



## FORT MCKAY FIRST NATION

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**RE: Peace River Nuclear Power Project (Reference #8943) - Fort McKay First Nation comments on Energy Alberta's Initial Project Description.**

On behalf of the Fort McKay First Nation (Fort McKay), I am writing to you in response to the public comment period with respect to the Initial Project Description (IPD) for the proposed Peace River Nuclear Power Plant. With the submission of the IPD we understand the formal Planning Phase of the Impact Assessment has begun.

### **Fort McKay First Nation**

Fort McKay First Nation is a First Nation community comprised of Cree and Dene people with approximately 1000 members. Fort McKay's Traditional Territory is located in the midst of the Athabasca Oil Sands surface mineable area in northeastern Alberta, along the west bank of the Athabasca River. Fort McKay is a signatory to Treaty 8 and has Treaty and Aboriginal rights, which are both constitutionally protected by section 35 of the *Constitution Act, 1982*. As an Indigenous people, Fort McKay also holds the human rights recognized by the *United Nations Declaration of the Rights of Indigenous People*. Fort McKay has adopted a Land Code and is in process of implementing it for all Reserve lands.



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Fort McKay's Traditional Territory encompasses 3,526,226 hectares (ha; 35,262 km<sup>2</sup>) and extends approximately from Townships 89 to 104 and Range 0 to approximately Range 22-24, W4M. This includes an area extending north to the Wood Buffalo National Park Boundary, south to include Fort McMurray, east to the Alberta-Saskatchewan boundary and west to the Birch Mountains.

There are more than 20 large-scale industrial projects currently operating in Fort McKay's Traditional Territory. This includes nine oil sands mines, three oil sands upgraders, eight in-situ oil sands projects, plus multiple roads, pipelines, transmission lines, quarries, and other land disturbances. Oil sands development is concentrated at the centre of Fort McKay's traditional lands along the Athabasca River and surrounding its Reserves at the Hamlet of Fort MacKay on the Athabasca River.

Fort McKay is experiencing cumulative effects within its Traditional Territory and on its Reserves including:

- Impacts on air quality on a regular basis, including exceedances of Fort McKay's health-based air quality objectives
- Recurring odour issues, which have been the subject of an AER Recurrent Complaints investigation and process, and that are still not adequately managed, and which significant evidence is pointing to tailings ponds
- Air-related incidents such as coker fires that cause extreme health and safety concerns in the community
- Air emission deposition (e.g. hydrocarbons, dust, SO<sub>2</sub>, and NO<sub>2</sub>) and cumulative acidification and eutrophication effects
- Dust deposition and air emissions leading to measured declines in quality of preferred plants for gathering, especially different varieties of wild berries in and around reserve lands
- Dust impacts on human health, including sensitive individuals that have pre-existing respiratory conditions



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- Noise from industrial activities especially intermittent high frequency noises that disrupt the peace and enjoyment on Reserve, 24 hours a day
- Water quality concerns in the Athabasca River, which is adjacent to the Reserves, including unsafe levels of mercury in fish, seepage from upstream tailings facilities, release of treated sewage and proposed large-scale releases of treated Oil Sands Process Water from all the mines in the region, previous release incidents (e.g. untreated sewage), and other matters affecting water quality on the Athabasca
- NORM (Naturally Occurring Radioactive Materials) is known to be present in bitumen deposits, concentrated bitumen processing waste (froth tailings), soil gas and surface water in the local area. Atomic Energy Canada Limited (AECL) has been studying NORM levels. Fort McKay needs to be assured that NORM levels are safe for its people and the food and waters they rely upon and the land and watercourses they travel upon.
- Take up of land in areas adjacent to its Reserves that has resulted in direct losses of prime areas to practice Treaty rights in close proximity to Reserves

Fort McKay has experienced significant and adverse effects of industrial development and the emerging effects of climate change in its Traditional Territory. Any new industrial project that is proposed that potentially affects Fort McKay must be assessed in the context of existing cumulative effects, Fort McKay's Treaty rights, and Reconciliation.

### **Planning Phase and Requirement for a Federal Assessment**

We understand that the proposed Peace River Nuclear Power Plant project would generate up to 4,800 megawatts per year (from 13,000 megawatts thermal – MWth) and include two twin CANDU MONARK nuclear reactors, with a planned operational life of 70 years. Energy Alberta indicates that since the project is a nuclear project with a combined thermal capacity exceeding 200 MWth that, as per the Physical Activities Regulation, it requires a federal impact assessment.



