

December 3, 2021

To: Market Participants and Other Interested Parties

Re: Comments on Consultation Letter – Proposed New Alberta Reliability Standard CIP-012-AB-1, Cyber Security – Communications between Control Centers (“CIP-012-AB-1”)

Written comments received from market participants and other interested parties (“Stakeholders”) in response to the Alberta Electric System Operator’s (“AESO”) November 3, 2021 Consultation Letter regarding proposed new CIP-012-AB-1 have been posted on the AESO website.

The following list is hyperlinked to help in directing you to these written comments:

1. AltaLink Management Ltd.;
2. ATCO Electric Ltd.;
3. ENMAX Corporation;
4. EPCOR Distribution & Transmission Inc.;
5. Heartland Generation Ltd.; and
6. Suncor Energy Inc.

Thank you to all Stakeholders who participated in this consultation. All written comments received will be considered in the finalization of the proposed new CIP-012-AB-1.

Sincerely,

Jodi Marshall

Jodi Marshall
Manager ISO Rules and Alberta Reliability Standards
Email: ars_comments@aeso.ca

Stakeholder Comment Matrix

Proposed New Alberta Reliability Standard CIP-012-AB-1, Cyber Security – Communications between Control Centers (“CIP-012-AB-1”)



Date of Request for Comment:	November 3, 2021	Contact:	Jenette Yearsley
Period of Comment:	November 3, 2021 through November 24, 2021	Phone:	(403) 703-3201
Comments From:	AltaLink	Email:	Jenette.Yearsley@AltaLink.ca
Date:	2021/11/24		

Instructions:

1. Please fill out the section above as indicated.
2. Please refer back to the Consultation Letter under the “Attachments” section to view materials related to the proposed new CIP-012-AB-1.
3. 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.
4. Please be advised that general comments do not give the AESO any specific issue to consider and address, and result in a general response.

Alberta Reliability Standard	Stakeholder Comments and/or Alternative Proposal
<p>New</p> <p>1. Are there any requirements contained in the proposed new CIP-012-AB-1 that are not clearly articulated? If yes, please indicate the specific section of the proposed new CIP-012-AB-1, describe the concern, and suggest alternative language.</p>	<p>AltaLink notes that the following statement in R1 of NERC CIP-012-1 was removed from the proposed CIP-012-AB-1:</p> <p>“The Responsible Entity is not required to include oral communications in its plan.”</p> <p>It is AltaLink’s understanding that “oral communications” are not the “real time assessment and real time monitoring data” and would be out of scope.</p> <p>Please provide the definitions of “real time assessment” and “real time monitoring data” and please confirm that “oral communications” are out of scope for CIP-012.</p>
<p>2. Do you have any additional comments regarding the proposed new CIP-012-AB-1? If yes, please specify.</p>	<p>AltaLink notes that the operator or owner of distribution facilities (DFO) is not listed as one of the applicable responsible entities of CIP-012-AB-1. Please confirm that the communications between a control center owned by a TFO</p>

	<p>(operator or owner of transmission facilities) and a control center owned by a DFO would be out of scope.</p> <p>AltaLink also submits that the release of the Reliability Standard Audit Worksheet during the consultation period would be beneficial and help Market Participants provide comments regarding CIP-012-AB-1.</p>
<p>3. 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>	<p>AltaLink would recommend the AESO develop a related information document and include the following contents:</p> <ol style="list-style-type: none"> 1. To provide guidance on the evidence and expectations; 2. To establish a standardized security protection practice/procedure for market participants; 3. To provide guidance on the coordination between entities (including the AESO), including any requirements for agreements. <p>Please comment on the applicability of NERC guidance to the AESO's CIP-012-AB-1.</p>

Stakeholder Comment Matrix

Proposed New Alberta Reliability Standard CIP-012-AB-1, Cyber Security – Communications between Control Centers (“CIP-012-AB-1”)



Date of Request for Comment:	November 3, 2021	Contact:	Alain Duguay
Period of Comment:	November 3, 2021 through November 24, 2021	Phone:	587-372-1595
Comments From:	ATCO Electric Ltd	Email:	alain.duguay@atco.com
Date:	[November 23, 2021]		

Instructions:

1. Please fill out the section above as indicated.
2. Please refer back to the Consultation Letter under the “Attachments” section to view materials related to the proposed new CIP-012-AB-1.
3. 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 favorable comments.
4. Please be advised that general comments do not give the AESO any specific issue to consider and address, and result in a general response.

