

Incremental Capacity Auction

June 15, 2017

Minutes of Meeting

Date held: June 15, 2017	Time held: 9:00 a.m. – 2:30 p.m.	Location held: Crowne Plaza Toronto Airport
Company Name	Invited/Attended	Attendance Status (A)ttended; Attended via WebEx; (R)egrets; (S)ubstitute
AMP Solar Group	Luukkonen, Paul	WebEx
AMPCO	Anderson, Colin	A
APPRO	Butters, Dave	A
Bruce Power	Dalzell, Pat	A
Bruce Power	Xu, Jennifer	WebEx
Centre Lane Trading	Nikkel, Jonathan	WebEx
Constant Power	Game, Jonathan	WebEx
Customized Energy Solutions	Tinkler, Mark	WebEx
Enbala Power Networks	Dhawal, Raj	WebEx
Enbala Power Networks	Thompson, Jonathan	WebEx
Enbridge Gas Distribution	Chin, Edith	WebEx
EnerNOC, Inc.	Griffiths, Sarah	A
ENGIE Canada Inc.	Laparan, Deanna	A
Goreway Power Station	Coulbeck, Rob	A
Goreway Power Station	Sutherland, Chris	A
H2O Power LP	Somerville, Stephen	WebEx
Hydro Quebec Energy Marketing Inc.	Belanger, Frederic	WebEx
Manitoba Hydro	Bertholet, Kelly	WebEx
Manitoba Hydro	Penner, Audrey	WebEx
Ministry of Energy	MacPherson, Robin	A
Northland Power Inc.	Khan, Shahid	WebEx
Northland Power Inc.	Samant, Sushil	A
Ontario Energy Association	Hrab, Rob	WebEx
Ontario Power Generation	Wizniak, Lynn	A
OWA	Norris, Paul	WebEx
Peak Power Inc	Sachs, Matt	A
Power Advisory LLC	Chee-Aloy, Jason	A
Power Advisory LLC	Cumming, Alison	A
Resolute Forest Products	Degelman, Cara	WebEx
Rodan Energy	Ingram, Rachel	A
Samsung Renewable Energy	Park, Katherine	WebEx

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Shell Energy	Kerr, Paul	WebEx
SMS Energy-Engineering	Buckland, Sharon	WebEx
Sussex Strategy Group	Simmons, Sarah	A
Tembec	Dottori, Paul	A
The Brattle Group	Lueken, Roger	A
The Brattle Group	Pfeifenberger, Johannes	A
TransAlta	Nguyen, Thanh	A
TransCanada Energy	Kuntz, Margaret	A
Weston Bakeries	Borden, Darren	WebEx
Workbench	Jayapalan, Jennifer	WebEx
Workbench	Sears, Heather	A
IESO	Agavrioloai, Ioan	A
IESO	Agrawal, Vipul	WebEx
IESO	Brown, Dave	WebEx
IESO	Chagla, Farid	WebEx
IESO	Chan, Bonnie	WebEx
IESO	Chapman, Tom	A
IESO	Clemente, Anthony	WebEx
IESO	D'Souza, Danielle	WebEx
IESO	Ellard, Barbara	A
IESO	El-Samahy, Ismael	A
IESO	Hill, Warren	A
IESO	Jovic, Rado	WebEx
IESO	King, Ryan	A
IESO	Maniyappan, Sunil	WebEx
IESO	Movchovitch, Emanuel	A
IESO	Nusbaum, Stephen	A
IESO	Omar, Seif	WebEx
IESO	Tam, Samantha	WebEx
IESO	Zhao, Serena	A
Scribe: Serena Zhao – Please report any corrections, additions or deletions to scribe at: serena.zhao@ieso.ca		

All meeting material and recording of the session are 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 (Slides 1-10)

IESO welcomed participants to Phase 1 – Fundamentals, which is the second meeting of the Incremental Capacity Auction (ICA) stakeholder engagement process and reviewed today's agenda.

The IESO reviewed key items from the first ICA meeting from May 18th including the engagement framework, high-level design process and list of design elements.

The IESO presented a draft problem statement for discussion in order to help with framing the 'issue' and inform considerations on how it can be solved:

“Ontario does not have a stable, transparent, and competitive mechanism to ensure resource adequacy is maintained at the lowest cost in the long run.” (Slide 9)

Participant Comment: Since we are not taking into account how we are dealing with the largest chunks of our resource adequacy, you need to be a little bit more specific about what resource adequacy means here.

