Chuck Farmer
Chief Energy Transition Officer and Vice-President of Planning, Conservation & Resource Adequacy
Independent Electricity System Operator
1600-120 Adelaide Street West
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June 7, 2024

Dear Chuck,

This submission responds to the Independent Electricity System Operator's (IESO's) invitation for feedback in relation to the May 23, 2024, webinar (the "webinar") on the Long-Term 2 Request for Proposals (LT 2 RFP).[1]

Power Advisory has coordinated this submission on behalf of a consortium of renewable generators, energy storage providers, Canadian Renewable Energy Association (CanREA), and Energy Storage Canada (ESC) (the "Consortium"[2]).

We thank the IESO for its continued outreach to stakeholders during the initial development of the LT2 RFP and for the webinar which provided an overview of modifications to the Enhanced Power Purchase Agreement ("E-PPA") revenue model. There are still significant aspects of the LT2 framework, as well as the RFP and contract details, to be established and it will be important for the IESO to continue to consult with potential Proponents to improve the process, ensure the most competitive energy pricing possible, and avoid fatal flaws. This further consultation will require draft RFP and Contract documents that provide a complete picture of how all moving pieces presented by the IESO to date are intended to cohesively work together as part of the proposal evaluation process and under operation of the contract so potential Proponents can properly assess the risks and opportunities presented by the LT2 RFP procurement.

We maintain the opinion that Ontario would be best served using a proven revenue model (e.g., PPA with an indexed fixed price that does not depend on market outcomes) to attract the most competition to participate in the RFP, minimize risk on Proponents, and yield the lowest prices for ratepayers. That said, we do appreciate the efforts made by the IESO to address the concerns with the E-PPA revenue model brought forward by the Consortium in our January 15, 2024 and April 23, 2024 submissions ("prior submissions").

Based on the information presented in the webinar we have the following comments on the LT2 Preliminary Connection Guidance[3] and proposed E-PPA revenue model.

[1] See https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/long-term-rfp/lt2-rfp-20240523-engagement-presentation.pdf

[2] The members of the Consortium are: CanREA; ESC; Axium Infrastructure; BluEarth Renewables; Boralex; CarbonFree Technology; Connor, Clark & Lunn; Cordelio Power; EDF Renewables; EDP Renewables; Enbridge; ENGIE; Evolugen (by Brookfield Renewable); H2O Power; Kruger Energy; Liberty Power; NextEra Energy Canada; Northland Power; Pattern Energy; Potentia Renewables, RES; and wpd Canada.

[3] https://www.ieso.ca/-/media/Files/IESO/Document-Library/engage/long-term-rfp/lt2-rfp-20240416-Preliminary-Connection-Guidance.pdf

Preliminary Connection Guidance

As part of the webinar, the IESO presented their responses to the Preliminary Connection Guidance Feedback. The Consortium thanks the IESO for the responses and the general direction of enhancing the information being shared as well as potential deliverability assessment process. There are still critical areas where the Guidance document falls short and must be addressed for a successful LT2 procurement. The Consortium fully supports publication of system information including geographic location of equipment and description of network schematic (i.e., single line diagram of the Ontario transmission system). This information is critical to properly assess connection capability and for Proponents to be capable of using the Guidance document. Without geographical location about the transmission system, the Guidance document, and listed circuits to avoid, is unusable and therefore very little value to Proponents.

In response to requests for pre-submission feasibility studies, the IESO states *"The Guidance document is supposed to provide enough information such that feasibility studies or pre-deliverability studies are not necessary"*. The Guidance document is not a replacement for feasibility studies of individual project connections and falls well short of being able to inform project design decisions for many reasons.

First, the Guidance document does not provide any information on connection arrangements for projects. For example, there is no information regarding whether a project can use a T-Tap (i.e., direct line) connection or if a 3-ring bus arrangement is required. Further, there is no information about what capacity a secondary connection point or switching capabilities will be required to allow connection.

Second, there is no guidance on connection cost of transmitter investments that must be funded by Proponents as per Ontario's connection process. To be a replacement for a feasibility study, information on what the transmitter (or distributor) must invest in should be outlined at a high-level so that it can be incorporated into the project economics.

