

Alberta Reliability Standard

Analysis and Mitigation of Transmission and Generation Protection System Misoperation

PRC-004-AB2-1



~~PRC-004-AB1-1 Analysis and Mitigation of Transmission and Generation Protection System Misoperation~~

1. ~~1.~~ Purpose

The purpose of this **reliability standard** is to ensure all **misoperations of** transmission and generation **protection system misoperations systems** affecting the **reliability** of the **BES bulk electric system** are analyzed and mitigated.

2. ~~2.~~ Applicability

This **reliability standard** applies to:

- (a) the **legal owner** of a **transmission facility**;
- (b) the **legal owner** of a **generating unit** that:
 - (i) is not part of an aggregated generating facility;
 - (ii) has a **maximum authorized real power** rating greater than ~~four point five (4.5)~~ MW;
 - (iii) is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat; and
 - (iv) has **protection systems** that directly affect the **reliability** of the **bulk electric system** ~~which such protection systems are those that measure voltage, current, or frequency from the generating unit to the interconnected electric system, but exclude the prime mover and associated control systems~~;
- (c) the **legal owner** of an **aggregated generating facility** that:
 - (i) is directly connected to the transmission system or to transmission facilities within the City of Medicine Hat;
 - (ii) has a **maximum authorized real power** rating greater than ~~four point five (4.5)~~ MW; and
 - (iii) has **protection systems** that directly affect the **reliability** of the **bulk electric system** ~~These protection systems are those that measure voltage, current, or frequency from the aggregated generating facility to the interconnected electric system~~; and
- (d) the **ISO**.

3. ~~3.~~ Definitions

~~Italicized terms used in this reliability standard have the meanings as set out in the Consolidated Authoritative Document Glossary.~~

3. ~~4.~~ Requirements

R1- Each **legal owner** of a **transmission facility**, **legal owner** of a **generating unit** and **legal owner** of an **aggregated generating facility** must analyze **misoperations of** its **protection systems** affecting **the reliability of the bulk electric system** ~~misoperations~~, and develop and implement a corrective action plan to avoid future **misoperations** of a similar nature.

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R2 Each **legal owner** of a **transmission facility**, **legal owner** of a **generating unit** and **legal owner** of an **aggregated generating facility** must provide to the **ISO** documentation of its **misoperations** analyses and corrective action plans upon request by the **ISO**.

R3 The **ISO** must provide to the WECC documentation of the **misoperations** analyses and corrective action plans upon request by the WECC.

~~5. Processes and Procedures~~

~~No procedures have been defined for this reliability standard.~~

~~4. 6. Measures~~

The following measures correspond to the requirements identified in ~~Section 4~~section 3 of this **reliability standard**. For example, MR1 is the measure for requirement R1.

MR1 Evidence of analyzing misoperations, and developing and implementing a corrective action plan as required in requirement R1 exists and shows. Evidence may include reports that include analysis was completed and corrective action plans were implemented as specified in requirement R1., emails, work orders, or other equivalent evidence.

MR2 Evidence that analysis reports of providing to the ISO documentation of misoperations analyses and corrective action plans were submitted as specified required in requirement R2 (e.g. email confirmation) exists. Evidence may include emails, dated correspondence, or other equivalent evidence.

MR3 Confirmation that Evidence of providing to the WECC documentation of the misoperations analyses and corrective action plans as specified required in requirement R3 was received by WECC exists. Evidence may include emails, dated correspondence, or other equivalent evidence that requests for confirmation were made.

~~7. Appendices~~

~~No appendices have been defined for this reliability standard.~~

~~8. Guidelines~~

~~No guidelines have been defined for this reliability standard.~~

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Revision History

<u>EffectiveDate</u>	Description
<u>2018-xx-xx</u>	<u>Clarification to ensure the protections system misoperations that must be analyzed are those affecting the reliability of the bulk electric system. Administrative update: existing PRC-004-AB1-1 is being renamed PRC-004-AB2-1; and amendments to ensure consistent use of defined terms as included in the AESO's Consolidated Authoritative Document Glossary ("CADG"); formatting and grammatical corrections; the deletion of the following sections:</u> <u>(a) "Definitions";</u> <u>(b) "Processes and Procedures";</u> <u>(c) "Appendices"; and</u> <u>(d) "Guidelines"</u>
2013-01-02	Administrative update – "TFO" and "GFO" replaced with "legal owner of a transmission facility", "legal owner of a generating unit" and "legal owner of an aggregated generating facility"; and other minor clean up items.
2010-02-11	New Issue <u>Initial release.</u>