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

Stakeholder Meeting: December 4th, 2017

Date Submitted: *2018/01/08*	**Feedback provided by:** Company Name: APPrO[i] Contact Name: Dave Butters Phone: _____ Email: _____

The IESO held the fourth meeting of the 'Options Phase' of the Market Renewal – Incremental Capacity Auction engagement on December 4th, 2017.

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 (reference slide numbers where applicable)
- Identify any aspects that you believe require further elaboration or discussion

Please provide feedback by **January 8, 2018** to **engagement@ieso.ca.** Feedback received will be summarized and will help inform further discussions at future stakeholder engagement meetings.

Design Element	Features	Questions/Next Steps/Recommendations	Stakeholder Feedback
Length of the Forward Period	(1) Length of the Forward Period *Slides 55-62*	**QUESTION:** What length of forward period between 3 and 4.5 years would enable the most competition, while minimizing price volatility, forecasting error and other potential risks? **QUESTION:** Are there any other advantages/disadvantages that should be considered when determining the exact length of the forward period?	A shorter period (e.g., 1-2 years) may be advantageous for short lead time resources and provide more certainty when forecasting need. On the other hand, too long a forward period (e.g., 5+ years) while providing more time for development of longer lead time resources, may as the IESO notes in its materials, present obstacles for shorter lead time resources (e.g., DR), would increase cost/revenue uncertainties for all developers, and would make accurate forecasting of resource adequacy needs more difficult. Correctly in our view the IESO has rejected both 1-2 years and 5-10 years as options. So this becomes a trade-off between the choice of the reference technology, equipment lead times, permitting and other development risk, and system need. US ISOs use a variety of forward periods reflecting these trade-offs. APPrO agrees with the fact that the first auction's forward period may need to be (for example) only one year, in which case there would need to be a transition to a longer forward period to accommodate the entry of new resources or those that require significant capital investment. Another possible option would be to run concurrent auctions with different forward periods (i.e. 2020 auction may have a one year and a four

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			year commitment for resources in 2021 and 2024).Based on the IESO's recommendations of the length of the forward period to be anywhere between 3 to 4.5 years, APPrO believes that at this time, a 4.5-year forward period is the most appropriate. Moreover, the choice of the reference technology will have a bearing on the length as well; therefore, once that decision has been made the IESO may need to revisit the length of the forward period. Alternatively, the IESO could hold off on determining the length of the forward period until the reference technology is established. Furthermore, this is one of the features of Market Renewal that needs to consider Ontario's "uniqueness". For example, the permitting process in Ontario for a natural gas fired peaking generation resource (the lowest cost of new entry assumed) can take up to 2 years assuming there are no delays. Appeals to the Ontario Municipal Board or a request for an elevation of the Environmental Assessment (both of which are common) would lengthen the development timeline and add risk to the developer. While some of that work could occur prior to an auction, it is only after a project becomes "real" (i.e. is successful in the auction) that full development, permitting and stakeholdering can occur.

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			Construction periods for significant power projects typically last from 18 to 30 months, and longer if long lead times on critical equipment are factored in. 54 months therefore (4.5-years) seems not unreasonable. A 4.5-year forward period reduces the proponent's development and construction schedule risk which will reduce the need to price in additional risk premiums. This represents savings for customers. A 4.5-year forward period should encourage broader participation from new entries as it would reduce the need for developers to perform development activities in advance of auction with the risk that such investment might be stranded. This forward period length should result in a broad competition amongst multiple participants representing different technology types from existing and new resources. Again, this should provide better value to customers. Further, APPrO also believes that a 4.5-year forward period also provides the IESO with information about the supply market early enough to plan for contingencies (e.g. a reliability RFP) if required. APPrO suggests the IESO review how other markets including ISO-NE treat longer-lead resources and consider how it intends to

