



FERC Order 825 – 5 Minute Settlements Manual Revisions

Ray Fernandez
Manager, Market Settlements Development
Market Settlements Subcommittee
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- M-27 – Open Access Transmission Tariff Accounting
- M-28 – Operating Agreement Accounting
- M-29 - Billing

Conforming manual revisions are needed to document and implement the business rules filed with FERC

	Impacted Manuals
Oct 11 MIC	First Read
Oct 26 MRC	First Read
Nov 8 MIC	Vote
Dec 7 MRC	Vote



Manual 27 – Open Access Transmission Tariff Accounting



- Energy Imbalance Service Accounting
 - Remove reference to “hourly” LMP and replace with “five minute” LMP

Manual 28 – Operating Agreement Accounting



- Revenue Data for Settlements
 - Define settlement interval data for Day-ahead and Real-time energy markets
 - Describe how Revenue Data for Settlements is used in settlement calculations
 - Describe how generation hourly revenue meter data is scaled using telemetry or State Estimator data

- Spot Market Energy Accounting
 - Section 3.2 – Business Rules for InSchedule and Power Meter Data Submissions
 - Add details on the process for a Market Participant to request five minute revenue meter data submissions in Power Meter
 - Section 3.3 – Renamed to Spot Market Energy
 - Replace net interchange concept with withdrawals and injections
 - Day-ahead Spot Market remains hourly
 - Balancing Spot Market moves to five minute intervals

- Spot Market Energy Accounting
 - Section 3.8 – Spot Market Energy Charges
 - Describe Day-ahead Spot Market Energy Charges based on hourly difference between scheduled energy withdrawals and injections
 - Describe Balancing Spot Market Energy Charges on a five minute interval basis using the real-time five minute System Energy Price
 - Update data elements and formulas

- Regulation Accounting
 - Regulation Credits - Section 4.2
 - Credits calculated using the five minute Regulation Market Capability Clearing Price (RMCCP) and Regulation Market Performance Clearing Price (RMPCP)
 - Performance Score calculated every five minutes
 - Lost Opportunity Cost Credits
 - Calculated on a five minute interval
 - Shoulder hour LOC modified to use the three five minute ramp-in and ramp-out intervals for preceding and following hour
 - Total Hourly Reg Credits = sum of five minute interval Regulation Clearing Price credits + LOC credits in an hour

- Regulation Accounting
 - Regulation Charges – Section 4.3
 - Methodology Change: RMCCP and RMPCP credits allocated based on hourly real-time load adjusted obligation ratio share
 - Hourly obligation is adjusted for regulation bilaterals
 - No change to LOC credits allocation
 - Based on ratio share of hourly regulation purchases

- Operating Reserve Accounting
 - Operating Reserve Credits - Section 5.2
 - No changes to Day-ahead Operating Reserve credits
 - Offer and revenues for Balancing Operating Reserve credits move from hourly to five minute interval
 - LOC credit calculations move from hourly to five minute interval
 - Segments continue to be determined for operating periods but are no longer constrained to hourly boundaries. Segments can start and end intra-hour.

- Operating Reserve Accounting
 - Operating Reserve Charges – Section 5.3
 - No changes to Day-ahead Operating Reserve charges
 - Balancing Operating Reserve charges
 - Deviations for generating resources, withdrawals, and injections calculated every five minutes and summed to an hourly charge
 - » Existing requirements for generating resources not following PJM dispatch move from hourly to five minute interval
 - Total Daily Balancing Operating Reserve Charges = sum of the hourly deviation charges
 - Charge allocation remains the same, based on ratio share of daily deviations

- Synchronized Reserve Accounting
 - Synchronized Reserve Credits – Section 6.2
 - Credits calculated on a five minute interval
 - Tier 1
 - When the Non-Synchronized Market Clearing Price is \$0, Tier 1 credits equal the response MW time the Synchronized Energy Premium (\$50/MWh) divided by 12
 - When the Non-Synchronized Market Clearing Price is not equal to \$0, Tier 1 credits are paid at the Synchronized Reserve Market Clearing Price (SRMCP) divided by 12
 - Tier 2
 - Credits paid at the SRMCP divided by 12
 - Sync Reserve LOC credits calculated on a five minute interval

- Synchronized Reserve Accounting
 - Synchronized Reserve Charges – Section 6.3
 - Add equations to provide detail on adjusted obligation, Tier 1 charges, Tier 2 charges, and Tier 2 LOC calculations
 - Tier 1
 - Charges allocated hourly based on Market Participant ratio share of their Tier 1 adjusted obligation
 - Tier 2
 - Charges allocated hourly based on Market Participant ratio share of their adjusted Sync Reserve obligation minus any Tier 1 reserve applied to the obligation
 - Refund for Tier 2 shortfall calculated on a five minute interval

- Non-Synchronized Reserve Accounting
 - Non-Synchronized Reserve Credits – Section 7.2
 - Credits calculated on a five minute interval using the five minute Non-Synchronized Reserve Market Clearing Price divided by 12
 - Non-Synchronized Reserve LOC credits calculated on a five minute interval
 - Total Hourly Non-Sync Credits = sum of five minute interval Non-Sync Clearing Price credits + Non-Sync LOC credits in an hour

- Non-Synchronized Reserve Accounting
 - Non-Synchronized Reserve Charges – Section 7.3
 - Methodology Change: NSRMCP credits allocated based on hourly non-synchronized reserve adjusted obligation ratio share
 - Hourly obligation is adjusted for bilateral purchase and sales
 - No change to LOC credits allocation
 - Based on ratio share of hourly non-synchronized reserve purchases

- Transmission Congestion Accounting
 - Day-ahead Implicit and Explicit Congestion Charges
 - Remains an hourly calculation
 - Bus prices replaced with aggregate prices
 - Balancing Implicit and Explicit Congestion Charges
 - Calculations change to five minute intervals
 - Bus prices replaced with aggregate prices

- Transmission Loss Accounting
 - Day-ahead Implicit and Explicit Loss Charges
 - Remains an hourly calculation
 - Bus prices replaced with aggregate prices
 - Balancing Implicit and Explicit Loss Charges
 - Calculations change to five minute intervals
 - Bus prices replaced with aggregate prices

- Emergency Energy Accounting
 - Replace net interchange concept with withdrawals and injections
 - Calculations change to five minute intervals:
 - Emergency Energy Purchases
 - Emergency Energy Sales
 - Min Generation Emergency Purchases
 - Min Generation Emergency Sales

- Load Response Programs Accounting
 - Update data elements for Full Emergency and Emergency Energy Only and Real-time Economic Load Response sections
 - Describe how the reduction MWh value is distributed over sub-hourly dispatch intervals
 - Update calculations to determine the credits for a five minute interval
 - Conduct the Net Benefits Test on a five minute interval

- Meter Reconciliation Accounting
 - Replace “MWh” with “MW” to reflect the change to a five minute MW value in calculating MW weighted average interface and generation real-time LMPs

- Station Power Accounting
 - Use generation MW values from energy market settlements for monthly netting calculation
 - Allocation of net negative MWh across five minute intervals where negative during the month



Manual 29 – Billing



- **Monthly Billing Statement**
 - Sections 2.1.1, 2.12, 2.1.3
 - Change “hourly” references to “settlement interval” where appropriate
 - Section 2.1.2
 - Remove ComEd from RTO Start-up Cost Recovery credits
 - Delete Expansion Cost Recovery credits since no longer applicable