IESO Representative: We will take that into consideration.

Participant Question: Regarding statutory requirements, such as the objectives of the long term energy plan, how does that statement map to those objectives?

IESO Representative: We do recognize we have to live within the broader policy context, the IESO will consider whether we need to be more explicit about it when it comes to objectives.

Participant Follow-up Comment: Our recommendation is it should be explicit.

Participant Comment: This statement should reflect a) incremental and b) it is just about meeting the resource adequacy. This is to make sure that Ontario has the right capacity supply to meet the full needs of the province.

Participant Comment: The statement should have the word incremental in there and it also should reflect the Long Term Energy Plan (LTEP) for government policy. Instead of 'Ontario does not have', we should use 'We need'. On slide 8, "Contractual incentives not always aligned with system needs", not sure how ICA is going to solve this issue.

IESO Representative: There are certain forms of contract that shield or mute market signals, most of our PPAs incent the resource to run flat out whenever the fuel is available and not necessary providing incentives to generate when the energy is needed by the system. Similarly, some of the contracts can be seen as barriers to:

- participation in other markets;
- changing the operation and/or the configuration of the resource

Resources therefore may not be incented to respond to system needs because of challenges with the contracts. Under the capacity auction, it's largely dealt with because the capacity auction puts certain performance obligations on the resource, but then leaves participants with the flexibility to respond to market signals and manage their risk more effectively.

Participant Follow-up Question: Are you suggesting that this is going to be a transition?

IESO Representative: Yes, as more and more capacity is secured through the auction, these resources on the system will be able to better respond to incentives and changing conditions over time.

Participant Comment: The word stable could be conflicting with innovation.

IESO Representative: Stable here meant more for enduring; the mechanism will be there and participants and investors can have certainty in it.

Participant Question: Why not just use the word enduring?

IESO Representative: Thank you for all the feedback, we hope to present a draft version of goal statement and objectives in the next session or the one after.

2. What is Capacity – Ismael El-Samahy, IESO (Slides 11-16)

IESO discussed and defined capacity as a unique product, its relationship to other energy products, and how it is used to meet system reliability requirements.

Participant Question: How do you procure faster or slower response in a capacity auction?

IESO Representative: Clearly defining the capacity product is an important first step along with performance requirements. The Auction will have some requirements which will help to ensure it is available when needed. First is qualification and second is resource performance obligation. These two processes together, will ensure that we achieve the goal of meeting the system adequacy requirements.

Participant Question: Are we (stakeholders) going to have input into this qualification process?

IESO Representative: Yes, definitely. In this Fundamentals phase we are just defining things, as we move on we will need to come up with a process for capacity qualification.

Participant Question: Regarding peak demand, has there been any thought to what other markets are doing for scarcity conditions?

IESO Representative: The way qualified capacity is set up is around meeting resource adequacy defined at times of system peak. There are ways where you can have obligations on the resource to show up during scarcity events and pay for performance. This is something we are planning on exploring when we get to that design element (Performance Obligations).

Participant Comment: This goes a long way to fixing the fundamental errors that have been made in the contracts we have today, where all the generators' capacity are treated equal – whereas it shouldn't be.

3. Foundational Assumptions – Stephen Nusbaum, IESO (Slides 17-39)

Assumption #1 – Incremental Needs Only

Participant Question: You indicated that in an incremental capacity auction, capacity that has been procured would be producing energy during the peaks potentially. I'm assuming those resources would offer to the market, not actually producing electricity but have the capability to provide power?

IESO Representative: Different jurisdictions have done it in different ways. There are ways to assess whether or not you've been generating when the system need you and have incentive structures around that. This is something we are planning on exploring.

Participant Question: Those demand outlooks are all over the place, you're going to have to pick one and the market is going to have to respond to one. How are we making that decision? And when are we making that decision?

IESO Representative: You are right, we need to nail down exactly how we are going to establish the target capacity. We started working on that, internally we have a very robust process for the 18 months outlook for how we assess demand and resource adequacy. A similar sort of process will need to be established be transparent.

Participant Question (online): As contracts begin to expire within the next few years, can you explain the migration of these facilities into the auction?

