

**ARC Operations Work Group Assessment and Conversion of NERC PRC-016-0 to Alberta PRC-016-AB-0 Remedial Action Scheme Misoperations**

Section	NERC PRC-016-0	Alberta PRC-016-AB-0	Reason for Difference <sup>1</sup>
<b>Purpose</b>	To ensure that all Special Protection Systems (SPS) are properly designed, meet performance requirements, and are coordinated with other protection systems. To ensure that maintenance and testing programs are developed and misoperations are analyzed and corrected.	<u>The purpose of this reliability standard is</u> to ensure that <u>RAS operations</u> are analyzed and <u>RAS</u> misoperations are corrected.	Align the purpose with the contents of the reliability standard.
<b>Applicability</b>	4.1. Transmission Owner that owns an SPS 4.2. Generator Owner that owns an SPS 4.3. Distribution Provider that owns an SPS	<u>This reliability standard applies to:</u> - <u>TFOs, GFOs and WOs who are designated by the ISO as an owner of components of a RAS.</u> - <u>ISO</u>	The ISO will identify the applicable RASs for this standard.
<b>Effective Date</b>	April 1, 2005	<u>10 calendar days after the date of approval by the Commission.</u>	
<b>Definitions</b>		<u>Italicized terms used in this reliability standard have the meanings as set out in the Alberta Reliability</u>	Reference to the Alberta Reliability Standards Glossary of Terms and

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<sup>1</sup> The following revisions have been made throughout this proposed reliability standard:

- Identified the responsible entities in Alberta.
- Applied a consistent writing style and added clarity.
- Changed passive terms such as “shall” to “must”.
- Developed measures specific to the requirements

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		<u>Standards Glossary of Terms and Part 1 of the ISO rules.</u> <sup>2</sup>	definitions section in the ISO rules.
<b>Requirement</b>	<b>R1.</b> The Transmission Owner, Generator Owner, and Distribution Provider that owns an SPS shall analyze its SPS operations and maintain a record of all misoperations in accordance with the Regional SPS review procedure specified in Reliability Standard PRC-012-0_R1.	<p><u>R1. TFOs, GFOs and WOs must each analyze its RAS operations and determine if the RAS operated correctly.</u></p> <p><u>R2 TFOs, GFOs and WOs must each maintain records of RAS misoperations.</u></p>	<p><b>Alberta Variance<sup>3</sup>:</b> The WECC Regional SPS review procedure contains two document references, one which refers to PRC-004-WECC-1 that will be adopted as an Alberta reliability standard and the other refers to a procedure titled “Information Required to Assess the Reliability of a RAS Procedure to Submit a RAS for Assessment”. In practice RAS misoperations will be analyzed in accordance with existing OPP 1304. The procedure titled “Information Required to Assess the Reliability of a RAS Procedure to Submit a RAS for Assessment” could be followed after analysis of a RAS misoperation conducted under OPP 1304 if RAS modification is required.</p> <p>Divided into two separate</p>

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<sup>2</sup> Defined terms are not italicized in this document, but will appear in the Alberta Reliability Standards document.

<sup>3</sup> An Alberta variance is a change from the US Reliability Standard that the AESO has determined is material.

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			requirements to analyze and to maintain records.  Note: PRC-012-0 applies to the WECC and does not apply to an Alberta entity.
Measure	<b>M1.</b> The Transmission Owner, Generator Owner, and Distribution Provider that owns an SPS shall have evidence it analyzed SPS operations and maintained a record of all misoperations in accordance with the Regional SPS review procedure specified in Reliability Standard PRC-012-0_R1.	<b>MR1</b> <u>Analysis of RAS operations exist.</u>  <b>MR2</b> <u>Records of RAS misoperations exist.</u>	
Requirement	<b>R2.</b> The Transmission Owner, Generator Owner, and Distribution Provider that owns an SPS shall take corrective actions to avoid future misoperations.	<b>R3</b> <u>A TFO, WO or GFO who has determined the misoperation of a RAS, in accordance with the analysis and determinations made in requirement R1, must take corrective actions to avoid future misoperations.</u>	Added clarification that corrective actions are to be done in accordance with disturbance analysis recommendations.
Measure	<b>M2.</b> The Transmission Owner, Generator Owner, and Distribution Provider that owns an SPS shall have evidence it took corrective actions to avoid future misoperations.	<b>MR3</b> <u>Records or reports exist that identify the corrective actions that were taken to avoid future RAS misoperations.</u>	
Requirement	<b>R3.</b> The Transmission Owner, Generator Owner, and Distribution Provider that	<b>R4</b> <u>TFOs, WOs and GFOs must each provide documentation of the RAS misoperation analyses</u>	Divided the reporting responsibility between Alberta participants and

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	owns an SPS shall provide documentation of the misoperation analyses and the corrective action plans to its Regional Reliability Organization and NERC on request (within 90 calendar days).	and <u>its</u> corrective action plans to <u>the ISO</u> within <u>60</u> calendar days <u>from the day of the RAS misoperation</u> .  <u>R5 The ISO must provide documentation of RAS misoperation analyses and the corrective action plans provided to it to WECC within 90 calendar days of a request from the WECC.</u>	the ISO.
Measure	<b>M3.</b> The Transmission Owner, Generator Owner, and Distribution Provider that owns an SPS shall have evidence it provided documentation of the misoperation analyses and the corrective action plans to the affected Regional Reliability Organization and NERC on request (within 90 calendar days).	<b>MR4</b> Confirmation that documentation as specified in <u>requirement R4 was received by the ISO or evidence that requests for confirmation were made for documentation provided as specified in requirement R4.</u>  <b>MR5</b> Confirmation that documentation as specified in <u>requirement R5 was received by the WECC or evidence that requests for confirmation were made for documentation provided as specified in requirement R5.</u>	
Procedures		None specified	None specified
Compliance	To view the compliance section D of the NERC reliability standard follow this link: <a href="http://www.nerc.com/files/PRC-016-0.pdf">http://www.nerc.com/files/PRC-016-0.pdf</a>		There is no compliance section currently proposed in the Alberta Reliability Standards.  A compliance program will be developed at a later date for Alberta Reliability Standards that

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			recognizes the compliance monitoring and enforcement structure in Alberta.  This approach is deemed consistent with the existing ISO Rules.
Regional Differences	None identified.	None identified.	Not applicable in Alberta

**Proposed Terms for the ARS Glossary:**

“protection system” means a system that protect elements comprising some or all of the following: protective relays, associated communication systems, voltage and current sensing devices, station batteries and DC control circuitry.

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**Defined Terms Used in this Standard:**

(As included in the ISO Rules Definitions or Alberta Reliability Standards Glossary)

- *day*
- *reliability standard*
- *generation facility owner (GFO)*
- *Independent System Operator (ISO)*
- *misoperation\**
- *protection system\**

\* Term appears in the Alberta Reliability Standards Glossary of Terms – July 2009 rules cycle.



- *remedial action scheme (RAS)*
- *reliability standard*
- *transmission facility owner (TFO)*
- *wire owner (WO)*
- *Western Electricity Coordinating Council (WECC)*