

## Proposed New ISO Rule – Section 207.1, *Gross Minimum Procurement Volume*

**Period of Comment:** September 7, 2018 through September 28, 2018

**Comments From:** Industrial Power Consumers Association of Alberta (IPCAA)

**Date [yyyy/mm/dd]:** 2018/09/28

**Contact:** Vittoria Bellissimo

**Phone:** 403 966 2700

**Email:** Vittoria.Bellissimo@IPCAA.ca

*Please provide comments relating to the subsection of the proposed rule in the corresponding box. Please include any views on whether the language clearly articulates the requirement for either the AESO or a market participant, and provide any proposed alternative wording by blacklining the proposed language below.*

Section	Subsection	Proposed language	Stakeholder comments
		<b>Applicability</b>	
1		Section 207.1 applies to: (a) the <b>ISO</b> .	
		<b>Requirements</b> <b>Gross Minimum Procurement Volume</b>	
2		The <b>ISO</b> must, for each <b>base auction</b> and <b>rebalancing auction</b> , establish the gross minimum procurement volume that meets the <b>resource adequacy standard</b> in accordance with subsections 3 and 4 below.	
		<b>Base Auction Gross Minimum Procurement Volumes for 2021/2022 and 2022/2023 Obligation Periods</b>	
3		The <b>ISO</b> must establish the gross minimum procurement volumes as follows: (a) 18,516 MW of <b>maximum capability</b> for the <b>base auction</b> for the 2021/2022 <b>obligation period</b> based on the assets listed in Appendix A; and (b) 18,597 MW of <b>maximum capability</b> for the <b>base auction</b> for the 2022/2023 <b>obligation period</b> based on the assets listed in Appendix B.	IPCAA assumes this number can change dependent upon the assets listed in Appendix A and that Appendix A can be updated by the AESO and not require a further Market Rules process. Can the AESO confirm this? If this is true, it is a concern for consumers.  IPCAA is further concerned that, on its face, the stated gross minimum procurement volumes appear to be way in excess of the volume required to meet the legislative minimum of 0.0011% Normalized EUE. Can the AESO provide as much detailed

Section	Subsection	Proposed language	Stakeholder comments
			modeling information (inputs & outputs) as possible so participant can get comfortable around the accuracy of the model?
		<b>Probabilistic Model</b>	
4	(1)	<p>The <b>ISO</b> must perform a probabilistic model of resource adequacy that considers the following characteristics:</p> <ul style="list-style-type: none"> <li>(a) the load forecast referred to in subsection 5;</li> <li>(b) the <b>available capability</b> or available generation from all individual <b>generating units</b> and <b>aggregated generating facilities</b> in Alberta that the <b>ISO</b> anticipates will have, for the <b>obligation period</b>, a: <ul style="list-style-type: none"> <li>(i) <b>maximum capability</b> greater than or equal to 5 MW; or</li> <li>(ii) <b>uniform capacity value</b> that is greater than or equal to 1 MW.</li> </ul> </li> <li>(c) historical outages of thermal assets, including <b>automatic forced outages</b>, <b>delayed forced outages</b>, <b>planned outages</b> and ambient temperature derates, and any projected changes as applicable;</li> <li>(d) historical performance of existing intermittent resources, including wind and solar, and any projected changes;</li> <li>(e) anticipated performance of new intermittent resources, including wind and solar;</li> <li>(f) historical performance of hydroelectric generation and any projected changes;</li> <li>(g) historical performance of cogeneration sites in Alberta and any projected changes;</li> <li>(h) the correlation of load and generation at cogeneration sites in Alberta, as applicable;</li> <li>(i) the <b>available transfer capability</b> and gross import <b>offers</b> on the <b>interties</b>; and</li> <li>(j) <b>capacity</b> to maintain <b>regulating reserve</b>.</li> </ul>	<p>(c) states: "...and <i>any projected changes as applicable</i>." Can the AESO provide any information as to what this entails?</p> <p>Is there a reason the characteristics do not include actual historical price responsive load or anticipated performance of new price responsive load?</p>
4	(2)	The <b>ISO</b> must, as applicable, make assumptions about the model characteristics identified in subsection 4(1) in order to minimize model error and the risk of over procuring or under	Is there a reason that the AESO is very specific in other sections of this rule; however,

