CMD Final Industry Stakeholder Comment Matrix

The AESO invites stakeholders to provide comments on the final Comprehensive Market Design (CMD Final). All feedback (whether it be general or specific in nature) will assist in the development of the suite of ISO rules for the implementation of the capacity market. With respect to comments provided in relation to the "Specific Feedback Questions", please note that your responses will also help to inform future consultation activities, including the topics to be discussed during upcoming stakeholder sessions expected to be planned for the end of July/early August.

Please review the instructions below and submit your feedback to capacitymarket@aeso.ca no later than 3:00 p.m. on Friday, July 20, 2018.

The AESO will post all feedback "as received" on www.aeso.ca by Wednesday, July 25, 2018. Please note that the names of the parties submitting each completed comment matrix will be included in this posting. Please also note that the AESO will not be responding to individual submissions.

Instructions

- Stakeholders are requested to provide all feedback on CMD Final within this matrix.
  - if it is believed necessary to submit additional supporting documentation, please clearly indicate which section of CMD Final or topic your document refers to. No handwritten comments will be accepted.

- Please input your name and the organization you are representing in the comment boxes provided below each CMD Final section. Your contact information is requested in each section for ease of sorting and compiling feedback from all stakeholders.
  - Press Shift + Return to enter paragraph breaks within a comment box.
  - Comment boxes will automatically expand if additional room for feedback is required.

If you have any questions about this comment matrix, please email capacitymarket@aeso.ca

Opportunity

CMD Final Glossary

1) *Which, if any, of the defined terms in the glossary do you find vague, confusing, or unnecessary? Please identify each defined term and explain how it may be improved.*

   No comment.

2) *What gaps or disconnects may exist as between the glossary and the sections of CMD Final? Please identify any relevant terms, definitions, and/or specific content in CMD Final.*

   No comment.

3) *Which, if any, of the definitions in the glossary contradict the AESO's current Consolidated Authoritative Document Glossary? Please identify each term and corresponding definition, and describe the concern.*

   No comment.

4) *Which terms, if any, do you believe are missing from the glossary? Please provide each term that is missing and suggest an appropriate definition.*

   Opportunity Cost: the loss of potential gain from other alternatives when one alternative is chosen.

   Residual Supplier Index (RSI): measures the concentration of market supply relative to the prevailing level of demand.

   Cost of New Entry (CONE): means the estimated annualized cost of a new plant.

   Ramp Rate: means the increase or reduction in output per minute.

5) *Do you have any other feedback specific to the glossary that you would like to provide?*

   No comment.

Name: Richard Penn Organization: Industrial Power Consumers Association of Alberta (IPCAA)

CMD Final Section 2: Supply Participation

GENERAL FEEDBACK QUESTIONS

1) *Please provide your feedback as to whether the design in this section meets the desired end state and criteria set out for Alberta's capacity market design?*

   IPCAA continues to be concerned that while the AESO has reviewed and stakeholdered the various components of the capacity and Energy and Ancillary Services (EAS) markets, they have not reviewed the integration of these components as to whether they will, in combination, deliver the desired outcome. The impacts of wires tariffs need to be considered as well.

   For example, three of the major distributors in Alberta provide an embedded benefit to generation connected to the distribution network. If fully captured, this benefit can provide over $120,000 /MW-year to the distributed generators. This creates an asymmetric investment incentive between generators connecting to the distribution and bulk systems. At the same time, this incentive will ultimately lead to higher costs for loads on the bulk system. In the UK, which experienced this issue in the 2014 capacity auctions, this has meant that small-scale distribution connected generation was able to undercut other forms of generation in the capacity market. More information on this is available from:

   http://www.crai.ca/sites/default/files/publications/Why-is-the-missing-money-still-missing-071616.pdf

   This is simply an illustrative example of the issues that can arise without a thorough stakeholdered review of the integrated markets.

