

**POWER
WORKERS'
UNION**

August 11, 2021

Independent Electricity System Operator
1600-120 Adelaide Street West
Toronto, ON
M5H 1T1

Via email to engagement@ieso.ca

Re: York Region Non-Wires Alternatives Demonstration Project

The Power Workers' Union ("PWU") represents a large portion of the employees working in Ontario's electricity industry. Attached please find a list of PWU employers.

The PWU appreciates the opportunity to provide input on the York Region Non-Wires Alternatives Demonstration Project. The PWU is a strong supporter and advocate for the prudent and rational reform of Ontario's electricity sector and recognizes the importance of low-cost, low-carbon energy to the competitiveness of Ontario's economic sectors.

The PWU believes that IESO processes and initiatives should deliver energy at the lowest reasonable cost while stimulating job creation and growing the province's gross domestic product (GDP). We are respectfully submitting our detailed observations and recommendations.

We hope you will find the PWU's comments useful.

Yours very truly,

Jeff Parnell
President

CANADIAN UNION
OF PUBLIC EMPLOYEES,
LOCAL 1000, C.L.C.

244 EGLINTON AVE. E.
TORONTO, ONTARIO
M4P 1K2

TEL.: (416) 481-4491
FAX: (416) 481-7115

PRESIDENT
Jeff Parnell

VICE PRESIDENTS
Andrew Clunis
Mike Hambly
Tom Chessell
James Middleton



Printed on recycled
and recyclable paper

List of PWU Employers

Alectra Utilities (formerly PowerStream)
Algoma Power
AMEC Nuclear Safety Solutions
Aptum (formerly Cogeco Peer 1)
Atlantic Power Corporation - Calstock Power Plant
Atlantic Power Corporation - Kapuskasing Power Plant
Atlantic Power Corporation - Nipigon Power Plant
Bracebridge Generation
Brighton Beach Power Limited
Brookfield Power Wind Operations
Brookfield Renewable Power - Mississagi Power Trust
Bruce Power Inc.
Canadian Nuclear Laboratories (AECL Chalk River)
Collus Powerstream
Compass Group
Corporation of the County of Brant
Covanta Durham York Renewable Energy Ltd.
Elexicon (formerly Whitby Hydro)
Enwave Windsor
Erth Power Corporation (formerly Erie Thames Powerlines)
Erth Corporation
Ethos Energy Inc.
Great Lakes Power (Generation)
Greenfield South Power Corporation
Grimsby Power Incorporated
Halton Hills Hydro Inc.
Hydro One Inc.
Hydro One CSO (formerly Vertex)
Hydro One Sault Ste. Marie (formerly Great Lakes Power Transmission)
Independent Electricity System Operator
Inergi LP
InnPower (Innisfil Hydro Distribution Systems Limited)
J-MAR Line Maintenance Inc.
Kenora Hydro Electric Corporation Ltd.
Kinectrics Inc.
Kitchener-Wilmot Hydro Inc.
Lakeland Power Distribution
London Hydro Corporation
Milton Hydro Distribution Inc.
New Horizon System Solutions
Newmarket Tey/Midland Hydro Ltd.
Nuclear Waste Management Organization
Ontario Power Generation Inc.
Orangeville Hydro Limited
Portlands Energy Centre
PUC Services
Quality Tree Service
Rogers Communications (Kincardine Cable TV Ltd.)
Sioux Lookout Hydro Inc.
SouthWestern Energy
Tillsonburg Hydro Inc.
The Electrical Safety Authority
Toronto Hydro
TransAlta Generation Partnership O.H.S.C.
Westario Power

Power Workers' Union Submission on IESO York Region NWA Demonstration Project

August 11, 2021

The Power Workers' Union (PWU) is pleased to submit comments and make recommendations to the Independent Electricity System Operator (IESO) regarding its July 20th York Region Non-Wires Alternatives (NWA) Demonstration Project webinar. 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.

This two-year project, part of the IESO's Innovation and Sector Evolution White Paper Series on NWA Markets and Transmission-Distribution Interoperability, is intended to better understand how distributed energy resources (DER) can be integrated into a local distribution system market to meet local reliability needs. In theory, the resulting benefits could defer or avoid transmission and/or distribution infrastructure upgrades, thereby reducing total system costs.