IESO Representative: As resources come off contract to the extent they see economic opportunity to continue operating between what the capacity auction will offer and other revenue then those resources would be expected to offer in to the auction. There could be some challenges around when the contract date expires and the actual date of the auction as the commitment period may not line up perfectly. In general, there is no obligation for resources

coming off contract to participate, however, if they see opportunities we will definitely encourage them to. When we get into the detailed design, we will need to think about those transitional periods between the contract and the commitment period.

Participant Question: Regarding contracts ending and rolling into the ICA, will the process we design be robust enough to do the same thing on the regulation side?

IESO Representative: We can't design something that forces the Ontario Energy Board (OEB) to do anything; we will need to work with the OEB to figure out how the processes could interact.

Participant Question: Regarding CES contracts, most of them have clauses that allow the facility to participate in the capacity auction. You wouldn't want to exclude all the capacity, but there might be other resource adequacy attributes. How would you deal with that?

IESO Representative: Where there is opportunity for existing assets to help us meet new or emerging system needs, we would be open to looking at the contracts. Where there are either barriers or lack of incentives, that is something we would consider because our primary goal is to make sure we maximize the use of existing assets.

Participant Question: If we are going to fundamentally move off of uniform pricing and move off of congestion management settlement credits, at the end of the day, you have energy market to do certain things and capacity market to do certain things, and this is all being smashed together really fast. How are these all getting integrated? If we are not optimal, we might run the risk of actually having a more costly system.

IESO Representative: From a process perspective, talking about the integration, that is really a primary task for the working group (MRWG), we also said we will have a broader market renewal engagement where we will talk about how all of these things should work together. We are trying to keep these things focused so we can get through some of those design pieces, but we are not going to be losing sight of the integration and the interplay between initiatives.

Assumption #2 – ICA Will Only Address Capacity Needs

Participant Question: Some capacity clearly has more social value than others (low carbon, zero carbon). Looking forward into the future, how do you value that kind of capacity? Where does that value fit in to this discussion?

IESO Representative: Putting a price on carbon is one way to do it, Ontario has done that. To some extent, that's a way to bring in the social externalities and put a price on them so that emitting resources would have less revenue opportunity on the energy side than the non-emitting.

Assumption #3 – Implemented via Market Rules & Manuals

Assumption #4 – Uniform Clearing Price

Uniform Price vs. Differentiated Payment Auctions – Johannes Pfeifenberger, The Brattle Group

Participant Question: Who decide on the slope of that curve? (Brattle Slide 6)

The Brattle Group: That will be a design element that has to be figured out by the participants and the IESO.

Participant Question: Is that true for markets in which the incremental capacity is very small or is it more true in a market when you are looking at a larger quantity for incremental capacity? (Brattle Slide 10)

The Brattle Group: The less liquid a market is, the less robust the outcome is no matter how you procure. If you have very small incremental procurement, you usually don't have as much competition.

Participant Question: Who in the U.S. has this type of pay-as-bid market? Why did they select that route?

The Brattle Group: None of the capacity market in the U.S. use pay-as-bid. However, California uses pay-as-bid for a certain portion of their capacity because they have long-term procurements similar to what we had here in Ontario.

Participant Question: Based on the economic analysis you provided, are all of the markets going to have this uniform pricing?

IESO Representative: Based on the analysis Brattle has provided and our own experiences, we believe the capacity auction frontier should have a uniform clearing pricing. The assumption here is only specific to ICA.

Participant Question: Have we talked about zones? Is that something we are going to discuss going forward? I think it would affect which structure we will be using going forward.

IESO Representative: Zones are captured in design element number 8 – Locational Considerations. We haven't talked about it yet, that will be something to be addressed in the Options Phase.

Participant Question: One of the fundamental flaws for Ontario market is that we don't have a market. This economic theory does not apply in Ontario because the prices and payments are

set in such a way that there really isn't a market. How do you propose to make this economic theory work in Ontario under this market renewal scenario?

IESO Representative: We are seeing this economic theory at work in the Demand Response (DR) auction, there is sufficient liquidity currently in the DR market and we are hoping to continue to foster that. That liquidity can be improved by incenting existing assets to participate in this auction. Then the concept of allowing imports in continues to improve that liquidity even more. Third, there are a lot of new technologies that are going to drive continued innovation.

