

Proposed Amended Section 205.4, *Regulating Reserve Technical Requirements and Performance Standards* (“amended Section 205.4”)

Date of Request for Comment: September 28, 2017
 Period of Comment: September 28, 2017 through October 13, 2017

ISO Rules	Market Participant Comments and/or Alternate Proposal	AESO Replies
<p>Amended</p> <p>The AESO is seeking comments from market participants with regard to the following matters:</p> <ol style="list-style-type: none"> 1. Do you agree or disagree with the proposed amended Section 205.4? If you disagree, please provide comments. 2. Are there any subsections where the language does not clearly articulate the requirement for either the AESO or a market participant? If yes, please indicate the subsections and suggest language that would improve the clarity. 	<p>ATCO Electric Ltd. (“ATCO”)</p> <ol style="list-style-type: none"> 1. ATCO disagrees with the proposed amendment in Section 205.4, specifically subsection 6(1)(c). <p>ATCO currently has units that have load controllers where the load setpoint is based on the required combined energy, regulating, spinning and supplemental reserve settings. This setpoint is sent to the load controller instantaneously and the load controller combines this signal with all of the governor functions to control the ramping. Some OEM electrohydraulic digital governor controllers may not act upon simultaneous raise and lower demands either from governor functions (speed droop) or external AGC; in this case, a lower demand will override a raise demand.</p> <p>ATCO’s concern is that the response requested in Appendix 1 of Section 205.4 during ramping of the unit may not be achievable under specific conditions: if there is a frequency based raise demand while there is also an AGC lower demand at the same time. It will be same in the opposite direction as well.</p>	<ol style="list-style-type: none"> 1. Subsection 3(4) of existing Section 205.4 and subsection 3(3)(g)(iii) of existing Section 205.5, <i>Spinning Reserve Technical Requirements and Performance Standards</i> (“Section 205.5”) were merged into subsection 6(1)(c) of amended Section 205.4 to reduce duplication and improve clarity. The intent of these requirements has not changed. When a pool asset is providing regulating reserve or simultaneously providing both regulating reserve and spinning reserve, primary and secondary (AGC) frequency response must be coordinated. <p>The AESO revised the existing requirement to better align with the NERC’s guidelines and BAL reliability standards for primary and secondary frequency response. The NERC’s Reliability Guideline: Primary Frequency Control provides an explanation and illustration of properly coordinated frequency control on page 5. The AESO will explain this in detail in the associated Information Document.</p> <p>The AESO also notes that Appendix 1 outlines the time periods and frequency levels at which a resource providing regulating reserve must not trip while providing frequency response per subsection 6(5) of Section 205.4.</p> <p>The AESO encourages existing providers to ensure that they meet all applicable requirements when choosing to participate in the operating reserve market. The AESO will continue to monitor performance of pool assets that provide regulating reserve, including performance issues regarding the coordination between primary and secondary frequency response.</p>

	<p><u>Capital Power Corporation (“Capital Power”)</u></p> <p>Capital Power disagrees with the proposed amendments to Section 205.4. While Capital Power supports the overall intention of the proposed amendments, which it understands to be aimed at ensuring that participation in Alberta’s operating reserve market remains competitive and technology neutral, it is concerned that changes to the language used in Section 205.4 may have broader implications for market participants than described by the AESO in its September 28 Letter of Notice. Further information is required to understand the rationale for such changes and assess the impacts on market participants.</p> <p>Changes to Dispatch Performance Requirements</p> <p>Capital Power is concerned that proposed changes to the language used to describe dispatch performance requirements under new Section 205.4 subsection 5 [existing Section 205.4 subsection 6(1)] may alter the financial liability of market participants providing regulating reserves in the event the prescribed requirements are not met. The existing Section 205.4 subsection 6(1) states that “[a] pool participant will not be paid for regulating reserve unless the pool participant ensures” that it meets the requirements. The new Section 205.4 subsection 5 states a market participant “must ensure” that it meets the requirements listed in subsections 5(1), 5(2), 5(3), 5(5), 5(6) and 5(7). It also retains the language [see 5(8)] that “[a] pool participant will not be paid for regulating reserve unless the pool participant ensures” that it meet the requirements set out in subsections 5(1), 5(2), 5(3), 5(5), 5(6) and 5(7)</p> <p>2. Based on this change in language, it is unclear to Capital Power whether under the new Section 205.4, market participants not meeting the requirements would simply not be paid (as exists today) or whether additional specified penalties would be assessed on top of payment forfeiture. The proposed change in language may alter the risk profile and compliance plans for market participants providing regulating reserves. Please clarify the intent of this change and the</p>	<p>2. The AESO confirms that the proposed changes to subsection 5 of amended Section 205.4 do not alter current practices. As it exists today, the AESO will not pay pool participants for regulating reserve in the event that they do not meet the requirements of subsections 5(1), 5(2), 5(3), 5(5), 5(6) and 5(7), in accordance with subsection 5(8).</p>