2) *Which, if any, of the concepts or details discussed in this section are unclear or confusing? What should be added or clarified in the ISO rules to address this?*

   See comments above on consideration of the combined markets and tariff impacts.

3) *What gaps or disconnects may exist in this section? What should be added or clarified in the ISO rules to address this?*

   See comments above on consideration of the combined markets and tariff impacts.

4) *In addition to 2) and 3) above, what other factors or information should the AESO consider as it drafts the ISO rules for this section?*

   IPCAA continues to be concerned that the delivered cost of energy for consumers is both increasing and no longer reflecting cost causation principles.

SPECIFIC FEEDBACK QUESTIONS

The AESO is also specifically requesting feedback on the following question(s):

1) *Is the description of the required thresholds to be classified as a refurbished asset clear? What additional considerations or further detail may be required, regarding the determination of these thresholds?*

   It is not clear how shared facilities, such as natural gas pipeline costs, will be allocated across the retrofit.

2) *Is the description of the mechanics of making refurbishment offers and the associated market clearing mechanism clear? If not, please explain.*

   No comment.

3) *What additional considerations or further detail may be required regarding the conditions under which temporarily delisted assets can return to service during an obligation period?*

   Section 2.3.10 states: "A capacity asset may not temporarily delist for more than two consecutive obligation periods". For supply participants with portfolios, what provisions exist to ensure that they do not simply "rotate" units through this temporary delisting process and distort investment signals as a result of the uncertainty? IPCAA remains concerned that this "rotating" or "leap-frogging" of units could be used to bring about a sub-optimal outcome.

   Can the AESO clarify whether an incremental capacity asset that does not clear the capacity auction has an obligation to offer into the energy/AS market and possibly have its incremental capacity mitigated in these markets?

ADDITIONAL COMMENTS

Please add any additional comments you may have on this section here.

IPCAA submits that transparency should be paramount and the AESO should publish as much information as possible to enhance the competitive outcome of the capacity and EAS markets. Typically, when developing tools and models, it is vital to develop transparent reporting mechanisms for both the inputs and the outputs. IPCAA is concerned that this is not a top AESO priority.

CMD Final Section 2: Supply Participation

Name: Richard Penn Organization: Industrial Power Consumers Association of Alberta (IPCAA)

CMD Final Section 3: Calculation of UCAP

GENERAL FEEDBACK QUESTIONS

1) *Please provide your feedback as to whether the design in this section meets the desired end state and criteria set out for Alberta's capacity market design?*

   *IPCAA believes that transparency is a key to ensuring that a competitive outcome. According to the AESO: "The desired end state is a stable and **transparent** capacity market…" (emphasis added). In Section 3.2.1, the AESO states that it will provide a preliminary UCAP and UCAP range to each participant. In Section 3.1.8, the AESO states: "Final asset level UCAPs will be shared publicly during the preauction activities described in section 5.2. UCAP values will be published on the AESO's website."*

   IPCAA supports this transparency and emphasizes that UCAPs for all assets need to be published and available to all market participants.

2) *Which, if any, of the concepts or details discussed in this section are unclear or confusing? What should be added or clarified in the ISO rules to address this?*

   Please refer to number 1 above.

3) *What gaps or disconnects may exist in this section? What should be added or clarified in the ISO rules to address this?*

   It is critical that all market participants understand the UCAP for each resource as soon as possible to understand the interaction between the supply and demand curves. IPCAA submits both the preliminary and final UCAP values by asset need to be published annually on the AESO's website.