Section	Subsection	Proposed language	Stakeholder comments
		procuring <b>capacity</b> to the extent practicable.	<p>this particular clause allows the AESO to make assumptions as it sees fit?</p> <p>IPCAA submits that there needs to be transparency on the assumptions the AESO makes, as well as the rationale for these assumptions.</p>
4	(3)	The <b>ISO</b> must add or subtract <b>capacity</b> from the probabilistic model referred to in subsection 4(1) to determine the gross minimum procurement volume that meets the <b>resource adequacy standard</b> .	<p>Should gross minimum procurement volume be a defined term?</p> <p>IPCAA submits that there should be transparency of the data and it should be a market rule contingent on ensuring the data is published.</p>
		<b>Load Forecast</b>	
5		<p>The <b>ISO</b> must, for the purpose of performing the probabilistic model in subsection 4, complete a forecast of Alberta gross load for a 5-year forward looking period, considering the following variables:</p> <ul style="list-style-type: none"> <li>(a) economic growth indicators in Alberta including real gross domestic product, population, employment, and natural resource production;</li> <li>(b) weather and temperature data selected from multiple locations across Alberta;</li> <li>(c) load variations in Alberta based on calendar variables, including month of the year, day of the week, hour of the day, daylight savings, and holidays;</li> <li>(d) historical load behaviour in Alberta and any projected changes;</li> <li>(e) performance data from load assets that are qualified to participate in the capacity market to provide demand response;</li> <li>(f) load forecast uncertainty reflecting variability in the load forecast due to weather and economic forecasts; and</li> <li>(g) any other variables that, in the <b>ISO</b>'s determination, may maximize the performance of the load forecast model.</li> </ul>	<p>From a transparency point of view, this market rule should also contemplate the publication of the Alberta gross load as well as the historical forecast error on the load forecasts.</p>
		<b>Filing of Base Auction Gross Minimum Procurement Volume</b>	
6		The <b>ISO</b> must file the gross minimum procurement volume for a <b>base auction</b> determined in accordance with this section 207.1 with the <b>Commission</b> for approval a minimum of 6 months prior to the publication of the <i>Capacity Market Auction Guidelines</i> for the applicable	<p>There should be a market rule obligation for transparency of the data. If there is a market rule specifying the data that must be published this will be developed as part of the original suite of tools. Having to request this data via the AUC Proceeding Process is both</p>

Section	Subsection	Proposed language	Stakeholder comments
		<b>base auction.</b>	expensive and inefficient. IPCAA requests that the AESO include the transparency requirement.
		<b>Applicable Auctions</b>	
7		<p>This Section 207.2 is in effect for the following auctions:</p> <ul style="list-style-type: none"> <li>(a) the <b>base auction and rebalancing auction</b> for the 2021/2022 <b>obligation period</b>;</li> <li>(b) the <b>base auction and rebalancing auction</b> for the 2022/2023 <b>obligation period</b>;</li> <li>(c) the <b>base auction and rebalancing auction</b> for the 2023/2024 <b>obligation period</b>; and</li> <li>(d) the <b>base auction and rebalancing auctions</b> for the 2024/2025 <b>obligation period</b>.</li> </ul>	<p>IPCAA is concerned that these initial rules are in for 4 Base auctions, can the AESO look at reducing the number of auctions to two?</p>

***Please provide your comments on this rule's appendices:***

N/A

**Please provide your comments on the following (as set out in AUC Rule 017 s. 13(b-j)):**

Item #		Stakeholder comments
1	whether you agree that the proposed new ISO Rule – Section 207.1, <i>Gross Minimum Procurement Volume</i> relates to the capacity market and why or why not	Please note this should read AUC Rule 017 Section 13.2 (b-j). IPCAA agrees that this proposed new ISO rule relates to the capacity market because the AESO is expecting rules around procurement volume in order to procure capacity.
2	whether you agree that the proposed new ISO Rule – Section 207.1, <i>Gross Minimum Procurement Volume</i> should [or should not] be in effect for a fixed term and why or why not	IPCAA agrees that this rule should be in effect for a fixed term; however, IPCAA is concerned that the initial rules are in for 4 Base auctions. The AESO should consider reducing the number of auctions to two.
3	whether you understand and agree with the objective or purpose of the proposed new ISO Rule – Section 207.1, <i>Gross Minimum Procurement Volume</i> and whether, in your view, the proposed new ISO Rule – Section 207.1, <i>Gross Minimum Procurement Volume</i> meets the objective or purpose	IPCAA submits that some clarification is required.
4	how, in your view, the proposed new ISO Rule – Section 207.1, <i>Gross Minimum Procurement Volume</i> affects the performance of the capacity market and the electricity market	IPCAA submits that transparency is required in order for the capacity market to perform as designed. This rule will need some clarification.
5	your views on any analysis conducted or commissioned by the AESO supporting the proposed new ISO Rule – Section 207.1, <i>Gross Minimum Procurement Volume</i>	N/A
6	whether you agree with the proposed new ISO Rule – Section 207.1, <i>Gross Minimum Procurement Volume</i> taken together with all ISO rules and in light of the principle of a fair, efficient and openly competitive market	No comment at this time.

Item #		Stakeholder comments
7	whether you would suggest any alternatives to the proposed new ISO Rule – Section 207.1, <i>Gross Minimum Procurement Volume</i>	Please see comments above.
8	whether you agree that the proposed provisional rule supports ensuring a reliable supply of electricity at a reasonable cost to customers and why or why not	This rule requires clarification regarding transparency before IPCAA can comment on this.
9	whether you agree that the proposed provisional rule supports the public interest and why or why not	This rule requires clarification regarding transparency.

