

MARCH 10, 2022

LT1 RFP Engagement

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Agenda

- Key themes from stakeholder feedback
- LT1 RFP design considerations
 - Term length
 - Revenue Streams
 - Locational Considerations and Deliverability
- Draft LT1 RFQ
- Next Steps

Purpose

- Provide IESO responses to stakeholder feedback from the February 8, 2022 LT RFP Stakeholder Engagement session
- To continue the discussion on LT1 RFP design elements and present options for stakeholder feedback
- Discuss key aspects of the draft LT1 RFQ, currently posted for stakeholder feedback



Stakeholder Feedback – Key Themes

The following slides provide an overview of key themes from the written feedback received in response to the February engagement session. Formal IESO responses will be posted shortly.

Overview of Feedback Themes

Following the February 8, 2022 stakeholder engagement session, the IESO received feedback from 14 stakeholders on the following themes:

- Revenue streams
- Term length
- Forward period
- Mandatory criteria
- Rated criteria

Feedback Theme – Revenue Streams – contracts (1)

Stakeholder Feedback

- Stakeholders were less in favour of capacity only contracts and more in favour of a bundled contract that includes energy and ancillary services
- There was strong support for the Contract for Difference (CFD) concept
- Some stakeholders commented that if designed well a CFD could incentivize efficient energy market behaviour, while providing certainty and lowering financing costs

Feedback Theme – Revenue Streams - contracts (2)

IESO Response

- The IESO recognizes that a capacity only contract might currently not provide investors with sufficient revenue certainty to finance projects in Ontario. Many stakeholders are supportive of additional revenue certainty, most notably some form of energy revenue guarantee. As outlined earlier, the IESO will not pursue a capacity-only contract for the LT1 RFP and we will work together with the sector to develop the right contractual framework that appropriately balances investor certainty with system needs

Feedback Theme – Revenue Streams - EAs (1)

Stakeholder Feedback

- A number of stakeholders sought clarity on how environmental attributes (EAs) would interact with the recently announced Clean Energy Credit (CEC) registry
- Some stakeholders proposed a potential collar on renewable energy credits (RECs)/EAs if prices were to warrant it

Feedback Theme – Revenue Streams - EAs (2)

IESO Response

- The IESO recognizes that the procurement and the CEC registry are linked. The LT1 RFP team will coordinate closely with its colleagues in the IESO as the CEC registry is developed. This topic will likely require additional time and the IESO will keep stakeholders updated as new information becomes available
- Stakeholders are encouraged to participate in the IESO's dedicated CEC [engagement](#)

Feedback Theme – Revenue Streams - MRP (1)

Stakeholder Feedback

- Additional clarity was sought on how each energy revenue options proposed in the February 8 presentation would interact with the post-Market Renewal Program (MRP) energy market, or more specifically how contemplated MRP market power mitigation considerations would apply

Feedback Theme – Revenue Streams - MRP (2)

IESO Response

- The post-MRP market rules and the Long-Term Contract will be independent of one another. As such, stakeholders are encouraged to review [MPR Detailed Design](#) documents and the current and forthcoming [Market Rules and Manuals](#)
- The procurement team is coordinating with the MRP project team and will provide further detail on the linkage to market power mitigation as design work on the procurement progresses

Feedback Theme – Term Length (1)

Stakeholder Feedback

- The IESO should consider longer term lengths (a variety of term lengths from 12 to 20 years were proposed) to support project investment and lower financing costs. Further to this, stakeholders were supportive of the presented options to provide:
 - Additional term for those resources able to enter commercial operation prior to the common term start date; and
 - Additional term for resources able to provide high system value, in critical locations.
- Stakeholders were not aligned on the concept of allowing proponents to bid in alternative term lengths

Feedback Theme – Term Length (2)

IESO Response

- The IESO understands stakeholder feedback that longer term lengths may better support project financing and potentially lower bid prices
- Therefore, the IESO has revised the **term length to 15 years**, which is discussed later in this presentation
- Additional term length may be possible for resources able to come into service as early as 2025
- The IESO will not be pursuing "bidding in term dates" due to the added complexities of aligning contract expirations

