Feedback Form

Long-Term 2 RFP | Deliverability Guidance Document | April 18, 2024

Feedback Provided by:

Name: Eric Muller

Title: Director, Ontario

Organization: Canadian Renewable Energy Association (CanREA)

Email: [redacted]

Date: May 3, 2024

To promote transparency, feedback submitted will be posted on the Long-Term RFP engagement page unless otherwise requested by the sender. If you wish to provide confidential feedback, please mark "Confidential".

Following the LT2 RFP Guidance Document webinar on April 18, 2024, the Independent Electricity System Operator (IESO) is seeking feedback from participants on the items discussed during the session. The presentation material and recording can be accessed from the engagement web page.

Please submit feedback to engagement@ieso.ca **by May 3, 2024.**

Guidance Document: Readability and Layout

Topic	Feedback
Do you have any advice or feedback on the style, layout and overall readability of the April 2024 Deliverability Guidance Document released by the IESO?	See comments below

Guidance Document: Content

Topic	Feedback
Are there any specific areas of the Deliverability Guidance Document that you would like to provide feedback on from a technical and/or content-specific point of view? If so, please be as specific as possible in your feedback and consider using page numbers and content title where possible to ensure the IESO can consider your feedback accurately	See comments below
Do you find the preliminary connection guidance information sufficient for your siting needs? If you feel more information is required, please be specific on what other information you would find useful.	See comments below

General Comments/Feedback:

CanREA and its members would like to thank the IESO team for recognizing the need to provide additional information to proponents and for their efforts to produce the preliminary connection guidance document.

We recognize that this document provides general guidance across regions of the province and various circuit voltage levels. This guidance reflects power engineering considerations and limitations consistent with the detailed calculations that would be applied to a specific project and location during the Evaluation Stage Deliverability Test and later during IESO assessments comprising the System Impact Assessment. These more detailed tests could show more (or less) connection capability than suggested by this general guidance; we expect that such differences would be relatively small in general.

Given this context for the information in the guidance document, we have a significant concern for the success of the LT2/3/4 procurements and Ontario resource adequacy.

It is possible that wind, solar and storage facilities could be significantly restricted from siting in southern Ontario, pushing additional development of clean energy supply resources to northern Ontario. While the IESO seeks to procure about 2000MW of non-emitting supply in the LT2 RFP, the guidance document reveals that there is nowhere near enough connection capability to connect 2000MW in northern Ontario, let alone the additional 3000MW the IESO intends to seek in subsequent LT3/4 procurements. Specifically, Table 1 lists an Inverter-based Resource (IBR) limit of 1200MW and an Area Congestion Limit of 1600MW (where the lowest, most-limiting quantity will be applied). In addition to the zonal and area limitations, to minimize local energy congestion or local reliability effects, the guidance document states that the amount of generation that can connect directly to a circuit is limited to one 30MW project per 115kV circuit and one 100MW project per 230kV circuit in northern Ontario. Assuming that larger projects are more likely to be economically viable, and excluding the 230kV circuits that the IESO advises should be avoided, there are just over twenty 230kV circuits in northern Ontario. Developers would need to precisely bid a 100MW project on each and every one of these 230kV circuits in order to provide enough supply to meet the IESO procurement target for the LT2 RFP (ignoring for the moment the more restrictive limitations of Table 1) – which is virtually impossible. Taken together, these conclusions drawn from the information in the connection guidance document are a significant cause for concern.

We recommend that the IESO take two important actions:

1. Make government aware of the impact upon Ontario electricity reliability if development of clean energy resources like wind, solar and storage are further restricted in southern Ontario. In particular, the IESO should convey the message that development of new supply must be enabled in southern and northern Ontario.
2. Work with Hydro One to take immediate actions to increase the strength of the grid in northern Ontario to improve its ability to connect inverter-based resources, say by adding devices like synchronous condensers.

Additional comments on the guidance document are presented below.

More detailed information required

While helpful at a high level, the guidance document does not provide sufficient information for the sector's siting needs.

Simply put, companies require the ability to determine whether their project, at a given size, will be deliverable, prior to investing the hundreds of thousands of dollars required pre-bid, and prior to initiating discussions with municipalities, Indigenous Communities, and the public. While the information provided by the IESO gives higher confidence levels on deliverability for small project sizes, it gives no indication of deliverability for projects more optimally sized for today's technologies and economics to optimize the system and deliver lower prices.

As IESO staff discussed during the April 18, 2024 webinar, LT1 RFP results have not been incorporated into the document. As a first step, CanREA requests that the IESO re-issue the guidance document incorporating LT1 results, to provide the most up-to-date and accurate connection guidance information for the sector's siting considerations.

The guidance document frequently refers to Ontario transmission stations and circuits. Unfortunately, proponents do not have equal access to detailed maps displaying these stations and circuits. CanREA and its members request that all proponents be provided access to **high-resolution transmission maps including circuit names and capacity available on each circuit by the end of May 2024**. This information would be very useful to proponents and would help them develop and deliver

optimally sited, competitive projects. For comparison, the AESO and BC Hydro both provide high resolution maps for public access (links below). Should the IESO not be able to provide a public map of similar detail, CanREA and its members request that the IESO provide its rationale for not doing so, especially considering that other grid operators in Canada are able to provide such public maps. If the IESO is unable to provide this detailed information publicly, CanREA requests that the IESO share it directly with interested parties via a secure method.

AESO open data interactive transmission system map:
https://aeso.maps.arcgis.com/apps/webappviewer/index.html?id=7470f563c3634f81a4455f06a3310176

BC Hydro high resolution transmission system map:
https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/suppliers/transmission-system/maps/bch-transmission-map.pdf

Deliverability test / pre-assessment service

CanREA recommends that the IESO offer a deliverability test / pre-assessment service well in advance of the LT2 bid deadline. This will provide proponents with project-specific information, including whether the project is deliverable, whether network upgrades may be needed, and what a non-binding interconnection cost estimate would be. This will provide proponents with more certainty regarding interconnection risk and cost, and will ultimately result in more efficient and effective project proposals. Critical to the effectiveness of this service will be clear, consistent and expeditious service turnaround commitments.

CanREA encourages the IESO and Hydro One to begin coordinating and planning for this now, if not already underway, so that the IESO can efficiently provide this service to proponents well before bids are due.

Further Inverter-based resource (IBR) limitation concerns

CanREA and its members are concerned that the current guidance provided of 1 IBR resource (~30MW max) connected to 115kV circuits and 1 IBR resource (~100-150MW max) connected to 230kV circuits are very low quantities and will not benefit from economies of scale tied to larger projects. It is currently unclear to what extent proponents can propose projects larger than the above guidance limitations. We request further clarity from the IESO on this matter.

Larger project sizes (e.g. 200MW+ wind; 50MW+ solar) are already the norm given enhancements to technologies. In today's market and high global demand, it is sometimes a challenge (and certainly more expensive) to secure products from our supply chain for small-scale endeavours. We urge the IESO and Hydro One to seek technical solutions to increase the size of projects that can connect to 115kV and 230kV circuits and communicate any increases with the sector as soon as possible. These larger projects will also require additional clarity on connection viability.

CanREA submits that the IESO may also consider allowing two circuit connections per project, to enable larger sized projects.

LDC coordination

Many smaller projects may seek to connect to distribution systems. CanREA requests that the IESO and Hydro One coordinate with LDCs to provide a transparent, consistent approach to siting of projects connecting to distribution systems.