

TransAlta Corporation Appendix 1

Date of Request for Comment: October 26, 2018
Period of Comment: October 26, 2018 through November 14, 2018

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

Item #		Stakeholder comments	AESO Replies										
1	What ISO Rules relate to the capacity market and why or why not?	<p>The six-month provisional rule process should focus on components of the capacity market design that are essential for the establishment or operation of the capacity market and that have the most significant impact to the public interest, reliable supply of electricity to consumers, cost to consumers, and fair, efficient and openly competitive operation of the market.</p> <p>These key components, and related ISO Rules, are as follows:</p> <p>Table 1: Substantive Capacity Market ISO Rules</p> <table border="1" data-bbox="585 1045 1714 1411"> <thead> <tr> <th data-bbox="585 1045 1091 1081">Component of the Market Design</th> <th data-bbox="1091 1045 1714 1081">Related Provisional ISO Rules</th> </tr> </thead> <tbody> <tr> <td data-bbox="585 1081 1091 1117">Procurement Volume</td> <td data-bbox="1091 1081 1714 1117">• Section 207.1: Procurement Volume</td> </tr> <tr> <td data-bbox="585 1117 1091 1192">Cost of New Entry (CONE)</td> <td data-bbox="1091 1117 1714 1192">• Section 207.2: Calculation of Net-CONE</td> </tr> <tr> <td data-bbox="585 1192 1091 1263">Demand Curve</td> <td data-bbox="1091 1192 1714 1263">• Section 207.3: Shape of Demand Curve</td> </tr> <tr> <td data-bbox="585 1263 1091 1411">Capacity Value Determination</td> <td data-bbox="1091 1263 1714 1411"> • Section 103.13: Request for Reconsideration • Section 206.2: Self-Supply Configuration • Section 206.3: Uniform Capacity Value </td> </tr> </tbody> </table>	Component of the Market Design	Related Provisional ISO Rules	Procurement Volume	• Section 207.1: Procurement Volume	Cost of New Entry (CONE)	• Section 207.2: Calculation of Net-CONE	Demand Curve	• Section 207.3: Shape of Demand Curve	Capacity Value Determination	• Section 103.13: Request for Reconsideration • Section 206.2: Self-Supply Configuration • Section 206.3: Uniform Capacity Value	<p>The AESO acknowledges TransAlta's comment. Please see Exhibits 23757-X0116, 23757-X0117.01, 23757-X0152, 23757-X0153, 23757-X0154, and 23757-X0161 filed in Proceeding 23757 regarding the AESO's views on scoping for Proceeding 23757.</p>
Component of the Market Design	Related Provisional ISO Rules												
Procurement Volume	• Section 207.1: Procurement Volume												
Cost of New Entry (CONE)	• Section 207.2: Calculation of Net-CONE												
Demand Curve	• Section 207.3: Shape of Demand Curve												
Capacity Value Determination	• Section 103.13: Request for Reconsideration • Section 206.2: Self-Supply Configuration • Section 206.3: Uniform Capacity Value												

	Determination
Delisting	<ul style="list-style-type: none"> • Section 201.15: Delisting • Section 306.7: Mothball Outage Reporting
Penalties, Incentives and Performance Management	• Section 206.8: Obligation Period Performance Assessments
Risk Management	<ul style="list-style-type: none"> • Section 206.1: Qualification of Capacity • Section 206.9: Asset Substitution • Section 206.10: Volume Reallocation
Energy Market Mitigation	• Section 203.5: Energy Market Mitigation
Mitigating Impacts of Subsidized Competition	No related ISO Rules proposed.
Preferential Records Sharing	<ul style="list-style-type: none"> • Section 201.10: Capacity Market Participant Registration • Section 201.11: Appointment of an Agent for the Capacity Market • Section 201.12: Capacity Market Block Allocation • Section 206.4: Offers and Bids for the Capacity Market

Table 2 below includes a list of components, and related ISO Rules, that describe the mechanics of the capacity auction.

Component of the Market Design	Related Provisional ISO Rules
Capacity Auction Clearing	• Section 201.13: Capacity Market Clearing
Development Milestones	Section 206.5: Forward Period Milestone Requirements
Auction Format	• Section 206.6: Base Auction and Rebalancing Auction
Capacity Market Offer Control Reporting	• Section 201.14: Capacity Market Offer Control Information

These components are important to the overall design but are not contentious design elements. These components have limited or insignificant impact to the performance of the wholesale electricity market or the incentives to achieve certain outcomes. If dealt with in the six-month process, these components and related ISO Rules should have minimal time devoted to their review.

In TransAlta's view the following ISO Rules do not require discussion during the six-month process but should be reviewed in the 24-month process because they only affect certain mechanics that will be essential for the first obligation/delivery period commencing November 2021:

Component of the Market Design	Related Provisional ISO Rules
Capacity Payments, Security Requirements and Settlement	<ul style="list-style-type: none"> • Section 103.9: Capacity Market Financial Settlement • Section 103.10: Capacity Award Calculation • Section 103.11: Capacity Market Financial Security Requirements
Outage Reporting and Cancellation	<ul style="list-style-type: none"> • Section 306.8: Load Asset with a Capacity Commitment Outage Reporting and Coordination • Section 306.9: Outage Cancellation Procedures
Energy Market Rule Amendments	<ul style="list-style-type: none"> • Section 103.2: Dispute Resolution • Section 103.3: Financial Security Requirements • Section 201.1: Pool Participant Registration • Section 201.3: Energy Market Offer Control Information • Section 201.5: Block Allocation • Section 201.6: Energy Market Pricing • Section 201.7: Dispatches

		<ul style="list-style-type: none"> • Section 202.3: Issuing Dispatches for Equal Prices • Section 202.5: Supply Surplus • Section 202.6: Adequacy of Supply • Section 202.7: Market Suspension or Limited Markets Operations • Section 203.1: Offers and Bids for Energy • Section 203.2: Issuing Dispatches for Energy • Section 203.3: Energy Restatements • Section 203.4: Delivery Requirements for Energy • Section 203.6: Market Requirements for Interchange Transactions • Section 204.2: Issuing Dispatches for Dispatch Down Service • Section 301.2: ISO Directives • Section 302.1: Real-Time Transmission Constraint Management • Section 303.1: Load Shed Service • Section 303.2: Available Transfer Capability • Section 303.3: Intertie Path Operations • Section 304.9: Wind and Solar Aggregated Generating Facilities • Section 306.3: Load Planned Outage Reporting • Section 306.4: Transmission Planned Outage Reporting • Section 306.5: Generation Outage Reporting • Section 501.10: Transmission Loss 	
--	--	--	--

		<p>Factors</p> <ul style="list-style-type: none"> • Section 502.8: SCADA Technical and Operating Requirements 	
2	<p>What ISO Rules should or should not be in effect for a fixed term and why or why not?</p>	<p>All ISO Rules associated with the Comprehensive Market Design (CMD) should be enshrined as permanent ISO Rules to mitigate regulatory uncertainty and risk, improve investor confidence, and reduce costs to consumers.</p> <p>The provisional ISO Rules form the basis of the CMD and should be drafted such that key aspects of the design cannot be changed independently without requiring review. Changes to certain key aspects of the design may also require changes to other aspects of capacity market and ISO Rules, further necessitating detailed review.</p> <p>However, we remain concerned that the AESO is proposing that entire ISO Rules be replaced in the future without fulsome review. This increases regulatory uncertainty about fundamental aspects of the capacity market and could chill private investment and forestall the development of a competitive capacity market, which could threaten reliability and increase costs to consumers if insufficient investment and development increase the frequency of scarcity conditions.</p> <p>With this in mind, the following six ISO Rules should be redrafted as permanent ISO Rules with provisions allowing variables that require periodic review to be updated without necessitating that the entire ISO Rule be reopened.</p> <ul style="list-style-type: none"> • Section 206.1: Qualification of Capacity • Section 206.3: Uniform Capacity Value Determination • Section 206.8: Obligation Period Performance Assessments • Section 207.1: Gross Minimum Procurement Volume • Section 207.2: Calculation of Net-CONE • Section 207.3: Shape of Demand Curve 	<p>Please see the AESO’s reply to TransAlta’s comment on subsection 9(2) in the AESO’s Replies to Proposed Section 206.1, <i>Qualification of Capacity</i> matrix.</p> <p>Regarding TransAlta’s comment on Proposed Section 207.1, <i>Gross Minimum Procurement Volume</i>, please see the AESO’s November 28, 2019 Letter of Notice – New Section 207.2 of the ISO Rules, <i>Gross Minimum Procurement Volume</i>.</p>

If these entire ISO Rules are periodically reopened to update changing variables, the CMD will lack the permanency necessary to remove regulatory uncertainty and enable private investment, which would increase investment risk and, in turn, raise costs to consumers. For example, a downward-sloping convex demand curve is a central feature of the CMD but has no permanency if the ISO Rule is only a fixed term rule. The impact of changing the shape of the demand curve from a downward-sloping convex shape to a vertical shape is significant and creates a high risk to private investment.

Therefore, TransAlta recommends that these proposed ISO Rules be redrafted to ensure that:

- Key features related to the CMD are enshrined in permanent ISO Rules; and
- Variables (i.e., specific parameters and numerical values) that are periodically updated be separated out such that the entire ISO Rule is not subject to change when these variables are updated.