Feedback Theme – Forward Period (1)

Stakeholder Feedback

- Stakeholders identified a number of risks that could impede a 2025/26 in-service date, including supply chain issues, volatile commodity markets and Ontario-specific development concerns (i.e., community engagement considerations)
- Stakeholders suggested that a condensed procurement schedule could help facilitate commercial operation by 2025/2026, as awarding contracts as late as Q4 2023 could pose a further challenge to achieving this target

Feedback Theme – Forward Period (2)

IESO Response

- The IESO is encouraged to hear that there are some opportunities for early commercial operation
- To complement feedback already received, the IESO is in the process of gathering confidential information provided by potential proponents via the [**LT1 RFP Questionnaire**](#)
- The IESO will provide further information around the timelines and the need for 2025/26 in the near future

Feedback Theme – Mandatory Requirements (1)

Stakeholder Feedback

- There was overall support for the mandatory requirements presented at the February 8 presentation
- However, further analysis was requested on the IESO's rationale for selecting 4 hours of continuous energy as a mandatory requirement

Feedback Theme – Mandatory Requirements (2)

IESO Response

- As previously stated through the Resource Adequacy engagement, a 4-hour requirement ensures the IESO has sufficient assurance that committed resources can be relied upon to meet peak capacity needs that endure for several hours
- Similar 4-hour requirements are also used by other jurisdictions to reflect peak needs: each of MISO, CAISO, and SPP use a 4-hour duration for both their capacity qualification and eligibility requirements for energy storage
- The IESO will provide further details on mandatory criteria at subsequent engagement sessions, as well as through the 2022 Annual Acquisition Report (AAR)

Feedback Theme – Rated Criteria (1)

Stakeholder Feedback

- Some stakeholders asked that the IESO include municipal support or Indigenous engagement or participation as part of the rated criteria
- Other stakeholders requested the IESO value non-emitting resources in order to help with decarbonization efforts

Feedback Theme – Rated Criteria (2)

IESO Response

- The IESO appreciates feedback on potential rated criteria and plans to dedicate time at a future LT1 RFP meeting to further discuss this topic, including the treatment of municipal engagement/support, Indigenous engagement/support and Indigenous participation
- The IESO will also be commencing outreach to municipalities and Indigenous communities to inform them of the characteristics of the LT1 RFP and seek input on procurement design
- The IESO is working with the government to better understand how policy, including that for non-emitting resources, will be implemented in the LT1 RFP
- The IESO will provide further details on rated criteria at subsequent engagement sessions



LT1 RFP Design Considerations

Re-cap of Procurement Need

At least **1,000 MW** of new Capacity with a minimum of **4+ hours of energy duration**

In-service as early as 2025 with preference to locations in **the West and East of FETT**

Term length will be **15 years** in addition to early operation incentives



Term Length

Term Length

- In light of stakeholder feedback on the need for increased certainty to assist with project financing and development, the IESO proposes that the LT1 Contract term be revised to **15 years**, with standard contract terms beginning in **2027**
- Proponents may opt for an earlier start date (either in 2025 or 2026) thereby extending their term by up to an additional 2 years