Assumption #5 – Forward, Not a Spot, Auction

Capacity Auction Forward-Period – Johannes Pfeifenberger, The Brattle Group

Participant Question (online): Are there any capacity auctions that supported the development of new hydro regardless of size, greenfield or retrofitting existing infrastructure?

The Brattle Group: So far there is not a lot of new hydro that has been added because there is not a lot of potential in those markets. People don't make the investment because they can't recover their return with 1 year worth of capacity payments 3 years out. However, an enduring capacity auction does tend to increase investor confidence over time. People are more willing to make those investments because they have confidence that this mechanism will be available as a revenue stream over the life of the asset, even if the exact price is less certain.

Participant Question: If that's the case and you are assuming an enduring market, isn't any decision regarding numbers of years just an arbitrary decision that's going to benefit some technologies while hurting the other?

The Brattle Group: There has been a large benefit for the system operators and customers by having 3 year visibility. 3 years gives enough time to respond to unexpected events, having this visibility is very important.

Participant Question: Is it always a one year payment?

The Brattle Group: No, it differs a little bit by market.

IESO Representative: Regarding commitment period, that is one of our design elements and nothing has been decided yet. It's not directly related to forward period but it is to some extent.

Participant Question: Have you considered the possibility of having two types of auctions? Having a forward auction and also having a spot auction.

IESO Representative: The rebalancing auction serves that purpose to an extent, which gives you the opportunity to participate before the commitment period starts. Also, you can hold back some of the capacity to make sure it's available for shorter time frames.

Participant Question: On slide 16 (Brattle Presentation), is this graph a reflection of the last ten years for shale gas and how long it takes to build a natural gas plant? Looking ahead, let's say carbon prices will be \$100 dollars a ton in a few years, maybe it shifts based on the new reality of the renewables.

The Brattle Group: Most renewables you can build more quickly than that, the question is for resource adequacy, how far out should you go to maximize the participation?

Participant Question: Is it technically possible to have an open market where your bid will have a capacity, a price and a time? Is there any market that does that? Are there any mechanisms that allow that?

The Brattle Group: Not the time, but the quantity and the price yes.

4. Auction Mechanics – Ismael El-Samahy, IESO (Slides 40-51)

IESO reviewed the key inputs into a capacity auction, how they are derived and how capacity 'clears' in an auction process.

Participant Question: For the Net cost-of-new-entry (CONE), would you have a separate equation per zone? (Slide 45)

IESO Representative: Yes.

Participant Question: If we are designing this auction not to incent new generation then why is Net CONE as important?

IESO Representative: We don't expect new build to be needed for the first few years of the auction. The way the demand curve is established it is usually the reference point, it doesn't mean that's where the market will clear at or set the price.

Participant Question: If these parameters would change for every auction, does that mean how these parameters are come up with is part of the Market Rules and/or Manuals? (Slide 50)

IESO Representative: Yes.

The Brattle Group: Just to clarify, how much is needed for the target procurement is changed for each auction based on the load forecast. However the shape of the curve and how steep the slope is not changed every auction.

Participant Comment: There is a lot of controversy with these curves.

IESO Representative: We recognize these are going to be some big decisions that we need to discuss. We can have a discussion around what are the ongoing stakeholder engagement, approval process, and governance process. An enhanced framework which has already been established is the first step.

5. Auction Participation & Timelines – Stephen Nusbaum, IESO (Slides 52-56)

Participant Question: Is the obligation to be online and running for the whole year? Or is it to be available in the event of a peak need? (Slide 55)

IESO Representative: The exact performance obligations have not been established. However, in general the obligation is to be available to generate.

IESO Representative Follow-up: We would look at it on a resource specific bases as well. Between in province generator and an import there could be different obligations of what you have to deliver and how. For different resources there may be different ways to access their performance in meeting obligations.

Participant Question: Does that imply that there is one price for the auction but they'll have different requirements depending on what the resource is?

IESO Representative: Yes.

6. Conclusion

IESO thanked participants, stated that feedback is appreciated and should be sent to: engagement@ieso.ca.

Next ICA Meeting is July 20, 2017.

First Options phase meeting is August 16, 2017.

Meeting Adjourned at 2:30 p.m.