Alberta Reliability Standard
Automatic Time Error Correction
BAL-004-WECC-AB-4

A. Introduction

1. Title: Automatic Time Error Correction

2. Number: BAL-004-WECC-AB-4

3. Purpose: To maintain **western interconnection** frequency and ensure that **time error** accumulation via **primary inadvertent interchange** payback is conducted in a manner that does not result in a negative impact on **reliability**.

4. Applicability:

4.1. Functional Entities:

4.1.1. the **ISO**.

5. Effective Date: The later of (i) July 1, 2028, and (ii) the first **day** of second quarter following **Commission** approval.

6. [Intentionally left blank.]

7. [Intentionally left blank.]

B. Requirements and Measures

R1. The **ISO** must use the **interchange software** as the sole source of data to calculate its **automatic time error correction**. *[Alberta Risk Rating: Medium] [Time Horizon: Operations Assessment]*

M1. The **ISO** must have evidence that it used the **interchange software** as the sole source of data to calculate its **automatic time error correction**, as required in Requirement R1. Evidence may include production of a corporate attestation or **operating procedure** indicating use of the **interchange software** as the sole source for calculating **automatic time error correction**.

R2. The **ISO** must operate the **interconnected electric system** such that the **month**-end absolute value of its **on peak** and **off peak** accumulated **primary inadvertent interchange**, as calculated by the **interchange software**, is each individually less than or equal to 150% of the previous calendar year's integrated hourly peak **demand** where peak **demand** is total load plus total exports. *[Alberta Risk Rating: Medium] [Time Horizon: Operations Assessment]*

2.1. [Intentionally left blank.]

M2. The **ISO** must have evidence that it operated its system such that the **month**-end absolute value of its **on peak** and **off peak**, accumulated **primary inadvertent interchange**, as calculated by the **interchange software**, are each individually less than or equal to 150% of the previous calendar year's integrated hourly peak **demand** where peak **demand** is total load plus total exports, average load in those hours, as calculated by the **interchange software**, per Requirement R2.

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R3. The **ISO** must, upon discovery of an error in its **inadvertent interchange** calculation for **on peak** or **off peak**, recalculate and correct the **inadvertent interchange** values within 90 **days** from the time the error is discovered. *[Alberta Risk Rating: Medium] [Time Horizon: Operations Assessment]*

M3. The **ISO** must, on discovering an error in its **on peak** or **off peak inadvertent interchange** calculation, have evidence that it recalculated and corrected the **inadvertent interchange** values, within 90 **days** from the time the error is discovered as required in Requirement R3. Evidence may include:

- Screen shots from the **interchange software**;
- Screen shots from the **ISO**'s internal software functions such as internal databases, spreadsheets, and displays;
- Dated archive files; and
- Historical data, or other equivalent evidence.

R4. The **ISO** must keep **automatic time error correction** in service, with an allowable exception period of less than or equal to an accumulated 24 hours per calendar quarter for **automatic time error correction** to be out of service. This period is separate from any period during which the **interchange software** was unavailable. *[Alberta Risk Rating: Medium] [Time Horizon: Same-day Operations]*

M4. The **ISO** must have evidence that it kept **automatic time error correction** in service as required in Requirement R4, subject to the allowable exceptions provided. Evidence may include:

- Screen shots from the **interchange software**;
- Screen shots from the **ISO**'s internal software functions such as internal databases, spreadsheets, and displays;
- Dated archive files; and
- Historical data, or other equivalent evidence.

R5. The **ISO** must be able to change its **automatic generation control** operating mode to correspond to current operating conditions. *[Alberta Risk Rating: Medium] [Time Horizon: Real-Time Operations]*

M5. The **ISO** must have evidence that its **automatic generation control** is able to change operating modes to correspond to current operating conditions as required in Requirement R5. Evidence may include:

- Screen shots from the energy management system; and
- Demonstration using an off-line system, or other equivalent evidence.

R6. The **ISO** must upload hourly **actual net interchange** to the **interchange software** no later than 50 minutes after each hour. *[Alberta Risk Rating: Medium] [Time Horizon: Operations Assessment]*

M6. The **ISO** must have evidence that it uploaded hourly **actual net interchange** to the **interchange software** no later than 50 minutes after each hour, as required in Requirement R6. Evidence may include:

- Screen shots from the **interchange software**;

- Screen shots from the **ISO**'s internal software functions such as internal databases, spreadsheets, and displays;
- Dated archive files; and
- Historical data, or other equivalent evidence.

R7. The **ISO** must, if it makes a **month**-end adjustment, input that value as part of its **actual net interchange**. *[Alberta Risk Rating: Medium] [Time Horizon: Operations Assessment]*

M7. The **ISO** must, if it makes a **month**-end adjustment, have evidence that it input that value as part of its **actual net interchange**, as required in Requirement R7.

R8. The **ISO** must, if it makes a **month**-end adjustment, ensure that value is added to its accumulated **primary inadvertent interchange**. *[Alberta Risk Rating: Medium] [Time Horizon: Operations Assessment]*

M8. The **ISO** must, if it makes a **month**-end adjustment, have evidence that the value was added to its accumulated **primary inadvertent interchange**, as required in Requirement R8.

C. Compliance

[Intentionally left blank.]

D. Regional Variances

None.

E. Associated Documents

None.

Version History

Version	Effective Date	Description of Changes
WECC-AB-4	The later of (i) July 1, 2028, and (ii) the first **day** of second quarter following **Commission** approval.	Revised based on NERC BAL-004-WECC-3, approved by FERC Docket No. RD18-2-000 and the WECC Board of Directors (Board) approval on BAL-004-WECC-AB-4. The revision to BAL-004-WECC-AB-4 includes introducing the term **interchange software**, which refers to software for submitting **automatic time error correction** data to WECC and incorporating **interchange software** throughout the requirements in this standard.
WECC-AB-2	2016-12-19	Initial Release.

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F. Rationale

[Intentionally left blank.]