

January 25, 2022

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

Re: **Alberta Electric System Operator Responses to Stakeholder Comments – Final Proposed Amended Section 502.9 of the ISO Rules, *Synchrophasor Measurement Unit Technical Requirements* ("Section 502.9")**

On November 9, 2021, the Alberta Electric System Operator ("AESO") issued a Letter of Notice notifying Stakeholders of proposed amendments to Section 502.9 and requesting Stakeholder comments on the proposed amendments. In response to the AESO's request, Altalink Management Ltd. ("Altalink") submitted comments to the AESO.

AESO Replies to Stakeholder Comments

In accordance with Alberta Utilities Commission ("Commission") Rule 017, *Procedures and Process for Development of ISO Rules and Filing of ISO Rules with the Alberta Utilities Commission* the AESO is providing replies to Stakeholder comments.

Altalink raised concerns that updating references to IEEE Standard C37.118 - 2005 *Synchrophasors for Power Systems* ("IEEE Standard 2005") in Section 502.9 may have unwarranted costs impacts on market participants and ratepayers. In response, the AESO has clarified the technical reasons for requiring compliance with the updated IEEE Standards. The AESO also notes that, pursuant to subsection 3 of proposed amended Section 502.9, facilities that were built prior to March 1, 2022 do not have to bring themselves into compliance with the updated IEEE Standards. This mitigates cost impacts of Section 502.9 on existing facilities.

Altalink also requested clarification of the applicability of subsections 7(1) and 7(2) of proposed amended Section 502.9. Although the AESO's Letter of Notice did not include subsection 7 within the scope of proposed amendments, the AESO agreed with Altalink that the current rule language benefits from clarification and revised the language of subsection 7(1) accordingly.

The AESO's responses to comments, including the AESO's rationale or basis for its position, and an explanation for why certain positions were rejected or accepted, are set out in the *Stakeholder Comment and AESO Response Matrix*.

Application for Approval of the Final Proposed Amendment to Section 502.9

Pursuant to Section 6 of the AUC Rule 017, the AESO expects to submit its application for the proposed amended Section 502.9 with the Commission in January 2022.

Related Materials

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

1. *Stakeholder Comments and AESO Response Matrix* on the proposed amended Section 502.9; and
2. Blackline and clean copies of the proposed amended Section 502.9.

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

Sincerely,

Jackie Gow

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Date of Request for Comment:	November 9, 2021
Period of Comment:	November 9, 2021 through November 30, 2021

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1	<p>Do you understand and agree with the objective or purpose of the proposed amendments to Section 502.9 and whether, in your view, the proposed amendments to Section 502.9 meets the objective or purpose? If not, why.</p>	<p>AltaLink Management Ltd.</p> <ol style="list-style-type: none"> AltaLink is pleased to see that the AESO has addressed the issue of automatic updates to industry standards. This will bring certainty to Market Participants. <p>AltaLink understands that the purpose is to ensure new PMU implementations are aligned with the more recent IEEE standards. However, AltaLink wishes to better understand why changing the reference to IEEE Standard C37.118-2005 is required. Is the AESO aware of a deficiency with the IEEE Standard C37.118-2005 standard? AltaLink has concern that updating the reference to the new standard simply due to there being new standards may result in costs to market participants and ratepayers that may not be warranted.</p>
		<ol style="list-style-type: none"> The primary purpose of updating the reference to IEEE C37.118-2005 Synchrophasors for Power Systems (“IEEE Standard 2005”) in the proposed amended Section 502.9 is to ensure that the legal owners of generating units, legal owners of aggregated generating facilities, and legal owners of transmission facilities implementing synchrophasor measurement units in Alberta are aligned with the technical requirements in IEEE Standard C37-118.2-2011 – <i>Synchrophasors Data Transfer for Power Systems</i> (“IEEE Standard 2011”), published in 2011 and its amendment, IEEE Standard C37.118.1a-2014 – <i>Synchrophasors measurements for Power Systems</i> (“IEEE Standard 2014”), published in 2014. <p>The IEEE Standard 2011 and subsequent 2014 amendment, IEEE Standard 2014 further defined synchrophasor measurement requirements including dynamic performance which enhance the synchrophasor measurements. The interconnected electric system is subject to significant changes owing to the evolving generation mix in Alberta, marked by the increasing penetration of renewables and inverter-based resources. For purposes of ensuring the continued safe and reliable operation of the interconnected electric system, the AESO considers it necessary that</p>



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			<p>market participants align with the 2011 and 2014 versions of IEEE standard so that synchrophasor measurements adequately capture and reflect the dynamic behaviour of resources. This approach is also aligned with industry guidelines and recommendations such as NERC reliability guidelines.</p> <p>In addition, as the newer version of industry standards are published, manufactures may discontinue the production of devices compatible with older versions of standards. As a result, there remains the possibility that synchrophasor measurement devices compliant with the 2005 version of IEEE C37.118 standard will become obsolete in the near future.</p> <p>At this point, the AESO is not aware of any deficiency in synchrophasor measurements from devices compatible with the IEEE Standard 2005 that could materially impact the reliability of bulk electric system. Hence, as reflected in the proposed amendments to Section 502.9, the AESO will allow the legacy treatment of the existing devices which are compliant with the 2005 version unless on a case-by-case basis an upgrade is deemed necessary in future for the safe and reliable operation of interconnected electric system. The AESO will consider the cost implications when assessing such upgrades.</p> <p>In respect of new installations and based on available information from manufacturers, the AESO is of the opinion that there is no material difference between the cost of synchrophasor measurement devices</p>