TransAlta recommends that these ISO Rules be implemented permanently, but certain periodically changing variables related to uniform capacity value determination, assessing performance and penalties, and setting the demand curve should be separated out for update. These periodically changing variables could be defined and updated in the Consolidated Authoritative Document Glossary. TransAlta recommends the following specific changes to the three proposed ISO Rules:

- Section 206.1: Qualification of Capacity includes formulae for a composite index and escalation rate that feature hardcoded weights and factors to be applied to labour, materials, and turbine cost indices. These weights and factors will likely need to be periodically updated with changing trends in labour, materials, and turbine costs. Therefore, these hardcoded values should be replaced with terms that are defined (and updated) in the Consolidated Authoritative Document Glossary.
- Section 206.3: Uniform Capacity Value Determination refers to a 91% derate factor for load assets. However, 91% was an estimate of the derate factor based on a cross-jurisdictional review in the absence of historical data on load assets

		<p>within Alberta. Given the likelihood that this derate value will be periodically updated, the hardcoded numerical value should be replaced with the term “Load Asset Performance Factor” that is defined in the Consolidated Authoritative Document Glossary.</p> <ul style="list-style-type: none"> • Section 206.8: Obligation Period Performance Assessments refers to hardcoded values which are based on a number of assumptions including the maximum pool price of \$1,000/MWh and the proposed payment adjustment structure (which are only described in the proposed, non-authoritative information document accompanying the ISO Rule). Any changes to these assumptions are better accommodated if they are included as defined terms in the Consolidated Authoritative Document Glossary rather than embedded in the ISO Rule. • Section 207.1: Gross Minimum Procurement Volume refers to specific numerical procurement volumes as well as two appendices, 1 and 2, that support the gross minimum procurement volumes referred to in subsection 3. These two appendices contain periodically changing values, such as the numerical gross minimum procurement volume for the specific delivery year. Therefore, the numerical values in the Rule itself and the content of Appendices 1 and 2 should be filed as documents that support the regulatory filing but are not needed as appendices to the ISO Rule itself. • Section 207.2: Calculation of Net CONE proposes set variables such as Average Capacity and Forced Outage Rate in the Forward Product Energy formula, Heat Rate and Emissions Intensity in the Energy Market Expense formula, and reference to facilities in the Fort Saskatchewan area in the Transmission Losses formula that reflect the selection of reference technology for the first auctions. Additionally, as in Section 206.1: Qualification of Capacity, the composite index formula features hardcoded weights and factors. These formulae should be redrafted to allow variables to be changed easily as terms in the Consolidated Authoritative Document Glossary without the need to reopen the rule when the reference technology is reviewed in future periods. 	
--	--	---	--

		<ul style="list-style-type: none"> Section 207.3: Shape of Demand Curve references 0.8 in the Adjusted Net-CONE formula that reflects the translation of installed capacity to uniform capacity value for the aeroderivative reference technology. Rather than hard-code a number in the ISO Rule, the variable should be defined such that it can be easily updated as a term in the Consolidated Authoritative Document Glossary when the reference technology is reviewed. 	
3	<p>Whether you understand and agree with the objective of the ISO Rules and whether, in your view, the ISO Rules meet the objective or purpose.</p>	<p>TransAlta understands and agrees with the objective of the following proposed ISO Rules. These Rules in particular are absolutely critical to ensuring fair and competitive market outcomes that protect system reliability and ensure reasonable costs to consumers. However, we disagree that these proposed ISO Rules meet that objective, nor do they meet the purpose.</p> <p>Section 201.15: Delisting</p> <p>First, this Rule continues to fail to allow temporary economic delisting to occur in the base and first rebalancing auctions when new or other resources (e.g. incremental additions, demand response) could respond. This does not provide for the orderly exit and entry of resources and unjustly restricts an owner’s ability to make decisions about its assets and how they participate in the market. This feature therefore undermines the objectives of “fair treatment”, “system reliability”, and “reasonable cost” by unfairly limiting owners’ control over their assets, preventing adequate and timely response to capacity need and potentially increasing the frequency of high-priced scarcity events.</p> <p>In addition, the delisting requirements impose onerous and overly restrictive requirements on existing resources that effectively limit an owner’s ability to participate in the energy and ancillary services markets (if they so choose). This undermines the objectives of “system reliability” and “fair treatment”.</p> <p>Furthermore, the removal of existing Section 306.7: Mothball Outage Rule and replacement with Section 201.15 creates a technically deficient framework with no mechanism that would allow the orderly exit of a unit when market conditions</p>	<p>Please see the AESO’s replies in the AESO’s Replies to Proposed Section 201.15, <i>Delisting</i> matrix.</p>

	<p><i>change such that the unit is operating at an economic loss.</i> Section 306.7: Mothball Outage Rule was introduced in 2016 because there was no clear mechanism that allowed an owner to withdraw from the energy market when market conditions changed in real-time such that they were unable to operate profitably. Under such market conditions, the capacity of the asset is not needed to ensure system reliability. Therefore, consumers are not benefiting from the availability of the resource.</p> <p>Forcing resources to continue to offer into the energy and ancillary services markets at a loss, even if that resource has not been awarded a capacity supply obligation, will create new market risks for generation owners and therefore raises the cost of electricity to consumers without any associated reliability benefit. Furthermore, it infringes on an owner's property rights and threatens confiscatory action by the AESO that devalues private investment, <i>undermining the objectives of "reasonable cost" and "fair treatment"</i>.</p>	
	<p>Section 203.5: Energy Market Mitigation</p> <p>This Rule continues to <i>permit above-cost offers and is expected to increase energy prices</i> as compared to offers at the short run marginal cost (SRMC) of energy production. Economic withholding may lead to productive inefficiencies in the energy market because energy generated will not necessarily come from the resources with the lowest SRMC. Moreover, the expectation of higher energy prices will lead to an artificially reduced Net CONE, which would create an untenable investment environment and obstruct new resources from timely entering the market. Moreover, despite lower Net CONE, lower clearing prices in the capacity auction may not fully offset higher clearing prices in the energy market, depending on the marginal resource setting the capacity price. These dynamics would ultimately raise the costs of electricity service to consumers while simultaneously placing reliability at risk, <i>undermining the objectives of "system reliability" at "reasonable cost"</i>.</p> <p>Furthermore, the <i>framework established in the rule raises the risk of ex-post investigation by the Market Surveillance Administrator (MSA)</i>. The framework does nothing to address the MSA's concern that "offers at three times marginal cost could exceed marginal cost plus bona fide start-up and cycling costs for many assets",¹ but rather proposes a scheme that enables offers three and six times marginal cost at</p>	<p>Please see the AESO's reply to TransAlta's proposed new subsection in the AESO's Replies to Proposed Section 203.5, <i>Energy Market Mitigation</i> matrix.</p> <p>Please see AESO's reply to TransAlta's proposed new subsection in the AESO's Replies to Proposed Section 203.5, <i>Energy Market Mitigation</i> matrix. Further, the graduated scarcity approach in a competitive design creates a signal for flexibility and ramping, and maintains the real-time price as a signal of real-time scarcity. High prices provide important incentives for when energy is scarce, which</p>

		<p>supply cushion levels above 250MW when the MSA “does not support the relaxation of mitigation when the exercise of market power becomes easier.”² It is unacceptable to create a framework where the MSA could investigate and seek enforcement actions against market participants for engaging in offer behaviour permitted under the ISO Rules, as this <i>undermines the objective of “fair treatment”</i>.</p> <p>Additionally, the rule <i>could lead to poor estimation of asset-specific reference prices</i>. The rule proposes using variable operations and maintenance (VOM) costs as estimated by the AESO to calculate SRMC for a mitigated resource. Not only is this inconsistent with how VOM is estimated in Section 206.11: Energy and Ancillary Services Offset for Assets, but it also risks creating an unlevel playing field by over- or under-estimating the true VOM costs for a resource and in turn artificially inflating or deflating allowable energy market bids. This further <i>undermines the objective of “fair treatment.”</i></p>	<p>is not a market power matter.</p> <p>The Market Surveillance Administrator has advised the Commission that it intends to fully participate in the Proceeding 23757. Therefore, the AESO expects that this matter will be addressed.</p> <p>Please see AESO’s reply to TransAlta’s comment on subsection 3(6) in the AESO’s Replies to Proposed Section 203.5, <i>Energy Market Mitigation</i> matrix.</p>
		<p>ID: Mitigation of Prescribed Assets</p> <p>Subsections 203.5(3)-(5) of the rule related to hydro mitigation continues to be insufficient to ensure the prescribed assets provide optimal levels of system support and provincial and federal obligations to provide services such as flood control, fish protection, etc.</p> <p>First, <i>the current AS offer requirements cannot be physically achieved and are therefore technically deficient and undermine the “fair treatment” of the prescribed hydro resources</i>. The definition for Maximum Qualified Capability and Maximum Capability (MC) need to be changed so that hydro is physically capable of meeting the reserve offer requirements. The AESO stated at the November 1, 2018 webinar that the references to MC would be changed to Available Capability (AC). We want to ensure this AC definition also accounts for the need to run at minimum stable generation to offer certain active AS products. The definition of AC for the purposes of</p>	<p>Please see AESO’s reply to TransAlta’s comment on subsection 5(3) of the AESO’s Replies to Proposed Section 203.5, <i>Energy Market Mitigation</i> matrix.</p>

reserve offer requirements should be calculated as MC minus Acceptable Operational Reasons (AOR) minus Minimum Stable Generation (MSG). If the operating reserves offer requirements are greater than the physical capability to provide operating reserves, hydro will not meet the requirements leading to unnecessary energy market mitigation and inefficient dispatch of the hydro facilities.