Third, while the Guidance document gives high-level thresholds on project size based on regions or pockets of the transmission system, there is no specific information by connection point on what the threshold is for triggering significant system upgrades. This threshold is incredibly important to inform project design and sizing to avoid uneconomic project proposals (or put another way, to ensure the most cost-effective proposal is submitted into LT2). A proper feasibility study would be able to provide this guidance.

Finally, the IESO states that transmission upgrades would only be significant upgrades. We do not agree with this statement given the broad constraints the IESO lists. In many cases the issues of connection constraints can be address through minor system upgrades that are common for generation projects to fund to achieve optimal scale. The request from proponents was for the IESO to develop a process that would allow proponents to fund minor system upgrades while avoiding major system enhancements. The assumption that 2,000 MW of new generation capacity (in addition to the over 4,000 MW of new capacity being connected through the E-LT and LT1 procurements) can be connected without any supply-specific transmission enhancements is illogical. Further, as part of the RFP and contract process, BC Hydro has integrated a process to adjust timelines for Milestone Commercial Operation Dates to align with network upgrades. We do not understand why the IESO could not adopt similar processes in the RFP and contract.

The Consortium reiterates again that the IESO should establish a feasibility study process as part of the LT2 procurement process. The cost of the feasibility study

should be borne by Proponents to remove any ratepayer cost risks. If resources are a constraint for the IESO or Hydro One, an external party with engineering experience should be sought to run the feasibility tests, again at the Proponent's cost. Finally, the cost of the feasibility study will act as a natural barrier for unserious bids that will not fund prohibitively expensive projects to the extent they should. Only committed projects would move forward ensuring the IESO has a healthy and successful competition. With over a year until proposals are due for LT2, time is of the essence and the IESO must offer a pragmatic and supportive connection capability assessment process to support optimal project submissions.

Day-Ahead to Real-Time (DA-RT) Settlement Risk

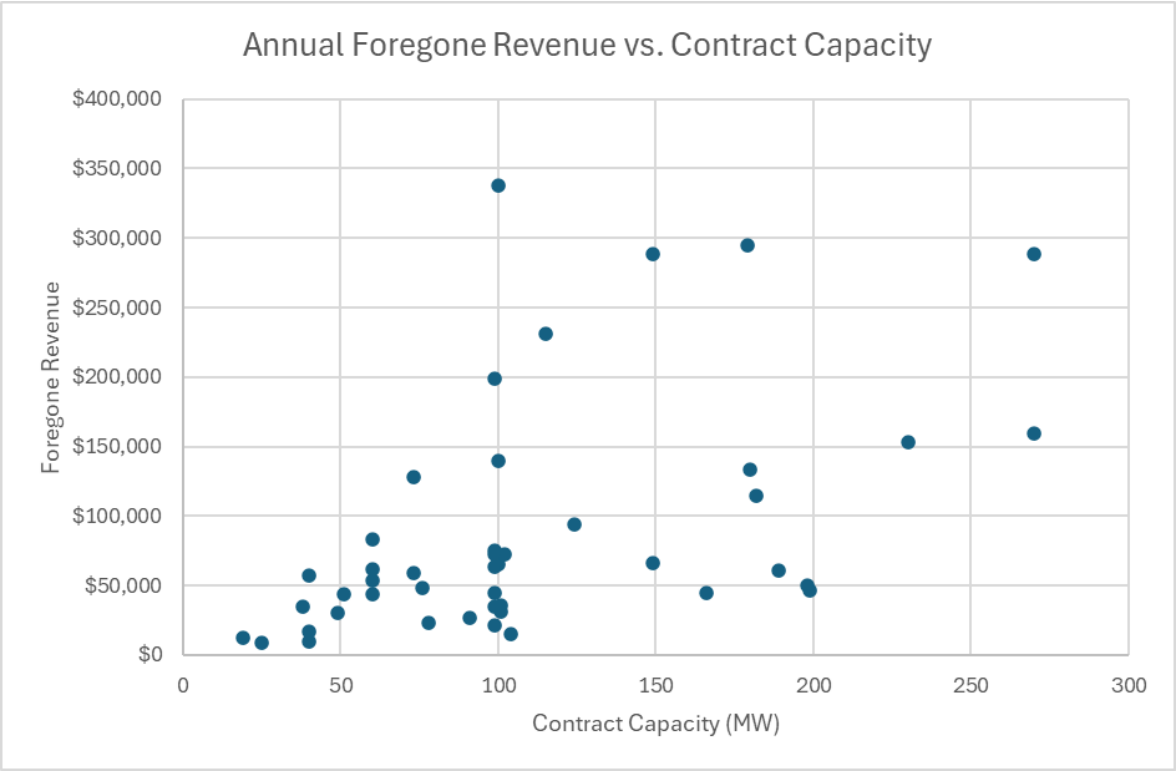
We thank the IESO for its proposal to address the DA-RT risk with its modification to the market settlement process with the Protected E-PPA ("Modified Settlement"). We think this is a positive step forward, and while it reduces the generator's exposure, it still does expose generators to the DA-RT risk.

