

Stakeholder Comment Matrix for Additional Feedback

Period of Comment: July 25, 2019 through September 5, 2019 Comments From: AltaLink Date [yyyy/mm/dd]: 2019/09/05	Contact: Jenette Yearsley Phone: 403-387-8275 Email: Jenette.Yearsley@AltaLink.ca
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Instructions:

1. Please fill out the section above as indicated.
2. Please refer back to the *Letter of Notice of Proposed New and Amended ISO Rule* under the “Attachments” section to view the actual draft of the proposed new Section 502.17.
3. Please refer to the *Stakeholder Comment Matrix for Additional Feedback Attachment (“Attachment”)* for further information regarding AESO assumptions and instructions for completing the sections below.
4. Please respond to the questions below and provide your specific comments, proposed revisions, and reasons for your position underneath, if any. Blank boxes will be interpreted as favourable comments.
5. Please be advised that general comments do not give the AESO any specific issue to consider and address, and results in a general response.

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1	<p><u>AESO’s Preferred Orderwire Architecture</u></p> <p><i>Cost and Timeline to implement and operate the mesh option orderwire architecture.</i></p> <p>Please provide:</p> <ul style="list-style-type: none"> (a) the implementation cost and implementation timeline; and (b) the operational cost; <p>of the AESO’s preferred orderwire architecture mesh option using the assumptions and architecture provided in the Attachment.</p> <p>Please include all assumptions used for the list of variables provided in the Attachment. Where possible, provide a breakdown</p>	<p>AltaLink comments:</p> <p>The following estimates are for conceptual planning and general information purposes only at this stage.¹</p> <p>If AltaLink assumes that downstream market participants are responsible for bringing the connecting infrastructure to the nearest network POP of the upstream MP, AltaLink estimates that the capital implementation cost for AltaLink is approximately \$75,000-\$150,000 per market participant (MP) connection. Exact numbers for an individual location could vary significantly based on the current state versus new infrastructure requirements. Additionally, AltaLink would need to upgrade the core voice infrastructure and</p>

¹ AltaLink notes that as a result of the information currently known, it is difficult to provide accurate costs or implementation timelines.

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	<p>of the cost and implementation timing by proposed new Section 502.17 requirements. If you are unable to provide the costs and timeline of complying with a proposed new Section 502.17 requirement, please state that requirement and why you are unable to provide the information at this time. Please list any issues related to budgetary cycles separately.</p> <p>Please indicate which type of stakeholder you are:</p> <p><input checked="" type="checkbox"/> Operator of a transmission facility</p> <p><input type="checkbox"/> Operator of a generating unit or operator of an aggregated generating facility with a maximum authorized real power (“MARP”) of 5 MW or greater</p> <p><input type="checkbox"/> Other (please specify in the comments)</p>	<p>implement the compliance requirements as outlined in 502.17 and AltaLink estimates the cost to be \$300,000.</p> <p>The complexity of the full mesh option could result in significant increases in cost and implementation timeline depending on vendor compatibility, testing requirements, and coordination efforts between MPs.</p>
2	<p>Orderwire Architecture Options</p> <p>Which of the following orderwire architecture options do you support, if any:</p> <p><input type="checkbox"/> Mesh Option</p> <p><input checked="" type="checkbox"/> Operator of a Transmission Facility Hub Option</p> <p><input checked="" type="checkbox"/> AESO Hub Option</p> <p><input type="checkbox"/> Other (please provide details in the comments)</p> <p>The architecture for the first 3 options can be found in the Attachment. Please provide the rationale for your opinion or suggest an alternative option.</p>	<p>AltaLink submits that the best overall option is the TFO Hub option, limited to either AltaLink only or AltaLink and ATCO based on geography, number of directly connected MPs, operational efficiency, cost considerations, and ongoing sustainability. However, AltaLink notes that this preference is contingent on concerns that AltaLink has raised being addressed. See AltaLink’s discussion in Question #8.</p> <p>AltaLink notes that while the AESO hub option is logical from a coordination and volume of interaction perspective, having all calls regardless of location within the province processed by AESO infrastructure may not be operationally practical. For example, in order for ATCO’s control center to call someone in Ft McMurray, they would need to traverse most of AltaLink’s network first prior to having the call processed by the AESO in Calgary, which results in an increase in points of failure. AltaLink considers this option feasible, but not ideal.</p> <p>AltaLink’s submits that the full mesh option would likely introduce a significant amount of operational complexity and is not something AltaLink supports.</p>