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	<p>AESO's rationale.</p> <p>3. In addition to the comments above, Capital Power seeks the following clarification regarding requirements outlined under the new Section 205.4 subsection 5(7):</p> <p>Does the “total output” referenced in 5(7) refer to the real power output of the operating reserve dispatch or the energy dispatch? Please confirm and provide an illustrative example of how compliance with 5(7) would be assessed.</p> <p><u>ENMAX Energy Corporation (“ENMAX”)</u></p> <p>4. Section 3(2):</p> <p>“The requirements set out in subsections 3(1)(b)(v) and (vi) do not apply to a pool asset that provides regulating reserve from a generating unit that is equipped with an analog governor, as of December 23, 2014, until such time as the governor is replaced.”</p> <p>Comment:</p> <p>Pursuant to section 17(b) of the Electric Utilities Act, the AESO has a duty “to facilitate the operation of markets for electric energy in a manner that is fair and open and that gives all market participants wishing to participate in those markets and to exchange electric</p>	<p>3. Subsection 6(1)(c) of existing Section 205.4 refers to the “output level of the pool asset”. Subsection 5(7) of amended Section 205.4 includes the same requirements. However, the AESO added the word “total” to clarify that the tolerances in subsections 5(7)(a) and (b), which are based on the regulating reserve range, apply at the pool asset level. For example, when multiple regulating reserve resources within the same pool asset are providing regulating reserve at the same time, the tolerances are not applied to each resource individually.</p> <p>The AESO acknowledges that “total output level” does not improve clarity and has amended subsection 5(7) to state: “...maintain an output level equal to the latest automatic generation control signal within a total tolerance of...”</p> <p>This aligns with the language for dispatch tolerances in amended Section 205.5 and amended Section 205.6 and the AESO’s intent as described above. The AESO will explain how the tolerances are applied at the pool asset level in the associated Information Document.</p> <p>4. Subsection 3(2) in amended Section 204.5 was carried over from subsection 3(5) of existing Section 205.5. The technical requirements for the governor or governor system for both regulating reserve and spinning reserve are intended to be identical. Therefore, this provision was added to amended Section 205.4. The operating reserve rule amendments were not intended to impact the eligibility of existing providers and therefore a review of this subsection was out of scope.</p>
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	<p>energy a reasonable opportunity to do so”. ENMAX believes the rules should apply equally to any governor technologies as long as they qualify with the technical requirements. In that light we suggest Section 3(2) be removed.</p> <p>5. In Appendix 1 – Frequency Ranges, please qualify what both lines in the graph represent. Currently, only the blue line is noted.</p> <p><u>Energy Storage Canada (“ESC”)</u></p> <p>6. Energy Storage Canada (ESC) is the industry association representing a broad range of companies engaged in the energy industry across Canada. We are the only trade association in Canada solely focused on advancing the dynamic role of energy storage and building the market for the energy storage business.</p> <p>ESC acknowledges the AESO’s Letter of Notice (dated September 28th, 2017) regarding the proposed amendments to the existing operating reserve rules and that the proposed amendments:</p> <ol style="list-style-type: none">1. facilitate the participation of energy storage facilities in the Alberta operating reserve market, and2. promote flexibility for the integration of new technologies in the future. <p>ESC appreciates that the AESO has removed references to generating unit and load in the proposed amendments to the Operating Reserve Rules and replaced those references with technology neutral definitions in recognition that energy storage facilities are capable of providing all three types of Operating Reserve. However, ESC notes that energy storage covers a broad range of technologies and that energy storage facilities can provide Operating Reserve resources when in charge and discharge modes. Unfortunately, it appears to ESC that some of the technical requirements of the Operating Reserve Resources are still largely based on traditional generation technologies. Therefore, ESC recommends that the AESO facilitate further discussion of the technical requirements contained in these rules in order to determine if they need to be further modified to accommodate the charge side</p>	<p>5. The legend of the graph in Appendix 1 has been amended to specify that the red line is over frequency range.</p> <p>6. As new technologies enter Alberta’s market, the AESO will continue to monitor new and emerging technologies, engage with stakeholders and evaluate changes to ISO rules, as necessary.</p>
