

Incremental Capacity Auction (ICA) – Stakeholder Feedback Form

Stakeholder Meeting: September 28th, 2017

Feedback request by: 2017/10/26 Date Submitted: 2017/10/26	Feedback provided by: Company Name: <u>APPrO</u> Contact Name: <u>Dave Butters</u> Phone: <u>[REDACTED]</u> Email: <u>[REDACTED]</u>
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The IESO held the first meeting of the ‘Options Phase’ of the Market Renewal – Incremental Capacity Auction engagement on September 28th, 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

Feedback received will be summarized and will help inform further discussions at future stakeholder engagement meetings.

Design Element	Features	Questions for Stakeholders	Stakeholder Feedback
Participation Requirements	(1) Organization Participation and Facility Registration (2) Fees & Deposits (3) Performance Security <i>Slides 15-26</i>	<p>QUESTION: Are there any aspects of the proposed Participation Requirements that would pose an unreasonable barrier to entry for potential participants?</p> <p>QUESTION: What considerations should be taken into account when establishing deposit/security amounts?</p>	<p>No issues with the proposed Participation Requirements.</p> <p>Deposit/security amounts should be reflective of the cost to the IESO to address the default caused by the participant. The ICA is not a procurement for discretionary generation but a structure to arrange for and schedule a reliability product. The ICA needs to attract credible and committed participants. Ideally the security /deposit should be adjusted with the clearing price for the auction (maybe a top-up) as this reflects the current value of capacity. There should be automatic withdrawal of the security/deposit on default. No discretion.</p>
Resource Eligibility	(1) Ineligible Resource Types <i>Slides 34-39</i>	<p>QUESTION: Are there any concerns with the resource types that have been identified as ineligible?</p> <p>QUESTION: Are there any other resource types that should be ineligible?</p>	<p>First auctions may not have much volume participation i.e. there is not a lot of capacity that is not cost of service (rate regulated) or under IESO contracts. Defining incremental capacity may prove difficult in many types of resources as almost all resources have variables that affect the output. The IESO will need to provide rules/certainty on how the incremental capacity will be measured.</p> <p>What about imports including contracts with neighbouring jurisdictions such as Quebec - how will they play in capacity? Should imports only be eligible if they are from jurisdictions with similar Capacity Markets which will accept Qualified Capacity imports from Ontario? Similar to rate regulated and contracted resources, how will other forms of assistance through programs, grants, etc. be treated in the auction process?</p>

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	<p>(2) General Requirements:</p> <p>- New vs Existing Resources <i>Slides 42-43</i></p>	<p>QUESTION: How should new vs. existing resources be defined under the capacity auction?</p> <p>QUESTION: In addition to facilities that are still to be built, should new resources include:</p> <ul style="list-style-type: none"> -Existing facilities that have never provided energy to the grid (e.g., previously Behind-the-Meter Generation/off-grid)? -Upgrades to existing facilities that have uprated by some minimum percentage of their existing capacity or that include capital expenditures of a minimum \$/MW amount? -Existing facilities that have not operated for a number of years and are brought back into operation? 	<p>New generators are those that have not previously cleared an auction, or existing generators that uprate or repower through additional investment in the facility. Existing facilities should be defined by their permits and most recent operation.</p> <p>Yes, to all. On the last point, propose that this could be defined by the status of the connection. If the facility is still connected and able to generate its full rated output via an existing connection agreement, it is existing.</p>
	<p>(2b) Permits and Licensing <i>Slides 46-49</i></p>	<p>QUESTION: What permits should participants be required to provide to the IESO in advance of the auction?</p> <p>QUESTION: If permits are not required prior to the auction, where should participants be in the permitting process prior to applying?</p> <p>Should the IESO:</p> <ul style="list-style-type: none"> (a) Establish a specific milestone in the permitting process that projects should have reached prior to the auction, or (b) Require that projects have commenced any required permitting process with the onus on the participant to have this completed prior to the commitment period? <p>QUESTION: How should delays related to project permitting be addressed?</p>	<p>Any information provided to the IESO related to permits achieved should be purely discretionary. The IESO should be depending on the quantum of the security/ deposit being sufficient high to ensure that the participant delivers and that there are sufficient funds on-hand to cover the cost to replace capacity that failed to be delivered.</p> <p>This approach as well ensures a level playing field between new and existing capacity, different resource types and imports.</p> <p>It also removes any discretion on the part of the IESO and eliminates the opportunity for disputes and legal challenges.</p> <p>/ The provision of a milestone schedule of the permitting process likewise shall be discretionary and there should be no requirement that projects have commenced any required permitting process prior to the commitment period.</p>