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			incentivize capital intensive and long-lead resources to participate
		RECOMMENDATION: The length of the forward period should be three to four and a half years.	APPrO recommends the forward period be 4.5 years.
		NEXT STEPS: The exact length of the forward period will be determined taking into account stakeholder feedback and linkages to other design elements	
	(2) Timing of the Base Auction *Slides 63-65*	**QUESTION:** Are there any comments the IESO should consider related to this feature?	The length of the forward period is impacted by the timing of the auction and the timing of the start of the commitment period in addition to the actual time duration for development, permitting, construction, and commissioning. The development, permitting, construction, and commissioning schedule for example, needs to incorporate seasonal impacts (e.g. winter construction, shipping on Great Lakes, field studies, etc.). The effect of seasonal impacts will vary depending on the timing of the auction (effects start of development activities) and timing of the start of the commitment period (which dictates when facility construction must be finished).
		NEXT STEPS: Decisions around timing of the base auction will be determined as part of the detailed design, once decisions have been made with respect to related design elements.	

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		The potential implications of the timing of the base auction on capacity trade opportunities will be explored further	
Commitment Period	(1) Seasonal vs. Annual Obligations *Slides 75-85*	**QUESTION:** Which type of Obligation Period would enable the most efficiency and competition, while minimizing complexity and other potential risks? **QUESTION:** Are there any other advantages/disadvantages that should be considered when evaluating options?	APPrO believes Ontario's capacity auction should have seasonal obligations which considers Ontario's typical surplus of capacity in the Winter versus its needs in the Summer and allows for synergistic import/export with both NYISO, MISO, Quebec, and other markets. This allows the IESO to acquire capacity consistent with its needs and unlock excess capacity for export when not required in Ontario thus reducing complexity of meeting obligations and simultaneously creating maximum value from available capacity. This optimization should be reflected in more competitive capacity pricing to the IESO and a closer match between the capacity acquired and the IESO's needs which both should reduce overall costs.
		NEXT STEPS: Based on stakeholder feedback, further review of other jurisdictions, and considerations in the Ontario context, the IESO will determine whether seasonal or annual design should be recommended	The IESO, through Brattle, should model seasonal needs and supply resources to optimize detailed design of a seasonal obligation.
	(2) Timing of Commitment Period &	**QUESTION:** What considerations should drive the decision regarding in which months the Commitment Period should start?	APPrO supports an annual commitment period with seasonal obligations and seasonal clearing prices

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	Obligation Periods *Slides 86-90*	• What considerations should determine which months fall into each season? **QUESTION:** Are there any technology specific considerations that could influence the start of the Commitment Period or which months fall into each Obligation Period? • Freshet/drought conditions? Summer A/C load? Other?	We suggest the IESO consider market rules in immediately adjacent jurisdictions and intertie transaction restrictions in its determination of the months that fall into each season APPrO suggests that timing of commitment periods and the months falling into each seasonal obligation period should be based on periods of peak demand and not have any technology specific considerations as demand is unrelated to resource technology.
		NEXT STEPS: Decisions around timing of start of the Commitment Period will be determined as part of the detailed design, once decisions have been made with respect to related design elements	APPrO recommends that the IESO through Brattle model various start times for the Commitment Period to optimize detailed design.
Multi-year Commitments	(1) Eligibility *Slides 103-107*	**QUESTION:** What project/resource types should be eligible for Multi-year Commitments? • How should these specific project types be defined? **QUESTION:** Should a minimum investment threshold apply in order for a project to qualify for a Multi-year Commitment? • Should it be different for each defined project type?	APPrO believes that eligibility for Multi-Year Commitments should largely follow ISO-NE. Eligible projects would include new, uprated, repowered, or re-established resources and eligible resource types would include generators (excluding renewables), imports requiring transmission upgrades. Unlike ISO-NE APPrO would recommend that demand resources are not eligible.

