# Comprehensive Market Design Stakeholder Comment Matrix
# Technical Working Group – *FINAL*

Please complete this matrix by February 27, 2018, and upload it to the "Feedback" folder on the CMD SharePoint site. The AESO will post all comment matrices received from working group members on www.aeso.ca. **Please note that the names of the parties submitting each completed comment matrix will be included in this posting.** The AESO does not intend to respond to individual submissions. If you have any questions about this comment matrix, please email capacitymarket@aeso.ca

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**Date: February 28, 2018**

| CMD Key Design Questions | Comments and / or Recommendations |
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| 1. UCAP: Can you support the availability factor/capacity factor over the 100 hours of smallest supply cushion being used to calculate the UCAP? | EnerNOC finds the ex post facto nature of assessing the 100 hrs challenging to reliably forecast down to/down by commitments, and finds the annual nature of the assessment challenging for performance and revenue recognition reasons. EnerNOC would support the recommendation raised in the technical working group to analyze a scenario for UCAP calculations of: Up to 100 hrs but also layer in a threshold % of supply cushion or a defined MW reliability threshold so market participants can more easily predict or be aware of UCAP hours.<br><br>Capacity demand response in aggregation will be a new product for the AESO market in 2021. Potential customers of aggregators have not been signed at this time nor have they maintained their loads based on participation in an aggregated portfolio in a capacity market. Therefore, it is impossible to establish a UCAP based on past performance, during last year's 100 hours or at any time. For the first year of qualification, EnerNOC recommends that UCAP be based on a pledged and qualified MW amount by the aggregator. In other markets, aggregators use a Sales Plan methodology to bring in contributors/customers to their portfolios to meet their capacity supply obligations. Financial assurances can be tied to MW numbers to ensure that aggregators do not over inflate their potential which can be released upon proving performance as mentioned in the CMD.<br><br>The first year's UCAP for DR should be based on the MWs cleared in the capacity market by the aggregator.. Once an aggregated demand response resource is established in the AESO capacity market, EnerNOC recommends UCAP be based on historic aggregate performance and availability percentages for Demand Response portfolios in the first year. This UCAP calculation should be based on the aggregate performance of the DR portfolio to accurately reflect the value of DR aggregation. After the first year, UCAP can be calculated with in a 1 yr look back, after 2 yrs of participation, a 2 yr look back, etc. until 5 yrs historical data is accumulated in the capacity market.<br><br>EnerNOC does not feel that DR should be subject to an additional load de-rating factor like Thermal plants as mentioned in the CMD. The availability and performance measure during UCAP hours should sufficiently reflect a load's capability to respond during periods of tight supply. In PJM, Demand Response Resources are given a UCAP gross-up by the Forecast Pool Requirement. This gross-up is given because PJM is able to reduce the peak load they must be able to supply for by procuring a DR commitment instead. EnerNOC would advocate for this approach vs. additional de-rating given DR's value to the system. |
| 2. UCAP: Can you support the UCAP calculation being based on 5 years of historical data? | Because there is no past performance data available to assess Demand Response UCAP, EnerNOC recommends the first year's UCAP be based on pledged and qualified MWs by the aggregator. Once 1 yr of data is available to assess performance, assess on a 1 yr lookback, once 2 yrs of data is available, assess on a 2 yr lookback, etc. until 5 yrs of capacity market performance data is available. EnerNOC supports the eventual 5 yr of historic data with this ramp period and so long as the AESO enables a |

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| | process for participants to prove additional capability for resources. Demand Response load levels, curtailment procedures, and portfolio makeup can change very often in 5 yrs. EnerNOC advocates for an open appeal/dialogue process with the AESO to prove additional UCAP capability for resources should it become available against historical performance to properly value the future capabilities of the resource. |
| 3. UCAP: Are there risks with including planned outages in the availability factor data used to calculate UCAP? If so please describe. | Including planned outages in UCAP calculations discourage operation and maintenance investments which are important for reliability. Including planned outages could reduce the UCAP and therefore capacity revenues for the supplier, creating a perverse incentive to be risky and minimize planned outages. On the other hand, excluding planned outages entirely might overly inflate UCAP values for resources that are not always available or not likely to be available during times of short supply. If outages are scheduled outside of the 100 hrs of supply shortage, they should not affect the UCAP calculation, but this is difficult to manage as a market participant given the current retroactive annual lookback logic proposed for the UCAP top 100hrs.<br><br>EnerNOC would recommend all resource types receive the same treatment for outages in UCAP once the methodology is decided. |
| 4. Demand Curve: Do you have any feedback on the material presented in the CMD 1?<br><br>Note: AESO and the WG will revisit the shape of the demand curve once draft outputs from the Resource Adequacy model are available. | EnerNOC supports revisiting the shape of the demand curve once draft outputs from the Resource Adequacy model are available. EnerNOC supports the inflection point (“kink”) of the demand curve being at Net CONE to target the right procurement volumes. EnerNOC also echoes the concern raised in the stakeholder group that the Demand Curve might need to shift should the UCAP calculation methodology change. |
| 5. Load Forecast: Can you support the proposed approach to forecast load? Are there any outstanding comments or concerns with the proposed approach? | EnerNOC supports the Load forecast approach, but encourages both Energy Efficiency and Price Responsive Load to be more robustly considered. |
| 6. CONE: Can you support the intended Gross CONE estimation approach? | EnerNOC supports the Gross CONE estimation approach discussed in the meeting, specifically adding in the additional consideration of loss cost allocation and Alberta specific development considerations. |
| 7. CONE: What are the important considerations AESO needs to take into account when selecting the Energy and Ancillary Service offset estimation methodology? | EnerNOC would recommend that the Energy offset methodology leverage the same amount of historic data (5 yrs) as UCAP to reflect the same historic data and market behavior used for capacity calculations, and also incorporate forward looking assumptions for energy rates based on the logic employed by the Load Forecast and Supply Forecast algorithms. Neither backward looking data or forward looking estimates are accurate predictors, so factoring both in as transparent a way as possible should be the objective. |

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| | Demand Response resources should be eligible to earn Energy Payments to ensure CONE is appropriately calculated for all resources types; applying an Energy offset to Net CONE assumes all resource types are eligible to earn Energy Payments. However it should be noted that the balance of dependency on revenues from the capacity market vs the energy and ancillary services markets is very different for demand than it is for generation resources. EnerNOC would also recommend that ancillary services offsets be calculated at a fixed rate established by the AESO given the value of ancillary services is volatile, less consistent, and more tied to the value of flexibility and reliability on the grid in real time. PJM currently uses a fixed rate to calculate Ancillary Services offsets, as Ancillary Services revenue is harder for new resources to rely on as a guaranteed source of cost recovery. |
| 8. CONE: Are there any issues or gaps in our considerations or plan in Net CONE estimation? | As raised in the working group, EnerNOC recommends cost allocation for losses be considered, and Alberta specific cost of new entry considerations added to the Net CONE estimation. |

| General Comments: Any comments on relevant scope areas of the CMD that are not addressed above |
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