***Please provide your views on the type of content that should be included in an information document associated with the proposed new ISO Rule – Section 207.1, Gross Minimum Procurement Volume.***

Please see clarification requested above.



Proposed New ISO Rule – Section 207.2, *Calculation of Net-CONE*

**Period of Comment:** September 7, 2018 through September 28, 2018

**Comments From:** Industrial Power Consumers Association of Alberta

**Date [yyyy/mm/dd]:** 2018/09/28

**Contact:** Vittoria Bellissimo

**Phone:** 403 966 2700

**Email:** Vittoria.Bellissimo@IPCAA.ca

**Please provide comments relating to the subsection of the proposed rule in the corresponding box. Please include any views on whether the language clearly articulates the requirement for either the AESO or a market participant, and provide any proposed alternative wording by blacklining the proposed language below.**

Section	Subsection	Proposed language	Stakeholder comments
		<b>Applicability</b>	
		Section 207.2 applies to: (a) the ISO.	
		<b>Requirements</b> <b>Establish Gross-CONE, Energy and Ancillary Services Offset and Net-CONE</b>	
2		The ISO must establish for each <b>obligation period</b> : (a) a gross-CONE value in \$/kW-year in accordance with subsections 3 and 4, as applicable; (b) an energy and ancillary services offset value in \$/kW-year in accordance with subsection 5; and (c) a net-CONE value in \$/kW-year in accordance with subsection 6.	IPCAA submits that the AESO, as part of its determination of gross-CONE, should be required to publish all of its assumptions. This should be a market rule similar to Section 7 below.
		<b>Initial Gross-CONE Value for 2021/2022 Obligation Period</b>	
		The ISO must establish an initial gross-CONE value for the 2021/2022 <b>obligation period</b> of \$244.2/kW-year.	IPCAA is concerned that the Brattle assumptions about the cost of capital may be overstated.  Customers are not able to reconcile Brattle's view of Alberta's risk profile with what has been presented to the AUC as part of the Generic Cost of Capital proceedings. Even after

Section	Subsection	Proposed language	Stakeholder comments
			acknowledging that merchant facilities and regulated facilities have different risk profiles, there is still a concern about overstating.
		<b>Calculation of Gross-CONE</b>	
4	(1)	<p>The <b>ISO</b> must calculate the gross-CONE value for every <b>obligation period</b> following the 2021/2022 <b>obligation period</b> in accordance with the following formula:</p> $\text{gross-CONE}_t = \text{gross-CONE}_{t=2021/2022} \times \text{Composite Index}_t$ <p>where:</p> <ul style="list-style-type: none"> <li>(i) <math>t</math> equals the <b>obligation period</b> for which the gross-CONE is being determined;</li> <li>(ii) <math>\text{gross-CONE}_t</math> is the gross-CONE value for <b>obligation period</b> <math>t</math>;</li> <li>(iii) <math>\text{gross-CONE}_{t=2021/2022}</math> is the initial gross-CONE value in subsection 3 above; and</li> <li>(iv) <math>\text{Composite Index}_t</math> is the composite index value for <b>obligation period</b> <math>t</math> calculated in accordance with subsection 4(2) below.</li> </ul>	
4	(2)	<p>The <b>ISO</b> must, in calculating the <math>\text{gross-CONE}_t</math> value under subsection 4(1) above, calculate the <math>\text{Composite Index}_t</math> using the following formula:</p> $\begin{aligned} \text{Composite Index}_t &= 0.25 \times \frac{\text{Labour Index}_t}{60.7} + 0.35 \times \frac{\text{Materials Index}_t}{118.5} + 0.40 \\ &\times \frac{\text{Turbine US Cost Index}_t \times \text{Foreign Exchange Rate}_t}{268.7} \end{aligned}$ <p>where:</p> <ul style="list-style-type: none"> <li>(i) <math>t</math> equals the <b>obligation period</b> for which the gross-CONE value is being determined;</li> <li>(ii) <math>\text{Composite Index}_t</math> is the composite index value for <b>obligation period</b> <math>t</math>;</li> </ul>	Can the AESO explain all of the components of this index and how they were derived?

