

**POWER  
WORKERS'  
UNION**

December 9, 2020

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

Via email to [engagement@ieso.ca](mailto:engagement@ieso.ca)

**Re: Resource Adequacy Engagement**

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 Resource Adequacy Engagement. 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

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## List of PWU Employers

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Newmarket -Tay/Midland Hydro Ltd.  
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Orangeville Hydro Limited  
PUC Services  
Quality Tree Service  
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Toronto Hydro  
TransAlta Generation Partnership O.H.S.C.  
Westario Power

## **PWU Submission on the IESO's November 2020 Resource Adequacy Engagement**

**December 9, 2020**

The Power Workers' Union (PWU) is pleased to submit comments and make recommendations to the Independent Electricity System Operator (IESO) regarding the November 18 Resource Adequacy Engagement webinar. 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, low-carbon energy solutions to enhance the competitiveness of Ontario's economy.

The PWU supports the IESO's development of additional procurement mechanisms, beyond capacity auctions, that will meet Ontario's low-carbon electricity needs in a cost-effective manner.

The IESO's procurement framework provides a useful illustration showcasing the province's near-term short duration, mid-term medium to long duration, and long-term long duration procurement needs. The PWU is pleased to see that its recommendations regarding RFPs and contracts for the complex, mid-term to long-term duration needs have been acknowledged and that the IESO intends to consider financing and asset life, forecast confidence, attributes beyond just capacity, and policy influences.

However, there are significant remaining risks facing the IESO's strategic vision to meet Ontario's system needs in a timely, flexible, and cost-effective manner. These risks stem from several questionable perceptions in the IESO's approach:

- Procuring unbundled capacity is warranted for both short-term and mid-term procurements;
- Renewing existing resources with expired contracts should be an IESO objective. This ties the IESO to explicitly selecting technologies in its procurement, an approach that contravenes its MRP mandate to be technology agnostic; and,
- The acceptability of taking four years to develop the implementation framework before medium- and long-term procurements can begin in 2025.<sup>1</sup>

Exposing Ontario to these risks is unwarranted. The PWU recommends that the IESO carefully reconsider its proposed approach as it may not prove viable for acquiring the low-emission resources Ontario needs in the future. The PWU recommends consideration of the following:

1. The consequences of waiting must be clearly recognized and communicated as severe;
2. The IESO does not need four years to prepare a procurement process and, as a result, put Ontario at the risk of having an inadequate electricity system;
3. The solution to acting both early and prudently lies in specifying the requirements in the form of Ontario's demand needs: Baseload, Intermediate, and Peak; and,
4. The IESO should create near-term dates to stage the paradigm shift for procuring energy.

### *Context*

While the notion of considering emerging needs over such time frames is appropriate, the PWU submitted feedback in September on: (1) design criteria that would best optimize procurement

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<sup>1</sup> IESO, Resource Adequacy Webinar materials, September 2020

mechanisms for Ontario’s future energy needs; and, (2) that procurements for all three timeframes must begin now. These perspectives are based on a recent analysis of Ontario’s electricity markets.<sup>2</sup>

That report recommends that procurements not only consider time horizons for Ontario’s emerging generation and capacity needs, but also explain how different forms of demand require different solutions: Baseload, Intermediate, and Peak. The different solutions require different procurement mechanisms. Classifying demand in this way would enable the procurement of the most cost-effective mix of supply options for each demand form there by yielding the lowest total system cost.

