

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

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

Comments From: Solas Energy Consulting on behalf of the Renewable Energy Coalition

Date [yyyy/mm/dd]: 20918/09/28

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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
		Applicability	
1		Section 207.1 applies to: (a) the ISO .	
		Requirements Gross Minimum Procurement Volume	
2		The ISO must, for each base auction and rebalancing auction , establish the gross minimum procurement volume that meets the resource adequacy standard in accordance with subsections 3 and 4 below.	
		Base Auction Gross Minimum Procurement Volumes for 2021/2022 and 2022/2023 Obligation Periods	
3		The ISO must establish the gross minimum procurement volumes as follows: (a) 18,516 MW of maximum capability for the base auction for the 2021/2022 obligation period based on the assets listed in Appendix A; and (b) 18,597 MW of maximum capability for the base auction for the 2022/2023 obligation period based on the assets listed in Appendix B.	The minimum procurement volumes are too high. The AESO has indicated that there will be 600 MW of peak demand growth by 2021/2022. The currently mothballed units comprise 770 MW MC with 608 MW UCV. So the return of mothballed units is sufficient to cover the expected demand growth. By 2021, 209 MW MC of coal will retire that is equivalent to 244 MW UCV. Further 1296 MW of wind will be added that is equivalent to 181 MW UCV. So a net total of 60 MW

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			<p>UCV is needed to maintain the AIES with the same reliability as 2018. 2018 saw zero hours with lost energy, yet the volume proposed by the AESO requires an additional 150 MW UCV to meet just the minimum reliability standard.</p> <p>The Coalition submits that more analysis of the Reliability Model and methodology is required before the Minimum Procurement Volumes are decided.</p> <p>Among the additional analysis, the Coalition requests:</p> <p>The model calibration needs to be performed for multiple previous years. The AESO has performed a historical calibration against only one year: 2017. Because lost energy hours occur infrequently, it is essential to calibrate against several years of historical data. The coalition recommends a minimum of five years be performed with a target of between 10 and 15 calibration years be performed.</p> <p>The sensitivity of the model to the economic growth inputs needs to be understood. The coalition suspects the results are highly susceptible to the economic growth assumption, especially the high growth assumption. Stakeholders and the AESO need to understand the sensitivity so that the appropriate assumption can be included in the methodology.</p> <p>The sensitivity of the model to the forced outage rates needs to be understood. The forced outage rates presented by the AESO differ from average FERC values and the impact of these differences on the reliability calculation needs to be understood. The Coalition is aware of the difficulties in collecting reliable forced outage data from the ETS and therefore this parameter needs further analysis.</p>
		<p>Probabilistic Model</p>	
<p>4</p>	<p>(1)</p>	<p>The ISO must perform a probabilistic model of resource adequacy that considers the following characteristics:</p> <ul style="list-style-type: none"> (a) the load forecast referred to in subsection 5; (b) the available capability or available generation from all individual generating units and aggregated generating facilities in Alberta that the ISO anticipates will have, for the obligation period, a: 	

Section	Subsection	Proposed language	Stakeholder comments
		<ul style="list-style-type: none"> (i) maximum capability greater than or equal to 5 MW; or (ii) uniform capacity value that is greater than or equal to 1 MW. (c) historical outages of thermal assets, including automatic forced outages, delayed forced outages, planned outages and ambient temperature derates, and any projected changes as applicable; (d) historical performance of existing intermittent resources, including wind and solar, and any projected changes; (e) anticipated performance of new intermittent resources, including wind and solar; (f) historical performance of hydroelectric generation and any projected changes; (g) historical performance of cogeneration sites in Alberta and any projected changes; (h) the correlation of load and generation at cogeneration sites in Alberta, as applicable; (i) the available transfer capability and gross import offers on the inerties; and (j) capacity to maintain regulating reserve. 	
4	(2)	The ISO 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 procuring capacity to the extent practicable.	
4	(3)	The ISO must add or subtract capacity from the probabilistic model referred to in subsection 4(1) to determine the gross minimum procurement volume that meets the resource adequacy standard .	
		Load Forecast	
5		<p>The ISO 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"> (a) economic growth indicators in Alberta including real gross domestic product, 	

