Alberta Reliability Standard
Automatic Time Error Correction
BAL-004-WECC-AB-2

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1. Purpose

The purpose of this **reliability standard** is to maintain the frequency of the **western interconnection** and to ensure that **time error corrections** and **primary inadvertent interchange** payback are effectively conducted in a manner that does not adversely affect the **reliability** of the **western interconnection**.

2. Applicability

This **reliability standard** applies to:

(a) the **ISO**.

3. Requirements

R1   Following the conclusion of each **month**, the **ISO** must verify that the absolute value of its accumulated **primary inadvertent interchange** for both the monthly **on peak** period and the monthly **off peak** period are each individually less than or equal to 150% of the previous calendar year's peak demand, where peak demand is the highest hourly integrated **net energy for load**.

R2   The **ISO** must, within ninety (90) days of discovery of an error in the calculation of hourly **primary inadvertent interchange**, recalculate the value of hourly **primary inadvertent interchange** and adjust the accumulated **primary inadvertent interchange** from the time of the error.

R3   The **ISO** must, while synchronously connected to the **western interconnection**, keep its **automatic time error correction** in service, with an allowable exception period of less than or equal to an accumulated twenty-four (24) hours per calendar quarter for **automatic time error correction** to be out of service.

> **R3.1**   Notwithstanding requirement R3, the **ISO** may disable automatic **time error correction** if there is a **reliability** concern on the **interconnected electric system** while executing an automatic **time error correction**, and this time will not be included as part of the allowable exception period.

R4   The **ISO** must compute the following by fifty (50) minutes after each hour:

> **R4.1**   the hourly **primary inadvertent interchange**;

> **R4.2**   the accumulated **primary inadvertent interchange**; and

> **R4.3**   the **automatic time error correction** term.

R5   The **ISO** must be able to change its **automatic generation control** operating mode between flat frequency, flat tie line, tie line bias, and tie line bias plus **time error** control, to correspond to current operating conditions.

R6   The **ISO** must recalculate the hourly **primary inadvertent interchange** and accumulated **primary inadvertent interchange** for the **on peak** and **off peak** periods whenever adjustments are made to hourly **inadvertent interchange** or the hourly change in system **time error**, as distributed by the **Interconnection** time monitor.

R7   The **ISO** must make the same adjustment to the accumulated **primary inadvertent interchange** as it did for any **month**-end meter reading adjustments to **inadvertent interchange**.

R8   The **ISO** must payback **inadvertent interchange** using **automatic time error correction** rather than bilateral and unilateral payback.

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4. Measures

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

MR1 Evidence of verifying the absolute value of the **ISO**'s accumulated **primary inadvertent interchange** as required in requirement R1 exists. Evidence may include, but is not limited to, data, screen shots from the **WECC** Interchange Tool, production of data from any other databases, spreadsheets, displays, or other equivalent evidence.

MR2 Evidence of recalculating the value of hourly **primary inadvertent interchange** and adjusting the accumulated **primary inadvertent interchange** from the time of the error as required in requirement R2 exists. Evidence may include, but is not limited to, data, screen shots from the **WECC** Interchange Tool, production data from any other databases, spreadsheets, displays, or other equivalent evidence.

MR3 Evidence of keeping the **automatic time error correction** in service as required in requirement R3 exists. Evidence may include, but is not limited to, dated archived files, historical data, or other equivalent evidence.

MR4 Evidence of computing the hourly **primary inadvertent interchange**, accumulated **primary inadvertent interchange** and **automatic time error correction** as required in requirement R4 exists. Evidence may include, but is not limited to, data, screen shots from the **WECC** Interchange Tool, data from any other databases, spreadsheets, displays, or other equivalent evidence.

MR5 Evidence of having the ability to change the **automatic generation control** operating mode as required in requirement R5 exists. Evidence may include, but is not limited to, snapshots of the operating interface provided in the energy management system for changing its **automatic generation control** operating mode, or other equivalent evidence.

MR6 Evidence of recalculating hourly **primary inadvertent interchange** and accumulated **primary inadvertent interchange** as required in requirement R6 exists. Evidence may include, but is not limited to, data, screen shots from the **WECC** Interchange Tool, data from any other databases, spreadsheets, displays, or other equivalent evidence.

MR7 Evidence of making the adjustments to accumulated **primary inadvertent interchange** as required in requirement R7 exists. Evidence may include, but is not limited to, data, screen shots of the **WECC** Interchange Tool, data from any other databases, spreadsheets, displays, or other equivalent evidence.

MR8 Evidence of paying back the **inadvertent interchange** as required in requirement R8 exists. Evidence may include, but is not limited to, historical **inadvertent interchange** data, data from the **WECC** Interchange Tool, or other equivalent evidence.

Revision History

Date	Description
2016-12-19	Initial release.