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			Existing resources would have to meet the following requirements to qualify as new (subject to an investment threshold): 1. Incremental - refers to when capacity is increased between 2 and 20 percent of existing Qualified Capacity (or less than 40 MW); only the incremental amount can qualify as new 2. Uprates - refers to existing resources that increase output by the greater of 20 percent or 40 MW above existing Qualified Capacity; the entire resource can then qualify as new 3. Repowering – investment into repowering is equal to or greater than a certain amount per kilowatt 4. Reestablishment – existing resources that have been de-rated for over three years
		NEXT STEPS: Based on stakeholder feedback and further review of other jurisdictions, the IESO will provide a recommendation for the appropriate project types that would be eligible for Multi-year Commitments	

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	(2) Length of Multi-year Commitment Period *Slides 108-112*	**QUESTION:** What is the optimal length of a Multi-year Commitment that would balance developer needs, while also providing room for flexibility to adjust for future changes in demand? **QUESTION:** What drives the required length of a Multi-year Commitment required (e.g., major maintenance schedules, project financing cycles, etc.)?	APPrO believes that the IESO should consider the design of an auction which is flexible with respect to the length of the Multi-Year Commitment. APPrO assumes that the auction construct would be similar to ISO-NE whereupon there are multiple rounds with declining price once a stack of resources exceeding the minimum capacity has been established. In the proposed construct, the auction would begin with a stack of resources consisting of resources bidding a one-year Commitment Period and eligible Multi-Year Commitment resources bidding a 7-year Multi-Year Commitment Period. If the resources that clear are insufficient to meet the minimum capacity defined by a LOLE target of 1 day in 5 years then the auction would be re-run to include resources with a longer Multi-Year Commitment length for new eligible resources. If resources that clear are still insufficient, then the Multi-Year Commitment length would be increased incrementally (propose in 2 year increments) until there are sufficient resources to meet the LOLE of 1 day in 5 years. Assuming the stack cleared is in

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			excess of the demand curve, subsequent auction rounds would reduce price. The proposed construct minimizes the duration of the Multi-Year Commitment and clearing price simultaneously. Participants would be incentivized to reduce the length of their Multi-Year Commitment to a minimum to ensure they clear the auction as soon as possible. If the stack of resources expands to include longer Multi-Year Commitments, then the project should have the ability to remain in the auction as its clearing price is reduced assuming its cost structure is amortized over longer durations. The proposed construct allows discovery on both term and price. The duration of Multi-Year Commitment could change from year to year. For example, in the early years where there is excess available capacity assumed there may not be any need to reach to the Multi-Year Commitment resources. APPrO believes that the maximum Multi-Year Commitment length should be 15 years. If there are insufficient resources to met the minimum required capacity at 15 years, then the IESO should

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			consider an alternative mechanism to the capacity auction to procure resources.
		NEXT STEPS: The IESO will consider stakeholder feedback related to the length of the Multi-year Commitment and perform necessary analysis to determine a recommendation for the maximum length of the Multi-year Commitment	
	(3) Price Formation *Slides 113-116*	**QUESTION:** Are there any comments the IESO should consider related to this feature?	APPrO would recommend the IESO proceed with a Multi-Year price formation based on the of ISO-NE template. Resources that have a Multi-Year Commitment are paid on the basis of the first year market clearing price (indexed for inflation) for the lock in duration. There are two possible treatments for how such resources are incorporated into future auctions. ISO-NE requires resources that have a Multi-Year Commitments to be price takers (i.e. zero offer) which can lead to price suppression effects and future volatility. In

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			the UK, resources that have a Multi-Year Commitments are excluded from the auction and accounted for in target capacity. Its unclear what the material difference is between the two methodologies. APPrO recommends that the IESO model both effects to determine the optimal.
		NEXT STEPS: The IESO will review price formation details in other jurisdictions and perform necessary analysis in order to determine implementation details as part of the detailed design	APPrO recommends that IESO perform necessary analysis in order to determine the optimal Multi-Year Commitment design and in particular determine which of the two recommended treatments for Multi-Year Commitment resources in future auctions is optimal.

