
 California ISO Your Link to Power	Operating Procedure	Procedure No.	S-311
		Version No.	3.0
		Effective Date	12/17/07
Real-Time and After-the-Fact Check-Out Requirements		Distribution Restriction: None	

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Purpose

Provides guidance for:

- Reviewing and confirming hourly interchange data
- Corrective procedures to resolve discrepancies
- Controlling to an appropriate total interchange schedule value
- Appropriate interchange accounting for completed schedules
- Post-hour checks of interchange schedules

Note: The CAISO only makes after-the-fact corrections to the agreed-to daily and monthly accounting data as needed to reflect actual operating conditions (e.g. a meter being used for control was sending bad data). Changes or corrections based on non-reliability considerations are not reflected in the inadvertent interchange. After-the-fact corrections to scheduled or actual values are not accepted without agreement between the Adjacent Balancing Authorities and the CAISO.

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Actions

1. Real Time Contingency

Real Time Contingency for Scheduling or Tagging System Failure

The Real Time Scheduler performs the following actions if CAS or the Western Interchange Tool (WIT) are unavailable:

Step	Real Time Scheduler Actions:								
1	If... The CAISO CAS system is not able to produce interchange schedule data for use in AGC control,	Then... Use the Western Interchange Tool (WIT) and agree with adjacent BAs on the total amount of implemented eTags in WIT.							
		If... The CAS and WIT are unavailable to communicate with BAs,	Then...						
			<table border="1"> <thead> <tr> <th>If...</th> <th>Then...</th> </tr> </thead> <tbody> <tr> <td>The adjacent BA has an eTag based Interchange System,</td> <td>Use their Net Scheduled Interchange Value (NSI).</td> </tr> <tr> <td>The adjacent BA does not have an eTag based Interchange System,</td> <td>Use the lesser absolute value of the CAISO value and the adjacent BA Net Scheduled Interchange (NSI) value.</td> </tr> </tbody> </table>	If...	Then...	The adjacent BA has an eTag based Interchange System,	Use their Net Scheduled Interchange Value (NSI).	The adjacent BA does not have an eTag based Interchange System,	Use the lesser absolute value of the CAISO value and the adjacent BA Net Scheduled Interchange (NSI) value.
If...	Then...								
The adjacent BA has an eTag based Interchange System,	Use their Net Scheduled Interchange Value (NSI).								
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2. Real Time Hourly Checks

Before the Hourly Ramp


The Real Time Scheduler performs the following actions before the hourly ramp:

Step	Real Time (RT) Scheduler Actions:				
1	<p>Verify schedules with adjacent Balancing Authorities prior to the start of the ramp.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #e0ffff;">Prior to...</th> <th style="background-color: #e0ffff;">Then...</th> </tr> </thead> <tbody> <tr> <td>Implementing schedules into the ACE equation,</td> <td> Confirm interchange schedules with the sending and receiving BAs.¹ Agree with the sending BA on the interchange schedule Start and End times² and the energy profile.³ </td> </tr> </tbody> </table>	Prior to...	Then...	Implementing schedules into the ACE equation,	Confirm interchange schedules with the sending and receiving BAs. ¹ Agree with the sending BA on the interchange schedule Start and End times ² and the energy profile. ³
Prior to...	Then...				
Implementing schedules into the ACE equation,	Confirm interchange schedules with the sending and receiving BAs. ¹ Agree with the sending BA on the interchange schedule Start and End times ² and the energy profile. ³				

¹ NERC Standard INT-003-2, Requirement R.1.

² NERC Standard INT-003-2, Requirement R.1.1.1.


³ NERC Standard INT-003-2, Requirement R.1.1.2.

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After the Close of Each Hour

The Real Time Scheduler performs the following actions after the close of each hour:

Step	Real Time (RT) Scheduler Actions:	
1	<ul style="list-style-type: none"> • Review EMS Data by accessing the interchange schedule data and the telemetered actual interchange for each tie point. The data is reviewed to detect any obvious errors and corrected as necessary through back-up EMS displays. • Compare and reach agreement with each adjacent Balancing Authority on their respective hourly schedule and actual telemetered data for the hour just completed for each relative tie point. This check includes any dynamic schedules from resources located outside the CAISO Balancing Authority and/or joint party generation resources. Errors are corrected by entering changes into the Scheduling System and Actual & Dynamics spreadsheet. • Resolve discrepancies in the telemetered actual interchange as necessary, by mutual agreement between the CAISO and the adjacent Balancing Authorities. • Log unresolved disagreements in the scheduled interchange (including dynamic schedules) And forward to the Scheduling Support Analyst for resolution. The discrepancy is resolved through a review of individual transactions until a disagreement is found. 	
Step	Scheduling Support / Pre-Scheduler:	
2	If... The disagreement cannot be resolved,	Then... Contact , as necessary, the involved Scheduling Coordinator (SC) associated with the individual transaction, And verify the schedule, And advise of any necessary changes.
Step	Real Time (RT) Scheduler Actions	
3	Calculate and record the On-peak and Off-peak inadvertent totals using the data from the hourly checks. The RT Scheduler is responsible to assure the accuracy of recorded information relative to completed interchange schedules, actual telemetered interchange, and the hourly inadvertent accumulation.	