As the IESO begins to prepare for the second year of this project, it published the results from the first local capacity auction used to procure DER and is looking for feedback on how the design requirements and parameters could be improved. The main differences in Year 2 include a 5 MW increase in the acquired capacity (to 15 MW total) and the use of local reserve capacity to back up any of the participating DER that are unable to meet their obligations.

The PWU is generally supportive of any initiative that is intended to procure the lowest cost option for supplying reliable electricity to Ontario. As noted in past PWU submissions to this engagement, procuring reliability at the lowest cost can only be met if there is an objective, fact-based analysis of the total system costs and benefits of the options available.¹ The PWU also supports the inclusion of local reserves in the cost assessment since the cost of back up capacity is an important component and will help determine the true system costs of DER projects. However, the PWU has concerns about whether the cost assessments for decision making within the demonstration project are reasonably structured.

The PWU makes the following recommendations to the IESO:

1. Compare the costs and benefits of projects that cleared the capacity auction to alternative options for meeting Ontario's reliability needs;
2. Use real options analysis to consider the timing of procuring DER vs traditional infrastructure investments;
3. Consider how auction and pilot results would change should natural gas-fired generation be phased out in Ontario; and,
4. Preclude Industrial Conservation Initiative (ICI) participants from participating in the Capacity Auction where they would be paid more than once for the same service.

¹ PWU, IESO York Region Non-Wires Alternatives Demonstration Project and Innovation and Sector Evolution White Papers Submission, 2020

Recommendation #1: Compare the costs and benefits of projects that cleared the capacity auction to alternative options for meeting Ontario’s reliability needs

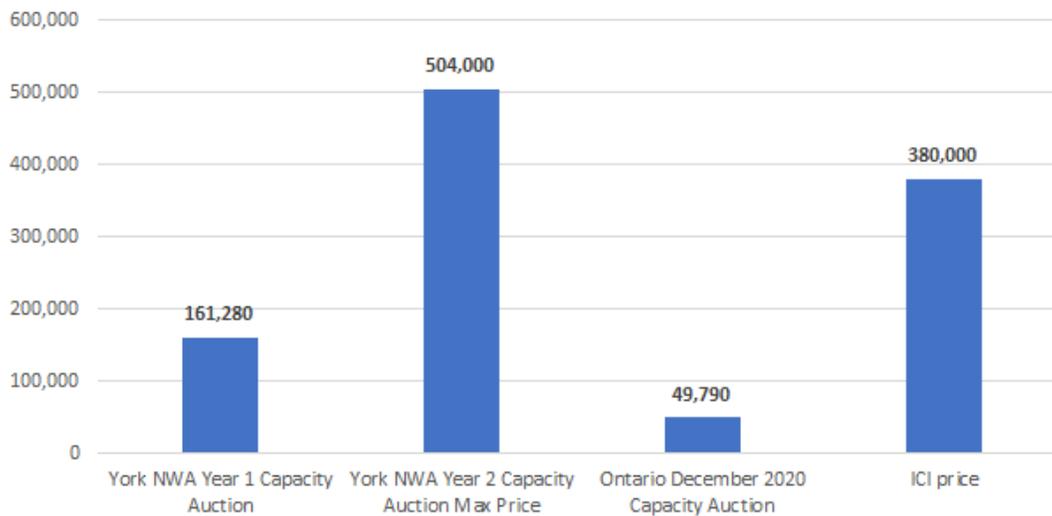
As noted above, the main benefits of contracting DER to meet local reliability needs lies in its capability to address distribution system congestion without building transmission and distribution infrastructure. Deferring or avoiding the latter investments can represent large savings for utilities and ultimately ratepayers. However, this benefit is offset by the larger \$/MW cost of DER compared to traditional, centralized generation.²

A total system cost and benefit analysis (CBA) is required to determine the value of the York Region NWA proposal. The CBA should assess the total cost and benefits required to procure the proposed DER (including reserves). Capacity auction results to date indicate that the local capacity procured costs three-times as much as the cost of capacity contracted in the province-wide auction as shown in Figure 1. However, this is half the cost of the capacity that is procured from the overly generous ICI program. This example suggests that the benefits DER should provide need to be relatively substantial if they are to balance out the higher cost of DER capacity. The CBA will enable and facilitate a comparison of all the options and determination of the lowest cost solution.