Section	Subsection	Proposed language	Stakeholder comments
		<p>(iii) Labour Index<sub>t</sub> is the most recent 12 <b>month</b> average of published Statistics Canada Construction Union Wage Rates (Electrician), Monthly for Edmonton Alberta, Table 18-10-0046-01;</p> <p>(iv) Materials Index<sub>t</sub> is the most recently published Statistics Canada Gross National and Gross Domestic Income, Indexes and Related Statistics, Annual, Table 36-10-0105-01;</p> <p>(v) Turbine US Cost Index<sub>t</sub> is the most recent 12 <b>month</b> average of published Federal Reserve Economic Data (St. Louis) Producer Price Index by Industry: Turbine and Turbine Generator Set Units Manufacturing (PCU333611333611); and</p> <p>(vi) USD/CAD Foreign Exchange Rate<sub>t</sub> is the most recent 12 <b>month</b> average of published Statistics Canada Monthly Average Exchange Rates in Canadian Dollars, U.S. Dollar monthly average, Table 33-10-0163-01.</p>	
		<b>Calculation of Energy and Ancillary Services Offset</b>	
5	(1)	<p>The <b>ISO</b> must, for every <b>obligation period</b>, calculate the energy and ancillary services offset value in accordance with the following formula:</p> $= \frac{\text{EAS Offset}_t \times \text{Forward Product Energy}_t}{\text{Nameplate Capacity} \times 1000}$ <p>where;</p> <p>(i) <i>t</i> equals the <b>obligation period</b> for which the energy and ancillary services offset is being determined;</p> <p>(ii) EAS Offset<sub>t</sub> is the energy and ancillary services offset for <b>obligation period t</b>;</p> <p>(iii) Forward Power Price<sub>t</sub> is the weighted average of the settlements matching the <b>obligation period t</b>, where the settlements are the average over a period determined by the <b>ISO</b>, for the published NGX forward power product in Appendix 1 that yields the highest EAS Offset<sub>t</sub> for <b>obligation period t</b>;</p>	<p>(vi) Can the AESO provide a reference as to where 93 MW is derived from? Likely from the Max Winter Rating of an AERO CT as per Brattle's report; however, a reference would be helpful.</p> <p>IPCAA would like to reiterate its concern about using forward market pricing to determine the Energy and Ancillary Services Offset since forwards inherently under-value dispatchability, which is an important feature of an AERO CT. Under-valuing the EAS Offset inflates net-CONE in addition to the above expressed concern about gross-CONE potentially being overstated.</p>

Section	Subsection	Proposed language	Stakeholder comments
		<p>(iv) Energy Market Expense <math>_t</math> is the energy market expense value for <b>obligation period</b> <math>t</math> calculated in accordance with subsection 5(3) below;</p> <p>(v) Forward Product Energy <math>_t</math> is the forward product energy value for <b>obligation period</b> <math>t</math> calculated in accordance with subsection 5(2) below; and</p> <p>(vi) Nameplate Capacity is equal to 93 MW.</p>	
5	(2)	<p>The <b>ISO</b> must, in calculating the EAS Offset <math>_t</math> under subsection 5(1) above, calculate the Forward Product Energy <math>_t</math> using the following formula:</p> $\begin{aligned} \text{Forward Product Energy}_t &= \text{Average Capacity} \times (1 - \text{Forced Outage Rate}) \\ &\quad \times \text{Forward Product Hours}_t \end{aligned}$ <p>where:</p> <ul style="list-style-type: none"> <li>(i) <math>t</math> equals the <b>obligation period</b> for which the generation is being determined;</li> <li>(ii) Average Capacity is equal to 87 MW;</li> <li>(iii) Forced Outage Rate is equal to 3.0%; and</li> <li>(iv) Forward Product Hours <math>_t</math> is the number of hours defined in the ICE NGX Contracting Party Agreement for the forward power product associated with the Forward Power Price in subsection 5(1)(iii) above, for <b>obligation period</b> <math>t</math>.</li> </ul>	(ii) Can the AESO explain how the average capacity of 87 MW is derived or reference the Brattle Report?
5	(3)	<p>The <b>ISO</b> must, in calculating the EAS Offset <math>_t</math> under subsection 5(1) above, calculate the Energy Market Expense <math>_t</math> using the following formula:</p>	(v) and (vii) Can the AESO provide references for the heat rate and the emissions intensity?

Section	Subsection	Proposed language	Stakeholder comments
		<p>Energy Market Expense<sub>t</sub>            = [Forward Gas Price<sub>t</sub> + (1 + Commodity Fuel Charge<sub>t</sub>)] × Heat Rate<sub>t</sub>            + Variable Operations and Maintenance<sub>t</sub>            + (Emission Intensity – Established Benchmark<sub>t</sub>) × Carbon Price<sub>t</sub>            + Transmission Losses<sub>t</sub> + Trading Charge<sub>t</sub></p> <p>where;</p> <ul style="list-style-type: none"> <li>(i) <i>t</i> equals the <b>obligation period</b> for which the energy and ancillary services offset is being determined;</li> <li>(ii) Energy Market Expense<sub>t</sub> is the energy market expense value for <b>obligation period t</b>;</li> <li>(iii) Forward Gas Price<sub>t</sub> is the weighted average of the settlements matching the <b>obligation period t</b>, where the settlements are the average over the period determined by the <b>ISO</b> in subsection 5(1)(iii), of NGX Phys, FP (CA/GJ), AB-NIT;</li> <li>(iv) Commodity Fuel Charge<sub>t</sub> is the most recent 12 <b>month</b> average of published NOVA Gas Transmission Ltd NGTL Fuel Usage and Measurement Variance;</li> <li>(v) Heat Rate is equal to 9.677 GJ/MWh;</li> <li>(vi) Variable Operations and Maintenance<sub>t</sub> is the variable operations and maintenance value for <b>obligation period t</b> calculated in accordance with subsection 5(4) below;</li> <li>(vii) Emission Intensity is equal to 0.50 tonnes of CO2/MWh;</li> <li>(viii) Established Benchmark<sub>t</sub> is the weighted average of the calendar year values matching <b>obligation period t</b> for an established benchmark for electricity published by a public authority;</li> </ul>	