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3. Real Time Daily Checks

Compare Daily Schedule and Actual Totals


The RT Scheduler performs the following action daily:

Step	Real Time (RT) Scheduler Actions:
1	Perform a comparative check of 1) daily totals of scheduled interchange and 2) daily totals of actual telemetered interchange

Update Daily Inadvertent Accumulation

The RT Scheduler performs the following action daily:

Step	Real Time (RT) Scheduler Actions:
1	Finalize the accumulated inadvertent totals from the daily checks.

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4. After-the-Fact Checkout

**Recheck
Previous Day's
Totals**

The CAISO Scheduling Support / Pre-Scheduler performs the following action daily:

Step	Scheduling Support Pre-Scheduler Action:
1	Coordinate with other Balancing Authorities to re-check the previous day's scheduled interchange and actual telemetered interchange totals.

**Monthly
Checks**

The Scheduling Support / Pre-Scheduler performs the following action monthly:


Step	Scheduling Support / Pre-Scheduler:
1	Perform monthly schedule and actual interchange checks.

5. Resolve Discrepancies

**Final
Resolution**

The CAISO Scheduling Support / Pre-Scheduler performs the following action daily

Step	Scheduling Support / Pre-Scheduler Action:
1	Coordinate final resolution, as appropriate, with Settlements and the adjacent Balancing Authorities Log any necessary CAS changes in SLIC.

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Supporting Information


Affected Parties Adjacent Balancing Authorities

Responsibilities

CAISO RT Schedulers	<ul style="list-style-type: none"> • Performs hourly and daily checks with all adjacent Balancing Authorities. • Performs a comparative check of daily totals of scheduled interchange and daily totals of actual telemetered interchange. • Finalizes accumulated inadvertent interchange totals from daily checks.
CAISO Scheduling Support / Pre-Scheduler	<ul style="list-style-type: none"> • Submits CAISO data and receives composite tabulations for the WECC Region of on-peak and off-peak. • Accumulate inadvertent interchange accumulation totals. • Make the current composite tabulation available to the RT Schedulers for their use in arranging appropriate inadvertent interchange Payback.

References

CAISO Operating Procedure S-310	Inadvertent Interchange Payback
WECC Minimum Operating Reliability Criteria	
NERC Standard BAL-006	

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Policy


The CAISO checks the net scheduled interchange and the actual telemetered interchange for each tie point, each hour, with the adjacent Balancing Authority. Included in the hourly checks will be a total Balancing Authority net scheduled interchange and net actual telemetered interchange. Schedules will agree, or the respective Balancing Authorities will agree upon the magnitude and direction of the discrepancy. Telemetered actual interchange values will agree within a reasonable deviation. If a significant deviation is detected, the CAISO Meter and Data Acquisition System (MDAS) Division will be advised to investigate and take corrective actions.

Definitions

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

Version History

Version	Change	By	Date
	Drafted By		3/29/98
	Revised By		3/29/98
	Reviewed		8/99
	Reviewed		11/1/99
1.1	Reviewed		11/05/01
1.2	Annual review		11/4/02
1.3	Annual review		11/14/03
1.4	Clarified RT checkouts: Added Sections 1.1, 1.3, & 4		7/14/04
1.5	Re-formatted, annual review		7/13/05
2.0	Reformatted and added section 1- Real Time Contingency, for loss of the Scheduling or Tagging Systems.		1/05/06
2.1	Added NERC language to section 2 – Before the hourly ramp		4/20/07
3.0	Added CAS and WIT to section 1		12/3/07

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Technical Review

Reviewed By Content Expert	Signature	Date
Ops Support		12/10/07
Regional Transmission		12/10/07
Grid Ops		12/12/07
Market Ops		12/11/07
Scheduling		12/7/07

Approval

Approved By	Signature	Date
Manager of Scheduling		12/14/07
Director of Grid Operations		12/14/07