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3	<p><u>Stakeholder's Preferred Orderwire Architecture Option</u></p> <p><i>If you do not support the AESO's preferred mesh option, please provide the cost and timeline to implement and operate the orderwire architecture option you support.</i></p> <p>Please provide:</p> <ul style="list-style-type: none"> (a) the implementation cost and implementation timeline; and (b) the operational cost; <p>of the Orderwire architecture option.</p> <p>Please provide all assumptions used to determine the costs and timeline, including your assumptions for the list of variables provided in the Attachment. Where possible, provide a breakdown of the cost and implementation timing by proposed new Section 502.17 requirements. If you are unable to provide the costs and timeline of complying with a proposed new Section 502.17 requirement, please state that requirement and why you are unable to provide the information at this time. Please list any issues related to budgetary cycles separately.</p> <p><i>Please indicate which type of stakeholder you are:</i></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> <i>Operator of a transmission facility</i> <input type="checkbox"/> <i>Operator of a generating unit or operator of an aggregated generating facility with a maximum authorized real power ("MARP") of 5 MW or greater</i> <input type="checkbox"/> <i>Other (please specify in the comments)</i> 	<p>AltaLink comments:</p> <p>Please see response to Questions #1 and #2. The costs as described in Question #1 are estimates and as a result they can be applied here as well. Relative to each other, the full mesh option is incrementally more expensive than the TFO or AESO hub options and would also have a longer implementation timeline.</p>
4	<p><i>Availability Requirements</i></p> <p>Whether you agree with the availability targets set out in subsection 8, <i>Performance and Maintenance of Primary and Backup Voice Communication Systems</i>, of the proposed new Section 502.17. Please explain why or why not. If you do not agree, please provide suggested changes and the rationale for</p>	<p>AltaLink submits that there are currently too many different availability targets in the draft Rule 502.17 across different MP connection types and primary versus backup. As the primary systems are generally the carrier networks such as Telus, no availability targets should be applied to these services in draft Rule 502.17 as these are not directly within the control of the market participant.</p>

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	your suggestion.	<p>This is one reason a backup voice system wholly owned and operated by market participants has been listed by the AESO as a reason to implement the changes in Rule. AltaLink proposes that as the 2 major TFOs are responsible for the majority of the systems and interconnections, the availability of the backup voice system should match the TFO requirements for SCADA availability, 98%, which is what links are designed to achieve as a default minimum due to the breadth of SCADA deployment. This 98% should apply across the board for backup communications via orderwire regardless of MP type. Any additional availability requirements over 98% may require a significant assessment period and upgrade of existing infrastructure, leading to drastically higher costs to deploy.</p>
5	<p>Extended Power Outage Requirements</p> <p>Whether you agree with the requirements for market participants during extended power outages of its facilities set out in subsection 9, <i>Extended Power Outage</i>, of the proposed new Section 502.17. Please explain why or why not. If you do not agree, please provide suggested changes and the rationale for your suggestion.</p>	<p>AltaLink proposes that subsection 9(2) wording be clarified to only apply to control centers versus all “facilities”. AltaLink proposes the 72 hour requirement be reduced to 48 hours.</p> <p>In subsection 7(1), AltaLink proposes the requirement only apply to field voice communication systems between market participant control centers and market participant owned field voice communication sites. AltaLink uses collocated mobile radio locations for covering areas of the province where AltaLink does not have sufficient presence to provide adequate coverage. These collocated sites may not allow AltaLink to deploy sufficient battery backup to meet 8 hours. Alternatively this could be accommodated through a written exception and not specifically outlined in 502.17.</p>
6	<p>Operational Requirements</p> <p>Whether you agree that the proposed new Section 502.17 effectively captures the ongoing operational requirements of the proposed architecture. Please explain why or why not. If you do</p>	<p>AltaLink does not believe ongoing operational requirements are captured in the draft Rule 502.17 beyond the AESO’s expected availability numbers, periodic testing, communication expectations, and architecture or voice system</p>