Second, ***the proposed asset-specific reference price for non-thermal resources of 3 x 30 day rolling average pool prices (“RAPP”) is a poor estimation of hydro reference price.*** The RAPP reliance on the past 30 days of prices does not properly account for the inter-monthly and seasonal hydro cycle. The rule’s suggested multipliers to the RAPP are also arbitrary and seem to have been justified on the basis that they align the multipliers applied to reference pricing of other units. The rationale for the other units’ multiplier should not apply to a hydro unit. These aspects of the rule ***undermine the objective of “fair treatment”*** by undervaluing the opportunity cost of hydro.

Third, ***the ID has authoritative content and compliance obligations embedded in it that should be moved to Section 203.5: Energy Market Mitigation.*** The obligation for the AESO to “bid at a price sufficiently high such that it expects the market to clear at a strictly lower price level” is required for the existence of a competitive AS market. It is imperative this also be included in the rule.

Fourth, ***the AESO must create a process and timeline to determine when and how to change the AESO operating reserves market bid cap.*** This process will require further consultation from stakeholder prior to the implementation of the capacity market.

For this rule and overall system to work properly, ***prescribed assets must continue to have the ability to offer above the AESO offer cap to meet their new mandatory reserve offer obligations and not waste the valuable water resource that currently supports system reliability.*** We request the AESO confirm this in the rule with language: if the offers have been made in the operating reserves market, these shall be considered to have met the mandatory reserve offer requirements outlined in the ID 203.5: Mitigation of Prescribed Assets. Overall, the rule must ensure reserve offer requirements can be physically met and the ability to dynamically manage stored water through offers is not constrained.

		<p>Section 206.1: Qualification of Capacity:</p> <p>This Rule continues to include <i>overly onerous thresholds for refurbishments that could keep prevented coal-to-gas resources from qualifying as refurbished assets</i>. Coal-to-gas resources are needed to ensure system reliability and keep costs low for consumers, but these restrictive refurbishment thresholds dissuade low capital cost coal-to-gas conversions from being developed. This will drive out of the market low-cost, reliable capacity resources and result in higher costs to consumers, <i>undermining the objectives of “system reliability” and “reasonable cost”</i>.</p>	<p>Please see the AESO’s reply to TransAlta’s comment on subsection 6(1) in the AESO’s Replies to Proposed Section 206.1, <i>Qualification of Capacity</i> matrix.</p>
		<p>Section 206.3: Uniform Capacity Value Determination</p> <p>This Rule contemplates the <i>use of historical period data under an entirely different energy only market design to establish uniform capacity value determination</i>. We note that the AESO has included marginal improvements to this rule, including proposing to exclude certain hours from the set used to determine uniform capacity value that are unrepresentative of future resource performance. However, on the whole, the AESO’s approach continues to fail to capture the true reliability value of each capacity resource during the future delivery period as certain resources may be capable of more or less firm capability under the new market structure. This technical deficiency undermines the ability of the AESO to procure the right amount of capacity and ensure the right level of resource adequacy, <i>undermining the objective of “system reliability”</i>.</p>	<p>Please see AESO’s replies to TransAlta’s comments in the AESO’s replies to Proposed Section 206.3, <i>Uniform Capacity Value Determination</i>. Please also see section 3.1 of the CMD Final Rationale.</p>
		<p>Section 206.4: Offers and Bids for the Capacity Market</p> <p>This Rule <i>unnecessarily forces permanent retirement for refurbished assets that fail to clear the market on a second attempt</i> to submit refurbished asset offers. This arbitrary requirement is not reflected for other capacity resources. Furthermore, it</p>	<p>Please see the AESO’s reply to Capital Power’s comment on subsection 6(1) in the AESO’s Replies to Proposed Section 206.4, <i>Offers and Bids for Capacity</i>.</p>

		<p>threatens a significant and adverse impact to resource adequacy in the capacity and energy market that could increase the frequency of supply shortfalls and result in higher costs to consumers. While we note that the AESO has included a new provision in Section 206.1: Qualification of Capacity that nominally allows refurbished assets that had been permanently de-listed to qualify as new capacity and reenter the market, this addition is essentially meaningless due to the onerous capital investment threshold to qualify for this option. Therefore, this Rule continues to undermine the objectives of “fair treatment”, “system reliability”, and reasonable cost”.</p>	
		<p>Section 206.8: Obligation Period Performance Assessments; Section 206.9: Asset Substitution; and Section 206.10: Volume Reallocation</p> <p>Taken together, these Rules impose performance penalties and incentives for hours that are not resource adequacy shortfall events using an untested mechanism for availability assessment, with few penalty risk mitigation options. Regardless of the actual tightness of supply during a delivery year, the performance assessment scheme as proposed would require assessing availability over the 250 tightest supply cushion hours, even if those hours are not truly reflective of system conditions that might yield scarcity events and reliability risk. Availability penalties assessed during these hours would be unnecessary and would not support the goal of ensuring system reliability.</p> <p>These Rules also create an ill-defined and non-exchangeable resource adequacy product. By proposing needlessly complex asset-specific penalty rate calculations for delivery and availability, the AESO is essentially creating different financial consequences for same resource adequacy performance, raising significant fairness concerns. The AESO is also defining a nonfungible capacity product that will impede secondary market transactions such as asset substitution and ex post volume reallocation, which can lead to higher costs to consumers.</p> <p>The framework for asset substitution is also fundamentally flawed, as it does not allow asset substitution for availability assessments. The AESO’s decision to remove this as an option was made without justification and ignored the benefits asset substitution provides to consumers and generators. This decision significantly</p>	<p>Regarding TransAlta’s comments in respect of the assessment of availability over the 250 tightest supply cushion hours, please see sections 8.2.2 – 8.2.3 of the CMD Final Rationale.</p> <p>Regarding TransAlta’s comment with respect to the asset-specific penalty rate, the AESO expects the majority of capacity to clear in the base auction and, as a result, expects that most assets will have similar penalty rates based on the formula in subsection 6(1) of Proposed Section 206.8, <i>Obligation Period Performance Assessments</i>. However, considering participation in the rebalancing auctions, the AESO considers that it is unfair for an asset with a lower capacity award to have the same penalty rate as an asset with a high capacity award. Please also see the AESO’s reply to TransAlta’s comments on subsection 6(1) in the AESO’s Replies to Proposed Section 206.8, <i>Obligation Period Performance Assessments</i> matrix.</p> <p>Regarding TransAlta’s comments with respect to the applicability of asset substitution and volume reallocation to availability assessments, please see the AESO’s reply to TransAlta’s comments on subsection 7(2) in the AESO’s Replies to Proposed Section 206.8, <i>Obligation Period Performance Assessments</i> matrix and subsection 3(1) in the AESO’s Replies to Proposed Section 206.9, <i>Asset Substitution Matrix</i>.</p>

	<p>undermined the progress made throughout the CMD process with respect to risk management, creates unmitigable penalty risk, and reduces incentives for market participants to engage in appropriate risk management to minimize supply scarcity and resource adequacy events. Furthermore, the requirements for asset substitution for internal capacity resource performance are overly restrictive, and importantly, inconsistent with the requirements for external resources, which raises additional fairness concerns.</p> <p>The ability for market participants to mitigate availability penalty risk is further hampered by the <i>inapplicability of ex-post volume reallocation to availability assessments</i>. We remain unclear why the AESO has applied ex-post volume reallocation to performance assessment as a reasonable risk management mechanism, but not to availability assessment. This disconnect further reduces market participants' ability to manage penalty risk and will increase penalty premiums that are priced into capacity offers.</p> <p>Therefore, the imposition of unnecessary and asset-specific penalty risks through these Rules is unfair and will raise costs for consumers, making the penalty framework <i>inconsistent with both the objectives of "fair treatment" and ensuring "reasonable cost" to consumers</i>.</p>	
	<p>Section 206.11: Energy and Ancillary Services Offset for Assets; Section 206.7: Capacity Market Mitigation; and Section 207.2: Calculation of Net-CONE</p> <p>These Rules continue to propose to calculate the Energy Offset for Net-CONE and Energy and Ancillary Services Offset (EAS Offset) for existing resource offers using a forwards-based approach that is justified by administrative simplicity and ease of calculation rather than a true estimation of expected market conditions, pricing, and production. As described in further detail below, the AESO's proposed approach to calculating the Energy Offset and EAS Offset is technically deficient and would yield unfair treatment for both new and existing capacity resources.</p> <p>The Energy Offset and EAS Offset calculations in Section 206.11, Section 206.7, and Section 207.2 are technically deficient because the calculations ignore:</p>	<p>Please see the AESO's reply to TransAlta's comments on the following provisions:</p> <ul style="list-style-type: none"> • subsections 2 and 3(1) of Proposed Section 206.11, <i>Energy and Ancillary Services Offset for Assets</i>; and • subsection 5(1) of Proposed Section 207.2, <i>Calculation of Net-CONE</i>.

