POWER WORKERS' UNION

January 20, 2020

Independent Electricity System Operator
1600-120 Adelaide Street West
Toronto, ON
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Via email to engagement@ieso.ca

Re: IESO York Region Non-Wires Alternatives Demonstration Project and Innovation and Sector White Papers

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

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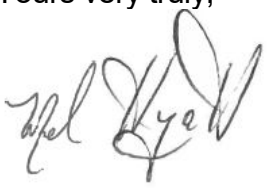
The Power Workers' Union ("PWU") represents a large portion of the employees working in Ontario's electricity industry. Attached please find a list of PWU employers.

The PWU appreciates the opportunity to provide input on the York Region Non-Wires Alternatives Demonstration Project, and the second set of the Innovation and Sector Evolution White Paper Series papers that support the 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 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,



Mel Hyatt
President

Encl.

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

IESO York Region Non-Wires Alternatives Demonstration Project and Innovation and Sector Evolution White Papers

The Power Workers' Union (PWU) is pleased to submit comments and recommendations to the Independent Electricity System Operator (IESO) regarding: the York Region Non-Wires Alternatives (NWA) Demonstration project; and, the associated Innovation and Sector Evolution White Paper Series on NWA Markets and Transmission-Distribution Interoperability. The PWU is 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 energy solutions that enhance the competitiveness of Ontario's economic sectors.

Ontario's IESO is designing a demonstration project to help understand how Distributed Energy Resources (DERs) can be procured and dispatched in an Independent Distribution System Operator (IDSO) market, as an alternative to procurement of traditional generation and transmission assets. The PWU is generally supportive of initiatives that aim to procure the lowest cost option to reliably supply electricity to Ontario. However, the PWU is concerned about the cost-benefit analysis comparing traditional vs. NWA solutions and how system needs are being met by these solutions. In particular, the requirements that these resources are intended to satisfy deserve to be specified and analyzed in the context of system demand and the total system cost of the options.

The PWU believes that the following elements should be included in the demonstration project:

1. Establish overall net benefits of DERs when used to meet non-peak system needs; and,

2. The cost-benefit analysis for NWAs should look at total system costs and be made transparent to the public.

Recommendation #1: Establish overall net benefits of DERs when used to meet non-peak system needs.

In the project specifications, the IESO specifies that DER requirements will be similar to Hourly Demand Response (HDR) resources indicating that they will be drawn upon to meet a system peak need. As distribution system congestion typically occurs at system peak times, this suggests that the NWA DER would only be needed at those times.

However, the IESO also intends to design a system that will accommodate a high-DER penetration future. Under such a scenario, it is inferred that DERs would be operated during non-peak system times. As part of the design of the IDSO pilot project, the IESO should ensure a proper evaluation is conducted of the total system cost implications of the DER scenarios.

Recommendation #2: The Cost-Benefit Analysis for NWAs should look at total system costs and be made transparent to the public.

In the whitepaper on NWA Markets, the IESO explains how they will compare the cost of traditional generation and transmission options vs. the cost of NWA alternatives for meeting a system need. The NWA can potentially offer both capacity and transmission value. The PWU believes that evaluating total system cost benefits, including not only capacity and transmission value, is an appropriate approach. However, the criteria to be used by the IESO for determining the net benefits of the options is not clear. A transparent cost-benefit analysis must include the full implications on total system costs and benefits.

There are many factors related to total system cost that must be considered, such as ancillary services and the impact on the systems upstream of these DERs. For example, due the intermittency of the sun, solar DER can have highly variable outputs that impose ramping requirements, voltage control, and thermal conditions on the system. These conditions impose needs for more flexible resources and accommodating infrastructure at various levels of the distribution and transmission system. Such requirements impose costs and should be factored into the cost-benefit analysis of integrating DER assets.

The Cost-Benefit Analysis should be transparent with clearly established criteria and made public to demonstrate how the total system costs and benefits were considered, and where DERs provide a cost benefit to ratepayers.

Concluding Remarks:

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 advance innovation across Ontario's electricity system. The PWU is committed to the following principles: Create opportunities for sustainable, high-pay, high-skill jobs; ensure reliable, affordable 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 the objectives for supplying low-cost and reliable electricity in Ontario. The PWU looks forward to discussing these comments in greater detail at the IESO's convenience.