Incremental Capacity Auction – Phase 2, Session 1

August 16, 2017

Minutes of Meeting

Date held: August 16, 2017	**Time held:** 9:00 a.m. – 3:00 p.m.	**Location held:** Crowne Plaza Toronto Airport
Company	**Name**	**Attendance** (A)ttended; (WebEx) Attended via WebEx;
AMP Solar Group Inc.	Luukkonen, Paul	WebEx
AMP Solar Group Inc.	Olta Cibuka	A
AMPCO	Anderson, Colin	A
AMPCO	Wright, Rhonda	A
APPRO	Butters, Dave	A
Brookfield	Wu, Julien	WebEx
Bruce Power	Xu, Jennifer	WebEx
Bruce Power	Dalzell, Pat	A
CIBC	Hernandez, Nadia	WebEx
Customized Energy Solutions	Clemenhagen, Barbara	WebEx
Customized Energy Solutions	Tinkler, Mark	A
EnerNOC, Inc.	Griffiths, Sarah	A
Gerdau	Forsyth, Dave	WebEx
Goreway Power Station	Coulbeck, Rob	A
Great Circle Solar Management Corporation	Wharton, Karen	A
HQEM	Belanger, Frederic	WebEx
ITC Holdings Corp.	Motley, Doug	WebEx
MIDAC	Acchione, Paul	WebEx
Nalcor Energy Marketing	Martin, David	WebEx
Northland Power Inc.	Khan, Shahid	A
NRG	Popova, Julia	WebEx
Ontario Power Generation	Wizniak, Lynn	A
Power Advisory LLC	Cumming, Alison	A
Powerful Solutions	Inman, Peter	A
President	Bajc, Frank	WebEx
Resolute FP	Degelman, Cara	WebEx
Rocktop	Soucy, Michelle	TC
Rodan Energy	Ingram, Rachel	A
Rodan Energy Solutions	Goddard, Rick	WebEx
Storage Power Solutions	Oreskovic, Mike	A
Suncor	Forgie-Thomson, Pam	WebEx
Sussex Strategy Group	Simmons, Sarah	A
The Brattle Group	Spees, Kathleen	A

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TransAlta	Nguyen, Thanh	A
TransCanada Energy	Kuntz, Margaret	A
Whisker Labs	King, Robert	A
Workbench	Sears, Heather	WebEx
IESO	Agavriloai, Ioan	A
IESO	Agrawal, Vipul	A
IESO	Bedford, Julie	A
IESO	Chagla, Farid	WebEx
IESO	Chan, Bonnie	WebEx
IESO	Chapman, Tom	A
IESO	Clemente, Anthony	A
IESO	D'Souza, Danielle	WebEx
IESO	Ellard, Barbara	A
IESO	El-Samahy, Ismael	A
IESO	Garner, Tracy	WebEx
IESO	Hill, Warren	A
IESO	Iqbal, Haris	WebEx
IESO	Jovic, Rado	WebEx
IESO	Kelly, Brandon	WebEx
IESO	King, Ryan	A
IESO	Maniyappan, Sunil	WebEx
IESO	Movchovitch, Emanuel	A
IESO	Nusbaum, Stephen	A
IESO	Palmer, Nathan	WebEx
IESO	Trickey, Candice	A
IESO	Zhao, Serena	A
Scribe: Serena Zhao – Please report any corrections, additions or deletions to scribe at: serena.zhao@ieso.ca		

All meeting materials 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.

Introduction & Review of Agenda – Ryan King & Stephen Nusbaum, IESO

The IESO welcomed participants, reviewed the agenda and noted that this session was the start of the Options phase.

ICA Goals and Objectives – Stephen Nusbaum, IESO (Slides 6-15)

The IESO discussed proposed goals and objectives for the ICA, the importance of alignment within and across work streams and how stakeholder feedback has contributed to this process.

Demand Curve Design Considerations – Stephen Nusbaum, IESO (Slides 16-22)

The IESO presented a design consideration framework that could be used when evaluating options for demand curve elements.

Target Capacity – Stephen Nusbaum, IESO (Slides 23-41)

The IESO reviewed options for determining Target Capacity and evaluated them against the design consideration framework. The IESO also outlined linkages between target capacity and other design elements.

On the issue of Loss of Load Expectation (LOLE), a participant asked for the definition of 0.1 days/year, does it mean 24 hours of outage per 10 years?

The IESO responded that the 0.1 is defined as the number of events in the 10 years (not their duration). That is the industry standard.

A participant asked whether the definition (and calculation) of effective capacity includes the Effective Forced Outage Rate (EFOR).

The IESO responded that effective capacity is taken into account. For example, with a 100MW of wind farm, the system operator is unlikely to be able to rely on the full 100MW to meet our peak requirement in all hours. The IESO must take into account the 'effective' capacity, including planned outages. The IESO explained that the forced outage rate can be calculated and applied in different ways. For example, it can be calculated on a fleet average basis or on a facility-specific basis. The approach taken would be closely tied to how the Qualified Capacity amount is determined; specifically, whether to use installed capacity (ICAP) or unforced capacity (UCAP) approaches. UCAP take into account forced outages by including EFOR in the calculations.