		<ul style="list-style-type: none"> • the lack of liquidity in the forward market and assume, without any basis, that forward prices are truly indicative of future real-time prices in a market transition, which would lead to unrealistic and overstated energy revenue estimates that result in artificially suppressed Net-CONE estimates and asset-specific capacity offers, as well as overstated earnings in temporary economic delist reviews; • the potential for manipulation of the forward market due to the low volume of trades, and the potential distortionary effect of such manipulation on competitive outcomes; • the important operational characteristics for new and existing assets in the Alberta energy market, such as the likelihood of in-merit rather than baseload operations – for example, a peaker should not be expected to run and earn an energy margin every hour of the year. <p>Furthermore, the Energy Offset and EAS Offset calculations are incomplete because they do not account for:</p> <ul style="list-style-type: none"> • the range of operating costs that will affect the energy margin of a resource – for example, the calculations do not include tax expenses, hedging costs, nor consider the possibility and magnitude of financial performance penalties; and • operations and costs across the useful life of a resource – for example, the calculation does not reflect planned outages (and associated costs), which no resource can avoid in perpetuity. <p>By failing to account for these critical considerations, the AESO is overestimating the Energy Offset and underestimating the Net-CONE value, thereby distorting the investment signal for existing and new capacity. This could threaten system reliability by failing to retain existing capacity and attract new capacity when needed.</p> <p>Furthermore, the deficiencies in the EAS Offset would also put downward pressure on asset specific capacity offers and force artificially low offers for existing capacity</p>	
--	--	---	--

resources that undermine the opportunity to earn a fair return on and of invested capital, which in turn could result in premature retirement.

Distorting the investment signal and forcing artificially low offers from existing capacity resources undermines the objectives of “fair treatment” and “system reliability”.

4 How, in your view, the proposed ISO Rules affect the performance of the capacity market and the electricity market.

Table 1: Substantive Capacity Market ISO Rules

Component of the Market Design	Related Provisional ISO Rules	How it affects the performance of the capacity market and electricity market
Procurement Volume	Section 207.1: Procurement Volume	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 2 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
Cost of New Entry (CONE)	Section 207.2: Calculation of Net-CONE	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 2, 3, and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
Demand Curve	Section 207.3: Shape of Demand Curve	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 2 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
Capacity Value Determination	Section 103.13: Request for Reconsideration	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes.
	Section 206.2: Self-Supply Configuration	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 6, 7, and 8 for detail on the deficiencies of the ISO Rule and our proposed solutions.
	Section 206.3: Uniform Capacity	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 2, 3, and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.

Where TransAlta’s comments refer to specific questions within this matrix, please refer to the AESO’s replies to those questions.

		Value Determination	
	Delisting	Section 201.15: Delisting	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 3 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
		Section 306.7: Mothball Outage Reporting	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 6, and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
	Penalties, Incentives and Performance Management	Section 206.8: Obligation Period Performance Assessments	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 2, 3, and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
	Risk Management	Section 206.1: Qualification of Capacity	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 2, 3, 7, and 9 for detail on the deficiencies of the ISO Rule and our proposed solutions.
		Section 206.9: Asset Substitution	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 3 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
		Section 206.10: Volume Reallocation	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 3 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
	Capacity Market Mitigation	Section 206.7: Capacity Market Mitigation	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 3 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
		Section 206.11:	Does not support the effective performance of the capacity market and electricity market – please see our

			Energy and Ancillary Services Offset for Assets	responses to Questions 3 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.	
		Energy Market Mitigation	Section 203.5: Energy Market Mitigation	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 3 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.	
		Mitigating Impacts of Subsidized Competition	No related ISO Rules proposed.	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 6, and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.	
		Preferential Records Sharing	Section 201.10: Capacity Market Participant Registration	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes.	
			Section 201.11: Appointment of an Agent for the Capacity Market	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes.	
			Section 201.12: Capacity Market Block Allocation	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 6 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.	
			Section 206.4: Offers and Bids for the Capacity Market	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 3, 6, 7, and 9 for detail on the deficiencies of the ISO Rule and our proposed solutions.	

Table 2 below includes a list of components, and related ISO Rules, that describe the mechanics of the capacity auction.

Component of the Market Design	Related Provisional ISO Rules	How it affects the performance of the capacity market and electricity market
Capacity Auction Clearing	Section 201.13: Capacity Market Clearing	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 6 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
Development Milestones	Section 206.5: Forward Period Milestone Requirements	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 6 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.
Auction Format	Section 206.6: Base Auction and Rebalancing Auction	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes.
Capacity Market Offer Control Reporting	Section 201.14: Capacity Market Offer Control Information	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 6 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.

Table 3: Capacity Market Rules that do not require review in the six-month process

Component of the Market	Related Provisional	How it affects the performance of the capacity market and electricity market
--------------------------------	----------------------------	---

		Design	ISO Rules		
		Capacity Payments, Security Requirements and Settlement	Section 103.9: Capacity Market Financial Settlement	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta's comment matrix submission made on September 28, 2018).	
	Section 103.10: Capacity Award Calculation		Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta's comment matrix submission made on August 31, 2018).		
	Section 103.11: Capacity Market Financial Security Requirements		Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta's comment matrix submission made on September 28, 2018).		
		Outage Reporting and Cancellation	Section 306.8: Load Asset with a Capacity Commitment Outage Reporting and Coordination	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta's comment matrix submission made on September 28, 2018).	
			Section 306.9: Outage Cancellation Procedures	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta's comment matrix submission made on September 28, 2018).	
		Energy Market Rule Amendments	Section 103.2: Dispute	Generally supports the effective performance of the capacity market and electricity market.	

			Resolution	
			Section 103.3: Financial Security Requirements	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta's comment matrix submission made on September 28, 2018).
			Section 201.1: Pool Participant Registrations	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta's comment matrix submission made on September 28, 2018).
			Section 201.3: Energy Market Offer Control Information	Generally supports the effective performance of the electricity market (with minor recommended changes - see TransAlta's comment matrix submission made on September 28, 2018), but is unrelated to the performance of the capacity market.
			Section 201.5: Block Allocation	Generally supports the effective performance of the electricity market, but is unrelated to the performance of the capacity market.
			Section 201.6: Energy Market Pricing	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta's comment matrix submission made on September 28, 2018).
			Section 201.7: Dispatches	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta's comment matrix submission made on September 28, 2018).
			Section 202.3: Issuing Dispatches for Equal Prices	Generally supports the effective performance of the capacity market and electricity market.
			Section 202.5:	Generally supports the effective performance of the capacity market and electricity market, with minor

			Supply Surplus	recommended changes (see TransAlta’s comment matrix submission made on September 28, 2018).	
			Section 202.6: Adequacy of Supply	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta’s comment matrix submission made on September 28, 2018).	
			Section 202.7: Market Suspension or Limited Markets Operations	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta’s comment matrix submission made on August 31, 2018).	
			Section 203.1: Offers and Bids for Energy	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta’s comment matrix submission made on September 28, 2018).	
			Section 203.2: Issuing Dispatches for Energy	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta’s comment matrix submission made on September 28, 2018).	
			Section 203.3: Energy Restatements	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta’s comment matrix submission made on September 28, 2018).	
			Section 203.4: Delivery Requirements for Energy	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta’s comment matrix submission made on September 28, 2018).	
			Section 203.6: Market Requirements for	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta’s comment matrix submission made on September 28, 2018).	

			Interchange Transactions	
			Section 204.2: Issuing Dispatches for Dispatch Down Service	Generally supports the effective performance of the electricity market, but is unrelated to the performance of the capacity market.
			Section 301.2: ISO Directives	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes.
			Section 302.1: Real-Time Transmission Constraint Management	Generally supports the effective performance of the capacity market and electricity market, with minor recommended changes (see TransAlta's comment matrix submission made on August 31, 2018).
			Section 303.1: Load Shed Service	Generally supports the effective performance of the capacity market and electricity market.
			Section 303.2: Available Transfer Capability	Generally supports the effective performance of the capacity market and electricity market.
			Section 303.3: Intertie Path Operations	Generally supports the effective performance of the capacity market and electricity market.
			Section 304.9: Wind and Solar Aggregated Generating Facilities	Generally supports the effective performance of the electricity market (with minor recommended changes - see TransAlta's comment matrix submission made on September 28, 2018), but is unrelated to the performance of the capacity market.
			Section	Generally supports the effective performance of the

			306.3: Load Planned Outage Reporting	capacity market and electricity market.	
			Section 306.4: Transmission Planned Outage Reporting	Generally supports the effective performance of the electricity market (with minor recommended changes - see TransAlta's comment matrix submission made on September 28, 2018), but is unrelated to the performance of the capacity market.	
			Section 306.5: Generation Outage Reporting	Does not support the effective performance of the capacity market and electricity market – please see our responses to Questions 6 and 7 for detail on the deficiencies of the ISO Rule and our proposed solutions.	
			Section 501.10: Transmission Loss Factors	Generally supports the effective performance of the capacity market and electricity market.	
			Section 502.8: SCADA Technical and Operating Requirements	Generally supports the effective performance of the capacity market and electricity market.	
5	Your views on any analysis conducted or commissioned by the AESO supporting the ISO Rule.	<p>The analyses provided by the AESO to date have been (1) insufficient in supporting the proposed holistic market design and (2) unsupportive of changes the AESO has made to individual design features throughout the CMD and rule drafting process. This reduces confidence in the overall design of the market and risks implementing a market that is technically insufficient and fails to meet key design objectives.</p> <p>TransAlta is only aware of the analysis included in the AESO's Comprehensive Market Design (CMD) proposals and rationale documents as well as the materials that have</p>	<p>The AESO has presented extensive materials on individual design decisions and integrated capacity and energy market design. These materials have been provided in the AESO's Comprehensive Market Design (CMD) proposals and rationale documents as well as the materials that have been shared in the Straw Alberta Market (SAM) and CMD working groups.</p> <p>The AESO's integrated modelling of the capacity and energy markets was initially released in January 2018, as part of the CMD rationale. The integrated capacity and energy revenue sufficiency modelling</p>		

been shared in the Straw Alberta Market (SAM) and CMD working groups. The analyses provided have mainly been presentations of results with limited access to the data, assumptions, or models used in the analysis, which are now likely largely outdated given the changes that have been made to the proposed market framework over the course of several CMD and rule drafts. As such, we and other market participants have not been able to adequately test, validate, nor confirm the results and conclusions.

