

Appendix C – Written Stakeholder Feedback and AESO Responses



Question	Feedback	AESO Response
AltaLink		
Did the AESO’s engagement session(s) help you understand the Criteria?	Yes, the session was helpful. AltaLink appreciates the AESO hosting the session.	
Are there potential challenges, barriers, or risks presented by the Criteria?	<p>AltaLink is generally supportive of the proposed criteria with the following suggestions.</p> <p>Criteria #2 (Investigating system reconfigurations when facilities are reaching end-of-life when there is a current transmission need in the vicinity) may be challenging, in practice, to make work due to differing timing requirements. If timing aligns, this presents a cost optimization opportunity. Challenges arise as Capital Maintenance and Upgrade (CRU) planning and execution is defined based on asset conditions and ensuring public safety and system performance whereas system need often follows customer connection timelines which may specify different timing based on customer requirements. AltaLink would need to collaborate with the AESO on if such optimizations are possible and the best approach to facilitate both customer interconnection and tariff application processes. This should be recognized in some manner in the criteria.</p> <p>In addition, AltaLink sees value in continuing to explore potential system optimization whenever facilities are reaching end-of-life even when there is no outstanding or coincident system need in the area. The power system has evolved incrementally over many years through additions in response to evolving customer needs. When assets approach end-of-life, and especially when there are multiple assets in the same region reaching end-of-life at similar times, AltaLink believes there may be optimization opportunities to improve service delivery through an overall regional planning review. As such, AltaLink recommends that the AESO broaden criteria #2 to provide for the AESO, with support from the TFO, to investigate potential system reconfiguration whenever multiple transmission assets in a region may be approaching end of life.</p>	<p>The AESO appreciates AltaLink's comments and agrees that there is value in closer coordination between the TFOs and the AESO to explore potential system optimization when a group of assets reaches end-of-life. At this time, the AESO is not planning to expand Criteria #2 per AltaLink's suggestion; however, the AESO is committed to exploring with interested TFOs the potential for additional or refined processes to enable closer coordination.</p>
Are there any outstanding “grey areas” that need to be clarified?	From the session, the “project prioritization process” appears to be a key element of how the AESO determines what system needs are addressed in system transmission projects. Details on this process were not provided in the session. We believe it would be helpful for stakeholders to better understand this key AESO process.	The AESO's project prioritization process is an AESO internal process to prioritize identified needs for transmission system development based on the applicable AESO forecast. The process is designed to identify and address urgent needs that have relatively higher impacts than others. However, the

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		<p>process does not bear on whether a specific need is considered a "system project". Accordingly, the AESO considers that publishing the system project criteria provides sufficient and appropriate insight about the AESO's process for initiating system projects.</p>
<p>Based on the above, would you suggest adjustments to the Criteria?</p>	<p>Please see our response to question #2.</p>	
<p>ENMAX</p>		
<p>Did the AESO's engagement session(s) help you understand the Criteria?</p>	<p>Yes, the session helped EPC understand the conditions under which the AESO's would propose a transmission system project. The presentation also helped EPC to understand what types of Alternatives the AESO prefers under the various system conditions.</p> <p>However, some ambiguity remains regarding the listed "criteria". Further information around this ambiguity is provided in EPC's responses to Question 2 and Question 3.</p>	
<p>Are there potential challenges, barriers, or risks presented by the Criteria?</p>	<p>Yes, EPC has identified the following risks:</p> <p>Criteria #1 Criteria #1 as describes appears to focus only on N-0 and N-1 reliability requirements. This could lead other substantial reliability risks being ignored entirely.</p> <ul style="list-style-type: none"> • For example, EPC's transmission system is at risk of overload under N-2 contingency conditions today. N-2 contingency events are not uncommon within EPC's transmission system. Bus faults, structure impacts along roadways, water main breaks under foundations, and even public interference have all lead to N-2 contingency events within EPC's transmission system in recent history. At what point would a system project be initiated to address N-2 violations of the AESO's transmission planning standards? <p>Criteria #2 System reconfiguration or the salvaging of existing transmission assets under Criteria #2, could result in reduced reliability for exiting substations and the end (distribution) customers.</p> <ul style="list-style-type: none"> • For example, a looped system configuration provides N-1 reliability without loss of load. By reconfiguring this system into a 	<p>Regarding ENMAX's comments on Criteria #1: The AESO expects that overloads under N-2 would be resolved by utilizing operational measures, such as remedial action schemes to shed load.</p> <p>Regarding ENMAX's comments on Criteria #2: The AESO does not foresee applying the Criteria in a manner that will result in reduced reliability to end-use customers. The AESO expects to apply the Criteria such that current levels of reliability will be preserved or enhanced. For example, the AESO does not foresee applying Criteria #2 if an end-use customer's reliability is reduced from N-1 to N-0.</p>

