

Incremental Capacity Auction

May 18, 2017

Minutes of Meeting

Date held: May 18, 2017	Time held: 9 a.m. – 2 p.m.	Location held: Crowne Plaza Toronto Airport
Company Name	Invited/Attended	Attendance Status (A)ttended; (R)egrets; (S)ubstitute
Bruce Power	Dalzell, Pat	A
CanSIA	Johnston, Wesley	A
Capital Power	Villiger, Kurtis	A
Charles River Associates	Bruno, Juliana	A
Constant Power	Game, Jonathan	A
EDF EN	Thornton, David	A
Enbridge Gas Distribution	Chagani, Abbas	A
EnerNOC, Inc.	Griffiths, Sarah	A
GC Energy Services	Bajc, Frank	A
Goreway Power Station	Sutherland, Chris	A
Great Circle Solar Management Corporation	Warnock, Melanie	A
H2O Power LP	Somerville, Stephen	A
H2O Power LP	Medina, Ron	A
MIDAC Corp.	Acchione, Paul	A
Milton Hydro	Lasowski, Frank	A
Ministry of Energy	MacPherson, Robin	A
MIT Power Canada Investment Inc.	Iseki, Madoka	A
NextEra Energy	Tuck, Jennifer	A
Northland Power Inc.	Veldhuizen, Jon	A
Ontario Energy Association	Hrab, Rob	A
Ontario Power Generation	Wizniak, Lynn	A
OSPE	Busheri, Hezek	A
PeaK Power Energy	Sachs, Matt	A
Peak Power Inc	Sachs, Matt	A
Power Advisory LLC	Cumming, Alison	A
Power Advisory LLC	Chee-Aloy, Jason	A
Powerful Solutions	Inman, Peter	A
RES (Renewable Energy Systems)	Canean, Oliver	A

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Resolute Forest Products	Degelman, Cara	A
Rodan Energy	Ingram, Rachel	A
Sussex Strategy Group	Benedetti, Chris	A
Sussex Strategy Group	Simmons, Sarah	A
TransAlta	Nguyen, Thanh	A
TransCanada Energy	Kuntz, Margaret	A
Virtual Power Plants Inc.	Rasmussen, Terry	A
Workbench	Jayapalan, Jennifer	A
Workbench	Eich, Christopher	A
IESO	Agavrioloai, Ioan	A
IESO	Chapman, Tom	A
IESO	Clemente, Anthony	A
IESO	D'Souza, Danielle	A
IESO	Ellard, Barbara	A
IESO	Gojmerac, Mark	A
IESO	Hill, Warren	A
IESO	King, Ryan	A
IESO	Louw, Brennan	A
IESO	Maniyappan, Sunil	A
IESO	Movchovitch, Emanuel	A
IESO	Nusbaum, Stephen	A
IESO	Tam, Samantha	A
IESO	Zhao, Serena	A
Scribe: Serena Zhao – Please report any corrections, additions or deletions to scribe at: serena.zhao@ieso.ca		

All meeting material is available on the IESO web site at:

<http://www.ieso.ca/en/sector-participants/market-renewal/market-renewal-incremental-capacity-auction>

Meeting Started at 9 a.m.

1. Introduction – Ryan King & Stephen Nusbaum, IESO

IESO welcomed participants and stressed the importance of making the Market Renewal Program as transparent as possible. Stakeholders should use engagement@ieso.ca to provide feedback via email; the IESO will use this same email address for all communications, update and responses to stakeholder feedback. The IESO will post, with permission, all feedback on the ICA SE webpage along with its responses.

The IESO encouraged stakeholders to read the draft Stakeholder Engagement Plan posted on the IESO's website and to provide any feedback on it before it is finalized by the third meeting of this group.

The IESO also reminded participants that a workshop on capacity markets and other market design features was held in February 2017. A recording of the sessions is available at: <http://www.ieso.ca/sector-participants/engagement-initiatives/overview/public-information-sessions>.