   The AESO has stated that the UCAPs of external resources do not include the value enabled by LSSi procurement. IPCAA submits that this is undervaluing the external resources and as such artificially reducing the supply that is available to the capacity market. Historically, prior to the commissioning of the 500 kV tie line with BC, Alberta used interruptible load contracts to address under frequency events caused by the tripping of Alberta generators. Those generators were the most severe single contingency at the time. Thus, LSSi, or its equivalent, existed before the 500 kV tie line was built to manage frequency risk and avoid firm load shedding in Alberta. More historical context is available from: https://www.aeso.ca/assets/Uploads/Most-Severe-Single-Contingency-MSSC-document-for-ARC-June2015.pdf Why should the UCAP of the interties not include the benefits of LSSI, particularly when we had an equivalent product in existence even before the 500 kV tie line was built? The AESO is in control of the LSSi procurement, and is in a position to ensure it is an effective product. Consumers are paying for this product. Consumers deserve to have the additional supply, made possible by this product, available to the capacity market.

   Has the AESO conducted any analysis as to how much capacity LSSi actually brings to the market, and how this could be optimized through a well-designed LSSi product? If not, IPCAA recommends that this analysis be undertaken and that the value of bringing capacity to the market should be recognized in the LSSi procurement.

   In Section 3.1.6, the AESO states: "The upper limit for the UCAP range will be determined by removing 5% of the 1250 tightest supply cushion hours in which the asset's availability factor or capacity factor was the lowest, and averaging the remaining data. This value will be multiplied by the assets maximum capability to determine the UCAP upper limit." It is a similar procedure for the lower limit. There has been some confusion between the written material and AESO discussions, and as such, IPCAA requests that the AESO clarify: is it 250 hours per year over 5 years or the tightest 1250 hours in the five year period? IPCAA recommends that the AESO be consistent in its discussions with stakeholders.

4) *In addition to 2) and 3) above, what other factors or information should the AESO consider as it drafts the ISO rules for this section?*

   See comments above.

SPECIFIC FEEDBACK QUESTIONS

1) *Is the regression-based approach to determining UCAP for gross dispatched self-suppliers clear? What additional considerations or further detail may be required, to sufficiently describe this approach?*

   No comments at this time.

2) *What additional considerations or further detail may be required regarding the process for determining external resource UCAPs?*

   Please see point made in (3) above. IPCAA submits that the UCAP of the interties should include the benefits of LSSI.

3) *What additional considerations or further detail may be required regarding the UCAP refinement process?*

   IPCAA submits that it is necessary to see the AESO's UCAP by resource to better understand the implication of the proposed methodology. Having actual data, even preliminary, will provide better insight into the proposed process.

IPCAA encourages the AESO to share this information as soon as possible.

4) *Should the list of events under which a refinement request can be submitted as provided in section 3.2.2.a.i be further defined? If so, please provide your suggestions.*

No comment.

ADDITIONAL COMMENTS

Please add any additional comments you may have on this section here.

No additional comments at this time.

Name: Richard Penn Organization: Industrial Power Consumers Association of Alberta (IPCAA)

CMD Final Section 4: Calculation of demand curve parameters

GENERAL FEEDBACK QUESTIONS

1) *Please provide your feedback as to whether the design in this section meets the desired end state and criteria set out for Alberta's capacity market design?*

   Discussions continue in this area – thus a fair assessment of whether the calculation of demand curve parameters meet the desired end state criteria cannot be conducted at this time.

2) *Which, if any, of the concepts or details discussed in this section are unclear or confusing? What should be added or clarified in the ISO rules to address this?*

   How does the modelling account for supply assets below 5 MW?

3) *What gaps or disconnects may exist in this section? What should be added or clarified in the ISO rules to address this?*

   IPCAA recommends that the AESO provide the market with some of the inputs into the Resource Adequacy Model, on an annual basis, including:

   - *The load forecast;*
   - *Assumptions on supply availability, both above and below the 5 MW threshold. IPCAA notes that the AUC's Distribution Generation Report indicates that there already exists over 400 MW of distribution-connected generation; and*
   - *The formula used to translate the ICAP into fleet-wide UCAP.*

4) *In addition to 2) and 3) above, what other factors or information should the AESO consider as it drafts the ISO rules for this section?*

   No comment at this time - discussions continue in this area.

ADDITIONAL COMMENTS

Please add any additional comments you may have on this section here.

