Power Workers' Union Submission on the IESO's Northwest Region IRRP

June 8, 2021

The Power Workers' Union (PWU) is pleased to submit comments and recommendations to the Independent Electricity System Operator (IESO) regarding its May 20 Webinar #1 on the Integrated Regional Resource Plan (IRRP) for the Northwest Region. The PWU remains a strong supporter and advocate for the prudent and rational reform of Ontario's electricity sector and recognizes the importance of planning for low-cost, low-carbon energy solutions to enhance the competitiveness of Ontario's economy.

Insights from this engagement will inform electricity planning currently underway for the bulk system across northern Ontario. The IESO has requested stakeholder feedback to help inform the electricity forecast, ongoing technical analysis and the procurement timeline required to provide the requisite capacity for meeting future demand. Subsequent steps will consider the options and guide the decisions regarding near-term investments and a long-term roadmap.

Prior to this webinar, the IESO consulted with distribution-connected customers (e.g. the local distribution companies (LDCs) and transmission-connected customers (primarily mining companies). While the main focus is on new mining growth, the IESO has also requested comments from community stakeholders to help characterize:

- Community perspectives on local energy needs (e.g. community energy plans, regional transit expansion, electrification, large incremental grid-connected loads, significant DER, etc.);
- The options available to meet the growing electricity demand in the Northwest region (e.g., non-wires alternatives-DER and conservation and demand management (CDM), and;
- The energy system to secure reliable sources of electricity in the region over the next 20 years.

The PWU appreciates the opportunity to provide feedback to this critical process and submits the following three recommendations:

1. Factor electrification due to climate considerations as an input to the demand forecast;
2. Consider the need for local low carbon electricity to support emission reductions; and
3. Recognize the critical role of Atikokan in shaping the region's electricity demand from the bulk system.

Recommendation #1: Factor electrification due to climate considerations as an input to the demand forecast

Climate change initiatives and Net Zero emission plans are becoming more important to Ontario's citizens, businesses, municipalities including Thunder Bay and other levels of government. Considerations related to climate action, electrification, and emissions must be factored into the IESO's regional IRRP plans. The IESO should consider the following four planning factors and the impacts on the province's bulk electricity system:

a. *The nature of the demand: baseload, intermediate, and peak*[1]
Three types of demand impact system planning for capacity. Baseload demand operates 24x7 and makes the most efficient (low cost) use of Ontario's bulk electricity system. Using more natural gas-generated electricity to meet baseload demand means significantly higher GHG emissions. Intermediate demand is shaped by local energy consumption behaviours and is well-suited for demand side management approaches--energy management systems and other non-wires alternatives. Intermediate demand drives the need for flexible supply. Today, carbon-emitting natural gas generation plays a major role in meeting this demand. Peak demand is the most expensive demand to meet. Local solutions for meeting peak demand include local generation, non-wires and CDM. Defining these system needs for the region will inform future supply options and investor decisions.

b. *Clear definition of regional demand net of the available local supply options*
Consistent with the intent of the IRRP process, the IESO should give first consideration to local energy solutions when planning Ontario's near and long-term bulk electricity system. Local supply options can maximize local community benefits and minimize the cost of major infrastructure investments elsewhere in Ontario's electricity system that may otherwise be required.

c. *Impact of electrification*
The PWU supports the IESO's efforts to get feedback on the impacts of electrification on the demand forecast. This has been absent and underreported in the 2020 APO.[2] A number of plans are signalling increased demand from electrification that include Ontario's climate plan, hydrogen strategy, and EV commitments with car manufacturers. Locally, Thunder Bay committed to becoming Net-Zero, aligning with Canada's climate goals.[3] Analysis for Thunder Bay suggest that demand for locally supplied electricity could increase significantly by 2050.[4] 2030 demand estimates for Ontario, consistent with the assumptions in Thunder Bay's Net Zero Strategy suggest there will be a 21% increase in energy needs and a 200 MW increase in capacity needs in the region in order to meet the increased demand from electrification in LDCs.[5,6] This IRRP must meet the region's needs in order to make a positive contribution to the provincial environmental initiatives.