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	<p>not agree, please provide suggested changes and the rationale for your suggestion.</p>	<p>connection type required per MP category. Though not an exhaustive list, there are a number of responsibilities where it is not clear who will be maintaining, such as satellite phone number lists and service providers, market participant list by category for a common reference point, and expectations for new connecting MPs that they are responsible for the infrastructure build to the nearest upstream MP's POP.</p> <p>AltaLink also requests clarification on backup control center requirements and the intent of the "other backup locations" component of 5(1). For example, if a TFO connects to a 300MW generator, and both have primary and backup control centers, is orderwire required from both TFO primary and backup to both generator primary and backup? Does this also include the AESO primary and backup? There may be significant infrastructure gaps among MPs for orderwire to many backup control centers which was not considered in the cost estimate and obviously has potential for significant cost impact.</p>
7	<p>Utility Orderwire Description</p> <p>Whether you agree with the AESO's description of "utility orderwire" as:</p> <ul style="list-style-type: none"> (a) a service that is independent of external commercial telecommunication services such that continued operation, during an extended power outage, can be assured and restoration activities are internally controlled; (b) being able to leverage the existing utility telecommunication network infrastructure, including fibre, microwave, routers, and phone switches; and (c) including, if applicable, leased assets, such as dark fibre and tower access from 3rd party providers, where the active telecommunication equipment (router, radio, batteries, etc.) is controlled by the market participant. 	<p>AltaLink agrees with this definition. In some collocated sites, the definition is possibly only applicable to mobile radio service as power may be provided by the site owner and not the TFO. This can be covered by a written exception and does not need to change the definition of orderwire or necessarily be accommodated within the standard itself.²</p>

² This information has only been included for additional context.

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8	<p>Other</p> <p>Please provide any other feedback or suggestions you have on the proposed new Section 502.17. Please provide the rationale for your suggestion.</p>	<p>AltaLink filed its 2019-2021 GTA with the AUC in August 2018 and in July 2019 AltaLink reached a negotiated settlement with interveners. At present, no capital or operational funding is in place to enable work on Rule 502.17 planning or implementation during this GTA period. As a result, the commencement of implementation of the requirements of Rule 502.17 through a GTA funded project could commence, pending budget approval, in early 2022. Approximate implementation timeline would be 1-2 years, depending on the complexity of the chosen solution and the level of coordination and collaboration among the various MPs. For example, it would be difficult for AltaLink to coordinate all MP interconnections simultaneously, so a phased approach would be required which hinges on different MPs being available at staggered times throughout the year(s) on a schedule primarily driven by AltaLink as the hub. A non-staggered approach would drive higher costs and more complexity in implementation.</p> <p>AltaLink's submits that a direct assign project is more suitable for implementing this rule. The rationale for this position is that AltaLink and ATCO, as the 2 primary TFOs based on geography, have considerably more obligations than any other MPs for the successful implementation and operation of Rule 502.17. This represents a capacity increase for the associated systems and net new requirements being formally deployed for the first time, which will require considerable enhancements to the existing system. It is likely that AltaLink and ATCO will need to coordinate and lead the deployment on behalf of other MPs due to being primary infrastructure and potentially voice system owner/operators. AltaLink will require that a separate agreement be in place for each MP as this is a separate service the TFO will be providing. These agreements would also address the liability and other contractual terms between AltaLink and each MP.</p> <p>AltaLink submits that there should be a reasonable fee charged to the generator, who is a non-regulated entity, to cover TFO operating costs.</p>

Information Document - The AESO intends to develop an information document to accompany the proposed new Section 502.17. At a minimum, the AESO suggests that such an information document would contain descriptions of a utility orderwire and a control room for generators. Please provide your views on the type of content that should be included in an information document associated with the proposed new Section 502.17. Please provide the rationale for your suggestion.

None.