Section	Subsection	Proposed language	Stakeholder comments
		<p>(ix) Carbon Price <math>_t</math> is the weighted average of the calendar year values matching <b>obligation period</b> <math>t</math> for the carbon price published by a public authority;</p> <p>(x) Transmission Losses <math>_t</math> is the transmission loss value for <b>obligation period</b> <math>t</math> calculated in accordance with subsection 5(5) below; and</p> <p>(xi) Energy Market Trading Charge <math>_t</math> is the most recent energy market trading charge published on the AESO website.</p>	
5	(4)	<p>The <b>ISO</b> must, in calculating the Energy Market Expense <math>_t</math> under subsection 5(3) above, calculate the Variable Operations and Maintenance <math>_t</math> value using the following formula:</p> $\text{Variable Operations and Maintenance}_t = \text{Variable Operations and Maintenance}_{t=2021/2022} \times \frac{\text{Materials Index}_t}{118.5}$ <p>where:</p> <p>(i) <math>t</math> equals the <b>obligation period</b> for which the variable operations and maintenance is being determined;</p> <p>(ii) Variable Operations and Maintenance <math>_{t=2021/2022}</math> is equal to \$4.60/ MWh; and</p> <p>(iii) Materials Index <math>_t</math> for <b>obligation period</b> <math>t</math> is the value in subsection 4(2)(a)(iv) above.</p>	Can the AESO provide references as to where 118.5 and \$4.60/MWh are derived from?
5	(5)	<p>The <b>ISO</b> must, in calculating the Energy Market Expense <math>_t</math> under subsection 5(2) above, calculate the Transmission Losses <math>_t</math> value using the following formula:</p> $\text{Transmission Losses}_t = \frac{\sum_{i=1}^n \text{Loss Factor}_i}{n} \times \text{Forward Power Price}_t$ <p>where:</p> <p>(i) <math>t</math> equals the <b>obligation period</b> for which the transmission losses is being determined;</p> <p>(ii) <math>i...n</math> are facilities located in the Fort Saskatchewan area identified in the</p>	

Section	Subsection	Proposed language	Stakeholder comments
		<p>most recent Loss Factors published on the AESO website;</p> <p>(iii) Loss Factor <math>_t</math> is the most recent published loss factor values published on the AESO website; and</p> <p>(iv) Forward Power Price <math>_t</math> for <b>obligation period</b> <math>t</math> is the value in subsection 5(1)(a)(iii) above.</p>	
		<p><b>Calculation of Net-CONE</b></p>	
6	(1)	<p>The <b>ISO</b> must, subject to subsection 6(2), calculate the net-CONE value for every <b>obligation period</b> in accordance with the following formula:</p> $\text{net-CONE}_t = \text{gross-CONE}_t - \text{EAS Offset}_t$ <p>where:</p> <p>(i) <math>t</math> equals the <b>obligation period</b> for which the net-CONE value is being determined;</p> <p>(ii) gross-CONE <math>_t</math> is the gross-CONE value in subsection 3 above or the gross-CONE value calculated in accordance with subsection 4 above for the <b>obligation period</b> <math>t</math>, as applicable; and</p> <p>(iii) EAS Offset <math>_t</math> is energy and ancillary services offset value calculated in accordance with subsection 5 above for <b>obligation period</b> <math>t</math>.</p>	
6	(2)	<p>The <b>ISO</b> must, if the net-CONE value calculated in subsection 6(1) is:</p> <p>(a) below zero, set the net-CONE value at zero.</p> <p>(b) above the gross-CONE value in subsection 3 or 4, set the net-CONE value at the gross-CONE value</p>	
		<p><b>Publication of Net-CONE, Data and Indices</b></p>	
7		<p>The <b>ISO</b> must, publish the net-CONE value determined in accordance with this section 207.2 and the following data and indices in the <i>Capacity Market Auction Guidelines</i> for each <b>base auction</b> and <b>rebalancing auction</b>:</p> <p>(a) Composite Index <math>_{t=2021/2022}</math> ;</p>	<p>When will the AESO publish the net-CONE in relation to the Base Auction? Will this be a market rule?</p>

