Charge Type Overview

April 2015
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Section 1

ENERGY CHARGE TYPES
Energy Charge Types

Day-Ahead Charge Types
Energy calculations are performed on an hourly basis for each operating day and are based upon the results of the DA Market clearing for that Operating Day.

Real-Time Charge Types
Energy calculations are performed on a dispatch interval basis for each operating day and are based upon the difference between the results of the RTBM process and the DA Market clearing for that Operating Day.

Energy Charge Types
- Day-Ahead Asset Energy
- Day-Ahead Non-Asset Energy
- Day-Ahead Virtual Energy
- Real-Time Asset Energy
- Real-Time Non-Asset Energy
- Real-Time Virtual Energy
Energy Charge Types: Asset Energy

Credit or charge for net physical Energy activity associated with Load and Resources, adjusted for Bilateral Settlement Schedules for Energy

Day-Ahead Asset Energy: \( \text{DaEnergyHrlyAmt}_{a,s,h} \)

- DA LMP
- DA Cleared Qty
- DA Bilaterals

Real-Time Asset Energy: \( \text{RtEnergy5minAmt}_{a,s,i} \)

- RT LMP
- RT Meter Qty
- DA Cleared Qty
- RT Bilaterals
Energy Charge Types: Non-Asset Energy

Credit or charge for net physical Energy activity associated with Interchange Transactions, adjusted for Bilateral Settlement Schedules for Energy

Day-Ahead Non-Asset Energy: \( \text{DaNEnergyHrlyAmt}_{a,s,h} \)

- DA LMP \( \times \) (DA Imp/Exp Qty \( \times \) DA Bilaterals)

Real-Time Non-Asset Energy: \( \text{RtNEnergy5minAmt}_{a,s,i} \)

- RT LMP \( \times \) (RT Imp/Exp Qty \( \times \) DA Imp/Exp Qty \( \times \) RT Bilaterals)
Energy Charge Types: Virtual Energy

Credit or charge for net virtual Energy activity associated with cleared virtual transactions

Day-Ahead Virtual Energy: \( \text{DaVEnergyHrlyAmt}_{a,s,h} \)

- DA LMP
- \( \times \)
- DA Cleared Virtual Qty

Real-Time Virtual Energy: \( \text{RtVEnergy5minAmt}_{a,s,i} \)

- RT LMP
- \( \times \)
- DA Cleared Virtual Qty
Section 2

OPERATING Reserve Charge Types
Operating Reserves help to ensure reliability within the market.
- Regulation-Up/Down maintain the balance between load and generation
- Spinning/Supplemental must be available in the event of an outage

The Operating Reserve Charge Types include the payments for procurement of Operating Reserves as well as the distribution of those costs.
Operating Reserves: Procurement

Credit (or charge) for cleared operating reserve products (RegUp, RegDn, Spin, Supp) in the DA Market or RTBM

**Day-Ahead Operating Reserves:**
\[
\sum_{RZN} \text{DA MCP} \times \text{DA Product Cleared Qty} \times -1
\]

**Real-Time Operating Reserves:**
\[
\sum_{RZN} \text{RT MCP} \times \left( \text{RT Product Cleared Qty} - \text{DA Product Cleared Qty} \right) \times -1
\]

Real-Time Regulation Up/Dn also subtracts deviations between Expected Regulation Up/Dn Mileage and the Actual Regulation Up/Dn Mileage.
## Operating Reserves: Distribution

Charge *(or credit)* representing an Asset Owners share of the total cost to procure operating reserve products (RegUp, RegDn, Spin, Supp) in a reserve zone in the DA Market or RTBM

### DA Operating Reserve Distribution:

<table>
<thead>
<tr>
<th>DA Product</th>
<th>Zonal Distribution Rate</th>
<th>AO’s DA Product Zonal Obligation</th>
</tr>
</thead>
</table>