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		compatible with the 2005 version as compared to 2011 and 2014 version of the C37.118 standard.
2	Do you agree that the proposed amendments to Section 502.9 are not technically deficient? If not, why.	<p><u>AltaLink Management Ltd.</u></p> <p>2. AltaLink does not think that the proposed amendments are technically deficient, however, AltaLink is not sure the amendments are technically required.</p>
3	Do you agree with the proposed amendments to Section 502.9, taken together with all ISO rules, supports a fair, efficient and openly competitive market? If not, why?	<p><u>AltaLink Management Ltd.</u></p> <p>3. AltaLink is concerned that the amendments may result in a material impact on costs which will be borne by market participants and ratepayers.</p>
4	Do you agree that the proposed amendments to Section 502.9 supports the public interest? If not, why?	<p><u>AltaLink Management Ltd.</u></p> <p>4. AltaLink appreciates the substantial value that PMUs provide system operators, however, it is not apparent to AltaLink of any value of these amendments beyond referencing a more recent standard. It would have been beneficial to stakeholders for the AESO to provide the benefit of changing the referenced industry standards to market participants and ratepayers.</p>
5	If approved, the AESO will propose an effective date of March 1, 2022. Do you agree? If not, why not?	<p><u>AltaLink Management Ltd.</u></p> <p>5. AltaLink agrees.</p>



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6	Any additional comments regarding the proposed amendments to Section 502.9?	<p><u>AltaLink Management Ltd.</u></p> <p>6. AltaLink seeks clarification on ISO Rule 502.9 and its current draft. Information Document Disturbance Monitoring and Reporting Requirements ID #2018-022 states:</p> <p>3.1 Existing Streaming Synchrophasor Measurement Units Requirement R8 in PRC-002-AB-2 creates an exemption for any legal owner responsible for dynamic disturbance recording data that is required to have continuous data recording and storage, provided they comply with subsection 7(1) of Section 502.9. If a legal owner complies with Section 502.9, the requirements in that ISO rule related to the subject matter apply. Because subsection 7(2) of Section 502.9 requires data streaming to the AESO, the AESO does not anticipate submitting a written request, pursuant to requirement R11 in PRC-002-AB-2 to a legal owner for the streamed dynamic disturbance recording data that the AESO already receives.</p> <p>AltaLink requires further clarification on ISO Rule 502.9. AltaLink provides the following comment and request for clarification regarding the “subject to” in 7(1) and 7(2):</p> <p>7(1) Subject to subsection 7(2), each of the legal owner of a generating unit, legal owner of an aggregated generating facility and legal owner of a transmission facility must collect and continuously</p>	<p>6. While the AESO’s letter of notice did not include subsection 7 in the scope of amendments to Section 502.9, the AESO agrees with Altalink and acknowledges that the current rule language would benefit from clarification and has revised the language of subsection 7(1) to provide the added clarity.</p> <p>Data Storage and Streaming</p> <p>7(1) Subject to subsection 7(2), Each of the legal owner of a generating unit, legal owner of an aggregated generating facility and legal owner of a transmission facility must collect and continuously store the synchrophasor measurement unit data for 1 year from the date the synchrophasor measurement unit data was collected, <i>unless the data is being streamed to the ISO pursuant to 7(2).</i></p> <p>(2) A legal owner of a generating unit, legal owner of an aggregated generating facility or legal owner of a transmission facility, required to implement a synchrophasor measurement unit, as determined by the ISO, must stream the data to the ISO.</p>



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		<p>store the synchrophasor measurement unit data for 1 year from the date the synchrophasor measurement unit data was collected.</p> <p>(2) A legal owner of a generating unit, legal owner of an aggregated generating facility or legal owner of a transmission facility, required to implement a synchrophasor measurement unit, as determined by the ISO, must stream the data to the ISO.</p> <p>Specifically, it is unclear what is meant by the “subject to” as it does not state what occurs if subsection 7(2) is applicable. AltaLink assumes that the “subject to” is intended to mean that if subsection 7(2) is applicable then AltaLink does not need to comply with subsection 7(1) but that is not clearly stated in subsection 7(1). AltaLink believes this interpretation is corrected based on the AESO replies to Stakeholder Comments: 2012-12-11. AltaLink wishes to confirm its interpretation is correct and to recommend that this is made clear in the final version of the section in order to provide clarity to market participants.</p>	
7	Please provide any comments or views on the need for the development of a related information document, including the type of content that should be included.	<p><u>AltaLink Management Ltd.</u></p> <p>7. As there are no references to the IEEE standards in Information Document Synchrophasor Measurement Unit ID# 2012-028R, AltaLink does not see a need for an updated Information Document.</p>	7. The AESO acknowledges AltaLink’s comment.