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	<p>of energy storage assets.</p> <p>Energy Storage Canada will remain engaged with the AESO and we look forward to continuing this dialogue going forward to ensure an Operating Reserve market that is accessible to all market participants, including energy storage.</p> <p><u>TransAlta Corporation (“TransAlta”)</u></p> <p>7. TransAlta would like to clarify the potential implications of the changes on current providers of regulating reserves before expressing its agreement or disagreement with the changes.</p> <p>TransAlta requests clarification that “immediate, automatic and sustained response to frequency deviations” cited in 3(1)(b)(v) only refers to the requirements to meet 3(1)(a), 3(1)(b)(vii) and Appendix 1 Frequency Ranges. If not, please elaborate on the AESO’s criteria for measuring immediate and sustained response.</p> <p>TransAlta notes that the there are changes to the frequency response range performance expectations that may require providers to make adjustment to their units to ensure compliance with the new requirements; however, the current draft suggests that these requirements would be made effective immediately after approval. Please clarify if the AESO intends to provide time for market participants to adjust their units and potentially test their units to ensure that they can comply with the new requirements. TransAlta suggests that any new technical specification requirements provide time for this work to be undertaken by participants.</p> <p>8. TransAlta notes that the AESO removed the requirement that pool participants must only provide regulating reserves from a pool asset</p>	<p>7. The AESO assumes that TransAlta is requesting clarification on subsection 3(1)(b)(iv) of amended Section 205.4. Resources within a pool asset must satisfy the technical criteria in subsection 3 to meet the definition of a regulating reserve resource. An “immediate, automatic and sustained response to frequency deviations” is measured by the frequency response requirements in subsection 6 of amended Section 205.4.</p> <p>The AESO: (i) moved requirements related to frequency response from subsection 3 of existing Section 205.4 into subsection 6(1) of amended Section 205.4; and (ii) added subsections 6(2) through 6(5) and Appendix 1 to amended Section 205.4 to clarify what constitutes proper frequency response performance.</p> <p>The AESO’s expectations for frequency response when responding to a dispatch for regulating reserve are the same as when responding to a dispatch for spinning reserve. As such, the frequency response range requirements for both regulating reserve and spinning reserve are intended to be identical. Appendix 1 was added to amended Section 205.4 to reflect a graphical representation of the current requirements under existing Section 205.5 and subsection 9(2) of Section 502.5 of the ISO rules, <i>Generating Unit Technical Requirements</i>.</p> <p>The AESO encourages existing providers to ensure that they meet all applicable rule requirements when choosing to participate in the operating reserve market.</p> <p>8. Under current Section 205.5 and current Section 205.6, assets located outside of the balancing authority area of the ISO may be</p>
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	<p>that is located in the balancing authority area of the ISO. TransAlta respectfully objects to this change. Pool participants should be restricted from providing regulating reserves from assets that are not located in the balancing authority area of the ISO.</p> <p><u>TransCanada Energy Ltd. (“TCE”)</u></p> <p>9. In its September 28, 2017 Letter of Notice, the AESO stated that “the frequency response requirements for regulating reserve and spinning reserve have been amended to ensure immediate governor response without unintentional delay. Under amended Section 205.4 and amended 205.5, regulating reserve resources and spinning reserve resources must be capable of providing an “immediate, automatic and sustained response to frequency deviations”, respectively. In addition, dispatch performance requirements require the pool participant to ensure that, while under dispatch to provide either spinning reserve or regulating reserve, the change in real power of the spinning reserve resource or regulating reserve resource is “continuously proportional to the measured frequency” and is sustained when the frequency goes outside the deadband of equal to or less than 0.036 Hz.”</p> <p>The Letter of Notice also stated that “[e]xisting providers of operating reserve will not be impacted by the amendments described above as their pool assets continue to meet the eligibility and performance requirements, and remain qualified to provide operating reserve.”</p> <p>After reviewing the proposed changes TCE is not aware of any provisions that grandfather existing providers of operating reserves. Has the AESO reviewed the capabilities of the existing providers to confirm that each facility will not be impacted? If not, please provide the necessary assurances within the proposed rule that is consistent with the AESO’s statement that these facilities will remain qualified.</p>	<p>eligible to provide spinning and supplemental reserve. Allowing assets outside of the balancing authority area of the ISO to provide regulating reserve allows for further competition in the operating reserve market. All providers must meet the requirements of amended Section 205.4 in order to participate in the market.</p> <p>9. The AESO reiterates that the intent of the technical standards and performance requirements for providing regulating reserve have not changed from existing Section 205.4. The AESO added language to clarify the AESO’s expectations for frequency response performance.</p> <p>Existing providers will not be required to re-qualify their pool assets to participate in the operating reserve market. The AESO encourages existing providers to ensure that they meet all applicable rule requirements when choosing to participate in the operating reserve market. The AESO will continue to monitor performance of pool assets that provide operating reserve.</p>
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