Alberta Reliability Standard	Stakeholder Comments and/or Alternative Proposal
<p>New</p> <p>1. Are there any requirements contained in the proposed new CIP-012-AB-1 that are not clearly articulated? If yes, please indicate the specific section of the proposed new CIP-012-AB-1, describe the concern, and suggest alternative language.</p>	<p>Comment # 1: Insert Comments / Reason for Position (if any)</p> <p>1) Could the AESO please provide an example on who the control centers are in this exception: “(b) a control centre that transmits to another control centre real time assessment or real time monitoring data pertaining only to the generating resource, transmission station, or substation co-located with the transmitting control centre”. Will the AESO clarify that this excludes “data center associated with control centers”?</p> <p>2) Could the AESO please provide a definition for “real time assessment data” and “real time monitoring data”?</p> <p>3) What is the AESO looking to have as evidence of implementation of security protections between controls centers in the plan?</p>

	<p>4) Does the AESO’s interpretation of ‘real time assessment and real time monitoring data’ as per of CIP-012-AB-1 include oral communications? This is included in the NERC version of the standard but was excluded in the proposed AESO version with no comment in the comparative matrix column</p>
<p>2. Do you have any additional comments regarding the proposed new CIP-012-AB-1? If yes, please specify.</p>	<p>1) The ISO’s compliance date is July 1, 2022. How will the AESO engage with the Market Participant to meet this compliance date?</p> <p>2) Does the AESO foresee the development of a cost sharing and security measure agreement between the AESO and the Market Participants? Will the AESO be drafting such agreement?</p> <p>3) Does the AESO support the contents of NERC’s CIP-012 implementation guide - https://www.nerc.com/pa/comp/guidance/EROEndorsedImplementationGuidance/CIP-012-1%20Communications%20Between%20Control%20Centers%20(2016-02%20SDT).pdf</p> <p>4) Will the security measures be standardized across all Market Participants or will the Market Participant’s own internal standards apply to the link between the AESO and individual Market Participant?</p> <p>5) Does the AESO have a projected timeline on when the RSAW for CIP-012 would be available to the market participants</p>
<p>3. 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>	<p>AE suggest that an information document to provide some guidance on examples of “real time assessment data” and “real time monitoring data” would be beneficial.</p>

Stakeholder Comment Matrix

Proposed New Alberta Reliability Standard CIP-012-AB-1, Cyber Security – Communications between Control Centers (“CIP-012-AB-1”)



Date of Request for Comment:	November 3, 2021	Contact:	Mark McGillivray
Period of Comment:	November 3, 2021 through November 24, 2021	Phone:	
Comments From:	ENMAX Corporation (“ENMAX”)	Email:	MMcGillivray@enmax.com
Date:	2021-11-19		

Instructions:

1. Please fill out the section above as indicated.
2. Please refer back to the Consultation Letter under the “Attachments” section to view materials related to the proposed new CIP-012-AB-1.
3. 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.
4. Please be advised that general comments do not give the AESO any specific issue to consider and address, and result in a general response.

