Incremental Capacity Auction (ICA) – *Stakeholder Feedback Form*

Stakeholder Options Phase Meeting #1: August 16th, 2017

Feedback request by: 2017/09/13 **Date Submitted:** 2017/09/19	**Feedback provided by:** Company Name: OPG Contact Name: Lynn M. Wizniak Phone: [redacted] Email: [redacted]

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The IESO held the first meeting of the 'Options Phase' of the Incremental Capacity Auction engagement on August 16th, 2017. The meeting covered the design elements related to establishing the demand curve (i.e. Target Capacity, Net CONE, Min/Max Capacity Limits, Maximum Auction Clearing Price, and Slope of Demand Curve).

The presentation can be found here.

In order to maximize the effectiveness of this stakeholder engagement process, the IESO requests that stakeholders use the template below to provide feedback on content presented as follows:

- Provide responses to the questions posed
- For options presented, indicate your preference along with applicable rationale/supporting arguments
- Identify any aspects that you believe require further elaboration or discussion

Feedback received may be shared by the IESO on its website, at future stakeholder engagement meetings, or otherwise and will help inform further discussions at future stakeholder engagement meetings.

Please send this form with your feedback to engagement@ieso.ca

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ICA Goals & Objectives	Stakeholder Feedback
Draft Goal: *Slides 6-14* Do stakeholders agree with the following proposed Goal statement for the ICA Project? *The Incremental Capacity Auction Project will develop and implement an enduring market-based capacity procurement mechanism that will, alongside contracted and rate regulated resources, ensure Ontario's resource adequacy needs are met cost effectively within the broader policy framework.*	In principle OPG agrees with this goal statement. We also agree with the comments put forward at the MRWG / SE meetings and the need for clarification of the following points: – reinforcement that certain assets; such as, large hydroelectric and nuclear are not intended to be part of the ICA. One suggestion would be to change the third sentence to read "in addition to contracted, rate regulated resources and resources procured through alternative mechanisms, ensure...". – change "within the broader policy framework" to "align with the LTEP and government policy objectives". Although we understand that the IESO would like to keep the goal broad, it should be more specific regarding the policy framework that is being referred to.

Draft Objectives: *Slides 6-14* Do stakeholders agree with the following proposed Objectives for the ICA Project? **1.** Meet incremental resource adequacy needs **2.** Secure incremental capacity at the lowest cost in the long run	The objective "to meet incremental resource adequacy needs" is vague. – the ICA is only one mechanism used to procure capacity (other mechanisms include contracts and regulated rates). A clarification suggestion would be: "Contribute to incremental resource adequacy needs..." or – alternatively "incremental" should be defined. There should be an objective that recognizes the ICA will be designed as a competitive market based mechanism and not another type of procurement. – a suggestion would be the following: "Contribute to incremental resource adequacy needs through a competitive market based mechanism". There should be an objective added to reflect the alignment with government policy: – a suggestion would be - "Align with the LTEP and government policy objectives". The statement "lowest cost in the long run" needs to be defined. – It's unclear how costs in a short term capacity auction will align with long run costs other than through the Net CONE calculation. The Net CONE calculation should not use a reference technology with a long lead time or life expectancy; such as nuclear and hydro. Is "resource adequacy" and "capacity" intended to be defined differently in this context?

Draft Strategic Outcomes:
Slides 6-14
 	
Do stakeholders agree that the objectives can be achieved if, within the broader policy framework?
• A transparent market price is established for the value of capacity in each zone
• Incremental capacity is secured in the locations and timeframes that align with resource adequacy needs
• Diverse resource types are enabled to compete to meet resource adequacy needs
• Auction design evolves over time to address sector changes and improve auction outcomes
• Risk is appropriately allocated
	Additional strategic outcomes for consideration are:
	– Alignment with other Market Renewal Project workstreams.
	  ○ Although this is implied it is important enough to be reinforced.
	– All processes, assumptions and models are open, clear and transparent to all stakeholders and there is opportunity for stakeholder feedback and input into each auction.
	  ○ This includes the amount relied on from base assets (those not included in the auction) and the incremental target capacity amount to be procured in the auction over and above this base amount.
	  ○ It also requires a sufficient forecast duration that captures the forward, commitment and a reasonable post auction period.
	– An evaluation of lessons learned after each base or main auction is critical and should be factored into the assumptions and criteria used to adjust the design of the next auction.
	  ○ Consider making this review or audit a mandatory requirement in the market rules.
	