Section	Subsection	Proposed language	Stakeholder comments
		<p>population, employment, and natural resource production;</p> <ul style="list-style-type: none"> (b) weather and temperature data selected from multiple locations across Alberta; (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; (d) historical load behaviour in Alberta and any projected changes; (e) performance data from load assets that are qualified to participate in the capacity market to provide demand response; (f) load forecast uncertainty reflecting variability in the load forecast due to weather and economic forecasts; and (g) any other variables that, in the ISO's determination, may maximize the performance of the load forecast model. 	
		Filing of Base Auction Gross Minimum Procurement Volume	
6		<p>The ISO must file the gross minimum procurement volume for a base auction determined in accordance with this section 207.1 with the Commission for approval a minimum of 6 months prior to the publication of the <i>Capacity Market Auction Guidelines</i> for the applicable base auction.</p>	<p>The Coalition submits that it is not appropriate to calculate procurement volumes a full year before the start of the auction prequalification process. There is an entire year of economic uncertainty and system information that is being ignored. The process and requirements for submitting the Minimum Procurement Volume needs to be changed such that the AESO performs the calculation no more than two months before the start of the Base Auction Pre-qualification period. For the 2021/2022 obligation period the Minimum Procurement Volume calculations should be completed no earlier than September 1, 2019.</p>
		Applicable Auctions	
7		<p>This Section 207.2 is in effect for the following auctions:</p> <ul style="list-style-type: none"> (a) the base auction and rebalancing auction for the 2021/2022 obligation period; (b) the base auction and rebalancing auction for the 2022/2023 obligation period; (c) the base auction and rebalancing auction for the 2023/2024 obligation period; and 	

Section	Subsection	Proposed language	Stakeholder comments
		(d) the base auction and rebalancing auctions for the 2024/2025 obligation period .	

Please provide your comments on this rule's appendices:

Empty comment box

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

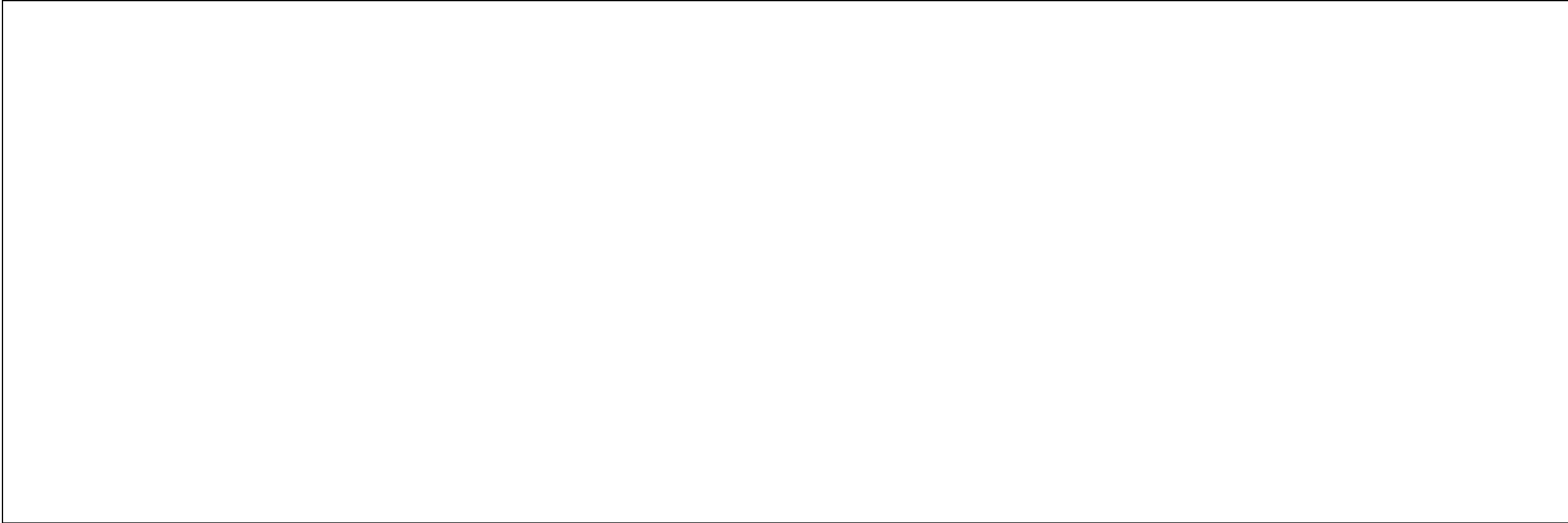
Item #		Stakeholder comments
1	whether you agree that the proposed new ISO Rule – Section 207.1, <i>Gross Minimum Procurement Volume</i> relates to the capacity market and why or why not	
2	whether you agree that the proposed new ISO Rule – Section 207.1, <i>Gross Minimum Procurement Volume</i> should [or should not] be in effect for a fixed term and why or why not	
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	The Coalition does not agree with the objective of submitting Minimum Procurement Volumes to the AUC one year ahead of the start of the Base Auction Prequalification process.
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	The Minimum Procurement Volume as proposed will negative impact the performance of the electricity market due to the risk of over procurement.
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>	Further analysis is required to understand the reliability model and reliability results. Details recommendations have been included above.
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	The proposed Minimum Procurement Volumes present a risk to the efficiency and competitiveness of the market. There risk of over procurement will lead to depressed energy market prices which is not economically efficient and will hurt the ability for generators to compete.