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	<p>radial configuration an existing line can be salvaged, resulting in cost savings and reduced land use. Such a reconfiguration would also reduce end customer reliability from N-1 to N-0.</p> <ul style="list-style-type: none"> • It is EPC’s belief that the customer contribution paid by the DFO at the time of interconnection is for a specific interconnection arrangement and that the properties inherent to the interconnection arrangement, specifically reliability, should be guaranteed. (i.e., if a DFO paid for two lines for N-1 reliability it should be guaranteed N-1 reliability) • While the AESO did state, in response to a Q&A question, that they would not propose a reconfiguration solution that would result in a reduction of existing system reliability, it was not clear if the AESO was referring to end customer reliability or simply transmission reliability as it relates to the AESO’s TPL standards. <p>Criteria #3 EPC understands Criteria #3 to allow the AESO to optimize the transmission system in the absence of a TPL violation. EPC does not see a need for this criteria, but should it remain, EPC would expect that all alternative solutions considered in the optimization process would maintain or exceed the pre-existing level of reliability experienced by the end use distribution customer.</p>	<p>Regarding ENMAX’s comments on Criteria #3: Similar to the description provided for Criteria #2, the AESO does not foresee applying the Criteria in a manner that will result in reduced reliability to end-use customers. The AESO expects to apply all of the Criteria such that currently levels of reliability will be, at minimum, preserved, or enhanced.</p>
<p>Are there any outstanding “grey areas” that need to be clarified?</p>	<p>Yes, EPC feels significant levels of ambiguity exists around the criteria presented. Specifics ambiguities noted are as follows:</p> <p>Criteria #1: The AESO indicated Criteria #1 relates to TPL Criteria Violations under N-0 and N-1 contingency conditions (TPL-001-AB-1 ; TPL-002-AB1-0). However:</p> <ul style="list-style-type: none"> • No mention was made regarding how other violations of Transmission Regulation other Reliability Criteria (TPL-003-AB-1) would be addressed. • It was not clear how the AESO’s existing Under Voltage or Under Frequency Load Shedding Schemes and RAS fit into the picture. <ul style="list-style-type: none"> o EPC has been subjected to an increasing number of Under Frequency Load Shedding events. At what point would a system project be proposed to mitigate this risk. • It was not clear how Criteria #1 would handle Reliability Criteria Violations currently mitigated through the use of Temporary RAS. <p>Criteria #2: <ul style="list-style-type: none"> • It was unclear what framework the AESO would use to evaluate “a better overall solution” when compared to like-for-like replacement. Further, it was unclear if such a framework already exists or if it is yet to be defined. • It was noted that Criteria 2 applies when a System Need and Asset End of Life condition are occurring together. These two </p>	<p>In response to ENMAX’s comments regarding Criteria #1: If an overload is currently mitigated by a temporary remedial action scheme (RAS) without losing load, the associated system project is likely to be timed when the temporary RAS is no longer effective. For example, if a thermal overload is being mitigated by a RAS that opens a tie-breaker without losing load, the RAS effectively defers the timing of the identified need and the corresponding system project will be developed and subsequently placed in service when the RAS is no longer effective in mitigating the thermal overload. In addition, Reliability Criteria does allow for the use of UFLS or other approaches to maintain system reliability under specific conditions. The AESO does not foresee applying Criteria #1 as long as the use of UFLS is allowed within Reliability Criteria.</p> <p>In response to ENMAX’s comments regarding Criteria #2: Since</p>