	It should be reinforced that the auction design needs to be flexible to evolve and adapt not only as the sector changes but also as resource adequacy and government policy needs change.
	– Market rules need to be flexible to allow for adjustments in the forward and commitment periods when new facilities need to be constructed that require longer lead times for regulatory approvals and sufficient revenue certainty for the supplier to lower their cost of risk (which is reflected in the auction clearing price that the customer bears).
	
	The third bullet, should be rephrased to indicate that "all qualified resource types" are enabled to compete not necessarily only "diverse resources".

Design Element	Features	Questions for Stakeholders	Stakeholder Feedback
Target Capacity	Hold-Back *Slides27-32*	Please identify preferred option and provide supporting rationale. **OPTIONS:** 1. With "Hold-back" 2. Without "Hold-back" **QUESTION:** What other considerations could inform this decision?	The design, market rules and manuals should be robust and flexible to incorporate both options. A hold-back decision should be made with each auction and could change with each auction depending on the market environment and forecast certainty. – Prior to each auction, the IESO should conduct a scenario assessment identifying the risks to the system and the costs to the customers of under or over forecasting. – This should be prepared with sufficient lead time to allow for stakeholder review and feedback. – Post analysis should also be completed after the auction to incorporate lessons learned for the next. The length of the forward and commitment period of the auction would factor into the decision along with the type of resources required – peaking, baseload, intermediate, flexible. The seasonal reserve margin and the amount of in-service capacity above NPCC requirements are other considerations. In order to facilitate supplier planning two iterations for the Target Capacity could be issued. – One issued say a year in advance of the auction and one issued say 3 months ahead. This would identify if there is a high degree of volatility between the two forecasts that may necessitate a hold back. If there are major differences the rationale should also be transparent as some suppliers may have already incurred development costs.

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	Transparency and certainty *Slides33-36*	**QUESTION:** What information would stakeholders/participants require in order to understand how the reserve requirement, and subsequently the Target Capacity, is determined by the IESO? – To ensure IESO communicate relevant information, it would help to understand the intended use of the requested information	To provide transparency and openness, all non-commercial information, assumptions, forecasts, analysis and models should be provided to stakeholders for their review and feedback. – A technical sub-committee of stakeholders could be used as a review board – Alternatively, or in addition to, the IESO should consider third party expertise to provide objectivity in deriving this requirement.
	Timelines *Slides37-39*	**QUESTION:** What activities do participants envision typically occurring after the Target Capacity has been published (e.g., arranging financing, vendors, project development work, site selection, permitting, etc.)? • How long, on average, would these activities take? **QUESTION:** How far beyond the commitment period would stakeholders desire that "Target Capacity" projections be published?	The forecast for Target Capacity should cover the forward period, the term and a sufficient period beyond the commitment period that will assist suppliers in determining when they want or need to enter into the capacity auction. The 18 month outlook, as implicitly used In the capacity export initiative, may not align with the capacity auction and its forecast duration is inadequate for planning projects and submissions into an ICA.
Net CONE	Reference Technology *Slides46-49*	**QUESTION:** What considerations should drive the selection of the reference technology in Ontario?	The prime driver for selecting the reference technology for Ontario is government policy (as set out in the LTEP) and within this framework the next type of resource that will most likely be built within Ontario. Implicit in the consideration above is a "made in Ontario" solution and the type of supply mix that Ontario wants going forward. – This supply mix should not only consider carbon neutrality but also the type of resource required to complement existing Ontario resources to meet system