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 Stakeholder Meeting: September 28th, 2017

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			<p>The risks of delay shall be entirely borne by the participant. The participant can address delays by acquiring replacement capacity at its cost. Security/deposit amounts shall be sufficient to cover any deficiency in capacity caused by the delay.</p>
	<p>(2c) Project Milestones <i>Slides 50-52</i></p>	<p>QUESTION: What type of information should the IESO require related to project milestones?</p>	<p>APPo suggests the ISO NE process has reasonable requirements. The IESO should consider adopting something similar.</p>
	<p>(2d) Connection Assessment <i>Slides 53-56</i></p>	<p>QUESTION: What other considerations should the IESO take into account related to connection of new projects?</p> <p>QUESTION: What information, if any, do participants require from the IESO related to connection availability prior to offering into the auction?</p>	<p>The IESO needs to provide the relevant connection information with a high degree of certainty on the results. The IESO should create something similar to ISO-NE where they do the study and provide certainty on capacity in advance of the auction.</p>
	<p>(2e) Project Financing <i>Slides 57-59</i></p>	<p>QUESTION: To minimize risk of the project not being developed, should the IESO require participants to provide project financing information, or rely on prudentials and/or other deposits?</p> <p>QUESTION: If required, what type of information should participants be required to provide?</p>	<p>the IESO should rely on prudentials and/or other deposits/security to mitigate the risk of the project not being developed.</p>
	<p>(2f) Project Development Experience <i>Slides 60-61</i></p>	<p>QUESTION: Should the IESO require participants to demonstrate project development experience? For all projects or only projects over a certain size?</p> <p>QUESTION: How should this experience be demonstrated?</p>	<p>Any information provided to the IESO related to the experience of the participant or individuals on the participant’s team should be purely discretionary. The IESO should be depending on the quantum of the security/ deposit being sufficiently high to ensure that the participant delivers and that there are sufficient funds on-hand to cover</p>

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			<p>the cost to replace capacity that failed to be delivered.</p> <p>This approach as well ensures a level playing field between new and existing capacity, different resource types and imports.</p> <p>It also removes any discretion on the part of the IESO and eliminates the potential for disputes and legal challenges.</p>
	(2g) Site Access <i>Slides 62-63</i>	<p>QUESTION: To minimize risk of the project not being developed, should the IESO:</p> <ul style="list-style-type: none"> (a) Require participants provide information regarding site access, or (b) Rely on non-performance implications to provide the necessary incentives (e.g. loss of deposit, damage charges, etc.) for developers to ensure they only offer in projects that can be developed on time? 	<p>The IESO should rely on the non-performance implications to provide the necessary incentives (e.g. loss of deposit, damage charges, etc.) to minimize risk of the participant’s project not being developed. Security amounts need to be sufficiently high to ensure for developers only offer in projects that can be developed on time.</p>
	(2h) Project Support <i>Slides 64-65</i>	<p>QUESTION: Should project support be a mandatory (i.e., pass/fail) requirement?</p> <p>QUESTION: If an optional requirement, how should it factor into resource selection? <i>(noting that resource selection would otherwise be based solely on offer price and system constraints)</i></p> <p>QUESTION: If so, what should participants be required to provide to demonstrate project support (e.g., council resolution)?</p>	<p>Provided the project is located in conformance with local municipal requirements (zoning and official plan) or has a line of sight to achieving conformance, and the participant is undertaking the appropriate environmental assessment and permitting then project support should be constrained to these existing process and controlled via the participant’s security. There should be no specific requirement for project support in the ICA nor should it factor into resource selection in the ICA.</p> <p>The security/ deposit should be sufficiently high to ensure that the participant delivers and that there are sufficient funds on-hand to cover the cost to replace capacity that failed to be delivered.</p>

Incremental Capacity Auction – Stakeholder Feedback Form
 Stakeholder Meeting: September 28th, 2017