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	<p>conditions rarely occur at the same time. Given this fact, it is unclear to what degree the AESO would be willing to defer/advance system build in order to meet the Criteria 2.</p> <p>o Note: TFO's are mandated under the Electric Utilities Act to "operate and maintain the transmission facility in a manner that is consistent with the safe, reliable and economic operation of the interconnected electric system." This includes replacing assets, if deemed necessary, at their end of life.</p> <ul style="list-style-type: none"> • The AESO stated, in response to a Q&A question, that they would not propose a reconfiguration solution that would result in a reduction of existing system reliability. In making this statement, it was unclear if the AESO was referring to end (distribution) customer reliability or simply the greater overall transmission system reliability. <p>Criteria #3:</p> <ul style="list-style-type: none"> • EPC finds criteria #3 ambiguous. It is unclear how the AESO can justify the burden of additional system costs on rate payers when the existing equipment is operating as designed with no violations of transmission regulation or reliability criteria. <p>o The Criteria #3 example provided sounded as though it would rely on reliability criteria violations as a driver. If so, this would run counter to the Criteria #3 requirements as stated. Could the AESO provide a historical example of a project that meets Criteria #3?</p> <ul style="list-style-type: none"> • EPC recognizes the AESO will take the responsibility to demonstrate the benefits of any optimization proposals put forward. EPC requests that the AESO collaborate with the TFO' and DFO's and reach agreement on benefits prior to submission with AUC. 	<p>every situation is unique, the AESO intends to evaluate the value of advancement and deferral on a case-by-case basis, working closely with the relevant TFO.</p> <p>In response to ENMAX's comments regarding Criteria #3: Criteria #3 will be applied on a case-by-case basis by the AESO and the AESO's decision whether to pursue a system transmission project on the basis of Criteria #3 will be a fact-specific determination that will be reviewed and vetted by the AUC as part of an AESO NID application.</p>
<p>Based on the above, would you suggest adjustments to the Criteria?</p>	<p>The proposed "Criteria" are more representative of a guide or policy around proposal of system projects by the AESO. They should be referred to as such with the actual criteria for identifying system need left to the AESO TPL standards, Rule 007, the Electric Utilities Act, the Transmission Regulation.</p> <p>If the above recommendation is not followed:</p> <p>Criteria #1:</p> <ul style="list-style-type: none"> • All violations of AESO TPL standards should be included. • An explanation of how use of temporary Remedial Action Schemes impact system development need/prioritization. (i.e., If a temporary RAS is required to mitigate a criteria violation, when would the RAS be replaced by system development?). <p>Criteria #2:</p> <ul style="list-style-type: none"> • An assurance that system reconfiguration will not result in a reduction in reliability or the safe operation for Transmission and Distribution connected customers 	<p>Regarding ENMAX's comments on Criteria #1: The AESO generally agrees that the identification of the need is achieved through the application of Reliability Criteria and other applicable legislation, and the system project criteria are not intended to replace or supplant either of these. However, for clarity, the system project criteria have not been developed for the purpose of identifying a need for the expansion or enhancement of transmission system capability. Rather, in alignment with the Commission's direction, the system project criteria have been developed to provide stakeholders with greater clarity and transparency about <i>when</i> the AESO would</p>