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			needs. If the Ontario system needs flexible, peaking resources then this should be factored into the decision on reference technology. – Most US jurisdictions are using or moving from a CCGT to a CT but as Ontario has a higher percentage of renewable and nuclear resources, the technology referenced should reflect Ontario needs - not simply default to what other areas use. – another factor is how fast the generation needs to be in-service and the permitting / approval period within Ontario to meet the resource adequacy need. Ontario needs reliable (i.e. non-intermittent), flexible (e.g. fast ramp) capacity at the lowest cost. A simple-cycle gas plant (CT) is optimal to meet this need for the foreseeable future. OPG forecasts that new builds will have a low utilization factor (i.e. annual capacity factor < 5%) and thus the environmental impact of operation will be low. Nuclear and hydroelectric generation should be procured outside of the capacity auction and therefore should not be the reference technology. Wind and solar technologies are not appropriate as reference technologies as they are intermittent and do not provide the continuous reliability the system needs. Battery or energy storage are future possibilities but at this time further development may be required to achieve large scale.

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	Gross CONE *Slides50-52*	**QUESTION:** Are there Ontario-specific considerations that should be reflected when establishing the methodology for estimating Gross CONE?	Ontario specific considerations, over and above those identified in the slides, should include regulatory and environmental approval costs along with the costs for First Nation consultation and participation. Firm gas delivery and management (GD&M) charges should also be included in the Net CONE calculation as they are included in some contracts. These costs can vary within Ontario depending on location. If included, these services need to be reflected in the requirements to participate in the auction. For facilities that incur load costs; such as, pump storage, energy storage, batteries, etc. perhaps fixed non-energy charges or load charges that do not vary with production should also be considered.
	Energy & Ancillary Services Offset *Slides53-55*	**QUESTION:** What considerations do stakeholders feel is important to consider when defining the methodology for forecasting the E&AS Offset?	Considerations aren't as important as ensuring the methodology used is open, transparent and clearly documented. All participants need to understand the set of assumptions and have access to the models used to derive the forecast. Further the assumptions should be stakeholdered through IESO engagement sessions. The analysis should be forward looking rather than historic to capture upcoming changes in the market environment. In addition if there is a new ancillary, a historic perspective would not be available. – Demand and gas price forecasts are important considerations as they impact energy and ancillary prices.

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			These forecasts should be available to all in order for participants to use in their offer analysis if they elect to do so.
	Stakeholder Involvement *Slides56-59*	**QUESTION:** What expectations do participants have for their level of involvement in setting the inputs that will feed into the Net CONE study? **QUESTION:** To what extent should the outputs from the Net CONE study be open to debate or revisiting?	As stated in sections above, the main expectation is that this process will be collaborative and all participants will have the opportunity to participate in setting or commenting on the inputs that feed into the study. These inputs need to be clearly documented. Similarly there should be an opportunity for stakeholders to review and comment on the study itself. It may be beneficial for the IESO to retain third party expertise familiar with Ontario new development costs, approvals and ongoing operations and maintenance costs along with knowledge of work underway in other jurisdictions to conduct the study. – PJM, ISO-NE and NYISO use independent third parties to develop Net CONE. This provides objectivity to the process as participants may have different views on the outcome and these views may also contrast with the IESO's. As an example, auction participants may be incentivized to have a high Net CONE as this raises the demand curve and puts upward pressure on clearing prices. Further, as the Net CONE is a critical component in determining the demand curve and capacity prices it may be beneficial for the Net CONE to be approved through an independent process external to the IESO. This may alleviate some governance concerns expressed by stakeholders and

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			increase support for the calculation as it provides objectivity. – In the U.S., jurisdictions seek approval from FERC to achieve this measure of neutrality. An analogous process could be designed for Ontario (obviously not through FERC) with the objective of achieving a balanced perspective and providing a mechanism for participants to challenge / appeal the outcome of the study if they do not agree with the result.
	Frequency of Revision *Slides60-64*	Please identify preferred option and provide supporting rationale. **OPTIONS:** 1. Reset performed > 4 year cycle 2. Reset performed every 3-4 years 3. Reset performed < 3 year cycle **QUESTION:** What other considerations could inform the decision of how frequently the Net CONE components need to be updated?	Net CONE values are normally updated every few years in U.S. Markets. A longer reset period provides more certainty/stability; however, a longer reset period also increases the risk of the reference technology becoming obsolete and no longer reflecting market conditions (e.g. if material costs increase substantially raising the cost of new build). Rather than use an artificial number for the cycle time, criteria should be established that prompts a review. – Criteria could consider: o material changes in demand, o material changes in technology costs, o regulatory or legislative impacts and o introduction of innovative or disruptive technology that may change the reference technology.