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	(2) General Requirements: - Questions for Discussion <i>Slide 66</i>	<p>QUESTION: Are there any other general requirements that stakeholders believe participants should be required to meet?</p> <p>QUESTION: Any foreseeable issues as a result of requiring all participants (i.e., various technology types, new vs. existing) to meet the requirements outlined in this feature?</p>	<p>None.</p> <p>Actually its just the opposite. There will be issues in applying specific requirements outside of a deposit to participants as this will entail the IESO applying discretion in evaluating this information.</p>
	(3) Resource Specific Requirements: (3a) Energy Storage <i>Slides 68-70</i>	<p>QUESTION: What factors should be considered related to the treatment of energy storage resources in the ICA?</p>	<p>Energy storage should be treated the same as all other resources; i.e. based on its ability to deliver UCAP, the product the system requires/is procuring for. One of the unique aspects of energy storage resources is the requirement to charge. Any obligation to provide capacity is time limited and there is a need to recharge the resource before it can be called upon again. These factors need to be considered in the definition for Capacity.</p>
	(3b) Demand Response <i>Slides 71-72</i>	<p>QUESTION: How does eligibility need to evolve as resources are transitioned from the DR Auction to the ICA? <i>(recognizing that the ICA will likely procure a different product than the DR Auction)</i></p> <p>QUESTION: Is there anything else the IESO should consider related to the transition of DR resources from the DR Auction to the ICA?</p>	<p>DR should be treated the same as all other resources; i.e. based on its ability to deliver UCAP, the product the system requires/is procuring for.</p>
	(3c) Aggregated Resources <i>Slides 73-77</i>	<p>QUESTION: Are existing obligations in the Market Rules regarding aggregation sufficient to facilitate desired participation in the ICA?</p> <p>QUESTION: If the IESO was able to upgrade the necessary tools and processes to be able to accommodate smaller resources, what would be a</p>	<p>No comments.</p>

Incremental Capacity Auction – Stakeholder Feedback Form
 Stakeholder Meeting: September 28th, 2017

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		reasonable threshold? (e.g., 100 kW?) QUESTION: Are there any other resource aggregation issues stakeholders would like the IESO to consider?	
	(3d) Contracted Resources Issue #1 (Uprates) <i>Slides 80-82</i>	QUESTION: What are potential options for dealing with this issue while ensuring no additional costs to ratepayers under the PPA?	APPRO believes a potential solution to ensure no additional ratepayer costs are incurred through an upgrade to a contracted generation facility paid on a \$/MWh basis is to prorate both energy and capacity on the basis of the incremental upgrade capacity over the total capacity. Where sub-metering is not possible/practical, energy the facility would have generated absent the incremental capacity energy, will be calculated by multiplying the total energy production by the fraction of the original capacity divided by the [new] total capacity. This energy would be compensated through the existing contract. Similarly, capacity payments owed to the facility owner under an ICA will be calculated by multiplying the total capacity payments by the fraction equal to the incremental capacity over the [new] total capacity. Generators can forecast the required revenues under the ICA and incremental energy revenues that would make the investment required for proposed upgrade economic to the owner.
	(3d) Contracted Resources Issue #2 (Determining Incremental Capacity) <i>Slides 83-88</i>	Please identify preferred option and provide supporting rationale. OPTIONS: <ol style="list-style-type: none"> 1. $IC = QC - CC$ 2. $IC = QF * (NC - CC) = QF * MC$ QUESTION: Which Option provides a solution that is	IESO will need to individually audit each of the contracted plants that have merchant capacity to offer to set the volume they can offer. Of the two options, the second $IC = QF * (NC - CC) = QF * MC$ is the most appropriate.

Incremental Capacity Auction – Stakeholder Feedback Form
 Stakeholder Meeting: September 28th, 2017