### RT Operating Reserve Distribution:

<table>
<thead>
<tr>
<th>RT SPP Product</th>
<th>Hourly Amount</th>
<th>RT Load Ratio Share Hourly Factor</th>
<th>-1</th>
</tr>
</thead>
</table>
Section 3

OVER-COLLECTED LOSSES (OCL) CHARGE TYPES
Over-Collected Losses (OCL) Charge Type

Energy Charge Types

- Day-Ahead Asset Energy
- Day-Ahead Non-Asset Energy
- Day-Ahead Virtual Energy

- Real-Time Asset Energy
- Real-Time Non-Asset Energy
- Real-Time Virtual Energy

OCL Distribution Charge Type

- Real-Time Over-Collected Losses Distribution

**Over-Collected Losses**

The Marginal Losses Component (MLC) of the DA and RT LMP paid for Energy results from the economic market solution which considers the cost of marginal losses, congestion costs and incremental Energy costs. This creates an over collection related to payment for losses that must be refunded via the OCL Distribution Charge Type.
OCL Distribution Charge Types

Credit *(or charge)* at Settlement Locations where an Asset Owner has a DA Market Energy or Net RTBM Energy withdrawal that contributed positively to the over collection

Real-Time OCL Distribution: \( \text{RtOclDistHrlyAmt}_{a,s,l,p,h} \)

- RT Loss Pool Load Ratio Share
- RT Normalized Loss Rebate Factor
- DA OCL and RT Incremental OCL Amounts

\(-1\)
Section 4

MAKE WHOLE PAYMENT

CHARGE TYPES
Make Whole Payment Charge Types

<table>
<thead>
<tr>
<th>Make Whole Payment Charge Types</th>
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<tbody>
<tr>
<td>• Day-Ahead Make Whole Payment</td>
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<tr>
<td>• RUC Make Whole Payment</td>
</tr>
<tr>
<td>• Day-Ahead Make Whole Payment Distribution</td>
</tr>
<tr>
<td>• Real-Time Make Whole Payment Distribution</td>
</tr>
</tbody>
</table>

Day-Ahead and Real-Time Charge Types

Make Whole Payments (MWP) are needed to ensure revenue sufficiency for Resources to cover their eligible costs associated with a Commitment Period. Any Resource that is economically committed by SPP during the DA Market or RTBM is eligible for a MWP.
Day-Ahead Make Whole Payment

Credit *(or charge)* to ensure revenue sufficiency for Resources to cover their eligible costs associated with a DA Commitment Period.

**Day-Ahead Make Whole Payment:** \( \text{DaMwpCpAm} \) \(_{a,s,c}\)

\[
\max \left( 0, \begin{array}{c}
\text{DA MWP Cost Hourly Amount} \\
\text{DA MWP Revenue Hourly Amount}
\end{array} \right) \times -1
\]

**DA Make Whole Payment Distribution:** \( \text{DaMwpDistHrlyAm} \) \(_{a,s,h}\)

\[
\begin{array}{c}
\text{DA MWP SPP Distribution Rate} \\
\times \\
\text{DA MWP Distribution Hourly Quantity}
\end{array}
\]
RUC Make Whole Payment

Credit *(or charge)* to ensure revenue sufficiency for Resources to cover their eligible costs associated with a RUC Commitment Period.

RUC Make Whole Payment: \( \text{RtMwpCpAmt}_{a,s,c} \)

- **Production Costs**
  - RT Cancelled Start Amount or Rt Start-Up Cost
  - RUC MWP Cost

- **Revenue**
  - RUC MWP Revenue
  - RT Out-of-Merit
  - RT Regulation Deployment Adjustment

- **Adjustments**
  - URD Adjustment
  - Status Change Adjustment
  - Limit Change Adjustment

\[
\text{RtMwpCpAmt}_{a,s,c} = \text{Production Costs} + \text{Revenue} - \text{Adjustments} 	imes (-1)
\]

RUC Make Whole Payment Distribution: \( \text{RtMwpDistHrlyAmt}_{a,s,h} \)