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>	Minimum Procurement Volumes should be submitted to the AUC for approval within two months of the start of the Base Auction Prequalification process. The AESO and AUC should develop rules to facilitate Minimum Procurement Volume approval within that timeframe.
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	The Minimum Procurement Volumes as proposed will result in elevated Capacity Market costs to customers due to the high likelihood of over procurement. Over procurement may lead to depressed energy market prices, but this balance is not in customers interests. Customers can control their Energy Market costs, but not their Capacity Market costs. It is in the customers interest to minimize the risk of over procurement.
9	whether you agree that the proposed provisional rule supports the public interest and why or why not	The proposed Minimum Procurement Volumes are not in the public interest. Over procurement will lead to higher than necessary Capacity Market costs and depressed Energy Market prices that will reduce investor confidence and lead to higher cost volatility and higher overall costs in the long run.

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.

The Information Document should include:

- Economic forecast assumptions and implications for the load forecast
- Unit reliability assumptions by asset class including planned and forced outage rates.
- Source and description of wind and solar data for new facilities.
- A description of the assumptions and treatment of behind-the-fence micro-generation
- Results of sensitivity analysis to key load and asset reliability assumptions



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

Period of Comment: September 7, 2018 through September 28, 2018
Comments From: Solas Energy Consulting on behalf of the Renewable Energy Coalition
Date [yyyy/mm/dd]: 2018/09/28

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Section	Subsection	Proposed language	Stakeholder comments
		Applicability	
		Section 207.2 applies to: (a) the ISO.	
		Requirements Establish Gross-CONE, Energy and Ancillary Services Offset and Net-CONE	
2		The ISO must establish for each obligation period : (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.	
		Initial Gross-CONE Value for 2021/2022 Obligation Period	
		The ISO must establish an initial gross-CONE value for the 2021/2022 obligation period of \$244.2/kW-year.	
		Calculation of Gross-CONE	

Section	Subsection	Proposed language	Stakeholder comments
4	(1)	<p>The ISO must calculate the gross-CONE value for every obligation period following the 2021/2022 obligation period 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"> (i) t equals the obligation period for which the gross-CONE is being determined; (ii) gross-CONE_t is the gross-CONE value for obligation period t; (iii) $\text{gross-CONE}_{t=2021/2022}$ is the initial gross-CONE value in subsection 3 above; and (iv) Composite Index_t is the composite index value for obligation period t calculated in accordance with subsection 4(2) below. 	
4	(2)	<p>The ISO must, in calculating the gross-CONE_t value under subsection 4(1) above, calculate the Composite Index_t 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"> (i) t equals the obligation period for which the gross-CONE value is being determined; (ii) Composite Index_t is the composite index value for obligation period t; (iii) Labour Index_t is the most recent 12 month average of published Statistics Canada Construction Union Wage Rates (Electrician), Monthly for Edmonton Alberta, Table 18-10-0046-01; 	

Section	Subsection	Proposed language	Stakeholder comments
		<p>(iv) Materials Index I_t 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 I_t is the most recent 12 month 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 I_t is the most recent 12 month average of published Statistics Canada Monthly Average Exchange Rates in Canadian Dollars, U.S. Dollar monthly average, Table 33-10-0163-01.</p>	
		<p>Calculation of Energy and Ancillary Services Offset</p>	
5	(1)	<p>The ISO must, for every obligation period, calculate the energy and ancillary services offset value in accordance with the following formula:</p> $= \frac{\text{EAS Offset}_t}{\text{Nameplate Capacity} \times 1000} \times \text{Forward Product Energy}_t$ <p>where;</p> <ul style="list-style-type: none"> (i) t equals the obligation period for which the energy and ancillary services offset is being determined; (ii) EAS Offset I_t is the energy and ancillary services offset for obligation period t; (iii) Forward Power Price I_t is the weighted average of the settlements matching the obligation period t, where the settlements are the average over a period determined by the ISO, for the published NGX forward power product in Appendix 1 that yields the highest EAS Offset I_t for obligation period t; (iv) Energy Market Expense I_t is the energy market expense value for obligation period t calculated in accordance with subsection 5(3) below; 	<p>In 5(1) iii, the rule should include direction as to how the AESO will select the period.</p>

