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		Version No.	5.8
		Effective Date	10/02/2019
Inadvertent Interchange ATEC Payback		Distribution Restriction: None	

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Purpose

This document describes the ISO process for Accumulated Primary Inadvertent Interchange (PIIaccum) payback using the WECC Automatic Time Error Correction (ATEC) process consistent with BAL-004-WECC.

1. Responsibilities

ISO Transmission Desk	Monitor Inadvertent Interchange using the Interchange transaction scheduler (ITS) and WECC Interchange Tool (WIT).
ISO Generation Desk	Determine the need and if necessary implement Intertie meter error adjustments.

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After the Fact (ATF)	<p>Review Primary Inadvertent Interchange totals in WIT daily (WIT is the Program of Record in the WECC for Primary Inadvertent Interchange accumulations). Adjust Accumulated Primary Inadvertent Interchange (Pllaccum) in EMS if totals of On-Peak and/or Off-Peak vary from WIT totals. For any identified Tie meter data failures or errors that contributed to erroneous Accumulated Primary Inadvertent Interchange (Pllaccum). Check respective check box in the WIT to provide an audit trail after validating. Logs any disagreements with and any discrepancies to the electronic confirmation process.</p> <p>Logs any abnormal after-the-fact changes made.</p>
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2. Scope/Applicability

2.1. Background

The WECC ATEC process is used to help maintain Interconnection frequency and to ensure that inadvertent payback and time error corrections are effectively conducted in a manner that does not adversely impact the reliability of the Interconnection.

Inadvertent Interchange is the difference between Net Actual (metered) Interchange (NAI) for all Balancing Authority (BA) Area Interconnections and Net Scheduled Interchange (NSI), for the Operating Hour. Primary Inadvertent Interchange (PII) results from a BA's inability to regulate precisely to Scheduled Interchange throughout the Operating Hour. Secondary Inadvertent Interchange results from a BA's efforts to support Interconnection frequency, offsetting other BA's contributions to Primary Inadvertent Interchange.


NERC and WECC Standards mandate that Inadvertent Interchange be calculated and recorded on an hourly basis. Inadvertent Interchange is accumulated separately for off-peak and on-peak periods, and the running Accumulated Primary Inadvertent Interchange (Pllaccum). Totals are continuously paid back using the WECC ATEC Inadvertent Interchange payback process.

Primary Inadvertent Interchange (PII) is paid back during the time period it was accumulated (either off or on-peak). PII accumulated on-peak is paid back during on-peak, and PII accumulated off-peak is paid back during off-peak.

2.2. Scope/ Applicability

This procedure applies to the monitoring and validating of Inadvertent Interchange.

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3. Procedure Detail

3.1. Inadvertent Interchange ATEC Payback Process

Take the following steps to monitor and manage ISO Inadvertent Payback using the WECC ATEC Process:

- The California ISO EMS/AGC system automatically processes Accumulated Primary Inadvertent Interchange (PIIaccum) in Real-Time, using the WECC ATEC equation and PII payback process.
- Primary and Secondary Inadvertent Interchange is automatically “paid back” via the EMS AGC ATEC algorithm, using Primary Inadvertent Interchange adjustments, entered by **After-The Fact Personnel** to correct the running Accumulated Primary Inadvertent Interchange (PIIaccum) totals, hourly.
- EMS/AGC uses this Accumulated Primary Inadvertent Interchange (PIIaccum) data to continuously “payback” any positive or negative accumulations, for both on and off-peak timeframes, consistent with the WECC ATEC equation.


Note: Please refer to the WECC ATEC Equation and PII payback process below in the Image Section

- Inadvertent Interchange is monitored ~~each hour~~, by the Transmission Dispatcher using the Interchange transaction scheduler and the WECC Western Interchange Tool (WIT).
- ISO EMS Inadvertent Interchange ATEC payback is an automated process.
- Manual PII Adjustments may also be required to account for any subsequently identified hourly Intertie “Revenue” meter failures or for telemetry data errors, which contributed to the calculated hourly inadvertent accumulation.
- Similarly, the ISO Generation Desk is responsible for periodically correcting the EMS AGC calculation for any Real-Time 4-second “tie meter” deviations from the hourly revenue meter NAI.

ISO Transmission Desk

Note: “Large” is defined as an amount equal to or greater than the largest current dynamic schedule.


1. **Monitor** the raw ISO Inadvertent Interchange quantity (NAI – NSI) as calculated and recorded by Interchange transaction scheduler hourly for each previous hour, to determine if there are any large inadvertent Interchange accumulations.

