IAAC COMPLAINT ADDITIONS

Energy Alberta Peace River Nuclear Power Project

March 2026

SHOW STOPPER 18

The Project Without a Reactor

The Panel is being asked to assess a project whose defining physical parameter — the reactor technology — has not been decided. An assessment of an undefined project is a legal nullity.

17.1 The Indeterminacy on the Record

Energy Alberta filed its Initial Project Description in April 2025 nominating two to four CANDU MONARK reactors. On 21 October 2025 — six months into the IAAC process — it signed a Memorandum of Understanding with Westinghouse to explore deploying AP1000 pressurised water reactors at the same site instead. Its own project website now lists both technologies as “under consideration.” The CNSC’s project page for the Peace River Nuclear Power Project continues to describe the facility as CANDU MONARK.

These are not minor design variations. The CANDU MONARK is a pressurised heavy water reactor fuelled by natural uranium with on-power refuelling. The AP1000 is a pressurised light water reactor requiring enriched uranium with batch refuelling. They produce categorically different radioactive emission profiles, different tritium outputs, different spent fuel compositions and volumes, different accident scenario sets, different emergency planning zone requirements, and different cooling water demands. Every show stopper in this submission — and every finding the Panel will be asked to make on health, environmental, and Indigenous rights grounds — is technology-specific. An assessment conducted across two incompatible technologies is not an assessment of either.

17.2 Neither Technology Has Regulatory Clearance

The CANDU MONARK’s conceptual design was completed only in September 2024. In October 2024, AtkinsRéalis entered a preliminary “special project” with the CNSC — not a Vendor Design Review — to plan what a future VDR might look like. The full design is not expected until 2027. The CNSC has issued no clearance for the CANDU MONARK.

The AP1000 completed Phase 2 of the CNSC's pre-licensing review in 2013 — twelve years ago, against regulatory standards that have since been substantially updated. It has not completed Phase 3. It has no current CNSC clearance and has never been built in Canada.

The Panel is therefore being asked to assess the environmental, health, and Indigenous rights effects of a facility whose reactor — the facility's sole source of radiological emissions, its primary water demand driver, and the determinant of its waste profile — has not been chosen and, in the case of the CANDU MONARK, does not yet fully exist.

17.3 The Statutory Trap

Section 18 of the Impact Assessment Act requires a project description sufficient to identify "the physical activities to be carried out." The reactor is not an ancillary feature. It is the project. The IAAC's Summary of Issues — published June 2025, after months of review — required detailed assessment of accidents, malfunctions, tritium emissions, spent fuel management, thermal effects, and transboundary impacts. Every one of those assessments is reactor-specific. The IAAC cannot complete them without knowing which reactor is being built.

If the Panel proceeds on the basis of one technology and the proponent subsequently selects the other, the entire evidentiary record — the health impact assessment, the environmental baseline, the accident scenario modelling, the spent fuel projections, the Indigenous consultation on specific risks — is invalidated. The Panel would then face a binary: either reopen the assessment from the beginning, or issue a decision on a project that was never actually assessed. Neither option is lawful.

> **THE IAAC IS TRAPPED:** A positive public interest finding made before the reactor technology is fixed is a decision about a project that does not exist. If the technology later changes, the Panel's finding cannot lawfully follow it. If the technology does not change but the Panel relied on the wrong technology's parameters, the assessment was never conducted. There is no path to a lawful positive finding until the proponent fixes a technology and restarts the assessment on that basis.

17.4 What the Panel Must Find and Do

The Panel must find that the proponent's Initial Project Description does not satisfy section 18 of the Impact Assessment Act because the physical activity — the reactor — is unspecified. The Panel must direct the proponent to select and commit to a single reactor technology and file a revised project description before the assessment proceeds. All baseline studies, health assessments, accident scenario analyses, and Indigenous engagement processes must then be conducted on the basis of the confirmed technology.

SHOW STOPPER 19

No Approved Disposal Pathway for Spent Nuclear Fuel

The project's primary waste stream has no licensed destination. The Panel cannot find the project to be in the public interest when its most dangerous output will remain in the Peace River region indefinitely.

18.1 The Waste Endpoint Does Not Exist

Canada has no operating permanent repository for high-level radioactive waste. The only proposed facility — the Nuclear Waste Management Organization's Deep Geological Repository at Ignace, Ontario — was announced as the selected site in November 2024. Its Initial Project Description was filed with the IAAC on 5 January 2026. The IAAC and CNSC integrated assessment has not begun. Based on comparable international projects, the DGR will not be operational before the 2060s.