As we understand it, if the total energy market revenues are less that the Protected DAM Settlement, which is 60% of the product of the day-ahead location marginal price ("LMP") and the lesser of the generator's day-ahead offer quantity and the IESO forecast, the generator receives the Protected DAM Settlement. The Modified Settlement provides for a sharing of the DA-RT risk, to the extent that the generator absorbs 40% of the risk of not being able to deliver on its day-ahead schedule if the renewable fuel is not available in real-time ("foregone revenue").

It is difficult for us to respond to the proposed Modified Settlement proposal from the IESO without reviewing the proposed contract and without understanding how Proponents that opt for Modified Settlement will be treated in the RFP evaluation process. It is important to us to have the complete picture of how the different elements of the LT2 will work together as potential strategies to manage this risk, if not addressed under the contract, will impact the production factors and proposal prices put forward by Proponents and may conflict with performance obligations.

This foregone revenue will need to be priced into Proponents' proposal prices. In order to do this, the frequency of future occurrences of renewable fuel unavailability and future DAM LMPs (which may vary considerably depending on grid location across Ontario) will need to be known. While historical data on renewable fuel unavailability events may aid in pricing this risk, there is no historical DAM LMP data upon which Proponents can rely to effectively assess this proposed framework. Sharing 60% of the DA-RT risk still exposes generators to 40% of this risk, which cannot be accurately priced. In Figure 1, below, we modelled all the transmission-connected wind generators currently under IESO contracts to estimate the magnitude of the foregone revenue. We took forecast and actual production for the wind generators for 2023, actual Hourly Ontario Energy Prices (HOEPs) for 2023 as a proxy for the real-time LMPs and used the three-hour pre-dispatch prices as proxies for the DAM LMPs. As Figure 1 demonstrates, the magnitude of the foregone revenue varies considerably. For some wind generators it is negligible; however, for a dozen or so wind generators, the magnitude of foregone revenue is more than $100,000 annually. With this kind of variability, Proponents will need make very conservative estimates, which will be reflected in much higher Enhanced PPA prices. Put another way, it will be very difficult for Proponents to accurately model DAM LMPs and associated risks which will work against IESO received competitively priced project bids.

Figure 1 – Foregone Revenue



As we have stated in previous submissions, the IESO's objective appears to be to subject generators to this real risk to preserve "market signals" that may, hypothetically, incent further investments in the facilities over the life of the contract. This is all well and good for generators that can respond to market signals, however, wind and solar generators cannot necessarily do so because the renewable fuel depends on weather patterns that are beyond the generators' control. Forecasting experience over the past decade has shown that inaccuracies in the range of 5 – 15% are common. We believe that the 60% sharing parameter needs to be increased. We understand that some stakeholders may be advocating for at least 85%. However, other stakeholders maintain that there should not be any sharing parameter for the reasons stated above and within previous submissions.

We will be pleased to meet with IESO about this submission at a mutually convenient time.

Sincerely,

Jason Chee-Aloy
Managing Director
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cc:
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David Thornton (EDF Renewables)
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David Watkins (Enbridge)
Sarah Bresolin (ENGIE)
Julien Wu (Evolugen by Brookfield Renewable)
Stephen Somerville (H2O Power)
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