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	<ul style="list-style-type: none"> • A clear framework should be defined and made publicly available describing the criteria for identifying “a better overall solution”. Examples of what this framework should tackle are: <ul style="list-style-type: none"> o Which factors should be considered (cost, land use, reliability etc.)? o How will qualitative benefits be included? o What accuracy of cost estimation is appropriate? o Who is responsible for providing the cost estimates? o Will system project alternatives be assessed with the same rigor as connection projects? o Will the assessment occur through a gated process similar to that of the connection processes, with increasing levels of scrutiny and accuracy at each gate? Criteria #3: <ul style="list-style-type: none"> • EPC does not see a need for Criteria #3 as stated and believes it should be removed. 	<p>initiate a "system project" (which follows the identification by the AESO of a need to expand or enhance transmission system capability. Please also refer to responses provided above.</p> <p>Regarding ENMAX's comments on Criteria #2: As the AESO's system project criteria will be applied (and, through NID applications filed with the Commission, justified) on a case-by-case basis, the AESO does not plan to provide additional granularity at this time.</p>
EPCOR		
<p>Did the AESO’s engagement session(s) help you understand the Criteria?</p>	<p>Yes, EPCOR found the engagement sessions helpful to understanding the Criteria.</p>	
<p>Are there potential challenges, barriers, or risks presented by the Criteria?</p>		
<p>Are there any outstanding “grey areas” that need to be clarified?</p>	<p>EPCOR requests additional information on the implementation plan for the System Transmission Project Criteria. Does the AESO require any further approvals prior to implementing the System Transmission Project Criteria?</p> <p>Where characteristics of a Connection Project engage the principles covered by the System Transmission Project Criteria (e.g., Reliability Criteria or Optimizing with End of Life Assets), will the AESO apply the System Transmission Project Criteria to its cost classification assessment?</p> <p>Does the AESO anticipate developing a separate set of criteria, which include the same principles underlying the System Transmission Project Criteria, for Connection Projects?</p>	<p>The AESO will be filing a compliance filing and report with the AUC to comply with the AUC's directions on this matter. The AESO considers that the system project criteria will support system-related cost classification for connection projects, in a manner that aligns with the currently approved ISO tariff. Accordingly, the AESO does not consider a separate set of criteria to be required or appropriate for connection projects.</p>

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TransAlta		
Did the AESO’s engagement session(s) help you understand the Criteria?	The session provided helpful illustrative examples of the application of the three criteria TransAlta appreciates the information presented at the stakeholder session, which better explained how the AESO applies its criteria for determining the need for a system transmission project. The illustrative examples were helpful in understanding the application of criteria and showed how the application of each criterion could vary the system transmission solution to address the transmission need.	
Are there potential challenges, barriers, or risks presented by the Criteria?	<p>The criteria for system project should support the fair, efficient and openly competitive market and ensure timely access to support generation development</p> <p>While the principles of the criteria itself are clear (i.e., ensuring system reliability, promoting system efficiency, lowering overall costs/improving system performance, TransAlta notes that none of the criteria specifically considers supporting a fair, efficient and openly competitive market which is also part of the AESO’s mandate.</p> <p>Coordinated transmission development should be pursued but new processes and practices are necessary to enable these opportunities TransAlta agrees that coordinated transmission development could present better overall solutions for development. The interconnection process is not currently conducive to identifying coordinated connection development in that each project is applied for individually and the only party that is aware of potential coordination benefits or opportunities is the AESO. The newly proposed approach will require the AESO to facilitate these discussions with and coordination between individual project owners early enough that these opportunities can be properly explored and considered.</p> <p>The AESO should explain how it is planning to address double-circuit contingency risks.</p> <p>The AESO revealed a highly concerning risk in its Transmission System Projects Update that the Alberta Interconnected Electric System could be exposed to a total system black-out related to a failure on a double-circuit line that could lead to a cascading event. Even if such an event is assigned a low probability, the significant and adverse impact associated with such an event should dictate that the AESO plan to prevent or mitigate such an outcome under criterion 1 (the “reliability criterion”). We recommend that the AESO explain why the “reliability criterion” is not being invoked or applied to this substantial and real risk.</p>	<p>The AESO will apply the system project criteria in a manner consistent with, and taking into account, the AESO’s legislative mandate and the broader regulatory framework in Alberta, including the AESO’s legislative duty to promote the fair, efficient and openly competitive (FEOC) operation of the markets. Further, the AESO considers that the system project criteria promote the FEOC operation of the market by promoting a reliable, safe, and economically-developed transmission system, having regard for the needs of Alberta and the public interest.</p> <p>The AESO assesses the risks associated with potential double-circuit contingencies and will apply the system project criteria on a case-by-case basis.</p> <p>The potential for coordinated connection facilities is already part of the AESO <i>Connection Process</i>, in particular during the step where connection alternatives are identified. However, the AESO recognizes the challenge of coordinating with</p>

