

April 26, 2023

To: The Market Surveillance Administrator, market participants and other interested parties (“Stakeholders”)

Re: **Stakeholder Comments and AESO Responses – Final Amendments to ISO rules and Definitions to Enable Energy Storage (“Energy Storage ISO Rule Amendments”)**

Pursuant to Alberta Utilities Commission Rule 017, *Procedures and Process for Development of ISO Rules and Filing of ISO Rules with the Alberta Utilities Commission*, final written comments received from Stakeholders in response to the Alberta Electric System Operator’s (“AESO”) March 15, 2023 Letter of Notice have been posted on the AESO website. Comments were received from the following Stakeholders:

- AltaLink Management Ltd.; and
- TransAlta Corporation.

AESO Responses to Stakeholder Comments

The AESO’s responses to Stakeholders’ comments are provided below.

1. Legacy treatment from Section 502.1, Aggregated Generating Facility Technical Requirements

TransAlta requested that the AESO continue to exempt aggregated generating facilities that were energized and commissioned before April 7, 2017 from complying with updated technical requirements under the circumstances currently set out in subsection 1(3) of Section 502.1, *Aggregated Generating Facilities Technical Requirements* (“Section 502.1”).

The AESO acknowledges TransAlta’s comment and recognizes that subsection 1(3) in Section 502.1 provides upfront certainty that an aggregated generating facility is only required to comply with updated requirements if modifications to the facility have a gross real power capability equal to or greater than 5 MW.

The AESO revised Section 503.1, *Functional Specification & Legacy Treatment* (“Section 503.1”) to continue this legacy treatment for equipment replacements for aggregated facilities energized and commissioned before April 7, 2017.

2. Legacy treatment from Section 502.5, Generating Unit Technical Requirements

TransAlta inquired about the continuing application of legacy treatment as set out in subsections 11, 18(4), and 19(4) of Section 502.5, *Generating Unit Technical Requirements* (“Section 502.5”).

The AESO confirms that the legacy treatment for these technical requirements in Section 502.5 continues to apply to generating units built before November 21, 2017 that do not have a functional specification referencing Section 502.5.

3. Requests for consultation on other topics

TransAlta and AltaLink requested consultation on several topics beyond the scope of the Energy Storage ISO Rule Amendments. The AESO acknowledges AltaLink’s and TransAlta’s comments and will consider opportunities to address these topics in future engagements.

Final Energy Storage ISO Rule Amendments

In addition to the amendments to Section 503.1 described above, the Final Energy Storage ISO Rule Amendments contain revisions to correct minor drafting errors in the following rule and definitions:

- (i) Section 304.3 of the ISO rules, *Wind and Solar Power Ramp Up Management* – ‘resources’ was added after ‘containing wind and solar’ throughout the rule to maintain consistency within drafting language.
- (ii) **“allowable dispatch variance”** – Part (ii) was amended to read “for a source asset”. Part (vi) of the ADV definition did not accurately reflect the VER-block design as consulted on with Stakeholders as it did not include the variable energy resource quantity in the determination of ADV for a partially-controllable source asset. Part (vi) is redrafted such that ADV for a partially controllable source asset is “[+/- 5/10 MW] *from the dispatch quantity less the dispatch variable energy resource quantity plus the potential real power capability*” for when the source asset is dispatched outside the variable energy resource quantity.

When a partially controllable source asset is dispatched within the variable energy resource quantity, ADV is “[+/- 5/10 MW] *of the lesser of potential real power capability or the dispatch quantity*”. Parts (iv) and (v) of the ADV definition are amended to reflect this.

- (iii) **“point of supply”** – inserted “energy storage resource” into the list of facilities within the definition.