IPCAA is concerned with the use of the forward curve in assessing the net generator revenue, which leads to the Net-CONE calculation. IPCAA requests additional information on both the approach and how this very illiquid market will be monitored to ensure no market manipulation is occurring.

IPCAA notes that an EAS market that reflects the value of ramp and flexibility would likely provide greater revenue benefits to generators and thus a reduced Net-CONE.

Name: Richard Penn Organization: Industrial Power Consumers Association of Alberta (IPCAA)

CMD Final Section 5: Base auction

GENERAL FEEDBACK QUESTIONS

1) *Please provide your feedback as to whether the design in this section meets the desired end state and criteria set out for Alberta's capacity market design?*

   According to the final criteria for timely development: "Market should be targeted to open in 2019 for start of first capacity procurement for delivery of capacity starting in 2021". The CMD Final Proposal sets the capacity market to open in November 2021. The PPAs are returned to their owners January 1st, 2021. This creates an environment where customers need to be reassured that there are no market power concerns from January 1st, 2021 to October 31st, 2021, in the EAS markets. The AESO should request that the MSA review this situation and report back to the market on whether or not there are any market power concerns for this 10 month period.

   It was originally expected that the capacity market would open January 1st of 2021. Can the AESO explain why it is not simply moving ahead with the capacity market in January of 2021? Is the AESO concerned that there will be 10 months without the new market power mitigation in place? Should consumers expect higher prices in this 10-month period and is it fair to consumers to bear the risk of higher prices when the "missing money" problem is about to be solved by the capacity market?

2) *Which, if any, of the concepts or details discussed in this section are unclear or confusing? What should be added or clarified in the ISO rules to address this?*

   No comments.

3) *What gaps or disconnects may exist in this section? What should be added or clarified in the ISO rules to address this?*

   The PPAs are returned to their owners January 1st, 2021 and the first capacity obligation period is from November 2021 to October 2022. There will be no market power screens in play during most of 2021.

   With the return of the PPAs, two of the major firms will control 45% of the total Alberta capacity and four firms will control 70% of the capacity.

   IPCAA members expect the MSA and AESO to coordinate their efforts in order to ensure effective market power mitigation in place for both the capacity market and interim period while we transition to this market.

4) *In addition to 2) and 3) above, what other factors or information should the AESO consider as it drafts the ISO rules for this section?*

   Comments are included above.

ADDITIONAL COMMENTS

Please add any additional comments you may have on this section here.

No additional comments.

Name: Richard Penn Organization: Industrial Power Consumers Association of Alberta (IPCAA)

CMD Final Section 6: Rebalancing auction

GENERAL FEEDBACK QUESTIONS

1) *Please provide your feedback as to whether the design in this section meets the desired end state and criteria set out for Alberta's capacity market design?*

   No comments.

2) *Which, if any, of the concepts or details discussed in this section are unclear or confusing? What should be added or clarified in the ISO rules to address this?*

   Any changes to a supplier's UCAP should be published to the market ahead of the rebalancing auction.

3) *What gaps or disconnects may exist in this section? What should be added or clarified in the ISO rules to address this?*

   Any changes to the demand curve for rebalancing auctions should be transparent to the market with a rationale provided by the AESO for any update. Any changes to a generator's UCAP should be published to the market ahead of the rebalancing auction.

4) *In addition to 2) and 3) above, what other factors or information should the AESO consider as it drafts the ISO rules for this section?*

   Comments are included above.

ADDITIONAL COMMENTS

Please add any additional comments you may have on this section here.

No additional comments.