We have repeatedly asked for more comprehensive, integrated modeling and analysis of both capacity and energy market impacts. In TransAlta’s Technical Working Group Comprehensive Market Design Stakeholder Comment Matrix submitted on February 27, 2018, we stated:

[W]e would like to flag some issues that we have identified related to integrated capacity and energy modeling that was performed for CMD1. In particular, we are concerned that the modeling has not yet shown that the market design will be effective in retaining sufficient generation over time to yield stable prices and reliable service for consumers.

1. **Too much is assumed:** The AESO states that the markets will be so “integrated” as to ensure that insufficient energy market profits will be recouped from the capacity market through self-correction. This statement suggests that the AESO has perhaps has not captured the reality that energy and capacity markets are integrated only through expectations of what will happen in the energy market. In reality, there is limited opportunity for self-correction given that capacity auctions occur approximately three years before energy market deliveries begin for an obligation period. Additionally, there is no guarantee that any shortfalls in revenues from the energy market in one period would be recouped in future (and unrelated) capacity market periods, as economic losses from prior years are not recognized as part of net go forward fixed costs that existing generators are allowed to bid into the capacity market.

For example, if a generator loses money in 2025 based on the combination of a low capacity price that was set in a 2022 auction combined with unexpectedly low energy prices in 2025, that generator is not permitted to recover a true-up

considering design decisions was included in CMD 1. After CMD Final was released in June 2018, the AESO presented a revised material that incorporated final design elements and refined modeling assumptions in August 2018.

In both instances, the AESO simulated capacity and energy market conditions for the proposed Alberta capacity market under forecast future scenarios and assessed the revenue sufficiency of the capacity market design. The AESO demonstrated that the Alberta market design as proposed in CMD Final, and captured in the modeling would attract investment while ensuring resource adequacy to meet the Government of Alberta’s resource adequacy standard.

Regarding TransAlta’s comment on the two layers modelling, the AESO confirms that energy market modelling applied a two layer approach in the revenue sufficiency modelling. The AESO considers that its approach did not introduce averaging or errors that would be of a magnitude significant enough to impact the conclusions of the modeling in comparison to calculating directly from the Aurora run.

Regarding TransAlta’s comment on net-to-grid treatment, the AESO considers that the level of detail captured in the integrated revenue sufficiency modelling appropriately captured the directional conclusions it was striving to confirm. The AESO considers that its approach to modeling the system as gross and not specifically including the capacity market performance framework or the ancillary services market would not be of a magnitude such that considerations for those factors would impact the conclusions of the modeling.

Regarding TransAlta’s comment on the three scenarios, the AESO considered further scenarios testing natural gas price and carbon price variations in the second iteration of the integrated modeling. Please see the AESO’s July 27, 2018 presentation first titled “Resource Adequacy Modeling update” (PDF p. 58-59 of 62) posted on the AESO website. The modeling confirmed that combined energy and capacity prices would be more stable than prices have historically been in an energy-only market.

		<p>outside of the market. Nor can it roll forward losses and expect to recoup them in the next capacity auction. If the generator did try to include past losses as part of its offer in the next capacity auction its offer was not mitigated, its offer price would have to rise, which would increase the risk that the generator would not clear the auction due to competition from other resources. The AESO has overlooked this risk in its modeling.</p> <p>2. The models are not dynamic: The AESO’s approach is not endogenously determining expected new entry and investment decisions. Rather, the AESO administratively imposes a specific amount and type of new entry and then models market outcomes assuming that the entry would occur as specified. Based on this setup, the AESO cannot conclude whether the entry is in fact going to (or is even likely to) happen. The modeling also does not appear to consider economic retirements. For these reasons, we would describe the modeling as “static”, and it is not possible to determine the likelihood that the market design will deliver the investment needed to provide reliable service to consumers. Given the overarching objective to design and operate a market that delivers reliable service, we believe AESO’s modeling approach is incomplete. Therefore, the AESO should consider refining the modeling tools so that they can project when and how much investment would be triggered and whether there would be any economic retirements in order to determine the expected effectiveness of the market design in meeting reliability targets.</p> <p>There are too many unnecessary layers: Regarding the performance scheme, a back-cast analysis was discussed at the Design Working Group sessions on February 13, 2018 and April 4, 2018.</p> <p>3. The AESO appears to have implemented two layers of energy market modeling. The first layer consists of Aurora-based simulations, while the second layer is an Excel-based dispatch tool to assess the profitability of new entrants. We do not understand why the profitability of the new entrants cannot be calculated directly from the Aurora runs, and we are concerned that the Excel-based analysis layer introduces unnecessary averaging (at best) or errors in estimating the running regime and profits of generators.</p>	<p>Regarding TransAlta’s request for the information with respect to the resource adequacy model, during the capacity market design process the AESO was transparent with its resource adequacy modelling assumptions with the Adequacy and Demand Curve Working Group in 2017 and the Demand Curve Working Group in 2018. Through the course of consultations, the AESO provided the working groups with load forecasting and probabilistic modeling information and summary data, all of which is available on the AESO’s website under the Adequacy and Demand Curve Working Group and the Demand Curve Working Group materials.</p> <p>Regarding the performance scheme, a back-cast analysis was discussed at the Design Working Group sessions on February 13, 2018 and April 4, 2018.</p> <p>Regarding TransAlta’s comments with respect to the use of 250 tight supply cushion hours and supporting materials, the AESO conducted various analyses supporting the approach throughout the CMD design process. The AESO initially proposed calculating the capacity of assets based on 100 tight supply cushion hours per year, and then increased this to 250 in response to stakeholder feedback indicating concerns that uniform capacity value calculations utilizing only 100 hours created excessive risk for market participants. The AESO determined that calculating the uniform capacity value using 250 tight supply cushion hours increased the stability of uniform capacity values while concurrently decreasing risk for investors and maintaining a consistent approach to measuring reliability. The AESO has determined increasing the number of hours used in the UCAP calculation beyond 250 hours would not meet the intent of the design or measuring capacity during system tightness. For the period from 2011 to 2016, inclusive, the AESO determined that the average supply cushion during the 250 tightest hours was approximately 400MW or about the size of the large coal units. A loss of one of these units would result in the dispatch of all remaining offers in the energy market merit order.</p> <p>Regarding TransAlta’s comments with respect to the reduction in the</p>
--	--	---	---

		<p>4. Missing analysis of key market elements and CMD components: Several of the key elements of the CMD are not being modeled in the capacity market. The AESO has stated that it has not considered the implications of its proposed capacity performance framework. Moreover, the AESO has not properly modeled UCAP in the capacity market – it assumed that thermal assets’ UCAP was equal to 100% of the installed capacity, but the CMD dictates that UCAP would be derated for availability of such resources in the top 100 tightest hours. Furthermore, the AESO has not tested net-to-grid treatment, although the CMD opens net-to-grid treatment as an option for cogeneration. Finally, ancillary services revenues were not considered despite the fact that such revenues are crucial for signaling and remunerating desired flexibility and are an important source of revenues for certain existing assets.</p> <p>5. Possible future market conditions and other CMD options not tested: The AESO claims that the results of this modeling supports the conclusion that the proposed market design will yield stable prices, but results from three scenarios are not sufficient to make this conclusion. For example, the AESO has not tested what could happen with lower gas prices or lower demand. In addition, in order to be able to truly say that the CMD supports stable prices, the AESO should have tested alternative CMD design elements. For example, considering varying market power mitigation schemes, UCAP approaches, or capacity performance schemes would help identify the market design package that indeed delivers the most stable prices.</p> <p>The benefits of an integrated modeling approach are unquestionable, but before conclusions can be drawn, the modeling must be improved. If we have misinterpreted the integrated modeling, we request that the AESO respond with more detailed documentation and explanation. Many stakeholders (including TransAlta) would appreciate seeing the additional details around the AESO’s inputs and outputs. We also urge the AESO to consider working with industry through the Technical Working group to refine the integrated modeling analysis. A more collaborative process will also help educate various stakeholders on the details on the market design that we all working together to implement.</p>	<p>forced outage rate of the reference technology from 3% to 2.5%, please see the AESO’s reply to Capital Power’s comments on subsection 5(2) in the AESO’s Replies to Proposed Section 207.2, <i>Gross Minimum Procurement Volume</i> matrix.</p>
--	--	--	--

We also request that the following information be provided with respect to resource adequacy modeling:

