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
Amended The AESO is seeking comments from market participants with regard to the following matters: 1. Do you agree or disagree with the proposed amended Section 205.5? 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.	**ATCO Power Ltd. ("ATCO")** 1. ATCO disagrees with the proposed amendment in Section 205.5, specifically subsection 3 (b) (iii). Governor and operating design under some load conditions will prevent the required frequency response with our existing droop settings. The proposed limits on droop setting requirements will prevent some of our units that currently provide spinning reserve from being capable of providing spinning reserve in the future... ATCO requests clarification if there will be some provision within the rule to allow spinning reserve offers under prescribed load conditions or for units that are grandfathered due to unit design? 2. ATCO is seeking clarity on the language used in Section 205.5, specifically subsection 6(3). For a combined cogeneration station, which bids into the spinning reserve market as a single combined unit, the associated steam turbines typically operate with a steam header pressure control, where the Steam Turbine Generator (STG) governor is deadbanded and it does not respond to frequency. For stations configured like this, can the Gas Turbine subunit (GT) be the only significant responder to the frequency, where the GT would provide the remaining head room? The GT would respond to its own droop and also make up for the lack of STG frequency response, going further then ramping back when steam production eventually changes allowing STG output to increase. In this case, ST will not directly responsed to the frequency but the combine unit will still meet the requirement. ATCO requests clarity	1. The AESO assumes that ATCO is requesting clarification on subsection 3(1)(b)(iii) of amended Section 205.5. The AESO notes that the requirements for droop setting in subsection 3(3)(c) of existing Section 205.5 have not changed. The AESO encourages existing providers to ensure that they meet all applicable requirements when choosing to participate in the operating reserve market. 2. Each resource within a pool asset must meet the definition of spinning reserve resource (i.e., satisfy the technical criteria in subsection 3 of amended Section 205.5) in order to be eligible to provide spinning reserve. In the case of ATCO's example, if the STG cannot provide frequency response because it is deadbanded then it does not meet the technical requirements of subsection 3(1)(b) of amended Section 205.5. Under subsection 9 of amended Section 205.5, the AESO may, for the purposes of evaluating frequency response performance, consider other facility arrangements if the combined change in real power demonstrates in aggregate that they meet the technical requirements set out in subsection 6 for a single spinning reserve resource.

	from the AESO that the "each spinning reserve resource" as used in Section 205.5 6 (3) would it require individual STG and GT subunit to meet the requirements or combined STG and GT can act as single unit and comply with the requirements. **<u>Capital Power Corporation ("Capital Power")</u>** 3. Capital Power disagrees with the proposed amendments to Section 205.5. 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 205.5 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. Additional comments are provided below. **Changes to Dispatch Performance Requirements** Capital Power is concerned that proposed changes to the language used to describe dispatch performance requirements under new Section 205.5 subsection 5 [existing Section 205.5 subsection 6(1)] may alter the financial liability of market participants providing spinning reserves in the event the prescribed requirements are not met. The existing Section 205.5 subsection 6(1) states that "[a] pool participant will not be paid for spinning reserve unless the pool participant ensures" that it meets the requirements. The new Section 205.5 subsection 5 states that a market participant "must ensure" that it meets the requirements listed in subsections 5(1) and 5(2). It also retains the language [see 5(3)] that "[a] pool participant will not be paid for spinning reserve unless the pool participant ensures" that it meet the requirements set out in subsections 5(1) and 5(2). Based on this change in language, it is unclear to Capital Power whether under the new Section 205.5, 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	3. The AESO confirms that the proposed changes to subsection 5 of amended Section 205.5 do not alter current practices. As it exists today, the AESO will not pay pool participants for spinning reserve in the event that they do not meet the requirements of subsections 5(1) or 5(2), in accordance with subsection 5(3).