Name: Richard Penn Organization: Industrial Power Consumers Association of Alberta (IPCAA)

CMD Final Section 7: Capacity market monitoring and mitigation

GENERAL FEEDBACK QUESTIONS

1) *Please provide your feedback as to whether the design in this section meets the desired end state and criteria set out for Alberta's capacity market design?*

   While market power mitigation discussions continue, it would be worthwhile for the AESO to provide examples of how the market power screen would work, including:

   (1) the portfolio size that would fail the capacity market power screen; and

   (2) an estimated volume that would be required to increase in the auction clearing price by 10% at 3 points on the demand curve:

   (i) above the inflection point

   (ii) at the inflection point

   (iii) below the inflection point

2) *Which, if any, of the concepts or details discussed in this section are unclear or confusing? What should be added or clarified in the ISO rules to address this?*

   No comment.

3) *What gaps or disconnects may exist in this section? What should be added or clarified in the ISO rules to address this?*

   Suppliers may request an asset-specific offer cap. In order to protect consumers and ensure that this request is valid, the requesting supplier should be required to submit asset-specific cost information to the AESO. If the generator in question is requesting a higher cap when other similar generators in the supplier's portfolio do not require a higher cap, the AESO will need to know why the discrepancy exists and should have access to cost data for the similar generator.

   IPCAA notes that if the MSA has a concern, it should have access to cost data for the generator's entire portfolio. Suppliers have all of this data available, and consumers need to be reassured that the asset-specific offer cap is valid on its own merits and not a portfolio play.

4) *In addition to 2) and 3) above, what other factors or information should the AESO consider as it drafts the ISO rules for this section?*

   Comments are included above.

SPECIFIC FEEDBACK QUESTIONS

5) *What additional considerations or further detail may be required regarding how the AESO will conduct the ex-ante market power screen to identify firms that will be subject to capacity market mitigation?*

6) *What additional considerations or further detail may be required regarding the determination of asset specific offer caps?*

No comments at this time.

ADDITIONAL COMMENTS

Please add any additional comments you may have on this section here.

*IPCAA recommends that the AESO dedicate considerable resources to the reporting of auction statistics and market competitiveness. A key component of FEOC is an **openly** competitive market. Successful markets typically are extremely transparent, providing as much information as competitively possible for all participants to make judgements on outcomes. Certainly, most input information should be transparent to the market, including the following:*

CMD Final Section 7: Capacity market monitoring and mitigation
1) *Historical load and the load forecast;* 2) *Agreed upon UCAP statistics by generator;* 3) *Input information to and output information from the Resource Adequacy Model, including:* o *Information on asset delists including start and end dates and notifications of early delist returns* o *Assumptions on supply availability both above and below 5 MW. The AUC's Distribution Generation Report indicates that there already exists over 400 MW of distribution-connected generation.* o *The formula to translate the ICAP into fleet-wide UCAP* *The AESO should consider facilitating a working group on transparency in the new capacity market and EAS Markets as soon as possible.*

Name: Richard Penn Organization: Industrial Power Consumers Association of Alberta (IPCAA)

CMD Final Section 8: Supply obligations and performance assessments

GENERAL FEEDBACK QUESTIONS

1) *Please provide your feedback as to whether the design in this section meets the desired end state and criteria set out for Alberta's capacity market design?*

   No comment.

2) *Which, if any, of the concepts or details discussed in this section are unclear or confusing? What should be added or clarified in the ISO rules to address this?*

   It would be helpful if the AESO could provide some working examples of the performance assessment. Perhaps based upon the last two years of data?

3) *What gaps or disconnects may exist in this section? What should be added or clarified in the ISO rules to address this?*

   No comment.

4) *In addition to 2) and 3) above, what other factors or information should the AESO consider as it drafts the ISO rules for this section?*

   No comment.

SPECIFIC FEEDBACK QUESTIONS

1) *What additional considerations or further detail may be required regarding how the AESO will assess whether demand response assets have obtained a sufficient load volume prior to the second rebalancing auction?*

   IPCAA recommends that the AESO engage both demand response aggregators and price responsive load in discussions on this, to ensure that the process is optimized and no unnecessary hurdles are introduced.

