Stakeholder Comment Matrix – April 23, 2020

Overview of Energy Storage Resources – Operating Reserves Qualification and Technical Requirements and Alberta Reliability Standards Applicability

Period of Comment: April 23 through May 7, 2020 **Comments From:** Canadian Wind Energy Association (CanWEA) **Date:**2020/05/07	Contact: [redacted] Phone: Email: [redacted]

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. 3. Email your completed comment matrix to energystorage@aeso.ca by May 7, 2020.

The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments

1.	Are there areas where further clarity on expected participation in the Operating Reserves (OR) market or applicability of the Alberta Reliability Standards (ARS) would be helpful?	Operating Reserve Products and Minimum Qualification 1) Some types of ESR have limitations on the minimum depth of discharge and maximum state of charge. How will this be handled in the operating reserves eligibility? 2) Typically loads cannot participate as a regulating reserve. The figure on Page 7 shows regulating reserve as a delta P of 15 MW, suggesting that an ESR in charging mode cause do so. Can the AESO confirm that ESR in a charging mode can participate as Regulating Reserve? We understand that ESR in a charging mode can be considered load supplemental and spinning reserve. This would be similar to load responding as supplemental and spinning reserve. 3) CanWEA acknowledges that the minimum qualification requirements identified by the AESO include the following: • Regulating Reserve - must be able to stay at high limit/low limit for a period of sixty (60) minutes. • Spinning Reserves – must have the capability to provide a change in power

		(deltaP), which is a MW volume that has been contracted, for the period of sixty (60) minutes - Supplemental Reserves – must have the capability to provide a change in power (deltaP), which is a MW volume that has been contracted, for the period of sixty (60) minutes 4) Information Document Regulating Reserve ID#2013-006R and Section 205.4 sets out the requirements for a minimum ramp rate, but there is no limit to the maximum ramp rates. CanWEA acknowledges this ramping requirement. 5) As per Information Document Operating Reserve ID#2013-005R, the AESO's approach to buying operating reserve is described as block procurement and can be purchased in four time offer blocks. A) On Peak, B) Off Peak, C) AM Super Peak and D) PM Super Peak. The volumes procured in each of these offer blocks are consistent across all hours in the block. Only active regulating reserve is purchased for super peak blocks. Is there a requirement for ESR to sustain output for more than the minimum 60 minutes in order to participate in the procurement blocks? For example, the unit would see a 1x8 product. The minimum block size is 5 MW. Would the ESR have to meet a directive for up to 5 MW in every hour of the block? Additional clarity would be helpful. Is there a concern by the AESO if an ESR cannot continually deliver in multiple hours of the same block as a result of being at 100% or 0% state of charge? Acceptable Operational Reasons 1) The AESO notes that restatements can occur in limited circumstances, specifically at 100% and 0% state of charge. CanWEA acknowledges this and accepts this. This may be appropriate for some technologies but not for others such as pumped hydro, flow batteries. 2) If a ESR cannot meet a dispatch or directive as a result of being at 100% or 0% state of charge, and the proponent cannot substitute another asset, is the ESR subject to claw backs or LDs and in breach of the market rules?
2.	Are there areas of market participation or compliance with standards that in your view need special consideration for energy storage that are not identified in the qualification and ARS applicability document?	As indicated above, minimum depth of discharge and maximum state of charge will require special considerations for energy storage.

3.	Additional comments	1) Does the AESO envision the potential of ramping products to incent flexibility? If so, ESR would be an extremely attractive supplier of ramping products. Will the AESO look to the option of ESR providing potential ramping products as part of the Energy Storage Roadmap. 2) Will the AESO integrate ESR as a demand response option? 3) Will ESR be considered eligible for Black Start services and Load Shed Service? 4) In the event that the AESO introduces opportunities for regulated ESRs (i.e. ESRs as a transmission resource), we can expect that they eligible to participate in the Ancillary Service market? 5) CanWEA supports additional stakeholder consultation on transparency of state of charge to market participants. This subject and applications are highly complex and warrants a further discussion. 6) How will the "Overview of Energy Storage Resources – Operating Reserves Qualification & Technical Requirements and Alberta Reliability Standards Applicability" document be integrated with the AESO Authoritative Documents and the Phase 2 - Long-Term Storage Implementation plan?

Thank you for your input. Please email your comments to: energystorage@aeso.ca. .