In November, IESO summarized the stakeholder feedback and responded that there was general support for their high-level proposal for procurements based on the three delineated time horizons.<sup>3</sup>

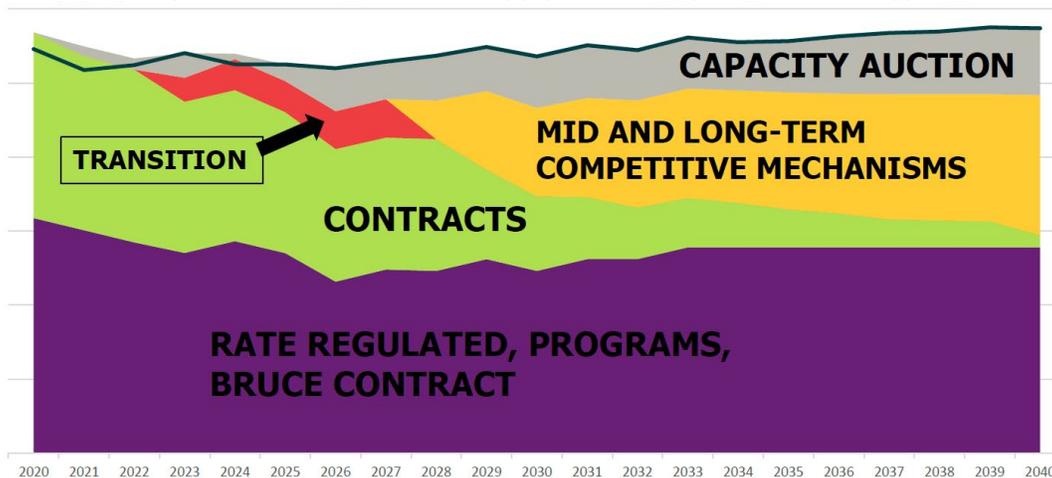
*PWU’s concerns remain unaddressed*

The PWU objects to the notion that stakeholders generally agreed with the IESO’s high-level design of additional procurement mechanisms. The PWU does not agree on the simple basis that the PWU’s prior recommendations remain unaddressed and in front of the IESO for more fulsome consideration.<sup>4</sup> Specifically, the unaddressed recommendations are that procurements should:

- Consider integrated system requirement needs that reflect the forms of demand, not unbundled components, like capacity, that favor specific technologies; and
- Begin now for all timelines to meet needs as they emerge.

Furthermore, the PWU does not support the IESO’s intention to present its design for approval in December as it reflects a design basis relatively unchanged from September. As well, the projected completion in 2025 – is too late to address Ontario’s severe capacity shortfall that will emerge at that time. The schedule concerns are well depicted by the IESO’s illustrative forecast for its framework as shown in Figure 1.<sup>5</sup>

**Figure 1: IESO's Illustrative Supply Forecast by Commitment Type**



<sup>2</sup> Strategic Policy Economics, “Electricity Markets in Ontario – An Investigation”, November 2020

<sup>3</sup> Notably, most of the stakeholder feedback focused on concerns related to the details and implementation of the proposed procurement mechanisms -- topics that the IESO has deferred developing to the next consultation phase.

<sup>4</sup> PWU, Submission on Resource Adequacy Engagement, September 2020.

<sup>5</sup> IESO, Resource Adequacy Webinar, Nov 18, 2020. Note red transition is primarily unknown PNGS replacement

**Recommendation #1 - The consequences of waiting must be clearly recognized and communicated as severe.**

The significant broadening of the gap in Ontario's generation capacity occurs in 2028 – only 7 years away as shown above. Waiting until 2025 for the IESO to complete its procurement framework design may leave Ontario without cost-effective, viable solutions. The IESO is already aware that Ontario's forecast peak summer capacity needs exceed available existing capacity by 3,000 MW in 2040, or 10%. There is no question that Ontario will need significant new build capacity.