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		<p>different market participants whose projects may have different timelines and objectives. However, in recognizing the value of coordinated connection facilities, the AESO intends to further consider this opportunity.</p>
<p>Are there any outstanding “grey areas” that need to be clarified?</p>	<p>The AESO should better explain what they consider as “grey areas” and how the criteria/criterion will be applied to identify system transmission needs TransAlta would like more information about what the AESO considers as a grey area. More specifically, are these “grey areas” where a project may be argued to be either a participant or system-related project? TransAlta asks the AESO provide clarification with examples of projects where the application of the criteria result in the project being consider in the “grey area”. Additionally, we ask that the AESO provide some examples of “grey areas” related to Distribution Facility Owner (DFO) projects that may drive transmission system projects and have participant and system-related components.</p> <p>The AESO should provide clarification on how its criteria would be applied to Non-Wires Solutions (NWS) The AESO suggested that it would consider NWS or Non-Wires Alternatives to address system reliability issues. Section 15(3) of the Transmission Regulation currently limits the consideration of NWS to specific and limited exceptions where there is limited potential load growth and the NWS is needed to ensure reliable service due to the shorter lead time of NWS and for a specified period of time. As the AESO is aware, Alberta Energy has consulted on the expanded use of NWS and more specifically energy storage as a NWS and sought comments on whether changes should be made to the Transmission Regulation. TransAlta supports the expanded consideration of NWS and advocated for NWS to be more broadly considered beyond just areas with limited potential load growth as a means to meet transmission needs and manage ratepayer cost and risk associated with transmission investment.</p> <p>TransAlta recommends that the AESO clarify how it will apply its criteria to consider NWS and provide an example/examples similar to what the AESO presented for transmission wires solutions.</p>	<p>A DFO project that requires access to the transmission system would be considered a connection project and would be initiated through a SASR. The ISO tariff is used to determine whether and what proportion of the costs of the transmission development associated with the connection project will be classified as participant-related or system-related. The cost is then assigned accordingly. On the issue of classifying connection project costs as system-related or participant-related, the Commission in Decision 22942-D02-2019 cited the concept of “shades of grey” in reference to the Commission’s predecessor, which supports “a general stance that”, in the event of a debatable situation, "system enhancement costs are customer costs unless demonstrated otherwise [...]” The AESO considers that its system project criteria will provide market participants with greater transparency and clarity around "grey area" situations will be resolved, including in terms of when the AESO will initiate a system project or instead require a SASR for purposes of initiating a connection project.</p> <p>The system project criteria is intended to provide clarity around when a transmission system project would be initiated by the AESO. Within the bounds of the legislative framework, non-wires solutions may be proposed by the AESO as a means of addressing an identified "need". The system project criteria are not, therefore, intended as a mechanism for the determination</p>

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		of whether the AESO should proceed with a wires solution or a non-wires solution.
Based on the above, would you suggest adjustments to the Criteria?	The criteria should be adjusted to always consider FEOC and the AESO's obligations under the Transmission Regulation Yes, as described in our comments to Question 2 above, the criterion of fair, efficient and openly competition and the requirements of the AESO under the Transmission Regulation to plan for a system that can accommodate 100% of in-merit generation. TransAlta recommends that this criterion and the requirements be reflected in the AESO system project criteria.	See the AESO's response above.