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		<p>(v) Forward Product Energy E_t is the forward product energy value for obligation period t calculated in accordance with subsection 5(2) below; and</p> <p>(vi) Nameplate Capacity is equal to 93 MW <u>the nameplate capacity of the reference technology</u>.</p>	
5	(2)	<p>The ISO must, in calculating the EAS Offset O_t under subsection 5(1) above, calculate the Forward Product Energy E_t 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"> (i) t equals the obligation period for which the generation is being determined; (ii) Average Capacity is equal to 87 MW <u>the average capacity of the reference technology</u>; (iii) Forced Outage Rate is equal to 3.0% <u>the forced outage rate of the reference technology</u> and (iv) Forward Product Hours t 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 obligation period t. 	
5	(3)	<p>The ISO must, in calculating the EAS Offset O_t under subsection 5(1) above, calculate the Energy Market Expense E_t using the following formula:</p>	

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

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

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		<ul style="list-style-type: none"> (ii) $i...n$ are facilities located in the Fort Saskatchewan area identified in the most recent Loss Factors published on the AESO website; (iii) Loss Factor_{<i>i</i>} is the most recent published loss factor values published on the AESO website; and (iv) Forward Power Price_{<i>t</i>} for obligation period <i>t</i> is the value in subsection 5(1)(a)(iii) above. 	
		Calculation of Net-CONE	
6	(1)	<p>The ISO must, subject to subsection 6(2), calculate the net-CONE value for every obligation period in accordance with the following formula:</p> $\text{net-CONE}_t = \text{gross-CONE}_t - \text{EAS Offset}_t$ <p>where:</p> <ul style="list-style-type: none"> (i) <i>t</i> equals the obligation period for which the net-CONE value is being determined; (ii) gross-CONE_{<i>t</i>} is the gross-CONE value in subsection 3 above or the gross-CONE value calculated in accordance with subsection 4 above for the obligation period <i>t</i>, as applicable; and (iii) EAS Offset_{<i>t</i>} is energy and ancillary services offset value calculated in accordance with subsection 5 above for obligation period <i>t</i>. 	
6	(2)	<p>The ISO must, if the net-CONE value calculated in subsection 6(1) is:</p> <ul style="list-style-type: none"> (a) below zero, set the net-CONE value at zero. (b) above the gross-CONE value in subsection 3 or 4, set the net-CONE value at the gross-CONE value 	
		Publication of Net-CONE, Data and Indices	
7		<p>The ISO 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 base auction and rebalancing auction:</p>	

Section	Subsection	Proposed language	Stakeholder comments
		<ul style="list-style-type: none"> (a) Composite Index $_{t=2021/2022}$; (b) Composite Index $_t$; (c) Labour Index $_t$; (d) Material Index $_t$; (e) Turbine US Cost Index $_t$; (f) USD/CAD Foreign Exchange Rate $_t$; (g) Energy Market Expense $_t$; (h) Forward Power Price $_t$; (i) Forward Product Hours $_t$; (j) Forward Product Energy $_t$; (k) The period determined by ISO refer to in subsections 5(1)(iii), 5(2)(iv) and 5(3)(iii) ; (l) Forward Gas Price $_t$; (m) Commodity Fuel Charge $_t$; (n) (o) Variable Operations and Maintenance $_t$; (o) (p) Emission Intensity; (p) Established Benchmark $_t$; (q) Carbon Price $_t$; (r) Transmission Losses $_t$; (s) Loss Factor $_i$; and (t) Trading Charge $_t$ 	
		<p>Substitute Index or Benchmark</p>	

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

Please provide your comments on this rule's appendices:

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	
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	
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	
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	
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>	
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	
7	whether you would suggest any alternatives to the proposed new ISO Rule – Section 207.2, <i>Calculation of Net-CONE</i>	The choice of reference technology should be submitted to the AUC within two months of the start of the base auction rather than enshrined in the rules. The rules should describe the required information and methodology on a generic basis. This allows the Capacity Market to set prices based on the best available information at the time of the auction.

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	
9	whether you agree that the proposed provisional rule supports the public interest and why or why not	

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.

The information document should contain all the parameters and assumptions for the various reference technologies under consideration.