d. *Demand arising from the construction of new transmission lines in the region*
Both the Northwestern Bulk Initiative and the Wataay Power transmission (Tx) lines will increase the accessibility of the electricity grids to communities and mining projects in the North. The

[1] PWU, Submission on IESO Resource Adequacy Engagement, September 2020.
[2] PWU, Submission to the MENDM on Reforming the Long-Term Energy Planning Framework Consultation, 2021.
[3] EarthCare Thunder Bay, Thunder Bay Net-Zero Strategy, 2021.
[4] City of Thunder Bay, Climate Forward City: Thunder Bay Net-Zero Strategy Draft, 2021.
[5] Strategic Policy Economics, Electrification Pathways to a Low Carbon Economy, 2021.
[6] Growth baaed on average Ontario forecast applied to the Northwest region given IESO's statement that the LDC demand forecast of 0.9% growth is similar to the demand growth seen across the province (NW IRRP Webinar #1 Presentation).

incremental demand that will arise from recent and upcoming transmission projects should be explicitly and transparently defined in the forecast.

Recommendation #2: Consider the need for local low carbon electricity generation to support emission reductions.

The current Northwest IRRP relies on importing electricity from Southwestern Ontario via the E-W tie line. The anticipated cost of electricity on this tie-line partially influenced the decision to close the Thunder Bay biomass generating station. It is now clear that energy to the north from the E-W tie-line will be predominately from gas-fired generation sources after the Pickering Nuclear Station retires in 2025.[7] The IESO's current procurement approach will create increased dependency on carbon-emitting natural gas generation within the province, and hence the region, contrary to the Net Zero ambitions of Thunder Bay. The associate transmission line losses also increase the cost of this electricity to the northwest. Local, low-carbon energy resources support important environmental and social benefits for Northwest Ontario.

Recommendation #3: Recognize the critical role of Atikokan in shaping the region's electricity demand from the bulk system.

The 210 MW Atikokan Generating Station (GS) fuelled by locally-sourced, renewable, low-carbon wood pellets can produce baseload electricity and heat to help meet the region's energy needs. The station's 741-acre site represents a unique opportunity for Atikokan GS to anchor a local, low-carbon energy hub. Currently, the plant operates at minimal capacity meeting peak demand or as back-up power. Leveraging this energy capacity is important for several reasons:

- Ontario is facing a capacity shortfall for the next decade with few low-carbon options under consideration.
- Atikokan GS is connected to the Watay Transmission line and the remote communities it serves, the lines for new mining projects near Red Lake and Pickle Lake and the City of Thunder Bay. The station is well positioned to be a significant local supplier of low carbon electricity to meet these demands.
- Using Atikokan's low-carbon alternative to supply demand in Thunder Bay would reduce the load of the E-W tie line enabling that line to serve the Ring of Fire as it develops.
- The station employs approximately 65 people, supports hundreds of jobs in biomass harvesting, pelletizing and transportation associated with wood pellet providers located in Atikokan and Thunder Bay. It also is linked to biomass research at Confederation College, Lakehead University and CRIBE.
- Expansion of an Atikokan low-carbon energy hub would support the goals of the Ontario Forestry and Biomass plan that is currently under development and create new direct employment in the energy, forestry, transportation, and research sectors in the region and in local and Indigenous and Metis communities. PWU Analyses have shown this would enhance

[7] IESO, APO, 2020.

energy security in the region and province, and potentially provide over $80M of economic value to the region.

The PWU looks forward to further discussions with the IESO regarding this opportunity and the future of the Atikokan GS.

Closing

The PWU has a successful track record of working with others in collaborative partnerships. We look forward to continuing to work with the IESO and other energy stakeholders to strengthen and modernize Ontario's electricity system. The PWU is committed to the following principles: Create opportunities for sustainable, high-pay, high-skill jobs; ensure reliable, affordable, environmentally responsible electricity; build economic growth for Ontario's communities; and, promote intelligent reform of Ontario's energy policy.

We believe these recommendations are consistent with and supportive of Ontario's objectives to supply low-cost and reliable electricity for all Ontarians, and particularly those in Northwester Ontario. The PWU looks forward to discussing these comments in greater detail with the IESO and participating in the ongoing stakeholder engagements.