General Comments/Feedback:

Multi-year Commitments - anticipated resource requirements

On slides 97 and 98 the IESO presents their assumptions surrounding resources required to meet future supply needs including Incremental capacity need that may come from new resources, uprates, imports, DR, etc. On slide 96 the IESO states that: "In the Ontario context, the expectation is that new build resources will not be required in the first few years due to sufficient incremental capacity that will be available from low capital cost resources (e.g., imports, DR, uprates, facilities with expiring contracts, etc.)"

i. Can the IESO please substantiate this statement and provide the data and analysis on the demand and the resources expected during this period? Is this data consistent with the IESO December 30, 2016 report *Ontario Reserve Margin Requirements: 2017 – 2021?*
ii. Does the demand on slides 97 and 98 reflect the Required Capacity at Peak (MW) in the *Ontario Reserve Margin Requirements: 2017 – 2021* report?
iii. Has the capacity of the resources assumed to be available been effectively de-rated to reflect both seasonal and forced outage impacts (are they UCAP?) consistent with the methodology utilized in other market-based jurisdictions?

Further to comments provided in previous feedback submissions, the information provided in this submission is predicated on the IESO implementing the following:

1. Once a high-level design is developed by the IESO for the ICA, the IESO should consider reviewing the original cost benefit analysis as presented in the Brattle Group Benefits Case including updating the forecasts and assumptions to ensure the economic rationale for this undertaking is solid. Market Renewal is the first significant overhaul of the Ontario electricity market since its opening in 2002 and involves a number of major changes. It will have a significant long-term effect on electricity market participants and consumers. The forecast economic benefits are large but with a significant band of uncertainty. Further, fully 75% of the benefits are associated with the ICA. The recently released 2017 Long Term Energy Plan (LTEP) shows a substantially greater need for capacity than the previous IESO Ontario Power Outlook (OPO). Additionally, the recent announcement that the IESO will undertake a Non-Emitting Resource Request for Information (RFI) to provide further information on new projects and upgrades to existing resources with a focus on the potential technical and commercial aspects and how they will participate in the market to help meet present and future system needs, may also have an impact on the savings forecast from the development of the ICA.

2. Brattle also identified that "the proposed Market Renewal effort would align the design of the Ontario wholesale power markets more closely with that of market-based neighboring regions, which could increase the number of market participants in Ontario, the efficiency and competitiveness of trading across interties with these markets, and the overall liquidity and transparency of the Ontario market." Transparency is a vital component for the success of the ICA particularly where it is expected to entice entry from new generation. As a starting point a comprehensive independent Integrated Resource Plan (IRP) similar to what has been developed in neighbouring US jurisdictions will be required.

3. Finally, Brattle identified the need for the IESO to address the issues of Governance and Environmental Policy outside of the Market Renewal process for the benefits to be realized. Governance, specifically to ensure the independent operation of the market, is key to investor confidence and an essential component of market renewal. As such governance remains a critical issue. APPrO and others have expressed their concerns, noting that how this issue is managed will determine whether the ICA can credibly claim that it can meet any of its objectives. Specifically, the challenge for meeting resource needs in a cost-effective way is not the development of a new procurement mechanism. Current and past procurement mechanisms are capable of meeting those goals. However, the challenge has been that procurements have often been designed to meet political goals more than resource adequacy goals. If that does not change, then a new procurement mechanism, itself, will not make any difference.

[i] APPrO is a trade association representing Ontario IPP and over 100 suppliers of services, equipment and consulting services. APPrO members produce power from co-generation, hydro-electric, gas, nuclear, wind energy, waste wood and other sources> Generator members include:
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10. H2O
11. Kruger
12. Markham District Energy
13. Northland Power
14. Oakville Enterprises
15. Portlands
16. Regional Power
17. St. Catharines Hydro Generation
18. TransCanada,
19. TransAlta
20. Toromont