Revenue Streams

Revenue Streams

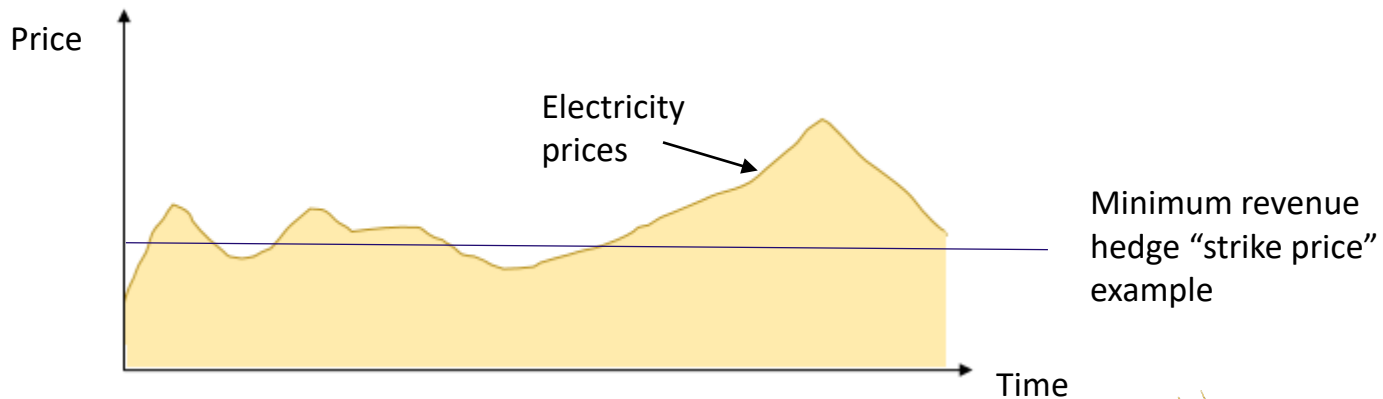
- The IESO has acknowledged that the LT 1 Contract will provide additional revenue certainty in addition to a capacity payment
- The IESO is trying to strike a balance between investor certainty and system needs
- While stakeholders have voiced a preference for a bundled, PPA style approach, these contracts undermine the market signals that are at the core of the MRP changes
- Furthermore, the IESO's priority for the LT1 RFP is to incent resources that can provide firm and reliable capacity
- PPAs often incent resources that provide energy, but are less reliable from a capacity perspective

Options to Explore

- The IESO recognizes that all options for additional revenue entail a trade-off between market efficiency/ratepayer risk/cost and investor certainty
- The IESO will work with stakeholders to develop a contract approach that balances the needs of investors and those of the IESO
- We will continue to explore two main options: UCAP + Energy Hedge & Bundled CFD
- Each option for additional revenue will interact in a different manner with the post-MRP market, including market power mitigation considerations, reference prices and other mechanisms
- Where possible, stakeholder feedback on these trade-offs and interactions is welcomed in order to help the IESO refine options further

Illustrative Example of an Energy Hedge

- In addition to a capacity payment, an energy hedge could entail a minimum revenue guarantee (pegged at a \$/MWh, or total \$/month revenue requirement) that will be provided through the contract as a top-up
- Any up-side market revenue potential would remain with suppliers



Consideration: Strike Price

- The strike price provides a lower bound energy market hedge in addition to the capacity payment. The IESO foresees two ways the strike price could be determined:
 1. A strike price could be bid in by suppliers as part of the RFP submission and considered in the evaluation process
 2. The strike price could be a fixed contract parameter tailored on a technology basis

Are there additional considerations, or do stakeholders have a preference on how a strike price should be determined?

Consideration: Qualifying Hours

- The energy hedge would apply only during a set of qualifying hours, aligned with the capacity needs being met
- Conceptually, production during those qualifying hours would be eligible for a revenue top up ex-post, if required, which should strike a balance between investor certainty and market efficiency
- The IESO may consider that the qualifying hours could be updated periodically (e.g., every 5 years) based on changes to load shape/peak hours in specific transmission zones

What are stakeholder opinions on the concept of qualifying hours?

Consideration: Ex-post Settlement

- This proposal would mean that the potential energy hedge should be settled ex-post to preserve market efficiency and ensure resources are responsive to real time energy signals
- From an administrative point of view, the IESO could provide resources with revenue “top up” payments either quarterly, or annually

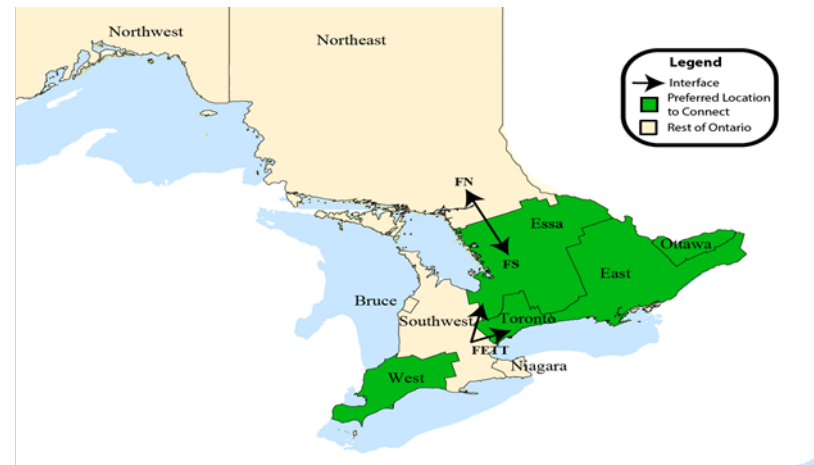
From a proponent perspective, is there an optimal settlement timeline for an ex-post energy settlement?