A participant asked, with respect to the target MW for the auction, if the IESO is attempting to acquire all of the capacity it anticipates will be required through the base auction. The participant wanted to understand if this would be inconsistent with the option of having a 'hold-back'.

The IESO responded that having a target MW can still accommodate having a hold-back. If the target capacity is lower because of a hold-back in the base auction, the rest can be secured in the rebalancing auction.

A participant commented that, with regard to the issue of hold-backs, the question seems to be how we can ensure that we get enough capacity while also ensuring that we do not get more than we need?

A participant followed-up and noted that in PJM they have a chronic problem with over procurement in the base auction. They are now working through a process trying to figure out what to do about the dramatically different prices between the rebalancing auction and the incremental auction. The participant suggested that PJM has too much capacity available in their jurisdiction. Another participant followed-up and asked if the IESO has looked at some of the discussions that took place in the development of the Demand Response (DR) Auction, since it is similar to this hold-back scenario and has a one year forward period.

The IESO agreed with participants' comments, particularly the need to try to learn from the experiences of other jurisdictions. The IESO is aware of the discussions taking place in the Demand Response Working Group (DRWG); discussions in that forum will be brought to bear on this process as applicable. The IESO welcomes those who have experience in other markets to comment on the considerations and trade-offs associated with hold-backs.

A participant asked whether the hold-back would be determined before or after the auction.

The IESO responded it would be before the auction since it is part of the process to establish the Target Capacity.

The participant followed-up and asked if the IESO would look at the offers submitted in the auction and make a decision on the hold-back at that time?

The IESO explained that the intent of setting the Target Capacity in advance is to send a clear signal to the market about what the IESO is prepared to purchase. It would undermine the integrity and efficiency of the auction to make these kind of after-the-fact decisions.

Brattle added that these discussions help reveal the kind of input the IESO might need. It is important to find ways to mitigate the risk of over-forecasting; that has been one of the big benefits of having the hold-back in PJM. In some cases, the over- forecasting was bigger than the hold-back. In other words, without that hold-back the over procurement would have been even larger. Ideally the market would find a way for market participants to manage some of these risks. It would be helpful to hear, especially from stakeholders who have a business model that deliver on a short-term basis, any ideas that are even a little bit 'outside the box' in terms of being not exactly like the hold-back but are perhaps another way of managing load forecasting risks while also relying on the short-term resources.

A participant asked whether the IESO considers the risks in the contracted and rate regulated resources when determining the capacity requirement.

The IESO responded yes, these would be considered.

A participant asked if, regarding the question on slide 36, the IESO is looking for additional information to that used in the 18-month outlook.

The IESO responded yes since the outlook is only 18 months, as opposed to a 3-5 years forward period. In addition, the IESO is seeking feedback from stakeholders whether any other information should be considered when setting the target capacity. The IESO wants to determine what factors are important in order for stakeholders to be confident in the number.

A participant asked what the next steps would be for evaluating stakeholders' feedback. Would the IESO share the feedback received?

The IESO responded that stakeholders will have four weeks to provide feedback formally to the IESO. The IESO will collate and summarize the responses and address any requests that arise. The summary will be shared at the meeting in eight weeks (the meeting after next).

Net Cost Of New Entry (CONE) – Stephen Nusbaum, IESO (Slides 42-71)

The IESO discussed the necessary steps/processes, and the associated key inputs, required to establish the Net CONE for Ontario's ICA.

A participant asked whether, given the IESO's concerns about flexibility options, some of these flexibility considerations should come into the choice of the reference unit.

The IESO responded that it is better to send a good price signal for the value of flexibility as a separate product rather than rolling it into a capacity auction. The IESO added that in selecting reference technology, the revenue opportunities in the market should definitely be considered. The IESO cautioned to be careful not to equate the reference unit and what resources actually participate. The Net CONE is establishing the shape and position of the demand curve, though not necessarily the type of resources that would show up. IESO wouldn't be looking to drive the type of participation through the selection of the Net CONE or the reference unit. Participation should be driven by having appropriate market signals for whatever product/service is required by the electricity market..

A participant asked how the process would work for determining reference unit within a political context. For example, what if the government would not allow natural gas to be the reference unit?

The IESO responded that if it were given a directive that gas could not be the reference technology, going back to the original goal and objectives discussions, the IESO needs to live within that policy framework. This would inform the methodology and/or constraints on selecting the reference unit.

The IESO added that setting a reference price is about setting a certain price threshold; it is not the IESO saying it is looking for a particular technology type. The IESO noted that determining a reference unit

does not mean 'this is what we want to procure'; rather this is the technology that we ultimately anticipate would set the price if new build capacity was to be required.

A participant asked if the choice of the reference technology is a non-quick start unit, would the IESO consider including a start-up guarantees in Net CONE? Or would that just be considered as a top-up?

The Brattle Group responded that in general, any positive revenue minus any cost in terms of whether it is variable or commitment cost should all be considered. One could also look at what other jurisdictions have done in the past.