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

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

Comments From: Solas Energy Consulting on behalf of the Renewable Energy Coalition

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

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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
		Applicability	
		Section 207.3 applies to: (a) the ISO.	
		Requirements Establish Preliminary Demand Curve	
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 base auction and rebalancing auction , 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 ISO rules, <i>Calculation of Net-CONE</i> divided by 0.8; (b) a downward-sloping section from the estimate of the net minimum	The coalition would like details on how the inflexion point and foot of the demand curve are determined. The minimum procurement volume requires about 200 MW UCV more capacity than is currently expected considering coal retirements and the addition of REP wind. To clear at net-CONE, which is the theoretical long-term average Capacity Market clearing price, the AESO would procure an additional 546 MW UCV. If the Capacity Market cleared near the foot of the demand curve, the AESO would procure 1,404 MW UCV. To be clear, these volumes are Uniform Capacity Value and the installed nameplate capacity would be at least 20% higher. The coalition is of the opinion that the procurement of that much capacity will lead to depressed Energy Market prices and a

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		<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>	loss of investor confidence in the entire electricity market.
2	(3)	The ISO must publish the preliminary demand curve in the <i>Capacity Market Auction Guidelines</i> for the relevant base auction or rebalancing auction .	
		Net Minimum Procurement Volume	
3		<p>The ISO must, after uniform capacity values are assigned in accordance with Section 206.3 of the ISO rules, <i>Uniform Capacity Value Determination</i>, adjust the gross minimum procurement volume established for each base auction or rebalancing auction in accordance with Section 207.1 of the ISO rules, <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"> (i) <i>t</i> is the obligation period for the base auction or rebalancing auction that the gross minimum procurement volume was established for; (ii) <i>i...n</i> are all the assets modelled in the probabilistic model that established the gross minimum procurement volume for the obligation period; (iii) $UCAP_{Actual(i)}$ is the final uniform capacity value determined in accordance with Section 206.3 of the ISO rules, <i>Uniform Capacity Value Determination</i> for such asset or the most recent estimate of the uniform capacity value for such asset; 	
		Adjusted Net-CONE	
		The ISO must, using the following formula, adjust the net-CONE established for each obligation period in accordance with Section 207.2 of the ISO rules , <i>Calculation of Net-</i>	

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"> (i) <i>t</i> equals the obligation period for which the adjusted net-CONE value is being determined; and (ii) net-CONE _{<i>t</i>} is net-CONE value established in accordance with Section 207.2 of the ISO rules, <i>Calculation of Net-CONE</i> in \$/kW-year. 	
		<p>Establish Final Demand Curve for Base Auction and Rebalancing Auction</p>	
5	(1)	<p>The ISO must, for each base auction and rebalancing auction, establish a final downward-sloping convex demand curve with the following:</p> <ul style="list-style-type: none"> (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"> (i) 1.75 times the adjusted net-CONE in subsection 4; or (j) 0.5 times gross-CONE established in accordance with Section 207.2 of the ISO rules, <i>Calculation of Net-CONE</i> divided by 0.8; (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 (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. 	
5	(2)	<p>The ISO must publish the final demand curve prior to the opening of the offering window for each base auction or rebalancing auction.</p>	
		<p>Applicable Auctions</p>	
6		<p>This Section 207.2 is in effect for the following auctions:</p>	

Section	Subsection	Proposed language	Stakeholder comments
		<ul style="list-style-type: none"> <li data-bbox="505 332 1451 397">(a) the base auction and rebalancing auction for the 2021/2022 obligation period; <li data-bbox="505 406 1451 470">(b) the base auction and rebalancing auction for the 2022/2023 obligation period; <li data-bbox="505 479 1451 544">(c) the base auction and rebalancing auction for the 2023/2024 obligation period; and <li data-bbox="505 552 1451 617">(d) the base auction and rebalancing auctions for the 2024/2025 obligation period. 	

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	
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	
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	
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	The proposed rule leads to a high risk of over procurement which will be detrimental to the Capacity Market and the Energy Market.
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>	The coalition would like to see the details on the shape of the supply curve used in the simulation model to determine demand curve parameters. The coalition is concerned that the supply curve is not appropriate for the current Alberta market and is leading to a demand curve that is biased to procuring more capacity than is required.
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	
7	whether you would suggest any alternatives to the proposed new ISO Rule – Section 207.3, <i>Shape of Demand Curve</i>	
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	The demand curve parameters included in the rule lead to a high risk of over procurement which will result in excess costs to customers.

Item #		Stakeholder comments
9	whether you agree that the proposed provisional rule supports the public interest and why or why not	

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.