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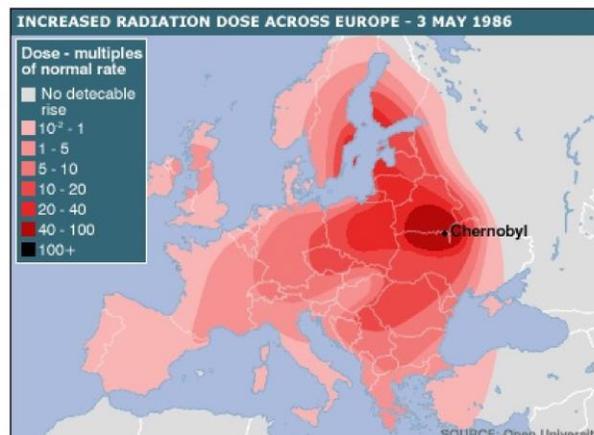
### **Proposed Peace River Nuclear Project**

Energy Alberta included a map in the IPD (Figure 5.4-1), showing a preliminary list of Indigenous communities potentially impacted by the project through potential radiation exposure from air and river system transport. Fort McKay First Nation is not currently on this list and should be added as it is potentially impacted. The project impacts could cause adverse impacts to Fort McKay's Traditional Territory, its Reserves including the community at Fort McKay, and the Athabasca River, which is central to our territory and is connected to the Peace River through the Peace Athabasca Delta. With the anticipated operational life of 70 years and the seriousness of the potential risks of radiation exposure, the potential impacts on Fort McKay could be significant.

### ***Air transport***

Prevailing winds in Fort McKay's region are typically out of the west, and weather patterns often bring air to Fort McKay's territory from the west; which, in the event of an incident could transport radiation from the proposed Peace River Nuclear Project towards Fort McKay's Traditional Territory, Reserves and Community.

The following figure shows the increased radiation dose across Europe in the months after the Chernobyl nuclear plant melt down (<https://www.mdpi.com/2075-4418/11/5/907>); with high levels ranging hundreds of kilometres from the event. The unit that melted down had a 3,200 MWt capacity.





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An accident or malfunction at the proposed Peace River Nuclear Project could have significant and extremely long-lasting effects on Fort McKay and the health and well-being of its members and its Treaty rights.

### ***Water and Fish***

Energy Alberta indicates the Project would be located within the Peace – Slave Lake Drainage. The Peace River is also connected to the Athabasca River drainage via natural and regulated flooding into the Peace Athabasca Delta and is therefore connected to the Athabasca River system. Any radiation or discharge effects in the Peace River water, fish or aquatic resources therefore have the potential to enter the Athabasca River system, upon which Fort McKay relies for exercise of Treaty rights including navigation, fishing, hunting and gathering.

### **Federal Jurisdiction and Potential Impacts on Reserve (Federal Lands)**

A key concern with nuclear project development that may affect Fort McKay is its potential to adversely affect health and safety of its members, further deteriorate environmental quality and impact Treaty rights. This is clearly within federal jurisdiction and it is incumbent upon Canada to acknowledge its federal powers and Treaty and fiduciary duties to protect Fort McKay's Reserves for its *safe* use and enjoyment.

In addition, the federal government has duties in an assessment related to Indigenous peoples and Reserves:

- Crown consultation/duty to consult
- Direct and indirect effects on Reserves – Fort McKay's Reserves could potentially be affected, for example, by effects on air and water quality
- Assess, mitigate and accommodate impacts on Treaty and Aboriginal Rights
- Management of cumulative effects

### **Consultation and Accommodation with Canada & Rights Assessment and Protection**

The Peace Nuclear Power Project has the potential to adversely affect Fort McKay First Nation's traditional territory, Reserves and the health and well-being of its community. It is important in



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any potential use of nuclear technology, which is new within Alberta, that we fully understand how the proposed technologies work, their risks and safe operation, and potential impacts as well as comprehensive emergency response plans.

Further we understand the CANDU MONARK concept has not been built and proven in any jurisdiction and constitutes experimental technology. We also note that Energy Alberta seems to be a new project proponent and has no demonstrated experience developing, constructing or operating a nuclear power plant.

Fort McKay expects to take the lead in any assessment of impacts on its Treaty and Aboriginal in a collaborative way with the Impact Assessment Agency of Canada (IAAC) and Energy Alberta.