Section	Subsection	Proposed language	Stakeholder comments
		<ul style="list-style-type: none"> <li>(b) Composite Index <math>_t</math> ;</li> <li>(c) Labour Index <math>_t</math> ;</li> <li>(d) Material Index <math>_t</math> ;</li> <li>(e) Turbine US Cost Index <math>_t</math> ;</li> <li>(f) USD/CAD Foreign Exchange Rate <math>_t</math> ;</li> <li>(g) Energy Market Expense <math>_t</math> ;</li> <li>(h) Forward Power Price <math>_t</math> ;</li> <li>(i) Forward Product Hours <math>_t</math> ;</li> <li>(j) Forward Product Energy <math>_t</math> ;</li> <li>(k) The period determined by <b>ISO</b> refer to in subsections 5(1)(iii), 5(2)(iv) and 5(3)(iii) ;</li> <li>(l) Forward Gas Price <math>_t</math> ;</li> <li>(m) Commodity Fuel Charge <math>_t</math> ;</li> <li>(n) (o) Variable Operations and Maintenance <math>_t</math> ;</li> <li>(o) (p) Emission Intensity;</li> <li>(p) Established Benchmark <math>_t</math> ;</li> <li>(q) Carbon Price <math>_t</math> ;</li> <li>(r) Transmission Losses <math>_t</math> ;</li> <li>(s) Loss Factor <math>_i</math> ; and</li> <li>(t) Trading Charge <math>_t</math></li> </ul>	
		<p><b>Substitute Index or Benchmark</b></p>	
9		<p>The <b>ISO</b> must, if any of the indices or benchmarks referred to in this section 207.2 are unavailable or not applicable for use in the calculation of the net-CONE value, use another</p>	



Section	Subsection	Proposed language	Stakeholder comments
		comparable industry index or benchmark and publish the index or benchmark in the <i>Capacity Market Auction Guidelines</i> for each <b>base auction</b> and <b>rebalancing auction</b> .	
		<b>Applicable Auctions</b>	
10		This Section 207.2 is in effect for the following auctions: <ul style="list-style-type: none"> <li>(a) the <b>base auction</b> and <b>rebalancing auction</b> for the 2021/2022 <b>obligation period</b>;</li> <li>(a) the <b>base auction</b> and <b>rebalancing auction</b> for the 2022/2023 <b>obligation period</b>;</li> <li>(a) the <b>base auction</b> and <b>rebalancing auction</b> for the 2023/2024 <b>obligation period</b>; and</li> <li>(a) the <b>base auction</b> and <b>rebalancing auctions</b> for the 2024/2025 <b>obligation period</b>.</li> </ul>	

***Please provide your comments on this rule's appendices:***

N/A

**Please provide your comments on the following (as set out in AUC Rule 017 s. 13(b-j)):**

Item #		Stakeholder comments
1	whether you agree that the proposed new ISO Rule – Section 207.2, <i>Calculation of Net-CONE</i> relates to the capacity market and why or why not	Please note this should read AUC Rule 017 Section 13.2 (b-j). IPCAA agrees that this proposed new ISO rule relates to the capacity market because the Net-CONE calculation will impact the demand curve and the procurement of capacity.
2	whether you agree that the proposed new ISO Rule – Section 207.2, <i>Calculation of Net-CONE</i> should [or should not] be in effect for a fixed term and why or why not	IPCAA agrees that this rule should be in effect for a fixed term.
3	whether you understand and agree with the objective or purpose of the proposed new ISO Rule – Section 207.2, <i>Calculation of Net-CONE</i> and whether, in your view, the proposed new ISO Rule – Section 207.2, <i>Calculation of Net-CONE</i> meets the objective or purpose	IPCAA submits that some clarification is required.
4	how, in your view, the proposed new ISO Rule – Section 207.2, <i>Calculation of Net-CONE</i> affects the performance of the capacity market and the electricity market	IPCAA is concerned with the Net-CONE calculation, and as such, with the performance of the capacity market. In addition, this rule will need some clarification.
5	your views on any analysis conducted or commissioned by the AESO supporting the proposed new ISO Rule – Section 207.2, <i>Calculation of Net-CONE</i>	N/A
6	whether you agree with the proposed new ISO Rule – Section 207.2, <i>Calculation of Net-CONE</i> taken together with all ISO rules and in light of the principle of a fair, efficient and openly competitive market	No comment at this time.
7	whether you would suggest any alternatives to the proposed new ISO Rule – Section 207.2, <i>Calculation of Net-CONE</i>	Please see comments above.

Item #		Stakeholder comments
8	whether you agree that the proposed provisional rule supports ensuring a reliable supply of electricity at a reasonable cost to customers and why or why not	At this point, IPCAA is concerned about reasonable costs.
9	whether you agree that the proposed provisional rule supports the public interest and why or why not	This rule requires clarification regarding transparency.

***Please provide your views on the type of content that should be included in an information document associated with the proposed new ISO Rule – Section 207.2, Calculation of Net-CONE.***

Please see clarification requested above.