Alberta Reliability Standard	Stakeholder Comments and/or Alternative Proposal
<p>New</p> <p>1. Are there any requirements contained in the proposed new CIP-012-AB-1 that are not clearly articulated? If yes, please indicate the specific section of the proposed new CIP-012-AB-1, describe the concern, and suggest alternative language.</p>	<p><u>Comment # 1:</u> Based on Exemption (b) – ENMAX requests clarity on the exemption (b) based on ENMAX Energy’s control centres. Is the best process to obtain clarity through the ISO’s RFI process?</p> <p><u>Comment #2:</u> Requirement 1 – What is the expectation on the effective date of CIP-012-AB-1? Should the plans be in place to include how to mitigate the risks (& identify the measures that are in place), or should the plans include how to respond to the risks (event based)?</p> <p><u>Comment #3:</u> Requirement 1 – Is the “real-time monitoring data while being transmitted between any applicable control centres” considered as a uni-directional data flow or does it include bi-directional data flows in the exemption?</p>

	<p><u>Comment # 4:</u></p> <p>NERC CIP-012-1 R1 includes a statement missing from CIP-012-AB-1:</p> <p style="padding-left: 40px;">“The Responsible Entity is not required to include oral communications in its plan.”</p> <p>Does the AESO interpretation of ‘real time assessment and real time monitoring data’ as per CIP-012-AB-1 include oral communications?</p>
<p>2. Do you have any additional comments regarding the proposed new CIP-012-AB-1? If yes, please specify.</p>	<p>No comment.</p>
<p>3. 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>	<p><u>Comment #1:</u></p> <p>Will the AESO be developing an Information Document in alignment with NERC Technical Rationale and Justification for Reliability Standard CIP-012-1 (dated August 2018) which further outlines and clarifies CIP-012 Exemptions for certain control centers based upon Figures 1 – 4 within that document?</p> <p>Without this clarification, some control centres could be included within the scope that were not intended to be within the scope of the reliability standard developed and approved by NERC.</p> <p><u>Comment #2:</u></p> <p>Does the AESO recommend the use of NERC’s CIP-012 implementation guide?</p> <p><u>Comment #3:</u></p> <p>ENMAX would like to confirm when the CIP-012-AB-1 RSAW will be made available?</p>

Stakeholder Comment Matrix

Proposed New Alberta Reliability Standard CIP-012-AB-1, Cyber Security – Communications between Control Centers (“CIP-012-AB-1”)



Date of Request for Comment:	November 3, 2021	Contact:	Joseph Shield
Period of Comment:	November 3, 2021 through November 24, 2021	Phone:	780-412-8877
Comments From:	EPCOR Distribution & Transmission Inc.	Email:	jshield@epcor.com
Date:	2021/11/24		

Instructions:

1. Please fill out the section above as indicated.
2. Please refer back to the Consultation Letter under the “Attachments” section to view materials related to the proposed new CIP-012-AB-1.
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Alberta Reliability Standard	Stakeholder Comments and/or Alternative Proposal
<p>New</p> <p>1. Are there any requirements contained in the proposed new CIP-012-AB-1 that are not clearly articulated? If yes, please indicate the specific section of the proposed new CIP-012-AB-1, describe the concern, and suggest alternative language.</p>	<p>EPCOR requests that the AESO provide definitions for “real time assessment data” and “real time monitoring data.”</p> <p>The NERC CIP-012-1 reliability standard includes the following statement in R1:</p> <p style="padding-left: 40px;">‘The Responsible Entity is not required to include oral communications in its plan.’</p> <p>This statement is not included in the AESO’s CIP-012-AB-1 reliability standard. EPCOR requests clarity on whether Responsible Entities are required to include oral communications in their plan.</p>
<p>2. Do you have any additional comments regarding the proposed new CIP-012-AB-1? If yes, please specify.</p>	<p>EPCOR requests that the AESO develop the reliability standards audit worksheet (RSAW) for CIP-012-AB-1 concurrent with the development of the standard.</p> <p>In regards to in scope communication links between the AESO and</p>