2. Market Renewal Overview and Engagement Framework – Barbara Ellard, IESO

Barbara provided an overview and context for Market Renewal, the initiatives contained within the different work streams and the engagement framework which the IESO has committed to follow for the Program. Barbara also outlined the roles of individual stakeholder engagements and of the Market Renewal Working Group (MRWG) in helping to guide design decisions and resolve issues.

Participant Question: How will the IESO ensure that the different forums do not veer off in different directions?

IESO Representative: We have tried to ensure a degree of overlap in members between groups within the engagement framework to encourage collaboration and integration over time. The MRWG Co-Chairs will be participating in the stakeholder meetings but will also be participating in updates and discussions at the Stakeholder Advisor Committee (SAC), Technical Panel (TP) and CEO Roundtable.

IESO Representative: There have been many discussions about the MRP being a means to leapfrog issues that are arising in several U.S. jurisdictions. We want to hear your perspectives about your experience in or knowledge of those markets and what can be instructive for Ontario. Also, the IESO recognizes that it needs to better enable certain elements, such as renewable generation and environmental attributes, as well as flexibility products in addition to what is currently part of the MRP. In order to stay focused on Market Renewal we will have parallel discussion on these important strategic topics. We have already begun discussions about how emissions-free energy fits within market renewal.

Participant Question: A problem with today's electricity market is that the retail market is not aligned with the wholesale market. Is IESO working with the Ministry of Energy to re-examine how the retail market can be better aligned with the new wholesale market that is coming?

IESO Representative: The IESO has many points of contact with the Ministry of Energy around consumer issues, conservation, and planning. The Ontario Energy Board (OEB) –who has

responsibility for retail pricing is also talking with the ministry about what future retail pricing should look like. The IESO is linked into these discussions.

Participant Comment: A business case cannot yet be made for many new technologies because the price differentials between peak and off-peak are not significant enough to attract investment and make it cost-effective.

3. ICA Stakeholder Engagement – Stephen Nusbaum, IESO

The stakeholder engagement for ICA and for other MRP initiatives will run concurrently. Engagements for Enhanced Real-Time Unit Commitment (ERUC), Day-Ahead Market (DAM) and More Frequent Intertie Scheduling (MFIS) will begin in the fourth quarter of 2017. A key objective of the capacity work stream is to develop capacity as a tradable product in Ontario by putting it into the market and achieving transparent price signals. This work has started already with the capacity export engagement and with a very successful Demand Response (DR) auction. The plan is to have the DR auction eventually become a part of ICA. Capacity imports are a fundamental part of this discussion as well, and will be addressed within the ICA engagement process.

Over the next 18 months, the stakeholder engagement process will focus on the creation of the High Level Design for a made-in-Ontario capacity auction.

The effort in the ICA work stream is to create a mechanism to secure capacity as efficiently as possible to meet system adequacy needs. To be clear, a capacity auction is not the tool the IESO believes should be used to address other issues, such as flexibility, operability, or the facilitating of products with certain attributes.

Participant Question: Will governance be addressed in the MRWG? If so, how would that explicitly link to ICA discussions? This is important because investors want assurance about the stability and resiliency of ICA and its rules, since this will replace contracts or a regulator opining on the rules investment decisions are made on.

IESO Representative: We are working with the MRWG to review governance issues to determine the processes they impact (stakeholder engagement, market rules, government). We will then develop a work plan which will consider how to address these issues in parallel to the design work.

Participant Comment: For capacity auctions to function and to attract investment, everyone needs to understand the rules of the game. If the IESO wants to move away from having contracts, there has to be certainty about how decisions are being made before market participants will make the capital investments needed to maintain and build new assets. In the US, a regulator holds a hearing on any rule change and makes a decision completely

independent of government. As the IESO moves away from using contracts, a plan is needed to ensure the sanctity and workability of the capacity market.