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ISO Transmission Desk
<p>2. If the hourly inadvertent accumulation is equal to or greater than the MW value of the largest dynamic schedule or the accumulation for the last few hours is not decreasing,</p> <ul style="list-style-type: none"> • Verify the WIT and EMS accumulation numbers, and do the following: <ul style="list-style-type: none"> ○ Verify actuals with adjacent BA ○ Determine if there is a metering problem by consulting with the Gen Dispatcher and Shift Manager ○ Notify EMS staff. ○ Log the event <p><i>Note: The ISO WECC ATEC payback is presently limited by EMS staff to no more than the L10. EMS PII Adjustment quantities entered in excess of the L10 are spread out automatically by EMS, to be “paid back” over subsequent hours, accordingly.</i></p> <p>3. Notify the generation dispatchers of the metering problem and do the following:</p> <ul style="list-style-type: none"> • Log any Intertie meter failures or telemetry data errors not reflected in the hourly NAI checkout numbers, so that personnel carrying out ATF responsibilities can then adjust Accumulated Primary Inadvertent Interchange (PIIaccum) using an ATF PII Adjustment. <p>4. Determine if there were any obvious Intertie meter failures or telemetry data errors that would have adversely impacted PII accumulations for the previous Operating Hour.</p> <p><i>Note: Telemetry or Intertie “revenue” meter failures can be confirmed with the adjacent BA for each tie. Hourly tie meter data failures or errors should be a rare exception.</i></p>

ISO Generation Desk
<p>1. Determine if a Real-Time (4-second) “meter adjustment” is warranted.</p> <p>2. Implement any Real-Time Intertie meter adjustments directly into the EMS AGC system using the “LFC Overview” screen.</p> <p>3. Manually enter the RT Meter II adjustment on the “Manual Meter Error Correction” line.</p> <p><i>Note: This AGC field updates the IME factor in the ISO WECC ATEC EMS equation.</i></p> <p><i>Note: Real-time Intertie meter data failures or errors are infrequent. Manual IME adjustments by the Generation Dispatcher should only be made in the event of a protracted, identified RT meter data failure that is significantly contributing to ISO inadvertent in RT.</i></p> <p>4. Log any such RT Intertie meter data error adjustments to the EMS/AGC ATEC calculation in SLIC.</p>

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ISO Generation Desk
<ol style="list-style-type: none"> 5. Operate the ISO AGC in ATEC mode, limiting non-ATEC mode operation for maintenance and testing to a maximum of 24 hours per calendar quarter. 6. Notify the Western Interconnection, via Reliability messaging system, anytime the ISO is not operating in ATEC mode.

3.2. After the Fact Accumulated Inadvertent Adjustments


Take the following actions upon completion of the ATEC process:

ISO Transmission Desk
<ol style="list-style-type: none"> 1. Review EMS, Interchange transaction scheduler, WIT, SLIC and Intertie meter data to help ensure accurate Accumulated Primary Inadvertent Interchange (PIIaccum) and PII WECC ATEC payback. When done and in agreement with adjacent BA, check respective check box in the WIT. 2. If there are any issues, <ul style="list-style-type: none"> • Review final checked out NAI and NSI using WIT and Interchange transaction scheduler to identify any discrepancies that may require subsequent ATF PII modifications. • Review SLIC logs for any Intertie meter related PII adjustments for prior Operating Day(s). • Process any corrections to ATF tags that may impact the ISO Accumulated Primary Inadvertent Interchange (PIIaccum) number. • Log any disagreements with and any discrepancies to the electronic confirmation process and any abnormal After the Fact changes made in SLIC (Scheduling Logging in California). <p><i>Note: NERC inadvertent reports are submitted automatically by WIT, as the official record of checked out NSI and NAI between BAs, for the Western Interconnection. WIT submits Accumulated Primary Inadvertent Interchange (PIIaccum) reports to the NERC "CERTS" system.</i></p> 3. If the running primary inadvertent accumulation total is equal to or greater than 50 % of last year's peak system demand, <ul style="list-style-type: none"> • Notify the EMS group of a possible metering or telemetry data error. <p><i>Note: Telemetry or Intertie "revenue" meter failures can be confirmed with the adjacent BA for each tie. <u>Hourly Tie meter data failures or errors should be infrequent.</u></i></p> <p><i>Note: Intertie meter failure of telemetry data corrections are directional and the sign convention used should offset the original error caused by the actual Intertie meter data error.</i></p>