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		fair to both participants and ratepayers and ensures resource adequacy needs are met? <ul style="list-style-type: none"> - Are there any additional options that should be considered? - How would this change if the uprated MW were separately metered? 	This issue requires further study and discussion insofar as it impacts existing IESO contracts. In the event that there was a way that the uprated MW were separately metered this could be a solution to determining the incremental capacity.
	(3d) Contracted Resources: Additional Questions for Discussion <i>Slide 90</i>	QUESTION: Are there any other items/issues that should be considered related to the participation of incremental capacity from contracted facilities?	The treatment of revenue claw back provisions and fuel supply provisions, availability under existing contracts needs to be clarified.
	(3e) Regulated Entities <i>Slides 91-92</i>	QUESTION: Are there any specific participation requirements or issues to be considered associated with the participation of Regulated Entities?	Minimum offer rules may offer a way to ensure that subsidized capacity does not have a deleterious impact on the market. ON a broader public policy issue, should Regulated Entities be permitted to participate and own capacity?
	(3f) Imports <i>Slides 93-95</i>	QUESTION: Should the import of both new and existing resources be eligible? QUESTION: Are there specific fuel types that should not be eligible to provide imported capacity? <ul style="list-style-type: none"> - Coal is not permitted to be used to generate electricity in Ontario, should this restriction be extended to importing generators/jurisdictions? - Can imports backed by intermittent generation be counted on to meet system adequacy needs? QUESTION: Should system-backed imports be eligible?	If imports can deliver UCAP (firm), the product the system requires/is procuring, then imports should be eligible. APPrO suggests the initial design be set similar to the US NE markets treatment of imports and further refinements could be made as the capacity market matures. Imports from any new resource should be required to meet the same criteria as a new resource in Ontario. As a policy should imports be restricted to jurisdictions that have capacity markets? Should there be reciprocity before imports can participate?

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		<p>QUESTION: Should imports backed by a proponent’s portfolio of resources be eligible?</p> <p>QUESTION: Are there any other considerations that should be considered in relation to the eligibility of imported resources for Ontario?</p>	<p>From a policy standpoint, imports from coal fired resources or imports from portfolios that comprise coal fired resources should not be permitted if Ontario is to effectively maintain its clean energy policy and fully utilize the clean resources that it has procured. However, restricting the import of coal fired electricity is going to be extremely difficult. It will be difficult to identify, administer and police and may result in legal challenges. If Ontario wants the opportunity of utilizing capacity imports to increase competition and reduce ratepayer costs, one of the unfortunate but necessary implications is that Ontario will have to accept that some of that electricity will come from coal fired generation and possibly at the expense of clean Ontario capacity. Effectively Ontario will need to align its market with adjoining US markets and this will necessarily mean its progress on clean energy will be diluted.</p> <p>Imports backed by intermittent generation need to meet the same Qualifying Capacity requirements as Ontario based intermittent resources.</p> <p>Imports via system or portfolios need to demonstrate deliverability via a Multi-Area Reliability Simulation or similar assessment.</p>
<p>Qualified Capacity</p>	<p>(1) Planned / Maintenance Outages <i>Slides 109-114</i></p>	<p>Please identify preferred option and provide supporting rationale.</p> <p>OPTIONS:</p> <ol style="list-style-type: none"> 1. Include planned/maintenance outages implicitly as part of the “Intermittent and Energy Limited” resource’s historical production data 2. Exclude planned/maintenance outages 	<p>APPRO has no comment on a preferred option at this time, only that a consistent method applies for all and alignment with adjoining US jurisdictions will be important to ensure equal treatment of Ontario and imported capacity</p>

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		<p>implicitly as part of the “Intermittent and Energy Limited” resource’s historical production data</p> <p>QUESTION: What other considerations should be taken into account for how planned & maintenance outages impact Qualified Capacity?</p>	
	<p>(2) Forced Outages <i>Slides 116-122</i></p>	<p>Please identify preferred option and provide supporting rationale.</p> <p>OPTIONS:</p> <ol style="list-style-type: none"> 1. Exclude OMC outages from EFORd calculation for “Thermal Resources” 2. Include OMC outages from EFORd calculation for “Thermal Resources” <p>QUESTION: What type of forced outages should be excluded, if any, when determining EFORd for Qualified Capacity?</p>	<p>APPRO believes that OMC outages should be excluded from EFORd calculation for “Thermal Resources” as the bulk of capacity resources participating in the ICA are existing assets that were constructed under different design criteria that did not account for the possibility of outages for OMC and have little ability to mitigate. Generator owned transmission equipment should not be excluded as this is within the control of the generator.</p> <p>Alignment with adjoining US jurisdictions will be important to ensure equal treatment of Ontario and imported capacity.</p>
	<p>(3) Seasonal Capability <i>Slides 124-130</i></p>	<p>Please identify preferred option and provide supporting rationale.</p> <p>OPTIONS:</p> <ol style="list-style-type: none"> 1. Annual test and/or historical production data for “Thermal Resources” 2. Seasonal test and/or historical production data for “Thermal Resources” <p>QUESTION: What other considerations need to be taken into account related to Seasonal Capability when determining Qualified Capacity?</p>	<p>APPRO believes both the NYISO and ISO-NE methodologies seem acceptable. Additionally, testing using the existing CES protocols and test periods (albeit with different calculations for the determination of Qualified Capacity versus Contract Capacity) would also work.</p> <p>Alignment with adjoining US jurisdictions will be important to ensure equal treatment of Ontario and imported capacity.</p>