### **Assessment of 1) Alternative Means of Carrying Out the Project and 2) Potential Alternatives to the Project**

In the IPD, Energy Alberta describes some alternative ways of carrying out the project including two location options, alternative layouts, alternative workforce accommodations, other CANDU nuclear power technologies, switchyard design and radioactive waste management strategies. For Alternatives to the Project, Energy Alberta identifies two main alternatives, wind and solar energy developments and describes some of the pros and cons. Presumably a formal assessment of the above alternatives will be part of Energy Alberta's and IAAC's assessments.

Fort McKay requests input into these two fundamental aspects of the assessment.

There are several important criteria that are not included in the initial list(s), that Fort McKay strongly recommends are included in the assessment of 1) Alternative means of carrying out project and 2) Alternatives to the Project. These include:

1. Risks of region-wide (impacts on human health and the environment including specifically on Treaty 8, FMFN Traditional Territory, and), level of impact and length of time the impact would be expected to occur;
2. Risks of project costs-over runs (these impact cost comparisons and the proposed public benefit / need), benchmarked against existing nuclear, wind, solar and other projects.



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3. Consideration of logistical challenges and cost increases associated with constructing projects in Northern Alberta (cold, remote, high labour costs, transport challenges).
4. Security risks such as terrorism directed toward the reactors and/or the fuel supply.
5. Cost per megawatt-hour taking into account realistic cost projections and risks of project-cost overruns.
6. Time to develop the project.
7. How base load (the proposal basis) would be maintained during multi-year turnaround maintenance.
8. How the technology and unit processes and costs estimates have been made in the absence of any CANDU MONARK projects being built/completed and reflecting the scaled-up size of the MONARK facilities (1,200 nominal gross MW per reactor) relative to the existing 31 CANDU reactors listed in the IDA with nominal capacities largely in the range of 540 to 935 gross MW per reactor.
9. Impacts on the Rights of Indigenous Peoples – as evaluated by Indigenous Nations as per their own rights assessment studies.
10. Submission of a Preliminary Decommissioning Plan (PDP) as part of the formal Application to provide assurance that end of project life would be managed appropriately. Lack of similar documentation for approved oil sands projects has led to an air of uncertainty and concern for Fort McKay.
11. Submission of detailed plans (exact routes) for fuel supply and used fuel transport to permanent storage.
12. Submission of a plan for used nuclear fuel, noting the IPA refers to use of a future storage facility at Wabigoon Lake Ojibway Nation (<https://www.nwmo.ca/canadas-plan>) however that site would be available starting in 2040's and then for only 45 years, hence inadequate for the Peace River project used fuel.
13. Comparison of LCOE (levelled cost of energy per megawatt-hour) over the project life compared to solar, wind, hydro and biomass generation; and compared to grid-scale battery, compressed energy storage and demand response / load shedding power management / storage options. Include low and high landed capital and operating costs for all technologies. Include sensitivity to carbon cost for all inputs for all technologies based on 2040 to 2100 anticipated industrial carbon levies. Include sensitivity to show



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- impacts of the project beginning operations 5 years later than the shown schedule.
14. Comparison of EROI (Energy Return on Energy Invested) over the full project life cycle compared to solar, wind, hydro and biomass generation; and compared to grid-scale battery, compressed energy storage and demand response / load shedding power management / storage options.

### **Alberta Energy Engagement with Fort McKay**

Alberta Energy has not yet had any form of engagement or communication with Fort McKay. We have briefly reviewed Alberta Energy's Indigenous Engagement plan. Energy Alberta's stated commitments and respect for Indigenous Rights and Treaties, United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), Reconciliation, environmental stewardship with Indigenous Knowledge, equitable economic opportunities, open respectful communication, Indigenous Nations decision-making processes and best-management practices in engagement are laudable but remain undemonstrated without engagement with Fort McKay.

As noted above, Fort McKay is a potentially impacted First Nation. Of utmost concern to Fort McKay is protection of Treaty and Aboriginal and Indigenous rights, the environment and the health and safety of our members. Alberta Energy should be required to update its list of potentially affected Indigenous communities to include Fort McKay and update associated documentation such as First 5.1-4, which shows First Nation reserves and Metis Settlements, to include all Fort McKay First Nations Reserves (174, 174A, 174B, 174C, 174D).

Please engage with Fort McKay through our Sustainability Department and arrange a meeting to discuss an engagement plan going forward.



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## Contact Information

Please direct all communications to:

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We appreciate the opportunity to participate to comment on the IPD for the Peace River Nuclear Power Project and we look forward to continued participation in the assessment.

Sincerely,  
<Original signed by>

Ryan Abel  
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Fort McKay Sustainability Department

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