Further, the Final Energy Storage ISO Rule Amendments reflect necessary changes to reconcile the proposed rules with the Alberta Utilities Commission (“AUC”) approved ISO Rules Red Tape Administrative Amendments that came into effect March 31, 2023.¹

AUC Application for Approval of Final Proposed Energy Storage ISO Rule Amendments

The AESO expects to submit its application for the Final Energy Storage ISO Rule Amendments to the AUC before the **end of April 2023**.

The AESO expresses its thanks and appreciation to all Stakeholders who participated in the Energy Storage ISO Rule Amendments initiative and whose input and feedback significantly contributed to advancing the rules to final stage.

Related Materials

The following documents can be accessed on the Stakeholder Engagement page on the AESO website:

1. Version 3.0 to Final Blacklines of the Energy Storage ISO Rule Amendments and Definitions;
2. Consolidated blackline and clean ISO rule book of the Final Energy Storage ISO Rule Amendments; and
3. Consolidated blackline of Final Energy Storage Definitions.

If you have any questions, please submit them to rules_comments@aeso.ca

Sincerely,

Jackie Gow

Legal Manager, ISO Rules and Alberta Reliability Standards
Legal and Regulatory Affairs

¹ AUC Disposition 28115-D01-2023.



<p>Period of Comment: March 15, 2023 through April 12, 2023</p> <p>Comments From: AltaLink</p> <p>Date [yyyy/mm/dd]: April 12, 2023</p>	<p>Contact: Jenette Yearsley</p> <p>Phone: (403) 703-3201</p> <p>Email: Jenette.Yearsley@AltaLink.ca</p>
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Instructions:

1. Please fill out the section above as indicated.
2. Please use the table below to describe any final concerns or issues with the Energy Storage ISO Rule Amendments.

	AESO Questions to Stakeholders	Stakeholder comments
1	<p>Do you have final <u>concerns or issues</u> with any substantive change to an ISO rule or definition in the Energy Storage ISO Rule Amendments? If so, please elaborate.</p>	<p>AltaLink has no final concerns which need to be addressed as part of the Energy Storage ISO Rule Amendments. AltaLink thanks the AESO for incorporating AltaLink’s feedback into the latest revision.</p> <p>AltaLink continues to have several concerns, which AltaLink voiced through this consultation, relating to existing issues within ISO Rules. AltaLink accepts the AESO’s position that addressing these issues is outside of the scope of this initiative; however, AltaLink requests the AESO to address these residual concerns as part of future ISO Rule reviews. AltaLink’s residual concerns are as follows:</p> <ol style="list-style-type: none"> 1. Section 503.1 Functional Specification & Legacy Treatment: The need for legacy facilities to always adhere to the set of requirements that were in effect when it was originally built is problematic. Although this requirement (which mirrors what is in the current set of ISO Rules) is better than defining the need to automatically upgrade to current Rules, it still creates practical issues when performing asset replacements particularly for extremely long-lived assets. Specifically, it may not be desirable nor even possible to rebuild an asset to the original requirements. Ideally, AltaLink would like to have ISO Rules specify the need to adhere to the original requirements but provide the facility owner the flexibility to follow more current requirements when appropriate. 2. Section 503.12 Grounding and Surge Protection: Not specifying the need for all generation sources to be effectively grounded as seen from the high-voltage transmission system is a concern. As Alberta’s high voltage transmission system must always remain effectively grounded, it is essential each source of supply connected to it is effectively grounded. AltaLink believes this is the only way to avoid off-normal situations where a portion of the high voltage transmission

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		<p>system loses its ground reference. If not prevented, ungrounded operation, even for very short periods, will damage high voltage transmission equipment, render protection inoperable, and jeopardize public safety. Because of these severe potential impacts, AltaLink will continue to ensure this is adhered to in every new generation connection project involving our facilities. Including this requirement in an ISO Rule will reduce the likelihood of connecting generators experiencing project delays resulting from them not understanding all connection requirements from the onset of the project process.</p> <p>3. Excluding a significant portion of generation from needing to follow key ISO Rule requirements (such as voltage ride-through in Section 503.5 & frequency ride-through in Section 503.6) and need to have a speed-droop governor is a concern. As highlighted in the AESO's recent Reliability Requirements Roadmap, system dynamic performance continues to erode. This erosion is now having material impacts on system reliability and electricity costs. AltaLink believes that a significant portion of this deteriorated dynamic performance is due to allowing an increasingly large number of generators to connect without being required to follow these critical, yet basic, power system requirements.</p>