The Peace River plant would operate for 70 years, generating spent fuel throughout. A four-unit facility would produce approximately 400–500 tonnes of spent fuel annually — tens of thousands of tonnes over the operating life. The proponent's IPD contains no waste management plan. The IAAC's Summary of Issues (June 2025) explicitly required the proponent to provide one, including "alternate waste storage site, long-term containment, transportation risk, and interjurisdictional responsibility." None has been provided.

The NWMO has itself acknowledged that new reactor projects generate waste streams that change its inventory projections and may require DGR design modifications. If the AP1000 is chosen, the spent fuel is enriched PWR fuel — a physically different waste type from the CANDU fuel the NWMO's DGR concept is designed for. The disposal problem is therefore compounded by the technology indeterminacy in Show Stopper 17.

18.2 The Transportation Gap

There is no identified transportation corridor between the Peace River site and the Ignace DGR — approximately 3,500 kilometres. No rail line connects the two. No interim storage facility has been sited, licensed, or approved for the Peace River region. Spent fuel generated by the plant will remain at the Peace River site in interim storage — in Treaty 8 territory, on the Peace River watershed — for an indeterminate period extending potentially into the twenty-second century.

18.3 The Statutory and Charter Trap

Section 22(1)(a) of the Impact Assessment Act requires assessment of "changes to the environment" including effects associated with accidents and malfunctions over the full project lifecycle. Spent fuel with no licensed disposal pathway is not a temporary effect. It is a radiological burden on the Peace River watershed and the Treaty 8 territories that will persist for ten thousand years. The precautionary principle under IAA sections 6 and 22 specifically applies to threats that are irreversible even if uncertain.

The Charter dimension is equally direct. Generations of Peace Region Indigenous peoples — who have not consented to this facility and who have formally demanded consultation on this very issue — will live in proximity to interim spent fuel storage with no permanent solution. The right to life under section 7 of the Charter, as interpreted in Carter and Bedford, cannot be satisfied by a framework that defers the waste problem indefinitely to future persons who have no voice in this proceeding.

> **THE IAAC IS TRAPPED:** The Panel cannot make a public interest finding under section 60 of the IAA on a project whose defining waste stream has no approved disposal pathway, no transportation plan, and no interim storage site. If the Panel proceeds, it will be deciding that 70 years of spent fuel accumulation in the Peace River watershed is in the public interest without any evidence that it can ever be safely removed. That is not a finding the Act permits.

18.4 What the Panel Must Find and Do

The Panel must find that the proponent has not satisfied its obligation under section 22(1) to characterise the environmental effects of the project's spent fuel. The Panel must require, as a condition of proceeding, that the proponent provide a complete waste management plan demonstrating: a confirmed interim storage design and site, a licensed transportation pathway, a confirmed DGR acceptance agreement with the NWMO, and a legally binding financial assurance instrument covering the full costs of all three. Until that plan is before the Panel, the public interest gate under sections 60–63 cannot lawfully be opened.

SHOW STOPPER 20	**UNESCO World Heritage Site and Transboundary Obligations** *The Peace River flows directly to Wood Buffalo National Park, a UNESCO World Heritage Site. The NWT government is formally on record. The Panel cannot proceed without addressing treaty obligations it has no capacity to discharge.*

19.1 The Downstream Geography

Wood Buffalo National Park — a UNESCO World Heritage Site since 1983 — straddles the Alberta-NWT border and encompasses 4.5 million hectares. Its defining ecological feature is the Peace-Athabasca Delta, formed by the confluence of the Peace and Athabasca Rivers. The UNESCO inscription is premised on the delta's Outstanding Universal Value. The Peace River flows from the proposed project site directly to this delta. The proposed plant is an upstream Peace River development.

UNESCO's World Heritage Committee has issued a standing instruction, confirmed in its 2015, 2017, and 2019 decisions on Wood Buffalo's state of conservation, that Canada must assess the cumulative impacts of any future upstream Peace River development on the park's Outstanding Universal Value before approving it. This is not a recommendation. It is a formal decision of the treaty body to which Canada is obligated under the World Heritage Convention.

19.2 The NWT Government and Dene Nation Are Formally on Record

On 23 July 2025, the Northwest Territories government wrote formally to the IAAC stating that the draft Impact Statement Guidelines ignore the Alberta-NWT Transboundary Water Agreement — a bilateral instrument obligating both governments to notify each other of developments affecting shared waters. The NWT's letter identifies the project's potential impacts on water quality, water quantity, and air quality as primary concerns.

In November 2025, Dene National Chief George Mackenzie formally demanded meaningful consultation, stating that the Peace River Nuclear Power Project "threatens the integrity of the Mackenzie water basin, a vital resource for our communities." Four First Nations — Beaver First Nation, Dene Tha' First Nation, Little Red River Cree Nation, and Tallcree First Nation — filed joint legal submissions through counsel in October 2025 stating the project would impact their Treaty 8 rights throughout the Peace River Corridor.