## Proposed New ISO Rule – Section 207.3, *Shape of Demand Curve*

**Period of Comment:** September 7, 2018 through September 28, 2018

**Comments From:** Industrial Power Consumers Association of Alberta (IPCAA)

**Date [yyyy/mm/dd]:** 2018/09/28

**Contact:** Vittoria Bellissimo

**Phone:** 403 966 2700

**Email:** Vittoria.Bellissimo@IPCAA.ca

**Please provide comments relating to the subsection of the proposed rule in the corresponding box. Please include any views on whether the language clearly articulates the requirement for either the AESO or a market participant, and provide any proposed alternative wording by blacklining the proposed language below.**

Section	Subsection	Proposed language	Stakeholder comments
		<b>Applicability</b>	
		Section 207.3 applies to: (a) the ISO.	
		<b>Requirements</b> <b>Establish Preliminary Demand Curve</b>	
2	(1)	The ISO must, for the purpose of establishing a preliminary demand curve in accordance with subsection 2(2), estimate the net minimum procurement volume in subsection 3 below based on the most recent uniform capacity values calculated by the ISO in accordance with Section 206.3 of the ISO rules, Uniform Capacity Value Determination	
2	(2)	The ISO must, for each <b>base auction</b> and <b>rebalancing auction</b> , establish a preliminary downward-sloping convex demand curve with the following: (a) a horizontal section from 0 MW to the estimate of the net minimum procurement volume in subsection 2(1), at a price cap that is the greater of: (i) 1.75 times the adjusted net-CONE in subsection 4; or (ii) 0.5 times gross-CONE established in accordance with Section 207.2 of the <b>ISO rules</b> , <i>Calculation of Net-CONE</i> divided by 0.8; (b) a downward-sloping section from the estimate of the net minimum	<p>“multiplier” should be “<b>multiplier</b>”</p> <p>Has the AESO modelled the cost impact of moving from 107% to something else, taking into account the necessity to meet the reliability outcome? This will have to be explained at the AUC Proceeding. For transparency purposes, it would be helpful to explain this in the ID.</p> <p>Point A on the curve has set the AESO and government desire for reliability. Point B and C are really about cost to the consumer. Can the AESO confirm that the chosen points</p>

Section	Subsection	Proposed language	Stakeholder comments
		<p>procurement volume in subsection 2(1) at the price cap in subsection 2(2)(a) to an inflection point set at a multiplier of 0.875 times the adjusted net-CONE in subsection 4 below at a quantity 7% above the estimate of the net minimum procurement volume; and</p> <p>(c) a downward sloping section from the inflection point in 2(1)(b) to a price floor of zero dollars at a quantity 18% above the estimate of the net minimum procurement volume.</p>	<p>will result in the “lowest cost for consumers” as per the AESO’s Desired End State? Please provide detailed rationale around the chosen values of 1.75, 0.5, 0.875, 7% and 18%.</p>
2	(3)	<p>The <b>ISO</b> must publish the preliminary demand curve in the <i>Capacity Market Auction Guidelines</i> for the relevant <b>base auction</b> or <b>rebalancing auction</b>.</p>	
		<p><b>Net Minimum Procurement Volume</b></p>	
3		<p>The <b>ISO</b> must, after <b>uniform capacity values</b> are assigned in accordance with Section 206.3 of the <b>ISO rules</b>, <i>Uniform Capacity Value Determination</i>, adjust the gross minimum procurement volume established for each <b>base auction</b> or <b>rebalancing auction</b> in accordance with Section 207.1 of the <b>ISO rules</b>, <i>Gross Minimum Procurement Volume</i> to a net minimum procurement volume using the following formula:</p> $Net\ minimum\ procurement\ volume_t = \sum_i^n UCAP_{Actual(i)}$ <p>where:</p> <ul style="list-style-type: none"> <li>(i) <i>t</i> is the obligation period for the <b>base auction</b> or <b>rebalancing auction</b> that the gross minimum procurement volume was established for;</li> <li>(ii) <i>i...n</i> are all the assets modelled in the probabilistic model that established the gross minimum procurement volume for the <b>obligation period</b>;</li> <li>(iii) <math>UCAP_{Actual(i)}</math> is the final <b>uniform capacity value</b> determined in accordance with Section 206.3 of the <b>ISO rules</b>, <i>Uniform Capacity Value Determination</i> for such asset or the most recent estimate of the <b>uniform capacity value</b> for such asset;</li> </ul>	<p>IPCAA submits that transparency will be required on all elements of this, including uniform capacity value for each asset. This transparency should be required as a part of the market rule.</p>
		<p><b>Adjusted Net-CONE</b></p>	
		<p>The <b>ISO</b> must, using the following formula, adjust the net-CONE established for each <b>obligation period</b> in accordance with Section 207.2 of the <b>ISO rules</b>, <i>Calculation of Net-</i></p>	