Waiting until 2025 to begin the procurement process will result in:

1. **Procurement of generation that can get built quickly** – (in less than three years), which will not be low cost, since the schedule will be the driver. Only new gas-fired generation can be built on such short timelines at the scale required to supply the power Ontario will need which assumes the site selection process encounters no opposition.
2. **Long-term commitments to higher greenhouse gas (GHG) emissions out to 2050**, because the economic life of new gas-fired generation plants is 20 years+. This emission consequence is reflected in the IESO's emission forecast.<sup>6</sup> In turn, this will compromise Ontario's ability to meet its emissions goals, e.g., Ontario Power Generation's recently announced Net Zero 2040 objective.<sup>7</sup> The province will transition from being a recognized clean energy jurisdiction to one known for choosing a path to emit more GHGs, which undermines the effectiveness of all of Ontario's climate change initiatives from EVs to hydrogen. The incremental electricity consumed for all these initiatives will be supplied by new natural gas-fired generation. Given these negative climate objective implications, public opposition to new gas plant siting is inevitable.
3. **A higher cost solution**, as forecasts are predicting that both new and old gas plants will not be the cost-effective solution by the end of the decade.<sup>8</sup> Given the expected increases in carbon pricing, the new natural-gas fired generation will become uneconomic sooner.<sup>9</sup>

Ontario already has an unsolved capacity problem as represented by the IESO "Transition". This results from the absence of effective pre-planning for the procurements needed to replace the Pickering Nuclear Station. The supply gap has been known and evident for almost a decade, e.g., noted in Ontario's 2013 Long-Term Energy Plan (LTEP) and subsequent LTEPs, without procurement action.

**Recommendation #2 - The IESO does not need four years to prepare a procurement process and, as a result, put Ontario at the risk of having inadequate electricity resources.**

The IESO intends to present the final high-level framework to stakeholders in Q1 2021. This will outline the IESO's plans for the next phase of engagement to develop details needed to operationalize and implement procurement mechanisms. The plan presented at the September webinar showed that the procurements would not begin until 2025. Going forward, the IESO will further explore the general framework details, the methodology for determining the timing and quantity of the required capacity,

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<sup>6</sup> IESO Emission Forecast, February 2020; Strategic Policy Economics, "Electricity Markets in Ontario – An Investigation", November 2020

<sup>7</sup> OPG, Building a brighter tomorrow, November 2020

<sup>8</sup> Tyson, Madeline, Charlie Bloch. Breakthrough Batteries: Powering the Era of Clean Electrification. Rocky Mountain Institute, 2019. <http://www.rmi.org/breakthrough-batteries>

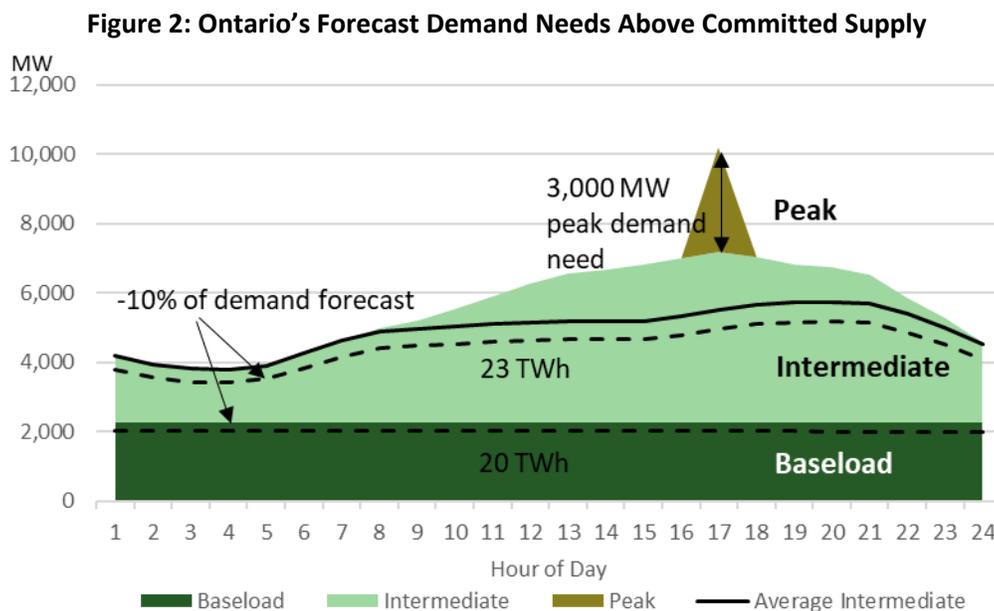
<sup>9</sup> Parliamentary Budget Officer of Canada, October 2020

the alignment of the IESO’s system planning information to the framework, and the management of the transition. And all these are expected to happen while the IESO concurrently continues to advance its capacity auction approach.