A participant asked if zonal differences should be considered in Gross CONE and Net CONE.

The IESO responded yes and this will be discussed later in the session.

A participant asked, with respect to slide 58, is the IESO considering filing the Net CONE as a tariff to the Ontario Energy Board (OEB), since Ontario does not have a body such as the Federal Energy Regulatory Commission (FERC)?

The IESO responded that it recognizes there is a need for participants to have confidence in the process, and there should be an opportunity for participants to voice their views. At this point, the IESO would like to hear from stakeholders about their needs and expectations which could then feed into a future discussion.

A participant followed up on the question of Net CONE and asked whether, when submitting Net CONE for regulatory approval, other jurisdictions submit more than just the Net CONE study, for example, the entire demand curve?

The Brattle Group responded that typically, the review of the demand curve shape, and the update process for the Net CONE, are all done at once.

The participant followed-up and asked if the scope of that review would be significantly more than just a Net CONE regulatory review.

The Brattle Group responded that when PJM implemented its capacity market, the mandate of the tri-annual review was very broad at first. Later on, they narrowed down the scope to be just the Net CONE and the demand curve.

Min/Max Capacity Limits – Ismael El-Samahy, IESO (Slides 72-85)

The IESO reviewed the options for determining Min/Max Capacity Limits for the auction.

A participant asked if the Loss of Load Expectation (LOLE) discussion is based on an annual peak or is it seasonal.

The IESO responded that it is not just a peak. In the LOLE studies, the IESO uses the hourly demand forecast which is 8760 hours for the year and the loss of load event could occur anytime during the year.

Max Auction Clearing Price – Ismael El-Samahy, IESO (Slides 86-101)

The IESO highlighted trade-offs in determining the Max Auction Clearing Price; i.e., higher vs lower price cap. The main features of the design element, and the associated options, were also discussed.

A participant asked how the IESO would procure for resource adequacy in the future without a government directive.

The IESO responded that it has the required authority to acquire resources to maintain resource adequacy. The IESO encouraged the participant to submit feedback if there particular issues or clarifications need; this will allow the IESO to address it in a more formal way.

Slope of Demand Curve – Ismael El-Samahy, IESO (Slides 102-115)

The IESO reviewed and compared the merits of vertical vs. downward sloping demand curves for the auction taking into considerations the experience of other jurisdictions. The IESO also discussed the options for determining the desired slope of the demand curve.

A participant asked, with respect to the chart on slide 113, whether the IESO has tried applying any of those options to the actual resource mix and looked at what some of the outcomes might be.

The IESO responded that this has not been done yet. The Brattle Group has presented some analysis regarding the different ways of doing different simulations. This will be looked at once the IESO starts to work on the analysis of each of those options.

Additional Demand Curve Design Considerations – Ismael El-Samahy, IESO (Slides 116-119)

The IESO presented some additional considerations to help inform the development of options, including demand curve features in other jurisdictions and trade-offs with different demand curve slopes.

Next Steps

Questions/comments from WebEx participants not covered during the meeting:

A participant asked how the IESO will calculate the contracted/regulated contribution amount.

The IESO will use the same general process to determine the capacity contribution of contracted and rate-regulated resources as it will use to assess the contribution of new resources through the ICA. It is important to have consistency in the accounting of all resource types to ensure the Target Capacity is properly determined.

A participant commented that the goal of Market Renewal is to have the lowest cost solution. Is having too much capacity secured in line with this goal? Having a hold-back would make sure that the IESO will secure the right amount of MW for capacity.

The determination of what is "too much" capacity will be a critical step in developing the demand curve shape. There may be justifiable and economically efficient reasons why the auction would clear above the Target Capacity. The hold-back may be a viable mechanism to reduce the risk of the IESO clearing more capacity than is economically efficient, however the benefits of this reduced risk will need to be weighed against the potential inefficiencies that utilizing a hold-back could introduce.

A participant asked how the Target Capacity calculation would interact with the LTEP.

The Target Capacity, like all elements of the ICA, will need to function within the broader policy framework. At this time it is not possible to provide specifics of how the LTEP will influence the Target Capacity, however the LTEP, and the resulting implementation plan that the IESO will develop, will be taken into account as appropriate when establishing the forecasts and assumptions necessary to calculate the Target Capacity.

A participant asked whether the methodology that is used by NPCC to calculate reliability requirements will be different from the model used to calculate Target Capacity.

The NPCC resource adequacy criteria (LOLE <= 0.1 days/year) will be respected both for the purposes of calculating Target Capacity and for reporting on Ontario's resource adequacy. The exact methodology for calculating Target Capacity has yet to be determined, but will be documented and communicated transparently as part of the implementation of the ICA.

The IESO thanked participants and reiterated that feedback is appreciated and should be sent to: engagement@ieso.ca. In particular, the IESO emphasised its interest in feedback on the questions posed in blue throughout the slide presentation. The IESO will provide a template for questions and will send it out shortly.

The next ICA meeting is scheduled for September 28, 2017.

Meeting Adjourned at 3 p.m.