Section	Subsection	Proposed language	Stakeholder comments
		<p><i>CONE</i>:</p> $\text{Adjusted net-CONE}_t = \frac{\text{net-CONE}_t}{0.8}$ <p>where;</p> <ul style="list-style-type: none"> <li>(i) <i>t</i> equals the <b>obligation period</b> for which the adjusted net-CONE value is being determined; and</li> <li>(ii) net-CONE <sub><i>t</i></sub> is net-CONE value established in accordance with Section 207.2 of the <b>ISO rules</b>, <i>Calculation of Net-CONE</i> in \$/kW-year.</li> </ul>	
		<p><b>Establish Final Demand Curve for Base Auction and Rebalancing Auction</b></p>	
5	(1)	<p>The <b>ISO</b> must, for each <b>base auction</b> and <b>rebalancing auction</b>, establish a final downward-sloping convex demand curve with the following:</p> <ul style="list-style-type: none"> <li>(a) a horizontal section from 0 MW to the net minimum procurement volume in subsection 3, at a price cap that is the greater of: <ul style="list-style-type: none"> <li>(i) 1.75 times the adjusted net-CONE in subsection 4; or</li> <li>(j) 0.5 times gross-CONE established in accordance with Section 207.2 of the <b>ISO rules</b>, <i>Calculation of Net-CONE</i> divided by 0.8;</li> </ul> </li> <li>(b) a downward-sloping section from the net minimum procurement volume in subsection 3 at the price cap in subsection 5(1)(a) to an inflection point set at a multiplier of 0.875 times the adjusted net-CONE in subsection 4 below at a quantity 7% above the net minimum procurement volume;and</li> <li>(c) a downward sloping section from the inflection point in 5(1)(b) to a price floor of zero dollars at a quantity 18% above the net minimum procurement volume in subsection 3 below.</li> </ul>	<p>“multiplier” should be “<b>multiplier</b>”</p> <p>“volume;and” should be “<b>volume; and</b>”</p> <p>It is not clear how the AESO has determined the marginal cost of reliability. This will need to be explained, ideally in the next draft of the rules but at a minimum to the AUC.</p>
5	(2)	<p>The <b>ISO</b> must publish the final demand curve prior to the opening of the offering window for each <b>base auction</b> or <b>rebalancing auction</b>.</p>	
		<p><b>Applicable Auctions</b></p>	
6		<p>This Section 207.2 is in effect for the following auctions:</p>	<p>IPCAA is concerned that these initial rules are in for 4 Base auctions, can the AESO look</p>



Section	Subsection	Proposed language	Stakeholder comments
		<ul style="list-style-type: none"> <li data-bbox="505 332 1451 394">(a) the <b>base auction</b> and <b>rebalancing auction</b> for the 2021/2022 <b>obligation period</b>;</li> <li data-bbox="505 407 1451 469">(b) the <b>base auction</b> and <b>rebalancing auction</b> for the 2022/2023 <b>obligation period</b>;</li> <li data-bbox="505 482 1451 544">(c) the <b>base auction</b> and <b>rebalancing auction</b> for the 2023/2024 <b>obligation period</b>; and</li> <li data-bbox="505 557 1451 618">(d) the <b>base auction</b> and <b>rebalancing auctions</b> for the 2024/2025 <b>obligation period</b>.</li> </ul>	<p data-bbox="1545 316 2056 349">at reducing the number of auctions to two?</p>

**Please provide your comments on the following (as set out in AUC Rule 017 s. 13(b-j)):**

Item #		Stakeholder comments
1	whether you agree that the proposed new ISO Rule – Section 207.3, <i>Shape of Demand Curve</i> relates to the capacity market and why or why not	Please note this should read AUC Rule 017 Section 13.2 (b-j). IPCAA agrees that this proposed new ISO rule relates to the capacity market because the shape of the demand curve will be a key component in procuring capacity.
2	whether you agree that the proposed new ISO Rule – Section 207.3, <i>Shape of Demand Curve</i> should [or should not] be in effect for a fixed term and why or why not	IPCAA agrees that this rule should be in effect for a fixed term; however, IPCAA is concerned that the initial rules are in for 4 Base auctions. The AESO should consider reducing the number of base auctions to two.
3	whether you understand and agree with the objective or purpose of the proposed new ISO Rule – Section 207.3, <i>Shape of Demand Curve</i> and whether, in your view, the proposed new ISO Rule – Section 207.3, <i>Shape of Demand Curve</i> meets the objective or purpose	IPCAA submits that some clarification is required.
4	how, in your view, the proposed new ISO Rule – Section 207.3, <i>Shape of Demand Curve</i> affects the performance of the capacity market and the electricity market	IPCAA submits that transparency is required in order for the capacity market to perform as designed. This rule will need some clarification.
5	your views on any analysis conducted or commissioned by the AESO supporting the proposed new ISO Rule – Section 207.3, <i>Shape of Demand Curve</i>	N/A
6	whether you agree with the proposed new ISO Rule – Section 207.3, <i>Shape of Demand Curve</i> taken together with all ISO rules and in light of the principle of a fair, efficient and openly competitive market	No comment at this time.
7	whether you would suggest any alternatives to the proposed new ISO Rule – Section 207.3, <i>Shape of Demand Curve</i>	Please see comments above.

Item #		Stakeholder comments
8	whether you agree that the proposed provisional rule supports ensuring a reliable supply of electricity at a reasonable cost to customers and why or why not	This rule requires clarification regarding transparency before IPCAA can comment on this.
9	whether you agree that the proposed provisional rule supports the public interest and why or why not	This rule requires clarification regarding transparency.

***Please provide your views on the type of content that should be included in an information document associated with the proposed new ISO Rule – Section 207.3, Shape of Demand Curve.***

Please see clarification requested above.