideal, as noted in the full Initial Project Description, (p.5-35, 5-36):
 - i. Chronic water quality guidelines for the protection of aquatic life (GOA 2018) have been exceeded for some metals [cadmium, copper, lead, mercury, and zinc] at **all** stations and for some nutrients at some stations (e.g., nitrogen species and elevated phosphorus concentrations) from 1988 to 2024.
 - ii. Suspended sediment concentrations (and turbidity) regularly exceed the Canadian Water Quality Guidelines for Aquatic Life.

As the quality of aquatic habitat directly affects the ability of OMG citizens to exercise their constitutional rights to harvest, the OMG would like to see extensive controls to prevent any further contamination of the Peace River from the Project, during all phases. This includes the construction of the water intake and related infrastructure, which must be built with extreme care.

4) Greenhouse Gas (GHG) production

- a. Why do GHG estimates not include the embedded energy required for the construction of the plant? It seems that only direct emissions by machinery on



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site are being considered. Is this correct? Can you explain why embedded energy is excluded? For example, how many cubic feet of concrete will be used, and how much GHGs are released in producing that concrete? GHG concerns regarding nuclear power plants centre on this embedded energy, and having solid estimates specific to this project would be important to enable a complete and accurate assessment.

- b. Similarly, the numbers for GHGs released from operations do not seem to include GHGs released from the fabrication of fuel bundles, for example.
- c. A complete large picture assessment of GHG impacts of the project requires a detailed picture of embedded energy GHG equivalents.

5) Seismic activity in the area of the project

The IPD includes some discussion of seismic activity in the Project area and risk mitigation in the Project design. The OMG consultation department would raise further concern with what appears to be increasing induced seismic activity in the Peace River area. Peace River has clearly been a hot spot for induced seismic activity in the Province, and there are no indications that industrial activities causing seismic activity will be reduced in the near term. In this context, how great are the risks to the Project? What is the maximum strength of earthquake that the Monark reactor and surrounding infrastructure can withstand? How will the risks be mitigated?



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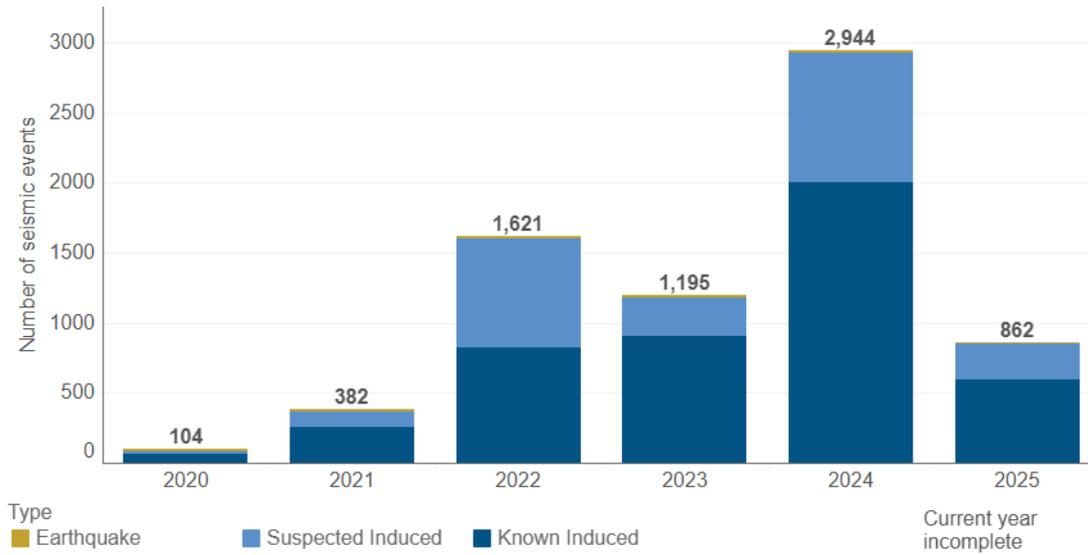


Figure 5: Province of Alberta Seismic Data, as of March 2025

<https://www2.aer.ca/t/Production/views/SeismicActivity/SeismicTypeChart?%3Aembed=y&%3AisGuestRedirectFromVizportal=y>

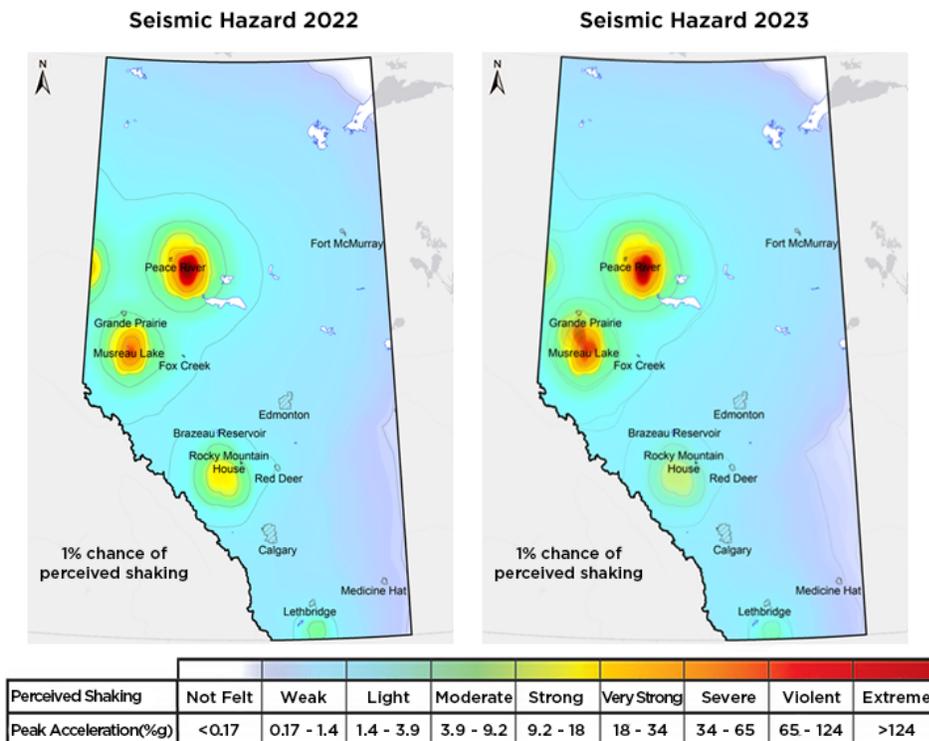


Figure 6: Seismic Hazard Map, Alberta Geological Survey

6) Power lines

- a. Where will the transmission powerlines be connected to the project, and where will they run? What will their land footprint and visual impact be?
- b. From included diagrams it appears they will head West out of the facility - Does that mean they will they be crossing the Peace River if Site 2 is chosen?
- c. While transmission line construction may be considered a separate project for government impact assessment purposes, they are a clear part of the larger picture of this project and the overall impacts to the region. Impacts of the powerlines crossing the Peace River could also play a role in the final site selection. The OMG consultation department would therefore encourage a



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detailed discussion of the typical impacts of construction of high-capacity high voltage lines in terms of land clearing and how they are run across the river.

END