1. Annual AIL and AIES energy load and peak demand forecasts used and source documents.
2. 8760 hours per year hourly load profiles used indicating if this is AIL load, AIES load or some other quantity and source documents for forecast.
3. Assumptions around price responsiveness of load if any
4. The assumed Maximum Continuous Ratings (MCR) of all generators shown on an hourly basis if these change.
5. The assumptions on hourly available transmission capability and import capability on all tielines
6. The assumptions on hourly wind generation profiles for all wind generators
7. The assumptions on annual wind generation capacity factors
8. The assumptions on hourly solar generation profiles for all solar installations
9. The assumptions on annual solar generation capacity factors
10. The assumed availability of all generators broken down to show unavailability due to planned maintenance and unavailability due to forced and unplanned maintenance outages.
11. Assumptions on any derates to all generators including seasonal derates.
12. Assumed Forced and unplanned Maintenance Outage Rates (F+MOR)
13. Assumptions on Mean Time To Repair (MTTR) for all generators

		<p>following a forced or unplanned maintenance outage.</p> <p>14. Assumptions on hourly hydro capability to provide energy and regulating, spinning, and supplemental reserves broken down by river system for Bow, Bighorn, and Brazeau river systems.</p> <p>15. Assumptions on annual hydro energy production at the Bow, Bighorn, and Brazeau river systems</p> <p>16. Assumptions on hourly hydro energy production from run of river and irrigation hydro systems</p> <p>17. Assumptions on capability to provide regulating reserves, spinning reserves and supplemental reserves over each of the tielines</p> <p>18. Assumptions on capability to provide regulating reserves, spinning reserves and supplemental reserves for each generator on the system.</p> <p>19. Assumptions if any transmission congestion is anticipated.</p> <p>20. Assumptions on the hourly modelling of cogeneration by facility – such as are the co-generator and the onsite load both modelled or is the co-generation modelled as net to grid</p> <p>21. Assumptions on minimum stable loading for all generators and start times for all generators</p> <p>22. Assumptions on ramp rates for all generators.</p> <p>23. Assumed planned maintenance schedules for all generators</p> <p>24. Assumed generator additions and retirements and timing specifying type of generator MCR, F+MOR, derates, start times, minimum stable operating levels, ramp rates.</p> <p>25. Assumed planned maintenance schedules for all tielines</p> <p>26. Any assumptions around increased tieline capability.</p> <p>27. Assumptions for modelling any storage facilities that are included.</p>	
--	--	--	--

To date, we have yet to see any integrated analysis or modeling produced or commissioned by the AESO that could address our request and concerns and provide confidence in the market design as proposed. Rather, we have only been provided ad-hoc analyses conducted on a narrower set of design issues or elements, most of which have not been updated as the market framework has been adjusted. As one of several examples, the AESO has not done any quantitative analysis on a backcast or forecast basis to demonstrate the implementation and value of the capacity performance penalty scheme.

We are further concerned at the changes that the AESO has proposed to several important market design features throughout the CMD and rule drafting process without any substantive supporting analysis or modeling. For example:

- From CMD2 to CMD4, the AESO introduced a graduated scarcity pricing scheme that allows large generators to bid up to 6x SRMC when the supply cushion is between 250 to 1,000MW, but provided no comprehensive analysis of why this graduated pricing scheme was necessary for system reliability or its potential impact to market clearing prices.
- In CMD4, the AESO also changed the number of hours used for uniform capacity value determination and availability assessment to the tightest 250 supply cushion hours (from the tightest 100 hours) and removed the applicability of asset substitution to availability assessment. Like the graduated pricing scheme, these changes were implemented without sufficient modeling or analysis.
- In this rule set, the AESO changed the forced outage rate as defined in Section 207.2: Calculation of Net-CONE, from 3.0% to 2.5%, with no explanation given. If carried forward, this change would, all else equal, increase Energy Offset estimates, decreasing Net-CONE and discouraging investment in the Alberta market.

These unilateral, unsubstantiated, and arbitrary changes reflect the general lack of meaningful stakeholder consultation and engagement throughout the market design process and erode stakeholder faith and the market. This process is

		<p>counterproductive to the AESO’s goals of promoting a fair, efficient, and reliable market.</p> <p>In sum, the analyses performed and presented by the AESO to support these ISO Rules have been insufficient in content, method, and transparency. Therefore, we and other market participants have not been able to rely on the AESO’s analyses to confirm whether the ISO Rules as a whole create a market design that will treat market participants fairly, attract sufficient investment to ensure reliability, and provide reasonable costs to consumers.</p>	
6	<p>Whether you agree with the ISO rules taken together in light of the principle of a fair, efficient and openly competitive market.</p>	<p>In addition to the fairness and competition issues raised on the critical ISO Rules discussed in our response to Question 3 above, TransAlta is deeply concerned with several additional elements of the capacity market design that we believe do not support a Fair, Efficient and Openly Competitive (FEOC) market.</p> <p>Section 201.12: Capacity Market Block Allocation, Section 201.14: Capacity Market Offer Control Information, and Section 206.4: Offers and Bids for the Capacity Market</p> <p>These Rules would require capacity offers to be shared by joint owners, creating the need for preferential sharing of commercially sensitive records for joint ownership arrangements. Requiring the sharing of such sensitive documents could threaten the development of a competitive market, which in turn would offend FEOC.</p>	<p>Please see the AESO’s reply to TransAlta’s comments on subsection 3(2) in the AESO’s Replies to Proposed Section 201.14, <i>Capacity Market Offer Control Information</i> matrix.</p>

		<p>Section 201.13: Capacity Market Clearing</p> <p>This Rule contemplates an uplift mechanism that interferes with the ability for the market to provide a transparent and efficient market price in a transmission constrained area. Furthermore, the uplift mechanism discriminates against higher and lower priced units in a constrained area and provides adverse incentives to manipulate and game the market. Additionally, this Rule is not sufficiently clear as to how multiple equivalent inflexible blocks would be randomly cleared without any bias, and there is no system of checks and balances in place to verify the process. Such lack of transparency could limit competition in the market.</p>	<p>Please see the AESO’s reply to TransAlta’s comments on subsection 4(6) in the AESO’s Replies to Proposed Section 201.13, <i>Capacity Market Clearing</i> matrix.</p>
		<p>Section 206.2: Self Supply Configurations</p> <p>This Rule could create a unlevel playing field between self-suppliers and other capacity resource owners if self-supply load requirements are not properly accounted for in the uniform capacity value assigned to the self-supply resource and/or cost allocation to the self-supply load such that the self-supplier does not pay their fair share of capacity costs. Thus far, the AESO has not provided sufficient evidence to reassure market participants that other capacity resource owners will be treated fairly vis-à-vis self-supply load.</p>	<p>Please see the AESO’s reply to TransAlta’s comment on Proposed Section 206, <i>Self-Supply Configurations</i> in Item #7 below.</p>
		<p>Section 206.5: Forward Period Milestone Assessment</p> <p>This Rule continues to allow the AESO unilateral discretion to establish unreasonable forward period milestones that could result in a market participant being required to buy back capacity volumes in rebalancing auctions. Dictating unrealistic target completion dates and forcing unnecessary buy backs would be overly punitive and unfair, and would limit robust competition in the market.</p>	<p>Please see the AESO’s Replies to Proposed Section 206.5, <i>Forward Period Milestone Assessment</i> matrix.</p>

		<p>Section 306.5: Generation Outage Reporting</p> <p>This Rule requires the submission of highly speculative and uncertain planned outage schedules 48 months in advance. This uncertainty could be viewed as deliberately misleading with the context of FEOC and/or inadvertently result in market participants incorrectly assuming there will be supply tightness and shortfalls in the future, when more realistic outage scheduling and reporting would result in a different conclusion.</p>	<p>For clarity, the rule does not require pool participants to submit “speculative and uncertain planned outage schedules”. The requirement to submit outage information 48 months in advance supports FEOC as it: (1) allows the ISO to meet its FEOC obligation to make outage records available to the public; and (2) ensures market participants can trade on information after the outage information is made available to the public. The revision to 48 months of outage reporting will ensure capacity market participants have visibility of outage information for an obligation period when participating in a base auction.</p>
		<p>Section 306.7: Mothball Outage Reporting</p> <p>The proposed removal of this rule raises concerns about market and economic efficiency and the orderly exit and re-entry into the market in response to real-time market conditions.</p>	<p>Please see the AESO’s responses to TransAlta’s comments in the AESO Replies to Proposed Section 201.15, <i>Delisting</i> matrix.</p>
		<p>Mitigating Impacts of Subsidized Generation</p> <p>The AESO’s proposed market design does not adequately address the market distortions created by out-of-market procurement and competition from subsidized Renewable Electricity Program (REP) resources. While the market design does not allow REP resources that clear in rounds 1 through 3 to participate in the capacity market, the AESO will subtract REP capacity from the resource adequacy procurement target, which will distort the investment signal by reducing market clearing prices. Furthermore, the lack of a mechanism such as a minimum offer price rule (MOPR) that is applied to subsidized resources does not support a fair, efficient and openly competitive market because it effectively accommodates out-of-market actions that undermine private investment in the market. Such a market design does not support the development of a competitive capacity market and encourages missing money issues rather than reducing or mitigating them.</p>	<p>Please see section 2.1.4 of the CMD Final Rationale for why resources selected for the Renewable Electricity Program (REP) rounds 1, 2 and 3 are excluded from the capacity market. The AESO considers the capacity contribution of REP resources in the resource adequacy model and later subtracts it in the determination of the net minimum procurement volume in order to avoid over procurement of capacity.</p> <p>As part of the Market Roadmap, the AESO has committed to working with stakeholders in 2019 to explore potential distortionary impacts of subsidized resources on the capacity market, as well as possible alternatives for mitigating identified impacts.</p>