Locational Considerations and Deliverability

Locational Considerations

- During the February 8th engagement, the IESO indicated that the LT1 RFP will seek to address both global system needs and more localized transmission security needs
- As such, the LT1 RFP will incent acquiring capacity in the transmission zones **East of FETT (Flow East Towards Toronto)** and the **West Zone**, as indicated in the 2021 APO and AAR
- The IESO will outline the criteria for how resources located in these two zones will be valued through the LT1 RFP in a future engagement session



Note: The map is illustrative in nature only and is subject to change as planning studies and procurement design considerations are updated.

IESO will refine the map and locational considerations as we continue to engage

Deliverability in the LT1 RFP

- Under a competitive procurement like the LT1 RFP, the IESO will aim to avoid procuring resources in areas with limited connection availability due to transmission/distribution system limitations
 - Capacity acquired through the LT1 RFP must be deliverable, in order to meet emerging system needs
 - Resources may be competing for a transmission/distribution system path with limited capability; hence, the proposed deliverability process will allow for competition at locations of high interest
- The IESO is considering a simplified deliverability assessment approach relative to recent past procurements (e.g., LRP II) – the goal is to provide certainty to proponents in preparing their proposals, while streamlining the proposal evaluation process

Deliverability - Proposed Test Process (1)

- After the RFQ process is completed, Qualified Applicants would be required to submit project connection information prior to proposal submission (GPS coordinates plus circuit name for transmission connected and TS & feeder names for distribution connected) during the **deliverability assessment window**
 - Local Distribution Companies (LDCs) would provide the connection details and connection availability information at transformer station (TS) and at their distribution system
 - Transmitters would provide the transmission circuit information
- The IESO, working with LDCs where applicable, will run a deliverability assessment such that Qualified Applicants will know the deliverability status of their project(s) before submitting a proposal for the LT1 RFP

Deliverability - Proposed Test Process (2)

- The proposed process envisions the IESO, and LDCs when applicable, running one deliverability test for all Qualified Applicants included and provide one of three answers:
 - **Deliverable:** No deliverability concerns
 - **Not Deliverable:** Deliverability concerns on upstream distribution and/or transmission systems
 - **Deliverable but Competing:** Multiple resources interested to connect to the same deliverability path in distribution and/or transmission systems, where the total combined capacity is higher than the path's capability
- The results from the deliverability assessment window will remain valid for the LT1 RFP



Draft LT1 RFQ

Draft LT1 RFQ Overview

The draft LT1 RFQ was posted for stakeholder feedback on **February 28**. Stakeholder questions and comments are being accepted until **March 31, 2022**. The final LT1 RFQ will be published by **June 30, 2022**.

- The RFQ aims to ensure interested parties have the capability to undertake project development for the LT1 RFP, by evaluating both corporate experience and employee experience
- To ensure financial capability, the IESO will rely on completion and performance security in the form of a letter of credit, which will be required upon qualification/accompanying a proposal at the RFP stage

Draft LT1 RFQ – Participation

The LT1 RFQ will establish Qualified Applicants for two categories of Long-Term Capacity Projects based on nameplate capacity as follows:

- a) **“Small-Scale LT1 Project”** for those with a nameplate capacity that is greater than 1 MW but less than 5 MW
- b) **“Large-Scale LT1 Project”** for those with a nameplate capacity that is equal to or above 5 MW, up to a maximum of 500 MW