Individually, each of these represents complex challenges. However, their significance is related more to making capacity auctions effective versus a long-term RFP process. The latter process should not take more than a year to develop. The IESO’s assumption of a four-year requirement to prepare for the procurement of long-term assets appears to be driven by a process overcomplicated by the focus on electricity markets solutions. As mentioned earlier, analyses show that capacity market solutions are not economically and environmentally suitable for meeting Ontario’s emerging needs.

**Recommendation #3 - The solution to acting both early and prudently lies in specifying the requirements in the form of Ontario’s demand needs: Baseload, Intermediate, and Peak.**

The IESO’s forecasts clearly demonstrate that Ontario will need to renew or replace 50% of its required capacity to meet future demands. This is particularly true for the yellow areas identified in Figure 1. Analysis has established that the demand that the new capacity must supply consists of almost 2000 MW of baseload and about 5000 MW of intermediate supply as shown in Figure 2.<sup>10</sup> Analysis has also shown that meeting Ontario’s peak demand requirements could effectively be served by the IESO’s proposed capacity market approach.



This known need reflects the IESO’s current long-term demand forecasts that do not take into consideration the significant impacts resulting from further electrification of the economy to help meet Ontario’s climate change objectives, e.g. EVs and hydrogen.

A procurement process focused on the specific needs of the province, instead of “unbundling” them could be developed quickly. The procurement approach should encourage bundled solutions through

<sup>10</sup> Strategic Policy Economics, “Electricity Markets in Ontario – An Investigation”, November 2020

technology agnostic specification of the demand that needs to be serviced. Parameters could include flexibility to respond to daytime fluctuations, ramping, location, transmission implications, etc.

Analyses show that future low-emitting electricity system solutions will be sourced from a range of technologies such as renewables, storage, nuclear, and natural gas.<sup>11</sup> Selecting “technology” winners from emerging resources versus existing resources involves risks. A more cost-effective approach would encourage proponents to bid a mix of gas plants, renewables, storage, nuclear, small hydro, DERs, and aggregations as complex integrated hybrid solutions. These solutions could also include a mix of existing and new resources.

The development of a competitive procurement to acquire cost-effective, integrated hybrid solutions would attract investor interests in the innovations that Ontario is looking for to meet its economic and environmental objectives.

**Recommendation #4 - The IESO should create near-term dates to stage the paradigm shift for procuring energy.**

The IESO should start now to develop an RFP procurement approach that will provide long-term, cost-effective solutions to meet Ontario’s emerging electricity needs. Next year’s IESO consultation process should explore how Ontario’s demand needs could be met by bundled solutions, facilitated by information that is mostly currently available from the IESO’s existing Planning Outlooks.

Targets should be established to define a selected set of needs for soliciting expressions of interest by the middle of 2021, followed by a formal procurement launch in early 2022. To mitigate risks as the effectiveness of the process is optimized, initial steps should focus on a portion of known needs – such as half the known baseload requirement (e.g. 900 MW to start replacing lost Pickering capacity as early as possible) and potentially up to 1,000 MW of intermittent supply solutions (an amount that would address 20% of the known intermittent demand requirement).

*Closing*

There is evident urgency to resolve Ontario’s go-forward procurement strategy. The contracting/RFP process should begin much earlier than the IESO’s planned 2025 completion for its process design.

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.

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<sup>11</sup> CCRE, Renewables-based Distributed Energy Resources in Ontario, 2019