<p>Period of Comment: March 15, 2023 through April 12, 2023</p> <p>Comments From: TransAlta Corporation</p> <p>Date [yyyy/mm/dd]: 2023/04/12</p>	<p>Contact: Akira Yamamoto</p> <p>Phone: 403-267-7304</p> <p>Email: akira_yamamoto@transalta.com</p>
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1	Do you have final <i>concerns or issues</i> with any substantive change to an ISO rule or definition in the Energy Storage ISO Rule Amendments? If so, please elaborate.	<p>TransAlta appreciates the changes that the AESO made in response to the feedback it received in its written comments as well as the stakeholder consultation session it held on February 2, 2023. More specifically, the changes that the AESO made to <i>Section 503.1: Functional Specification and Legacy Treatment</i> and <i>Section 503.6: Frequency and Speed Governing</i> demonstrated that the AESO listened and understood the concerns from stakeholders.</p> <p>TransAlta also commends the manner in which the AESO has sought to improve its communications with stakeholders including its receptiveness to feedback about its expansion of the energy storage rules package to redesigning the presentation of its technical and operating requirements and its pivot to include another stakeholder consultation session to address concerns and hear back from industry. We hope that the AESO will apply the learnings from this engagement to other future engagements and manage scope creep in its initiatives and also take the additional time as it has done in this consultation to really listen and understand stakeholder concerns rather than push ahead with its own agenda.¹</p> <p>TransAlta requests that that the AESO address three specific issues with the energy storage rule package:</p> <p>First, <i>Section 502.1: Aggregated Generating Facilities Technical Requirements</i> contains provisions in subsection 3 under <i>Applicability</i> that specify a ≥ 5 MW threshold for facility</p>

¹ The Operating Reserves Market Review and Mothball Outage Reporting Rules are examples of initiatives that the AESO has pursued under its own agenda and with poor adherence to its stakeholder engagement principles.

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		<p>additions or equipment replacements but that threshold does not appear to be reflected in the new 503 series. We ask the AESO to reintroduce this minimum threshold or a similar type of minimum threshold for additions or replacements such as a 10% change to the Maximum Capability of a source asset.</p> <p>Second, <i>Section 502.5: Generating Unit Technical Requirements</i> contains several provisions that refer to legacy treatment and the November 21, 2017 cut-off date (i.e., subsection 3(2), subsection 11, subsection 18(4) and 19(4)). Please confirm that the AESO intends to maintain that legacy treatment and, if so, explain how <i>Section 503.1: Functional Specification & Legacy Treatment</i> preserves that legacy treatment. If the AESO intends to remove that legacy treatment, TransAlta opposes the changes and requests the AESO amend its proposed rule changes to maintain the current legacy treatment.</p> <p>Third, TransAlta asks that the AESO initiate a new consultation on energy storage requirements and more specifically the AESO's expectations and requirements with respect to over-frequency response when an energy storage asset is fully charged. We recognize that this request is not specifically an issue with the proposed energy storage rules but we note that battery energy storage systems that offer frequency response in a fully charged state are limited from providing over-frequency response. We also note frequency response services are mainly intended to deal with under-frequency events and over-frequency response events are very rare and infrequent. Given this asymmetrical risk and the fact that battery energy storage systems can provide maximum under-frequency response from a fully charged state, we encourage the AESO to consider if it should provide additional guidance (through an information document) or rule changes to ensure the most efficient use of battery storage resources.</p>