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	Zonal Net CONE *Slides65-69*	Please identify preferred option and provide supporting rationale. **OPTIONS:** 1. Single Net CONE for Ontario 2. Use zonal Net CONE estimates **QUESTION:** What other considerations could inform the decision of whether to estimate zonal Net CONE values?	Zonal Net CONEs are important for areas with transmission constraints. In zones where the transmission infrastructure does not accommodate imports from other regions, the Net CONE should reflect the costs of building locally. Ontario is separated into two major zones by transmission. The decision to use zonal should factor in the outcome of the EW tieline expansion study the IESO is currently directed to complete by the Ministry. If there are gas constraints and pipeline restrictions these also may warrant zonal consideration.
Min/Max Capacity Limit	Methodology for determining limits *Slides78-82*	Please identify preferred option and provide supporting rationale. **OPTIONS:** 1. Set as a percentage of Target requirement 2. Based on specified LOLE 3. Based on low/high demand outlooks **QUESTION**: Are there any other considerations that should be taken into account when establishing the mechanism for setting minimum/maximum limits for the base auction?	This design element is heavily influenced by the decision to go forward with an <u>incremental</u> auction design. In the U.S., reliability requirements are used to set the min/max procurement range for the auction. This works when the auction's procurement represents the majority of the region's capacity requirement. For Ontario, the target procurement only represents a small portion of our capacity requirement (i.e. it is incremental). Therefore, if we applied a min/max range based on Ontario's total reliability requirement, Ontario would end up with a much flatter demand curve. – In New England, for example, the min/max limits are 98%/110% of their reliability requirement. New England requires about 35GW total, which means a min/max tolerance of -0.7GW/+3.5GW. They procure ~34 GW in the auction giving them a procurement range of 33.3 GW to 37.5GW. – The total capacity forecast for Ontario, is about 28 GW in 2023. Let's assume Ontario only needs about 4 GW in an incremental auction. Based on the New England method,

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			the min/max range based on 28GW would be -0.6GW/+2.8GW (98%/110%). When applied to the 4 GW auction target procurement, the range is 3.4GW to 6.8 GW. The procurement range is much wider relative to the size of the auction than in the New England auction. This results in a very flat demand curve, which puts upward pressure on clearing prices.
Maximum Auction Clearing Price (MACP)	Methodology for calculating MACP *Slides90-94*	Please identify preferred option and provide supporting rationale. **OPTIONS:** 1. Function of Net CONE 2. Function of Gross CONE **QUESTION:** What other considerations could inform the decision of how to establish the MACP? – Gross CONE vs. Net CONE – Magnitude of multiplier	Considerations aren't as important as ensuring the methodology used is open, transparent and clearly documented. All participants need to understand the set of assumptions and have access to the models used to derive the forecast.
	Price Floor for MACP *Slides95-99*	Please identify preferred option and provide supporting rationale. **OPTIONS:** 1. With Price Floor 2. Without Price Floor **QUESTION:** What other considerations could inform the decision of whether a price floor for MACP is required?	Considerations aren't as important as ensuring the methodology used is open, transparent and clearly documented. All participants need to understand the set of assumptions and have access to the models used to derive the forecast.

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Slope of Demand Curve	Shape of demand curve *Slides107-114*	Please identify preferred option and provide supporting rationale. **OPTIONS:** 1. Steeper Slope 2. Flatter Slope 3. Convex 4. Concave **QUESTION:** What aspects of each demand curve shape do stakeholder believe Ontario should adopt? Why?	The demand curve is important for Ontario as the auction will be designed to be incremental for a small target quantity (relative to the total capacity in Ontario) and most likely will not draw the same number of players/competitors as in U.S. jurisdictions. As steep demand curves have issues with sensitivity to small changes in supply /demand, price volatility and market power it may be preferred to have a curve with two steps: steep at the top to keep prices from clearing too high and flatter at the bottom to reduce volatility. The shape of PJM's curve conceptually may yield the best results for Ontario.

General Comments/Feedback: