



Ontario Society of Professional Engineers (OSPE)

Submission on the New Nuclear at Wesleyville (NNW) Project

Proponent: Ontario Power Generation (OPG)

Location: Wesleyville Site, Municipality of Port Hope

Date: February 11, 2026

The Ontario Society of Professional Engineers (OSPE) appreciates the opportunity to provide input on the proposed **New Nuclear at Wesleyville (NNW) Project**. OSPE represents engineers across Ontario who are directly involved in the planning, design, construction, operation, regulation, and decommissioning of complex infrastructure systems that are critical to public safety, environmental protection, and economic prosperity.

OSPE's submission focuses on the **public-interest role of engineering**, emphasizing evidence-based planning, professional accountability, Indigenous partnership, workforce readiness, and integrated systems thinking. Given the scale, complexity, and multi-generational lifespan of the NNW Project, strong engineering governance and long-term stewardship will be essential to maintaining public trust and delivering lasting value to Ontario.

Alignment with Provincial and Federal Energy Objectives

OSPE recognizes that the NNW Project aligns with key provincial and federal policy objectives, including:

- Canada's commitment to achieving **net-zero greenhouse gas emissions by 2050**
- Ontario's **Integrated Energy Plan: Energy for Generations (2025)**
- The IESO's **Pathways to Decarbonization** and **Annual Planning Outlook**

From an engineering systems perspective, nuclear energy offers several attributes that are particularly relevant to Ontario's long-term energy needs:

- Reliable, non-emitting baseload electricity
- High energy density with a relatively small land footprint

- Long asset life that supports grid stability and energy security

OSPE agrees that early planning, siting, and assessment are necessary given the **10–15 year development timelines** associated with nuclear generation and related transmission infrastructure. At the same time, OSPE emphasizes that nuclear generation should be assessed and deployed as part of a **diverse, integrated energy system**, alongside renewables, energy storage, conservation, demand response, and emerging technologies, consistent with the IESO’s holistic planning approach.

Nuclear Energy as Both an Electrical and Thermal Asset

In addition to its role in electricity generation, OSPE has consistently emphasized that **nuclear facilities are fundamentally thermal energy systems**, producing large quantities of high-quality heat. From an engineering standpoint, much of this thermal energy is currently rejected as waste heat, despite its potential value.

OSPE encourages that the NNW Project be evaluated not only as a source of clean electricity, but also as a **strategic thermal asset** within Ontario’s evolving energy system. Greater integration between electricity and thermal energy systems, often referred to as **sector coupling**, can materially improve overall system efficiency, affordability, resilience, and emissions performance.

OSPE subject matter experts, using data from IESO’s hourly demand forecasts for 2022 and 2050, have predicted using thermal energy networks (TENS) would stabilize the demand on the grid (Figure 1) if nuclear plants like Wesleyville are configured as Combined Heat and Power (CHP) plants.

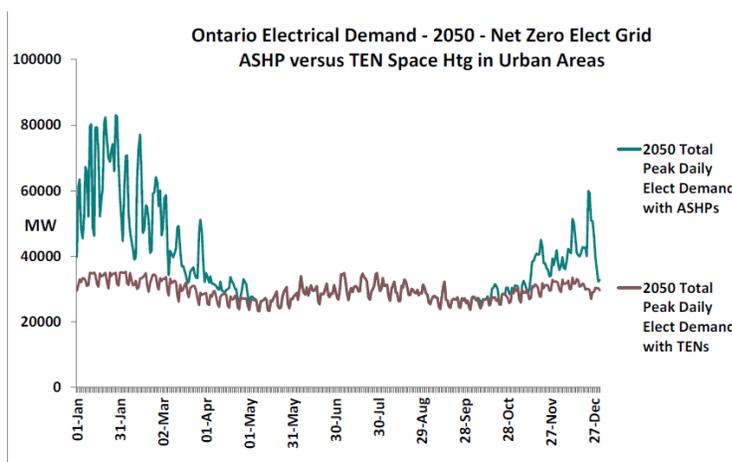


Figure 1

Large nuclear projects such as the NNW Project present a unique opportunity to:

- Explore the use of nuclear thermal energy for **district energy systems**, industrial processes, or other thermal applications where technically and economically feasible
- Improve grid flexibility by enabling electricity output to be managed in coordination with thermal demand
- Reduce total system costs and emissions through **full lifecycle and full-cost accounting**, rather than assessing electricity generation in isolation

OSPE has observed that electricity and thermal energy systems are often planned and governed in silos, despite being deeply interconnected. OSPE encourages that the Impact Assessment process explicitly consider **thermal integration opportunities**, associated barriers (technical, regulatory, or institutional), and potential pathways to implementation in collaboration with municipalities, system planners, and Indigenous and local communities.

Engineering Governance, Public Safety, and Accountability

OSPE stresses the importance of maintaining **clear professional accountability and robust engineering governance** across all phases of the NNW Project, including site preparation, design, construction, operation, refurbishment, decommissioning, and site closure.

Given the unprecedented scale of the proposed generating capacity (up to ~10,000 MWe) and the multi-generational operational timeline extending well into the next century, OSPE recommends that:

- Engineering decision-making be clearly documented, transparent, and auditable
- Roles and responsibilities among engineers, proponents, contractors, and regulators be clearly defined
- Safety, environmental protection, and risk management be embedded as core design drivers

Strong engineering governance is essential to ensuring that public safety, environmental stewardship, and long-term reliability remain central throughout the project lifecycle.



Indigenous Partnership and Co-Development

OSPE acknowledges that the NNW located within the shared traditional and treaty territory of the Chippewa and Michi Saagiig Anishinaabeg, collectively known as the Williams Treaties First Nations (WTFNs). OSPE recognizes OPG's stated intent to engage early and pursue co-development approaches.

From an engineering and public-interest perspective, OSPE emphasizes that Indigenous participation should extend beyond consultation to **meaningful involvement in decision-making**, particularly where choices are being made regarding:

- Reactor technology envelopes
- Site layout and infrastructure placement
- Cooling water technologies
- Waste management approaches
- Long-term monitoring, decommissioning, and site restoration

OSPE supports governance models that integrate **Indigenous Knowledge systems alongside Western scientific methods**, recognizing that long-term infrastructure decisions have intergenerational implications for land, water, and community wellbeing.

Conclusion

OSPE recognizes the strategic importance of early planning for clean, reliable electricity generation to support Ontario's decarbonization, economic growth, and energy security objectives.

As the NNW Project advances, OSPE encourages:

- Strong engineering governance and professional accountability
- Integrated consideration of both electrical and thermal energy systems
- Meaningful Indigenous partnership and co-development

OSPE looks forward to continued engagement as the project progresses and remains available to contribute engineering expertise in support of the public interest.