The NWT is on a separate electrical grid. It will receive none of the project's benefits. It will receive all of its downstream risks: tritium discharges to the Peace River, thermal pollution affecting fish habitat and ice formation, radioactive contamination pathways to Great Slave Lake and the Mackenzie River Basin in the event of an accident. This asymmetric risk-benefit distribution is the precise scenario that the transboundary notification obligation was designed to address.

19.3 The Treaty Trap

Canada's obligations under the World Heritage Convention are not discretionary inputs to the Panel's deliberations. They are binding treaty commitments. The World Heritage Committee has explicitly required assessment of cumulative impacts of Peace River upstream projects on Wood Buffalo's OUV. An IAAC process that does not discharge this obligation before proceeding to a public interest finding is conducting a legally incomplete review. The Panel has no jurisdiction to waive a treaty obligation.

The Transboundary Water Agreement creates an equally binding procedural obligation. The NWT government has formally documented that it has been ignored. If the Panel issues a positive public interest finding on a record that has not addressed the transboundary notification obligation, the decision is vulnerable to judicial review on treaty grounds independent of all other arguments in this submission.

THE IAAC IS TRAPPED: The Panel cannot find this project to be in the public interest without first satisfying UNESCO's standing instruction on cumulative impacts to Wood Buffalo National Park's Outstanding Universal Value. It also cannot proceed without rectifying the breach of the Alberta-NWT Transboundary Water Agreement that the NWT government has formally documented. Both obligations are treaty-level. Neither can be satisfied by the existing record.

19.4 What the Panel Must Find and Do

The Panel must find that the existing record does not discharge Canada's obligations under the World Heritage Convention with respect to Wood Buffalo National Park. The Panel must require a cumulative effects assessment of the project's impacts on the Peace-Athabasca Delta and the Park's Outstanding Universal Value, conducted in consultation with the World Heritage Centre and IUCN, before proceeding. The Panel must also require the proponent to formally satisfy the Alberta-NWT Transboundary Water Agreement notification obligations, and must provide an opportunity for NWT government and affected NWT Indigenous nations to participate meaningfully in the assessment as affected parties.

SHOW STOPPER 21

The CNSC Does Not Apply the Benefits-Outweigh-Harm Test

The IAEA requires every nuclear facility to be justified: its benefits must outweigh its radiation risks. The CNSC has formally refused to implement this test — on the record, twice, confirmed by international peer review.

20.1 The International Standard the CNSC Has Refused

IAEA Safety Fundamentals SF-1, Principle 4 states: “For facilities and activities to be considered justified, the benefits that they yield must outweigh the radiation risks to which they give rise.” This is the international justification standard. It requires a regulator to determine, before authorising a nuclear facility, that the radiation risks imposed on the public are outweighed by the benefits the facility delivers.

The CNSC does not apply this test. The IAEA’s 2019 Integrated Regulatory Review Service mission formally found: “There is no systematic evaluation of justification for the various practices involving radiation sources in the licensing process.” The mission recommended that the CNSC establish a procedure for systematic justification.

Canada formally rejected that recommendation. The CNSC’s published response states: “Not accepted. Parliament has given the CNSC the statutory authority to regulate the nuclear industry in Canada.” This is not a defence of substantive adequacy. It is an explicit, on-the-record statement that the benefits-outweigh-harm test is not part of the CNSC’s licensing process. The 2024 IRRS follow-up mission listed this as still unresolved.

20.2 The Federal Court Confirmation

The CNSC confirmed the same position in open court in CARN v BWXT Nuclear Energy Canada Inc, 2022 FC 849. The CNSC stated on the record that the IAEA benefits-outweigh-harm justification standard is not a legal obligation in Canada. The Federal Court’s dismissal of that application turned on a factual finding — “no serious or irreversible damages” — that is unavailable in this proceeding. Peace River presents documented above-average cancer incidence of unknown aetiology, INWORKS 2023–2025 confirming chronic low-dose radiation effects at community exposure levels, and Harvard/Nature Communications (2026) documenting approximately 6,400 cancer deaths per year associated with residence within 30 kilometres of operating nuclear facilities.

20.3 The Statutory Trap

The Impact Assessment Act sections 60–63 require the Panel to determine whether the project is in the public interest, having regard to its health and environmental effects. A public interest determination is, at its core, a benefits-versus-harms judgment. The CNSC’s submission to this Panel is the primary health and safety evidence before it. That submission was produced by a body that has formally refused, twice, to apply a benefits-versus-harm test — and has confirmed in Federal Court that it does not do so.