7	Whether you would suggest any alternatives to the ISO Rules.	<p>TransAlta proposes the following ISO Rule changes in order to address the significant concerns we have raised in our responses to Questions 2, 3, 6, 8, and 9.</p> <p>Capacity market demand curve, resource adequacy procurement and the capacity value determination:</p>	
		<ul style="list-style-type: none"> ○ Section 206.1: Qualification of Capacity: The AESO should: <ul style="list-style-type: none"> ○ Explicitly include coal-to-gas conversions as a criterion for qualifying an asset as refurbished capacity and lower the capital investment threshold to qualify as refurbished capacity to \$80/kW; and ○ Remove from rule language hard-coded numerical values that will be changed in the future and instead reference the names of defined terms – in this case, the AESO should change the hard-coded weights and factors in the composite index and escalation rate formulae to terms that are defined and updated in the Consolidated Authoritative Document Glossary. 	<p>Please see the AESO’s reply to TransAlta’s comments on subsections 6(1) and 9(2) in the AESO’s Replies to Proposed Section 206.1, <i>Qualification of Capacity</i> matrix.</p>
		<ul style="list-style-type: none"> ○ Section 206.2: Self-Supply Configuration: The AESO should provide illustrative examples of costs, incentives and penalties for self-suppliers in net-to-grid and gross-to-grid configurations to demonstrate that the treatment of these resources is the same as treatment of other capacity resources and assist in analysis of self-suppliers’ contributions to system loads. 	<p>In the early stages of the capacity market design process, the AESO discussed illustrative examples relating to the ability to self-supply capacity in the Alberta market with the Procurement and Hedging work group. These examples were based on a coincident peak cost allocation and the UK model for performance. The examples demonstrated that there would be no financial advantage in the choice to self-supply and that the treatment of self-supply resources was aligned with the treatment of other capacity resources. Please see the Procurement and Hedging work group materials from on the AESO website.</p> <p>The cost allocation model for the Alberta capacity market is under development by the AESO in consultation with stakeholders, and the AESO is of the view that it would be premature to develop illustrative examples.</p>

		<ul style="list-style-type: none"> ○ Section 206.3: Uniform Capacity Value Determination: To ensure that the hours used to determine Uniform Capacity Value are truly reflective of resource contribution to reliability and prevent this Rule from needing to be reopened to update periodically changing variables, the AESO should: <ul style="list-style-type: none"> ○ Expand the criteria for accepting a request to vary uniform capacity values to include forced and planned outages captured in the historical data that are unlikely to occur in the obligation period; ○ Remove hours in which the entire system is impacted by limited markets operations, or act of god; ○ Ensure that an asset's uniform capacity value reflects the asset's highest availability for equivalent supply cushion hours rather than availability that is arbitrarily selected based on recency; and ○ Remove from rule language hard-coded numerical values that will be changed in the future and instead reference the names of defined terms – in this case, the AESO should change 91% to Load Asset Performance Factor. 	<p>Regarding the first and third sub-bullet in TransAlta's comments, please see the AESO's replies to TransAlta's comments on subsection 11(1) and 3(1), respectively, in the AESO's Replies to Proposed Section 206.3, <i>Uniform Capacity Value Determination</i> matrix.</p> <p>Regarding the second sub- bullet in TransAlta's comments, please see subsection 4(1)(b) of Proposed Section 206.3, <i>Uniform Capacity Value Determination</i>.</p> <p>Regarding the last sub-bullet in TransAlta's comments, please see the AESO's reply to TransAlta's comments on subsections 9(2) in the AESO's Replies to Proposed Section 206.1, <i>Qualification of Capacity</i> matrix.</p>
		<ul style="list-style-type: none"> ○ Section 207.1: Minimum Procurement Volume: To prevent this Rule from having to be reopened to update periodically changing values, the AESO should: <ul style="list-style-type: none"> ○ Make Section 207.1 a permanent rule by removing language that specifies that the Rule is only in effect for the first four obligation periods; ○ File the information currently provided in Appendices 1 and 2 in support of the AESO application for the provisional rules rather than as Appendices to the Rule itself. 	<p>Please see the AESO's reply to TransAlta's comments on subsection 7 in the AESO's Replies to Proposed Section 207.1, <i>Gross Minimum Procurement Volume</i> matrix. The AESO will remove Appendix 1 and 2 from the final rule filed with the Alberta Utilities Commission.</p>
		<ul style="list-style-type: none"> ○ Section 207.2: Calculation of Net-CONE: To ensure system reliability and prevent this Rule from having to be reopened to update periodically changing values, the AESO should: <ul style="list-style-type: none"> ○ Ensure that the Energy Offset considers and establishes a test for liquidity, and importantly includes an alternative simulation-based approach for calculating the Energy Offset if there is insufficient liquidity in the forward prices; ○ Remove numerical values from the Rule and replace them with terms that can 	<p>Please see AESO's replies to TransAlta's comments on:</p> <ul style="list-style-type: none"> ○ subsection 5(1) and 5(2) in the AESO's replies to Proposed Section 207.2, <i>Calculation of Net-CONE</i>; and ○ subsection 9(2) in the AESO's replies to Proposed Section 206.1, <i>Qualification of Capacity</i>.

		<p>be more easily updated in the Consolidated Authoritative Document Glossary;</p> <ul style="list-style-type: none"> ○ Make Section 207.2 a permanent rule by removing language that specifies that the Rule is only in effect for the first four obligation periods. 	
		<ul style="list-style-type: none"> ○ Section 207.3: Shape of Demand Curve: The AESO should prevent this Rule from having to be reopened to update periodically changing values by removing the hardcoded uniform capacity value assumption for the aeroderivative reference technology and instead include a defined term that can be easily updated in the Consolidated Authoritative Document Glossary. 	<p>Please see AESO's replies to TransAlta's comments on subsection 9(2) in the AESO's replies to Proposed Section 206.1, <i>Qualification of Capacity</i> matrix.</p>
		<p>Capacity auctions rules and price formation:</p> <ul style="list-style-type: none"> ○ Section 201.12: Capacity Market Block Allocation; Section 201.14: Capacity Market Offer Control Information; and Section 206.4: Offers and Bids for the Capacity Market: The AESO should minimize the need for unnecessary joint offer arrangements where preferential records would need to be shared by implementing a better capacity offer and bid block design and an offer submission system that can manage multiple owner submissions. 	<p>Please see AESO's replies to TransAlta's comments on:</p> <ul style="list-style-type: none"> ○ subsection 2(1) in the AESO's Replies to Proposed Section 201.12, <i>Capacity Market Block Allocation</i>; and ○ subsection 3(2) in in the AESO's Replies to Proposed Section 201.14, <i>Capacity Market Offer Control Information</i>.
		<ul style="list-style-type: none"> ○ Section 201.13: Capacity Market Clearing: The AESO should level the playing field by making the uplift payment available to all resources in a constrained area and provide further clarification on how multiple equivalent inflexible blocks would be randomly cleared and verified. 	<p>Please see AESO's replies to TransAlta's comments on subsection 4(6) in the AESO's Replies to Proposed Section 201.13, <i>Capacity Market Clearing</i> matrix.</p>
		<ul style="list-style-type: none"> ○ Section 201.15: Delisting: The AESO should ensure that new capacity resources have sufficient time to enter the market when needed for reliability to protect resource owners' rights to make decisions about their investments and operations, provide necessary flexibility in resource operations, ensure more accurate analysis of economic need for delisting, and reflect the full range of extended outages by: 	<p>Please see the AESO Replies to Proposed Section 201.15, <i>Delisting</i> matrix.</p>

		<ul style="list-style-type: none"> ○ Permitting temporary delists for economic reasons in the base and rebalancing auctions; ○ Allowing permanent delisting in the last rebalancing auction due to unexpected circumstances; ○ Permitting a temporary economic delist to participate in the energy and ancillary services markets for up to 275 days; ○ Removing the arbitrary limit to delisting for more than two consecutive obligation periods, as this unnecessarily constrains assets that are beneficial to grid reliability but need additional time for major outages; ○ Basing the Energy and Ancillary Services Offset used to assess economic need on the owner's views of forecasted energy and ancillary services revenue, reviewed by the AESO for reasonableness, rather than a misguided forward pricing-based calculation performed by the AESO; ○ Setting the derate or outage period for a temporary physical delist at 90 days rather than 150 days; and ○ Provide additional detail on how the AESO will review the 	
		<ul style="list-style-type: none"> ○ Section 206.5: Forward Period Milestone Assessment: The AESO should ensure fair treatment in its determinations and assessments of Forward Period Milestones by being required to have critical milestones approved in a regulatory process that includes consultation with stakeholders, explain how it will determine critical milestone achievement, and ensure that a load asset will achieve its full capacity commitment (rather than 75%). 	<p>Please see the AESO Replies to Proposed Section 206.5, <i>Forward Period Milestone Assessments</i> matrix.</p>
		<ul style="list-style-type: none"> ○ Section 206.7: Capacity Market Mitigation: The AESO should base the Energy and Ancillary Services Offset used to determine asset-specific offer caps on the owner's views of forecasted energy and ancillary services revenue, reviewed by the AESO for reasonableness, rather than a misguided forward pricing-based calculation performed by the AESO. 	<p>Please see AESO's reply to TransAlta's comment on subsection 3(1) in the AESO's replies to Proposed Section 206.11, <i>Energy and Ancillary Services Offset for Assets</i>.</p>