IESO Representative: The MRWG has discussed a number of governance issues, including the rule-making process, and plans to move forward on those issues. The MRWG co-chairs will play a role in helping to resolve issues in the engagement by trying to find ‘substantial consensus’ within the MRWG on design issues where there have been disagreements within individual SE’s. The MRWG will address these issues and bring their work back to the stakeholders.

Participant Question: The incremental capacity market was initially intended to get at the short end of the market by getting more capacity from assets already in operation. As things move from an incremental capacity market to a full capacity market, is it correct to assume the market would have to become more sophisticated to capture both the short and long ends of the market?

IESO Representative: Capacity markets have proven to be effective mechanisms for securing a wide variety of resources to meet capacity needs. This includes securing resources that have not traditionally been facilitated in Ontario such as uprates at existing facilities, imports from neighbouring jurisdictions, and energy storage. Capacity markets have also proven to be effective at incentivizing new build generation in other jurisdictions. In the Ontario context the IESO does not anticipate new build generation being needed in the province during the early years of the ICA. The IESO has never stated an intention to move to a full capacity market (i.e. a market where all resources are required to participate in the auction). The IESO believes that the ICA will continue to operate alongside contracts and rate regulated assets for the foreseeable future. The IESO is aware that serious discussions will be needed to address the best approach to ensure the continued funding of strategic base load resources (e.g. nuclear and large scale hydro generation) and other zero emitting resources.

4. IESO Generation Contracts – Emanuel Movchovitch, IESO

Feedback has been received from a number of stakeholders that it is important to integrate contracts into the market renewal process from the beginning. The key message is that the IESO is not attempting to extract additional value out of contracts at the expense of contract holders; rather, this is a market initiative aimed at improving efficiency. The goal is to implement a smooth amendment process when these changes come into effect. In the interest of transparency and confidentiality, the group is open to having group talks about contracts in general and one-on-one meetings to discuss specific, commercially sensitive topics.

5. Purpose and Context of ICA – Stephen Nusbaum, IESO

Participant Question/Comment: Referring to slide 55 (Benefit – Adapt to Changes), can you explain more about how ICA could be more adaptable to regulatory changes? This seems to be the potential Achilles’ heel of ICA.

IESO Representative: In contrast to the 20-year contracts used in the current system, ICA commitments are usually for shorter periods (1, 2, or 5 years). This will allow the ICA to be more responsive and flexible to accommodate regulatory changes.

Participant Comment: I support and understand the benefits of ICA as described; however it seems the IESO has not explicitly identified meeting government policy goals as an objective for ICA.

IESO Representative: The IESO recognizes that Market Renewal, like all of our work, needs to be aware of, and operate within, the broader policy environment. There have been internal discussions at the IESO and in the MRWG about how government policy should be reflected in high level designs (HLD). Policy resiliency and reliability are taken as fixed, given requirements.

Participant Question: Regarding aligning long-term investment planning with the short-term commitment periods associated with ICA, does evidence from other jurisdictions suggest that ICA prices remain stable over a five- to seven-year period or does it show there’s significant price fluctuation?

IESO Representative: The IESO does not anticipate any “new steel in the ground” for the first few years of the auction because we believe there will be sufficient resources (through uprates DR, and imports) to cover adequacy needs in the near term. The IESO agreed with the premise of the question, saying the auction will need to develop a proven track record to attract the significant new capital investment that would be required for a new plant. The benefits case for the ICA prepared by the Brattle Group provides examples from other jurisdictions of new-build coming online in response to one-year auctions.

6. Capacity Auction Mechanics – Stephen Nusbaum, IESO

IESO presented a four-stage, simplified version of how a capacity auction works:

1. Determining capacity needs
2. Running the auction
3. Forward period and rebalancing auctions
4. Obligations within the commitment period(s)

Participant Comment: Ontario can achieve an 80% reduction in carbon emissions with a “clean” base load and “dirty” peak system, but to do so the IESO should differentiate between the two and hold separate capacity auctions.