	<p>Responsible Entities, EPCOR requests that the AESO provide clarity on whether there will be cost-sharing agreements between the AESO and connected entities.</p> <p>Will security measures be standardized for all Responsible Entities, or will the Responsible Entities' own internal measures apply to the link between the AESO and each Responsible Entity?</p>
<p>3. 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>	<p>A guidance document such as NERC's CIP-012-1 Implementation Guidance would be useful. This guide provides Responsible Entities with implementation guidance and offers examples of approaches for compliance with CIP-012-1. Alternatively, if the AESO is not inclined to develop additional documentation, its adoption of the NERC document would be helpful.</p>

Stakeholder Comment Matrix

Proposed New Alberta Reliability Standard CIP-012-AB-1, Cyber Security – Communications between Control Centers (“CIP-012-AB-1”)



Date of Request for Comment:	November 3, 2021	Contact:	Colleen Krahn
Period of Comment:	November 3, 2021 through November 24, 2021	Phone:	403-404-9989
Comments From:	Heartland Generation Ltd.	Email:	colleen.krahn@heartlandgeneration.com
Date:	2021/11/23		

Instructions:

1. Please fill out the section above as indicated.
2. Please refer back to the Consultation Letter under the “Attachments” section to view materials related to the proposed new CIP-012-AB-1.
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Alberta Reliability Standard	Stakeholder Comments and/or Alternative Proposal
<p>New</p> <p>1. Are there any requirements contained in the proposed new CIP-012-AB-1 that are not clearly articulated? If yes, please indicate the specific section of the proposed new CIP-012-AB-1, describe the concern, and suggest alternative language.</p>	<p>Comment # 1: Clarify and give examples of "real-time assessment data" and "real-time monitoring data".</p> <p>Comment #2: ADD an exemption for controls centres that do not transmit the type of data</p>
<p>2. Do you have any additional comments regarding the proposed new CIP-012-AB-1? If yes, please specify.</p>	
<p>3. 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>	<p>Additional information that AESO may want to include in the ID, is contained in the NCCP white paper on CIP npcc-whitepaper-on-nerc-reliability-standard-cip-012.pdf . Key points are the types/examples of real time assessment and monitoring data; and location based examples of communication paths.</p>

Stakeholder Comment Matrix

Proposed New Alberta Reliability Standard CIP-012-AB-1, Cyber Security – Communications between Control Centers (“CIP-012-AB-1”)



Date of Request for Comment:	November 3, 2021	Contact:	Julio Aparicio
Period of Comment:	November 3, 2021 through November 24, 2021	Phone:	(403) 296-8953
Comments From:	Suncor Energy Inc.	Email:	japaricio@suncor.com
Date:	[2021/11/24]		

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<p>2. Do you have any additional comments regarding the proposed new CIP-012-AB-1? If yes, please specify.</p>	<p>Yes. We do.</p>

	<p><u>Comment # 2:</u></p> <p>We would propose implementation of this standard to align with NERC which was 24-months after the standard was approved in US to ensure the market participants have sufficient time to become compliant.</p>
<p>3. 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>	<p><u>Comment # 3:</u></p> <p>Can the AESO provide a sample of what it is expected to see in the documented plan mentioned in MR1?</p> <p><u>Comment # 4:</u></p> <p>Please provide guideline to evaluate if Backup control center and generating unit control rooms within Industrial System Designation (ISD) are in scope of this new proposed standard. Similar illustration provided in NERC document (Technical Rationale and Justification for Reliability Standard CIP-012-1) will help evaluate exception criteria in the Applicability Section 2.</p> <p><u>Comment # 5:</u></p> <p>Please provide examples with illustration when an entity will need to implement both or either of physical and logical security protections while data being transmitted between Control Centers. Also provide examples for expected means of physical protections to the assets that are in scope of this standard.</p> <p><u>Comment # 6:</u></p> <p>Please provide examples for identification where the entity shall apply security protection (both physical and logical) for transmitting real time assessment and real time monitoring data between control centres.</p> <p><u>Comment #7:</u></p> <p>Proposed new standard requires the communication between control centers, please clarify if external remote access <u>connection</u> (i.e. by Vendor) to a facility is in scope of this standard.</p>