Draft LT1 RFQ – Qualification Submission

Applicants must submit all of the materials in **Section 2.7(b)(i)** as prescribed in order to be considered. Submission documents are to be sent electronically to LT.RFP@ieso.ca prior to 5:00PM on the Qualification Submission Deadline and must include the following:

- Completed Prescribed Form: RFQ Applicant Qualifying Experience and Declarations
- Qualification Submission Fee in the amount of **\$11,300, inclusive of HST**

Draft LT1 RFQ – Mandatory Requirements (1)

Large-Scale Entity Development Experience

- A. RFQ Applicant must have directly owned **two (2)** or more electricity generation or storage facilities:
 - 1) each with a nameplate capacity of at least 5 MW
 - 2) are not Behind-the-Meter Facilities
 - 3) achieved commercial operation in Canada or the United States no more than **ten (10)** years prior to the date of the Qualification Submission
- B. RFQ Applicant has to provide evidence of applicable environmental and energy or electricity-sector permits or licenses, interconnection agreements and market participation or registration documentation

Draft LT1 RFQ – Mandatory Requirements (2)

Large-Scale Individual Development Experience

- A. The RFQ Applicant must have at least **two (2)** Designated Team Members who, collectively have experience in each of Planning, Developing, Financing, Constructing and Operating at least **one (1)** Qualifying Large-Scale Project
- B. Individual Development Experience must be substantiated by accompanying resumes
- C. The Designated Team Members whose Large-Scale Individual Development Experience has been accepted for the purposes of the Qualification Submission will be required to form a part of the applicant's team for any LT1 RFP

Applicants that qualify for the large-scale procurement also qualify automatically for the small-scale procurement

Draft LT1 RFQ – Mandatory Requirements (3)

Market Operating Experience

- A. The RFQ Applicant must have at least **one** Designated Team Member who has experience in offering, scheduling, dispatching at least **one** Qualifying Large-Scale Project in the IESO-administered markets or similar wholesale electricity markets in the **two** years prior to the date of Qualification Submission
- B. Market Operating Experience for the Designated Team Member must be substantiated with an accompanying resume
- C. The Designated Team Member whose Market Operating Experience has been accepted for the purposes of the Qualification Submission will be required to form a part of the applicant's team for any LT1 RFP

Draft LT1 RFQ – Mandatory Requirements (4)

Small-Scale Entity Development Experience

- A. The RFQ Applicant must have directly owned **five (5)** or more electricity generation or storage facilities:
 - 1) each with a nameplate capacity of at least 500 kW
 - 2) are not Behind-the-Meter Facilities
 - 3) achieved commercial operation in Canada or the United States no more than **five (5)** years prior to the date of the Qualification Submission
- B. Evidence of applicable environmental and energy or electricity-sector permits or licenses, interconnection agreements and market participation or registration documentation

Draft LT1 RFQ – Mandatory Requirements (5)

Small-Scale Individual Development Experience

- A. The RFQ Applicant must have **one (1)** or more Designated Team Members who, collectively have experience in each of Planning, Developing, Financing, Constructing and Operating at least **one (1)** Qualifying Small-Scale Project
- B. Individual Development Experience must be substantiated by accompanying resumes
- C. The Designated Team Members whose Small-Scale Individual Development Experience has been accepted for the purposes of the Qualification Submission will be required to form a part of the applicant's team for any LT1 RFP

Draft LT1 RFQ – Mandatory Requirements (6)

Market Operating Experience

- A. (A) In addition to the Small-Scale Individual Development experience, the RFQ Applicant must have at least **one (1)** Designated Team Member who has Market Operating Experience as set out in Section 3.2(a)(iii)



Next Steps

Next Steps

- Stakeholder feedback on this presentation is being requested via the feedback form by March 17, 2022 to engagement@ieso.ca
- Stakeholder feedback on draft LT1 RFQ due prior to March 31, 2022
- The final LT1 RFQ will be published by June 30, 2022
- The IESO will continue to engage on topics both noted in this presentation and new items (e.g., additional commercial and contracting considerations, community and Indigenous engagement requirements, rated criteria) to help further inform the draft RFP and Contract

Thank You

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