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ISO After the Fact Personnel
<ol style="list-style-type: none"> 1. At the beginning of each week compare the Accumulated Primary Inadvertent Interchange (Pllaccum) number in WIT to EMS/AGC PII, if there is a discrepancy of +/- 500 MW proceed to step 2. 2. Process any required ATF EMS/AGC PII adjustments to correct ISO Primary Inadvertent Interchange (PII) numbers, for on and off-peak periods. <ul style="list-style-type: none"> • Enter a correction for on-Peak and/or off-Peak via the ATE Primary II Adjustment in EMS. • Log any ATF PII actions taken in SLIC with sufficient detail regarding the adjustments made to the ATF ATEC inadvertent payback PII Adjustments made to EMS/AGC Accumulated Primary Inadvertent Interchange (Pllaccum) and to the Interchange transaction scheduler Accumulated Primary Inadvertent Interchange (Pllaccum) numbers. 3. If ATF meter or telemetry data errors are discovered and confirmed with the adjacent BA after the fact that would have adversely impacted PII accumulations for prior Operating Hours, <ul style="list-style-type: none"> • Manually update the EMS/AGC Accumulated Primary Inadvertent Interchange (Pllaccum) for any identified Intertie meter failure or telemetry data error quantities, for either the on or off-peak periods, in the same manner as for the hourly PII adjustments. • Log all Intertie meter related Accumulated Primary Inadvertent Interchange (Pllaccum) adjustments made to the EMS/AGC system with sufficient detail of the Intertie meter failure or telemetry data error. <p>Example: <i>An under-metered Intertie net import (NAI) would result in a positive Accumulated Primary Inadvertent Interchange (Pllaccum) error. Therefore, the corrected Accumulated Primary Inadvertent Interchange (Pllaccum) quantity should be negative (Import under-metered) and thus subtracted from the running Accumulated Primary Inadvertent Interchange (Pllaccum) total, to offset the initial Accumulated Primary Inadvertent Interchange (Pllaccum) error.</i></p>

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4. Supporting Information

Operationally Affected Parties

Shared with Public

References

Resources studied in the development of this procedure and that may have an effect upon some steps taken herein include but are not limited to:

CAISO Tariff	
ISO Operating Procedure	
NAESB Requirements	WEQ-007
WECC Criterion	BAL-004-WECC-02 R1
Other References	


Definitions

Unless the context otherwise indicates, any word or expression defined in the Master Definitions Supplement to the CAISO Tariff shall have that meaning when capitalized in this Operating Procedure.

The following additional terms are capitalized in this Operating Procedure when used as defined below:

ATEC	Automatic Time Error Correction
PII	Primary Inadvertent Interchange
NSI	Net Scheduled Interchange
AI	Accumulated Inadvertent Interchange
WIT	Western Interchange Tool
NAI	Net Actual Interchange


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Version History

Version	Change	Date
5.3	Section 3, Step 3: Updated number to reflect current value.	2/5/2015
5.4	<ul style="list-style-type: none"> Changed all references to CAISO to ISO. Changed the role names used in this procedure to their new role names. Updated the Content Owner of this procedure. Updated the Analyst assigned to this procedure. Updated the names of people assigned as a Technical Reviewer for this procedure. Updated the names of people assigned as Director Approvers for this procedure. Updated version number to 5.4 and effective date to 12/23/2015 	4/5/2016
5.5	<ul style="list-style-type: none"> Replaced all references of "All" with Accumulated Inadvertent Interchange (All). Updated NERC standards. Minor format changes throughout. 	9/15/2016
5.6	<ul style="list-style-type: none"> Removed all reference to Accumulated Inadvertent Interchange (All) and replaced with "Accumulated Primary Inadvertent Interchange (PIIaccum)." Section 3.2: Added After the Fact Personnel steps for adjusting ATE Primary II in EMS. Minor formatting and grammar updates. Removed history prior to 3 years. 	5/10/2018
5.7	<ul style="list-style-type: none"> Section 1: Changed Interchange Scheduling Desk to Transmission Desk Section 3.1: Changed Interchange Scheduling Desk to Transmission Desk and Interchange Scheduler to Transmission Dispatcher. Removed instance of "Transmission Dispatcher" from step 4 and "Transmission Operator" from step 3 of Transmission desk table due to task now being part of the Transmission Desk. Section 3.2: Changed Interchange Scheduling Desk to Transmission Desk and removed "Transmission Operator" from the 1st note after step 3 of the Transmission Desk table due to task now being part of the Transmission Desk. Replaced Reliability Messaging Tool (RMT) with Reliability messaging system. 	4/15/2019
5.8	Updates made based on EMS navigation and process.	10/02/2019

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5. Periodic Review Procedure

Review Criteria & Incorporation of Changes

There are no specific criteria for reviewing or changing this document, follow instructions in Procedure 5510.

Frequency

Every 3 Years.

Appendix

No references at this time.