IESO Representative: The IESO definitely wants to link energy and capacity together, and even go beyond that to get providers to engage in “revenue stacking” and look at what ancillary products they can provide, such as flexibility or environmental attributes.

Participant Comment: There seems to be some muddying between the definitions of flexibility, energy, and capacity. It is important the capacity auction remains focused on the value of capacity and other elements remain distinct; otherwise, things get complicated and messy. ‘Dirty’ sources of energy (such as diesel) should not be allowed to participate in the auction. This was a lesson learned based on the UK experience.

IESO Representative: The IESO agrees with the need to be clear about the product it is buying and what it means by capacity. Interaction between various revenue streams is unavoidable, and we are wary of excluding certain resource types as it runs contrary to the principle of maximizing competition. Ensuring alignment with environmental policy objectives will be something that will be discussed in future ICA SE meetings.

Participant Question: Are there any mechanisms for assigning a time value to capacity? Capacity is more valuable during peak than during base hours, but under ICA the IESO will be paying the same capacity price no matter when it occurs.

IESO Representative: Some options for incentivizing capacity during periods of system need are pay-for-performance, measuring obligation compliance during certain points of the day, measuring obligation compliance aligned with certain system events, or measuring by considering the level of demand. All of these options will be considered.

Participant Question: Why would the IESO pay the higher clearing price to all bids instead of paying the actual bid price, which would cost less and therefore provide more value to the system overall?

IESO Representative: The Brattle Group will provide an in-depth discussion of this topic at the next meeting.

Participant Question: Will the Ministry of Energy set guidelines regarding who can participate?

IESO Representative: The auction will respect the policy goals and government. Within that context it would be inappropriate for the IESO to identify which resources can participate in ICA for any reason other than reliability concerns. The IESO continues to communicate with the government regarding how environmental policy will interact with the auction mechanism.

IESO Representative: Two important policies are already in place: the ban on coal and the cap-and-trade program, which the government has implemented as a way to reduce emissions not just for electricity but for the province as a whole. Ontario values a diversified supply mix and this would be represented in the Auction. If necessary there are a variety of tools and approaches to incentivize different technologies, whether nuclear or large hydro, and find ways to support the growth of renewables and clean energy.

7. Overview of ICA Design Elements (Stephen Nusbaum, IESO)

The IESO has grouped nineteen design elements into five areas:

- Pre-auction
- Auction parameters
- Demand curve
- Forward period
- Commitment period

The IESO explained the phases and timing of ICA. A number of parameters focus on the pre-auction period, which could begin more than a year before the auction. The IESO will publish how much capacity it will procure in any particular auction far enough in advance so suppliers can determine whether they want to participate or not.

Participant Comment: The Net Cost of New Entry (CONE) could be a contentious issue. What process do other Independent System Operators (ISO) or Regional Transmission Organizations (RTO) use to arrive at a universally accepted Net CONE?

IESO Representative: Net CONE is generally established through a third party with an agreed on set of procedures. The IESO has not determined what dispute resolution mechanisms should be used when stakeholders have objections.

IESO Representative: The IESO has frequent conversations with its counterparts in other jurisdictions and has heard that setting Net CONE takes a lot of time and effort. The IESO can make use of the experience in these jurisdictions and build on their best practices during the stakeholder process.

Participant Question: How does the IESO envision it will conduct the rebalancing auctions during the forward period? Would participants submit their megawatts and prices, as would be done in the base auction?

IESO Representative: It is a bit premature to make this determination in advance of design discussions, but yes, in general, they should be similar. How exactly the demand and offer curves would be established has not been examined yet.

Participant Question: Can participants, in the rebalancing auction, alter the quantity that cleared in the base auction?

IESO Representative: Other jurisdictions allow participants to buy out of their position, and that is a design element that could be considered for inclusion in Ontario's ICA.