The Panel is therefore in the following position: it must make a benefits-outweigh-harm determination under sections 60–63, but the regulatory body whose technical advice it would normally rely upon for that determination has formally declined to conduct one. The CNSC's submission tells the Panel that licence conditions will be met. It does not tell the Panel whether the radiation risks to Peace River residents are outweighed by the project's benefits. That is the dispositive question. It is the question the CNSC will not answer.

THE IAAC IS TRAPPED: The Panel must make a public interest finding. That finding requires a benefits-outweigh-harm analysis. The CNSC has formally refused, on the record and before the Federal Court, to conduct one. The Panel cannot discharge its statutory obligation by deferring to an institution that has structurally excluded the central analytical step the obligation requires.

20.4 What the Panel Must Find and Do

The Panel must find that the CNSC's submission does not constitute a benefits-outweigh-harm assessment and cannot substitute for one under sections 60–63. The Panel must require an independent justification analysis — applying IAEA SF-1 Principle 4, with explicit comparison of radiation risk to Peace River residents against the benefits of the project — before any public interest finding is made. That analysis must be conducted by a body that applies the international standard the CNSC has refused.

SHOW STOPPER 22	**Water Security: No Licence, No Climate Projections, No Baseline** *The project will draw from the Peace River for 70–100 years. No water licence exists. No long-term climate hydrology has been assessed. The IAAC explicitly required both. Neither has been provided.*

21.1 The Factual Gaps on the Record

The proposed facility would draw cooling water from the Peace River throughout its 70-year operating life. Energy Alberta's IPD characterises this as approximately 0.2% of mean annual flow. No water licence under Alberta's Water Act has been applied for. No application exists. The IAAC's Summary of Issues (June 2025) explicitly required "long-term projections of water quantity and flows in the Peace River watershed based on varying climate change projections to understand whether sufficient water supply will be available to safely support the plant based on a one-hundred-year operating cycle." That assessment has not been provided.

Cooling water returned to the Peace River is warmer and contains low-level tritium. The thermal effect alters ice formation patterns, affects fish habitat seasonality, and modifies the sediment and temperature regime on which the Peace-Athabasca Delta's ecology depends. The NWT government specifically flagged these effects in its July 2025 letter to the IAAC. No thermal regime assessment has been provided.

21.2 The Climate and Cumulative Pressure Context

The Peace River's primary water source is Rocky Mountain snowpack. Climate projections consistently show declining snowpack across western Canada throughout the facility's operating period. A watershed analysis of the Peace River region, conducted in 2024, identified the Smoky-Wapiti sub-basin — which feeds the Peace — as the most highly allocated sub-basin in the watershed. Alberta's Water Act was amended in late 2025 to enable inter-basin transfers, which Treaty Chiefs formally opposed as imposing severe impacts on every watershed. The proposed Wonder Valley AI data centre, also in the Peace River region, would add further water demand.

The facility must be able to operate safely when the Peace River is at low flow. Nuclear cooling cannot be interrupted for drought conditions. A facility operating at 4,800 MWe drawing from a drought-stressed river with declining snowpack over a 70–100 year operating period is a water security risk that has not been assessed — and that the IAAC has explicitly said must be.

21.3 The Statutory Trap

Section 22(1)(a) of the IAA requires assessment of changes to the environment over the full project lifecycle. The project lifecycle is 70–100 years. The water assessment provided covers neither that timeframe nor the climate projections that determine whether sufficient water will be available. The NWT government has formally raised the

transboundary water dimension (see Show Stopper 19). Downstream Wood Buffalo National Park depends on Peace River flows for the hydrological dynamics that define its Outstanding Universal Value.

The Panel has been explicitly told by the IAAC's own Summary of Issues that this assessment is required. The proponent has not provided it. The Panel cannot proceed to a public interest determination on a factual record that the IAAC's own preliminary process identified as incomplete.

THE IAAC IS TRAPPED: The IAAC's Summary of Issues told the proponent what was required: long-term water quantity projections under climate scenarios over a 100-year operating cycle. The proponent has not provided them. The Panel cannot find the project's water impact acceptable when the assessment document the IAAC itself required has not been submitted. The omission is not an oversight. It is an unfulfilled mandatory condition of the assessment process.

21.4 What the Panel Must Find and Do

The Panel must find that the proponent has not satisfied its obligations under section 22(1) of the IAA with respect to water security, climate hydrology, or thermal effects. The Panel must require the proponent to provide: a hydrological baseline study for the Peace River at the proposed site; long-term flow projections under low, medium, and high-emission climate scenarios over 100 years; a thermal discharge assessment including effects on ice formation, fish habitat, and downstream flow regime to Wood Buffalo National Park; and a water licence application under Alberta's Water Act with confirmation that a licence can be granted before construction proceeds. None of these can be substituted by the proponent's current self-characterisation.