2) *What additional considerations or further detail may be required regarding how the performance of external capacity assets will be measured during availability and delivery assessment periods?*

   No comments at this time.

3) *Should the list of events under which availability and delivery assessments will not be conducted as provided in section 8.2.39 be further defined? If so, please provide your suggestions.*

   No comments at this time.

ADDITIONAL COMMENTS

Please add any additional comments you may have on this section here.

No additional comments.

Name: Richard Penn Organization: Industrial Power Consumers Association of Alberta (IPCAA)

CMD Final Section 9: Settlement and credit requirements

GENERAL FEEDBACK QUESTIONS

1) *Please provide your feedback as to whether the design in this section meets the desired end state and criteria set out for Alberta's capacity market design?*

   No comment.

2) *Which, if any, of the concepts or details discussed in this section are unclear or confusing? What should be added or clarified in the ISO rules to address this?*

   No comment.

3) *What gaps or disconnects may exist in this section? What should be added or clarified in the ISO rules to address this?*

   No comment.

4) *In addition to 2) and 3) above, what other factors or information should the AESO consider as it drafts the ISO rules for this section?*

   No comment.

ADDITIONAL COMMENTS

Please add any additional comments you may have on this section here.

No additional comments.

Name: Richard Penn Organization: Industrial Power Consumers Association of Alberta (IPCAA)

CMD Final Section 10: Roadmap for changes in the Energy and Ancillary Services Markets

GENERAL FEEDBACK QUESTIONS

1) *Please provide your feedback as to whether the design in this section meets the desired end state and criteria set out for Alberta's capacity market design?*

   IPCAA continues to be concerned that the proposed formulation of the EAS markets, in combination with (a) a capacity market to incent investment, and (b) the scale of the proposed intermittent renewables, will not deliver a "well-defined product and an effective price signal".

   Based on the scale of the proposed intermittent renewables and the limited intertie, both of which are unique to Alberta, the EAS market signals for flexibility and ramp are muted within the proposed design.

2) *Which, if any, of the concepts or details discussed in this section are unclear or confusing? What should be added or clarified in the ISO rules to address this?*

   In Section 10.2.8, it is not clear why generating companies with small portfolios that would fall below any market power mitigation screen would be required to submit asset-specific cost information. It seems like an unnecessary cost for generators that would never face offer mitigation and a hurdle for small investment.

3) *What gaps or disconnects may exist in this section? What should be added or clarified in the ISO rules to address this?*

   In Section 10.2.13, with regard to outage scheduling obligation, this information should be of a better quality so that participants can make better judgements over future supply cushions and outcomes. For example, gas outages today are 1860 MW in the Daily Outage report, tomorrow they are 1300 MW. By tomorrow they will actually be close to 1800 MW. There must be some way of enhancing the information that is provided to create a better forecast of the supply cushion. This is a critical piece of information in making decisions.

4) *In addition to 2) and 3) above, what other factors or information should the AESO consider as it drafts the ISO rules for this section?*

   It may be worthwhile to return to the 500 MW supply cushion as the no-look metric.

   IPCAA would appreciate additional clarification regarding what the justification was for the AESO to go to a 6X margin cost multiplier from a 3X cost multiplier in the region between 1000 MW and 250 MW.

SPECIFIC FEEDBACK QUESTION

1) *What additional considerations or further detail may be required regarding the determination of the asset-specific reference price for non-thermal, energy-limited assets?*

   No comments at this time.

ADDITIONAL COMMENTS

Please add any additional comments you may have on this section here.

The AESO should consider facilitating a working group on transparency in the new capacity market and EAS markets. Key topics should include:

1) *Better and more accurate information on supply cushion and a more accurate" forecast";*
2) *More accurate and timely outage information (note that this may require rule changes);*
3) *A more accurate supply adequacy report; and*
4) *Fuel indexes and opportunity costs for the calculation of ASRP.*

Name: Richard Penn Organization: Industrial Power Consumers Association of Alberta (IPCAA)