Incremental Capacity Auction – Stakeholder Feedback Form
 Stakeholder Meeting: September 28th, 2017

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	(4) Locational Constraints <i>Slides 132-135</i>	QUESTION: What other considerations should be taken into account with respect to Locational Constraints?	APPRO believes that Qualified Capacity should be adjusted to reflect deliverability. If less than UCAP is deliverable the UCAP should be adjusted on the basis of the results of a connection study to the deliverable quantity to define the Qualified Capacity.
	(5) New Resources <i>Slides 137-145</i>	Please identify preferred option and provide supporting rationale. OPTIONS: <ol style="list-style-type: none"> 1. Similar class average values (NERC GADS or CEA) 2. Obtain simulated data from a provider 3. Similar existing unit(s) in Ontario QUESTION: What other considerations should be taken into accounting when establishing the Qualified Capacity of a new resource?	APPRO believes that Option 1 would work and be most representative for a new resource and eliminate the need for any discretion on the part of the IESO. Simulated data from a provider and similar existing unit(s) in Ontario would require interpretation and discretion. There is a very limited data set for Ontario and the fleet is aging meaning not well represented. The NERC GADS database is very large, includes the most relevant and modern equipment and includes data for facilities that were specifically built to compete in a Capacity market and thus the most relevant database. Also use of NERC GADS is consistent with adjoining US jurisdictions which allows alignment with imports. APPRO has no comments on other considerations at this time.
	(6) Methodology (6a) Aggregation Level <i>Slides 148-149</i>	QUESTION: What other considerations for aggregation level should be taken into account when determining Qualified Capacity?	APPRO concurs with the need to consider aggregation when determining Qualified Capacity. The level of aggregation should be based on the level of dependencies between generating units.

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	(6b) Calculation Method <i>Slides 150-156</i>	Please identify preferred option and provide supporting rationale to calculate Qualified Capacity for “Intermittent and Energy Limited” Resources. OPTIONS: <ol style="list-style-type: none"> 1. Capacity Contribution 2. Effective Load Carrying Capability (ELCC) QUESTION: What calculation method should the IESO adopt to qualify capacity from Thermal or Intermittent and Energy Limited resources?	The IESO should treat hydro different from other intermittent resources such as solar and wind as a consequence of the storage/pondage ability to firm capacity. The IESO needs to ensure that the capacity contribution from intermittent resources is consistent with a framework that is focused on achieving a level of reliability equal to a 1 in 10 LOLE. This matter requires further study of the impact of various options on the LOLE versus the cost of capacity for various intermittent resource types. Both IESO options as well as others (looking at best practices elsewhere) need to be studied further during the detail design phase. Over time, as experience is gained, the IESO may be able to evolve its approaches.

General Comments/Feedback:

It is difficult to provide meaningful feedback on design elements when they are viewed in silos. Therefore, APPrO reserves its right to provide further comments on each of the design elements once a high-level design is established as this will provide a more comprehensive view of how the elements may work together.

Furthermore, we would like to echo our submission of February 3, 2017, that once a high-level design is developed by the IESO for the ICA, there needs to be further scrutiny on the (original) benefit case analysis undertaken. The Brattle Group Benefits Case was based on a ‘desktop’ analysis of previous IESO work rather than a ‘bottom-up’ approach. As articulated in the Brattle Benefits Case Study, 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.

As such, APPrO requests that the IESO undertake a more detailed and independent analysis of the benefits of Market Renewal in order to measure whether the original benefits still exist in light of the development of the high-level design and to ensure the savings are measured against an accurate representation of the status quo in the absence of Market Renewal. Furthermore, as data relied on during the original Benefits Case may now be

outdated, any new benefits case should ensure it relies on the most recent and up-to-date information. As an example, the recently released 2017 Long Term Energy Plan (LTEP) shows a substantially greater need for capacity than the previous IESO Ontario Power Outlook (OPO). This change will impact the savings forecast from the development of the ICA.

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.

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 policy and political goals more than resource adequacy goals. If that does not change, then a new procurement mechanism, itself, will not make any difference.