	payment forfeiture. The proposed change in language may alter the risk profile and compliance plans for market participants providing spinning reserves. Please clarify the intent of this change and the AESO's rationale.	
	4. In addition to the comments above, Capital Power seeks the following clarification regarding requirements outlined under the new Section 205.5 subsection 5(1): Does "the real power set out in the dispatch" referenced in 5(1) refer to the real power output of the operating reserve dispatch or the energy dispatch? Please confirm.	4. The "real power set out in the dispatch" refers to the MW amount indicated in the dispatch to provide spinning reserve, which is the operating reserve dispatch. The intent of subsection 5(1) of amended Section 205.5 has not changed from the existing rules.
	ENMAX Energy Corporation ("ENMAX")	
	5. Under all sections, it would be helpful if the AESO could clarify the MW tolerance values as +/-	5. The AESO has revised subsections 5(1) and 10(3) of amended Section 205.5, as well as subsection 5(1) and 6(3) of amended Section 205.6 of the ISO rules, *Supplemental Reserve Technical Requirements and Performance Standards* and subsection 5(7) of amended Section 205.4 of the ISO rules, *Regulating Reserve Technical Requirements and Performance Standards* to provide clarity on tolerance values. The intent has not changed from the existing rules.
	6. Section 3(2): "The requirements set out in subsections 3(1)(b)(v) and (vi) do not apply to a **pool asset** that provides **spinning 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." 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 energy a reasonable opportunity to do so". ENMAX believes the rules	6. Subsection 3(2) of amended Section 205.5 was carried over from existing Section 205.5 subsection 3(5). 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.

	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.	
	7. <u>Section 10(1):</u> "A **pool participant** must, within ten (10) minutes following receipt of a **directive** to provide **spinning reserve**, ensure that its **pool asset** is providing a quantity of **real power** equal to the instantaneous amount of **real power** of the **pool asset** at the time of the **directive** and the amount of **real power** set out in the **directive**." This rule as written is unclear when considering facilities that provide multiple ancillary services simultaneously (i.e., Regulating reserve and Spinning reserve). It would be helpful to rephrase this section to note that the Spinning dispatch should be added to the Energy dispatch rather than to where ever the asset is based upon its current regulating setpoint. As such, we would suggest this rule be revised to read as follows: "A pool participant must, within ten (10) minutes following receipt of a directive to provide spinning reserve, ensure that its pool asset is providing a quantity of real power equal to their current energy dispatch plus the amount of real power set out in the directive within the documented MW tolerances. Any regulating reserve services offered at the time of a directive would be provided in addition to the energy dispatch plus the stated directive."	7. The AESO notes that the requirements of subsection 7(1) of existing Section 205.5 have not changed. Section 5.2 of Information Document #2013-007R, *Contingency Reserve* provides additional clarity on how to meet directive performance requirements when a pool asset is simultaneously providing regulating reserve and contingency reserve, and is subject to a directive for contingency reserve.
	<u>Energy Storage Canada ("ESC")</u> 8. 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. ESC acknowledges the AESO's Letter of Notice (dated September 28th, 2017) regarding the proposed amendments to the existing	8. 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.

	operating reserve rules and that the proposed amendments: 1. facilitate the participation of energy storage facilities in the Alberta operating reserve market, and 2. promote flexibility for the integration of new technologies in the future. 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 of energy storage assets. 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. **TransAlta Corporation ("TransAlta")** TransAlta supports the changes to the rule that support the participation of aggregated facilities and new technologies such as battery storage in spinning reserves. 9. TransAlta would like to better understand generally how the AESO will determine the tolerances that it will prescribe for pool assets that do not have a maximum capability. Presumably the AESO will seek to align the tolerances with those described in 10(3). It would be helpful if the AESO would elaborate on what it will consider when	9. When a pool asset does not have a maximum capability, as defined in the AESO's *Consolidated Authoritative Document Glossary*, the tolerances in subsection 10(3) of amended Section 205.5 will be based on a pool asset's "maximum qualified facility capacity". Maximum qualified facility capacity is the real

	setting these tolerances.	power quantity of spinning reserve that the pool asset is qualified to provide by the AESO under subsection 4(2) of amended Section 205.5. The AESO will explain this in the associated Information Document.
	10. 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.	10. The AESO: (i) moved requirements related to frequency response from subsection 3(3) of existing Section 205.5 into subsection 6(1) of amended Section 205.5; and (ii) added subsections 6(2) through 6(5) to clarify what constitutes proper frequency response performance. The frequency response range requirements outlined in Appendix 1 reflect a graphical representation of the current requirements under existing Section 205.5 and aligns with subsection 9(2) of Section 502.5 of the ISO rules, *Generating Unit Technical Requirements*. The AESO encourages existing providers to ensure that they meet all applicable rule requirements when choosing to participate in the operating reserve market.
	TransCanada Energy Ltd. ("TCE")	
	11. 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." The Letter of Notice also stated that "[e]xisting providers of operating	11. The AESO reiterates that the intent of the technical standards and performance requirements for providing spinning reserve have not changed from existing Section 205.5. The AESO added language to clarify the AESO's expectations for frequency response performance. 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.

	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." 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.	