8. Timelines – Stephen Nusbaum, IESO

The IESO reviewed the tentative timeline for ICA. Based on current projections, a capacity need could occur as early as 2021. Working backwards from that, the earliest an auction could run would be 2020 with a one-year forward period. It is expected that the ICA process will start with a relatively small number of megawatts to be secured. The auction will work alongside existing contracts and regulated resources and will evolve over time, with design features being added through ongoing dialogue with stakeholders.

Participant Question: Is there a threshold amount of supply need that would trigger an auction?

IESO Representative: Operators and planners would have to discuss how many megawatts is enough to trigger an auction. The number of megawatts needed to run the first auction will depend on demand forecasts, whether all of the facilities expected to be contracted by that time are available, and what the DR options are. There is no firm number for the auction, but the range is in the hundreds to thousands of megawatts, not tens of thousands.

Participant Question: Is there any consideration on combining the DR auction with ICA?

IESO Representative: Prior to 2020 the two will be separate, but the ultimate goal is to have a single capacity auction that incorporates DR.

Participant Question: Do other jurisdictions allow out-of-jurisdiction resources to participate in their capacity auctions?

IESO Representative: Yes, capacity imports are considered in other jurisdictions. The IESO has facilitated Ontario's capacity exports being counted towards New York's adequacy needs, for example. The process around calculating how much capacity can be relied upon from external sources involves many technical details relating to transmission and system constraints, which is why capacity trade has its own work stream.

9. Next Steps – Stephen Nusbaum, IESO

The IESO welcomed feedback from stakeholders on this session any time before June 15. In particular, the IESO would like to hear opinions on whether the plan and framework for ICA is appropriate and on strategic issues, especially around governance and policy issues. Upcoming “fundamentals” sessions on June 15 and July 20 will explore design elements in more detail and provide more context on the ICA’s structure.

Participant Question: Has any consideration been given to secondary trading to allow bidders to trade away their obligation either before or during the delivery period—if they experience an outage, for example—as a way to manage risk?

IESO Representative: Those discussions would take place during the options phase.

Participant Comment: Market participants need to understand what the guiding principles are, what the underpinning theory is, and “who is in control of deciding what the monopolist will do.”

Participant Question: Does the IESO anticipate that the Long Term Energy Plan (LTEP) will contain enough guidance to allow the ICA design phase to move forward?

IESO Representative: It is not expected that the LTEP will provide details about specific design elements; rather, it will set high-level policy goals. The Minister of Energy has endorsed the MRP, and the LTEP is expected to reflect that.

Participant Comment: The ICA is a two-step process, with the rules of engagement being the high priority item. The role of government is a tough issue that will not be solved soon. Perhaps the MRWG should think about setting up a parallel work stream to deal with those process issues and getting input.

IESO Representative: The message from stakeholders is loud and clear to get moving on governance and gain some clarity. Parallel discussions will need to take place with stakeholders on this important topic. The MRWG will discuss the issue and decide on the best approach.

Participant Question: The talk of capacity seems to focus only on megawatts, but things like voltage support and capacitance are important “to prop up the grid.” Will those products be procured on the open market or in the ICA?

IESO Representative: The IESO wants to be clear that the ICA will only procure capacity. The IESO wants to allow the markets for ancillary services and flexibility to attract those elements to the supply mix.

IESO Representative: The MRP should provide a base for managing these issues. With the correct price and energy signals being sent, the IESO expects service providers will decide where to participate. Other jurisdictions are planning for tri-optimization (energy, operating reserves, and regulation) and as the IESO seeks to create more competition in the regulation market, it will be following those developments. The same applies to flexibility products. After first making sure the key pieces are in place and operating smoothly, the IESO can then consider putting products and services of this type on the market.

10. Conclusion

The IESO thanked participants and reiterated that feedback is appreciated and should be sent on or before June 15, 2017 to: engagement@ieso.ca

IESO team members are also available for one-on-one meetings.

Next ICA Meeting is on June 15th.

Meeting Adjourned at 2 p.m.