- RT MWP SPP Distribution Rate
- RT Deviation Hourly Quantity

\[
\text{RtMwpDistHrlyAmt}_{a,s,h} = \text{RT MWP SPP Distribution Rate} \times \text{RT Deviation Hourly Quantity}
\]
Unused Regulation Mileage MWP

Credit *(or charge)* will be calculated at each Settlement Location for each Asset Owner for each Dispatch Interval when that Asset Owner is charged for Unused Regulation-Up/Dn Mileage at a rate that is in excess of the Asset Owner’s Regulation-Up/Dn Mileage Offer to the extent the Resource’s Regulation-Up/Dn Service margin is not sufficient to offset the charge induced by the difference of the two rates.

**Unused Reg-Up Mileage MWP:** \( \text{RegUpUnusedMileMwp5minAmt}_{a,s,i} \)

**Unused Reg-Down Mileage MWP:** \( \text{RegDnUnusedMileMwp5minAmt}_{a,s,i} \)

<table>
<thead>
<tr>
<th>Unused Regulation Mileage MWP Charges</th>
</tr>
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<tbody>
<tr>
<td>Day-Ahead Regulation Unused Mile MWP Amount</td>
</tr>
<tr>
<td>Real Time Regulation Unused Mile MWP Amount</td>
</tr>
<tr>
<td>( + ) |</td>
</tr>
<tr>
<td>Unused Regulation Mileage MWP Amount</td>
</tr>
</tbody>
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Section 5

DEMAND RESPONSE

CHARGE TYPES
Demand Response Charge Types (MPRR 77)

The Demand Response Charge Types were added as a result of FERC Order 745. The purpose of these charge types is to provide host load demand reduction credits and to allocate the costs associated with payment to Demand Response Resources to those MPs that benefited from the DRR output.
Demand Response: Credits

Credit *(or charge)* required in order to remove the settlement impact of grossing up the host load by the amount of associated Demand Response Resource output.

**Day-Ahead Demand Reduction:**  
\( \text{DaDRHrlyAmt}_{a,s,h} \)

- DA Load Gross-Up Qty × DA LMP × -1

**Real-Time Demand Reduction:**  
\( \text{RtDR5minAmt}_{a,s,i} \)

\[
\begin{aligned}
\text{RT Load Gross-Up Qty} & \quad \text{DA Load Gross-Up Qty} \\
\times & \quad \times \\
\text{RT LMP} & \quad \text{-1}
\end{aligned}
\]
Demand Response: Distribution

Charge (or credit) calculated for each AO for each hour for each RZN in which a Demand Response Resource was cleared in order to fund the credits paid for Demand Response Reduction.

Day-Ahead Demand Reduction Distribution: \( \text{DaDRDistHrlyAmt}_{a,z,h} \)

<table>
<thead>
<tr>
<th>DA Demand Response RZN Load Qty</th>
<th>DA Demand Response RZN Distribution Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗</td>
<td></td>
</tr>
</tbody>
</table>

Real-Time Demand Reduction Distribution: \( \text{RtDRDistHrlyAmt}_{a,z,h} \)

<table>
<thead>
<tr>
<th>RT Demand Response RZN Load Qty</th>
<th>RT Demand Response RZN Distribution Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>✗</td>
<td></td>
</tr>
</tbody>
</table>
Section 6

OTHER CHARGE TYPES
Other Charge Types

Grouping of various charge types related to deployment, reserves, fees and other miscellaneous charges:

**Other Charge Types (w/ Distribution)**

- Real-Time Regulation Non-Performance
- Real-Time Contingency Reserve Deployment Failure
- Real-Time Reserve Sharing Group (TBD)

- Real-Time Regulation Non-Performance Distribution
- Real-Time Contingency Reserve Deployment Failure Distribution
- Real-Time Reserve Sharing Group Distribution (TBD)

**Other Charge Types**

- Day-Ahead Virtual Transaction Fee

- Real-Time Regulation Deployment Adjustment
- Real-Time Out-Of-Merit
- Real-Time Joint Operating Agreement (TBD)
- Miscellaneous
Real-Time Regulation Non-Performance

Charge *(or credit)* for each Dispatch Interval when a Resource with cleared RTBM Reg-Up, Reg-Down, or both operates outside of its Operating Tolerance.