The IESO should publish the performance results of the DER it has procured to date, including how often these facilities are operated, the energy price received when dispatched and the estimated cost of upgrading transmission and distribution infrastructure in the area.

Since the value provided by DER projects is highly dependent on the location, the costs and benefits will be specific to York Region. Therefore, the IESO should perform CBAs that address the locational aspects for other regions should the use of the procurement mechanism be expanded.

Figure 1: Capacity Cost of Various Procurement Mechanisms in Ontario
(\$/MW-Year)



Sources: IESO, OEB, Lazard

² Strapolec, DER in Ontario, 2018

Recommendation #2: Use real options analysis to consider the timing of procuring DER vs traditional infrastructure investments.

DER facilities can provide flexibility for meeting demand instead of procuring capacity from a larger asset that could become underutilized. The risk of over procurement is hedged by making small purchases over time. However, this ignores a concurrent risk—Ontario’s planning approach for the long-term will become dependent upon short-term, “just-in-time” procurement. Even when such a DER dependent procurement approach may appear to provide the cheapest short-term option, absent transparent analysis, could be more costly than bulk investment alternatives in the long-term. The economic life cycles of DER projects will commit the IESO to this capacity for the long-term.

For example, if 10 MW of DER is contracted every year to meet growing demand needs for four years, and another 10 MW is needed in the fifth year, procuring another 10 MW of DER will be cheaper to procure than a 50 MW transmission line upgrade. However, had that transmission line been built instead, even if underutilized in the first few years it could have a lower total cost.

The IESO should consider the timing of the needs, the nominal cost of the options and the long-term cost and reliability impacts on the province’s electricity system. Including a real options analysis as part of the CBA would address these risks.

Recommendation #3: Consider how auction and pilot results would change should natural gas generation be phased out in Ontario

The IESO’s auction results show that 2.9 MW of the total 10 MW cleared by the market were natural gas generation resources, with the remaining 7.1 MW being met by Demand Response (DR) resources-- no storage resources.³ It is also unclear whether any of the DR resources included natural gas generation. Concurrently, the IESO has undertaken a natural-gas phase-out assessment. The outcome of their analysis will have a profound impact on the York Region NWA Project and should be addressed in the recommended CBA.

The York Region NWA Project pilot demonstration provides the IESO with the opportunity to disallow natural gas resources in its second year. This would enable the IESO to evaluate the relationship between NWA solutions and natural gas generation, specifically the cost and benefits, to better inform the previously recommended long-term real options analyses.

Recommendation #4: Preclude Industrial Conservation Initiative (ICI) participants from participating in the Capacity Auction where they would be paid more than once for the same service

During the webinar, IESO staff stated that ICI participants were eligible to compete in the local capacity auction. The capacity auction obligation relates to the top five peak demand hours of the year, which proponents would manage to avoid a non-performance charge just like they do for the ICI rate benefits. However, the local capacity auction targets local peak needs which often occur at the same time as system peaks. ICI participants already provide peak demand reduction services. Where these

³ IESO, York Region NWA Project Post Auction Report, 2020

participants are connected to the distribution system, those benefits will be provided locally as well. This means that ICI participants that clear the local auction could be compensated multiple times for providing the same service, i.e., under the ICI, local capacity auction, and Ontario capacity auction if they participate there. This raises ratepayer costs without providing any additional benefit.

Thus, ICI participants should not be eligible to participate in the local capacity auction.

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. The PWU looks forward to discussing these comments in greater detail with the IESO and participating in the ongoing stakeholder engagements.

Topic	Feedback
Are any of the design parameters or requirements in the Demonstration problematic for your potential participation? Are there any elements that can be adjusted to better facilitate your participation?	Yes, the allowance of ICI participants in the program represents a double-payment and is unfairly increasing ratepayer costs. See Recommendation #4.