		<ul style="list-style-type: none"> ○ Section 206.11: Energy and Ancillary Services Offset for Assets: The AESO should: <ul style="list-style-type: none"> ○ Ensure that the Energy Offset used to calculate Net-CONE considers and establishes a test for liquidity, and importantly includes an alternative simulation based approach for calculating the Energy and Ancillary Services Offset if there is insufficient liquidity in the forward prices; ○ Base the Energy and Ancillary Services Offset used to determine asset-specific offer caps and economic need for temporary delisting on the owner's views of forecasted energy and ancillary services revenue, reviewed by the AESO for reasonableness, rather than a misguided forward pricing-based calculation performed by the AESO. 	<p>Please see AESO's reply to TransAlta's comment on subsection 3(1) in the AESO's replies to Proposed Section 206.11, <i>Energy and Ancillary Services Offset for Assets</i>.</p>
		<ul style="list-style-type: none"> ○ Mitigating Impacts of Subsidized Generation: While the AESO has proposed that a mechanism for out-of-market subsidies be considered in the roadmap this falls short of a formal commitment to implement a MOPR. A MOPR is needed to preserve price formation in the capacity market and prevent subsidized generators from artificially depressing pricing. 	<p>Please see the AESO's reply to Capital Power's comment on the market roadmap in the AESO's Replies to Proposed Section 206.7, Capacity Market Mitigation matrix.</p>
		<p>Capacity obligations, penalties and incentives and risk management.</p> <ul style="list-style-type: none"> ○ Section 206.8: Obligation Period Performance Assessments: The AESO should balance the performance assessment framework and ensure that availability assessment hours are reflective of reliability events by: <ul style="list-style-type: none"> ○ Allowing availability volumes to be adjusted for asset substitutions; ○ Removing language from the rule that would create asset-specific penalty rates that hinder a well-defined, standard, and fungible resource adequacy product; ○ Removing hours in which the entire system is impacted by, limited markets operations or act of god from availability assessment hours; ○ Ensuring that an asset's availability assessment reflects the asset's highest availability for equivalent supply cushion hours rather than availability that is arbitrarily selected based on recency; ○ Removing numerical hard-coded values from the Rule language and replacing 	<p>Regarding the first sub-bullet in TransAlta's comments, please see the AESO's reply to TransAlta's comments on subsection 7(2) in the AESO's Replies to Proposed Section 206.8, <i>Obligation Period Performance Assessments</i> matrix and subsection 3(1) in the AESO's Replies to Proposed Section 206.9, <i>Asset Substitution</i> matrix.</p> <p>Regarding to the second sub-bullet in TransAlta's comments, please refer to the AESO's reply to TransAlta's comments on Item #5 above with respect to asset-specific penalty rates.</p> <p>Regarding to the third and fourth sub-bullets in TransAlta's comments, please refer to the AESO's reply to TransAlta's comment on subsection 3(1) in the AESO's Replies to Proposed Section 206.3, <i>Uniform Capacity Value Determination</i> matrix, which are also applicable to availability hours.</p> <p>Regarding to the fifth sub-bullet in TransAlta's comments, please refer</p>

		<p>them with defined terms; and</p> <ul style="list-style-type: none"> ○ Clarify that monthly penalty caps based on the default rate calculation could not be higher than 3 x monthly capacity revenues. 	<p>to the AESO's reply to TransAlta's comments on Item #2 above with respect to hard-coded values.</p> <p>Regarding to the last bullet in TransAlta's comments, the AESO does not agree with the TransAlta's comments regarding the monthly penalty caps. In cases which the asset-specific penalty rate for an assets delivery assessment is established at the default of \$1,667/MWh, the calculated monthly under delivery payment adjustment cap is not subject to a limitation of 3 times the capacity award.</p>
		<ul style="list-style-type: none"> ○ Section 206.9: Asset Substitution: The AESO should <ul style="list-style-type: none"> ○ Allow availability volumes to be adjusted for asset substitutions; and ○ Level the playing field for internal and external capacity resources by removing overly restrictive requirements for internal capacity resources to qualify as asset substitution capacity. 	<p>Please see the AESO's replies to TransAlta's comments on subsection 3(1) in the AESO's Replies to Proposed Section 206.9, <i>Asset Substitution</i> matrix.</p>
		<ul style="list-style-type: none"> ○ Section 206.10: Volume Reallocation: In order to balance the penalty assessment framework, the AESO should allow ex-post volume reallocation to apply to availability assessments. 	<p>Please see the AESO's replies to TransAlta's comments on subsection 2 in the AESO's Replies to Proposed Section 206.10, <i>Volume Reallocation</i> matrix.</p>
		<p><i>Energy price formation and delivery:</i></p> <ul style="list-style-type: none"> ○ Section 203.5: Energy Market Mitigation: In order to limit price-distortive behavior in the energy market and ensure fair treatment of market participants, the AESO should: <ul style="list-style-type: none"> ○ Explicitly prohibit economic withholding and offer behavior for assets that receive a capacity payment and instead require cost-based offers; ○ Be required to apply asset-specific cost information that is submitted by the pool participant and reviewed by AESO, and fully describe the review process and the criteria that it will apply to test the reasonableness of asset-specific costs; and 	<p>Please see the AESO's replies to subsection 3(6) and TransAlta's proposed subsection in the AESO's Replies to Proposed 203.5, <i>Energy Market Mitigation</i> matrix.</p>

		<ul style="list-style-type: none"> ○ Section 306.5: Generation Outage Reporting and Coordination: To prevent speculative outage schedule submissions that would provide false precision on future supply conditions and raise FEOC concerns, the AESO should publicly report different information for outages less than 18 months (month and quarter) and outages between 18 and 48 months (annual values aggregated by resource type). 	<p>The AESO does not agree with TransAlta's proposal. Monthly data provides more transparency to the market when participating in the base auction for an obligation period.</p>
		<ul style="list-style-type: none"> ○ Section 306.7: Mothball Outage Reporting: The inability to mothball a unit if market conditions change such that it is no longer economic to operate a unit imposes a high regulatory risk for resource owners. This restriction should be removed. 	<p>Please see the AESO Replies to Proposed Section 201.15, <i>Delisting</i> matrix.</p>
8	<p>Whether you agree that the ISO Rules ensure a reliable supply of electricity at reasonable cost to customers and why or why not.</p>	<p>In addition to the reliability and cost issues raised on the critical ISO Rules discussed in our response to Question 3 above, <i>TransAlta is concerned with Section 206.2: Self Supply Configurations.</i> This Rule <i>could threaten system reliability</i> if self-supply load requirements are not properly accounted for in the uniform capacity value assigned to the self-supply resource and/or a self-supply resource is not fairly penalized or incentivized relative to other capacity resources. Thus far, the AESO has not provided sufficient evidence to reassure market participants that self-supply load will properly contribute to reliability.</p>	<p>During the capacity market design processes, the AESO determined in consultation with stakeholders that the proposed approach to treating self-supply in the capacity market has no impact on system reliability. Please see section 2.2 of the CMD Final Rationale, as well as the Procurement and Hedging work group materials from the October 5, 2017 and October 19, 2017 meetings on the AESO website.</p>
9	<p>Whether you agree that the ISO Rules support the public interest and why or why not.</p>	<p>Meeting the key market design objectives will help ensure that the ISO Rules support the public interest, but the public interest also includes factors beyond the three key market design objectives. With this in mind, we believe that the proposed ISO Rules that hinder the conversion of coal-to-gas resources are contrary to the public interest.</p> <p>TransAlta believes that meeting the key market design objectives of creating a FEOC market, ensuring system reliability, and providing reasonable costs to consumers will help ensure that the ISO Rules support the public interest. Therefore, our concerns raised in our responses to Questions 2, 3, 6, and 8, reflect areas where we do not believe that the ISO Rules will support the public interest.</p> <p>However, the public interest also encompasses other factors. These include supporting provincial and federal government policy and promoting economic development in Alberta.</p>	<p>Please see the AESO's replies to TransAlta's comment on Items #2, 3, 6, 7 and 8 above.</p>

		<p>Alberta features significant climate change mitigation objectives through the Climate Leadership Plan, and the federal government has adopted a target of reducing GHG emissions to 80% below 2005 levels by 2050. We believe that coal-to-gas conversions are critical in this transition to a low carbon economy, as they are a cost-effective option for ensuring GHG emission reductions while ensuring system reliability and keeping costs low for consumers.</p> <p>However, several proposed ISO Rules limit the ability for TransAlta and others to economically convert existing coal-fired generators to natural gas operations. These Rules are contrary to the public interest, and should be amended as we recommend in our response to Question 7 above. These Rules are:</p> <ul style="list-style-type: none"> ○ Section 206.1: Qualification of Capacity, which would prevent coal-to-gas resources from qualifying as refurbished assets due to overly stringent investment thresholds; and ○ Section 206.4: Offers and Bids for the Capacity Market, which would further jeopardize coal-to-gas conversions by forcing permanent retirement for refurbished assets that fail to clear the market on a second attempt to submit refurbished asset offers. 	
10	whether you have any additional comments	None at this time.	