Real-Time Regulation Non-Performance:  \( \text{RtRegNonPerf5minAmt}_{a,s,i} \)

If \( \text{URD Qty} > \text{Operating Tolerance}; \text{Reg-Up or Reg-Dn Qty} > 0; \text{Deviation Exempt Flag} = 0 \)

\[
\begin{align*}
\text{Max} & \left[ 0, \right. \\
& \left( \text{DA Reg-Up Qty} \right) \times \left( \text{DA Reg-Up MCP} \right) + \left( \text{RT Reg-Up Qty} \right) - \left( \text{DA Reg-Up Qty} \right) \times \left( \text{RT Reg-Up MCP} \right) \\
& + \left( \text{DA Reg-Dn Qty} \right) \times \left( \text{DA Reg-Dn MCP} \right) + \left( \text{RT Reg-Dn Qty} \right) - \left( \text{DA Reg-Dn Qty} \right) \times \left( \text{RT Reg-Dn MCP} \right) \right]
\end{align*}
\]

RT Regulation Non-Performance Distribution:  \( \text{RtRegNonPerfDistHrlyAmt}_{a,s,h} \)

RT Regulation Non-Performance \textbf{SPP} Hourly Amount \times \textbf{RT Load Ratio Share Hourly Factor} \times -1
Real-Time Contingency Reserve Deploy Failure

Charge (or credit) assessed following deployment of Contingency Reserve (CR) if the amount specified in the Contingency Reserve Deployment Instruction fails to be provided.

Real-Time Contingency Reserve Deployment Failure:

\[
\text{RtCRDDeplFailAmt}_{a,s,i} = \text{RT CR ShortFall Qty} \times \text{ABS} (\text{RT LMP})
\]

Real-Time Contingency Reserve Deployment Failure Distribution:

\[
\text{RtCRDDeplFailDistHrlyAmt}_{a,s,h} = \text{RT CR Deployment Failure SPP Hourly Amount} \times \text{RT Load Ratio Share Hourly Factor} \times -1
\]
Real-Time Reserve Sharing Group

Credit or charge for requested assistance provided between Reserve Sharing Groups following a Resource contingency

Real-Time Reserve Sharing Group: \(\text{RtRsg5minAmt}_{a,i,t}\)

RSG Agreement Calculated Charge or Credit \((\text{TBD})\)

Real-Time Reserve Sharing Group Distribution: \(\text{RtRsgDistHrlyAmt}_{a,s,h}\)

\[
\begin{align*}
\text{RT RSG SPP} & \quad \times \quad \text{RT Load Ratio Share Hourly Factor} \\
\text{Hourly Amount} & \\
\end{align*}
\]

\(-1\)
Day-Ahead Virtual Transaction Fee

Charge *or credit* for each submitted Virtual Energy Offer and Virtual Energy Bid in the DA Market

**Day-Ahead Virtual Energy Transaction Fee:**

\[ \text{DaVTxnFeeAoAmt}_{a,m,d} \]

- DA Virtual Transaction Daily Count
- DA Virtual Transaction Daily Rate *(TBD)*
Real-Time Regulation Deployment Adjustment

Charge or credit for each Dispatch Interval when a Resource with cleared RTBM Regulation-Up or Regulation-Down is deployed.

**Real-Time Regulation Deployment Adjustment:**

\[ \text{RtRegAdj5minAmt}_{a,s,i} \]

**IF**
- Control Status Flag = “Regulating”,

**THEN**
- \( \text{RT Reg-Up Adjustment} \) + \( \text{RT Reg-Dn Adjustment} \)

**WHERE,**

\[ \text{RT Reg-Up/Dn Adjustment} = \text{RT Reg-Up/Dn Deploy. Qty} \times \left( \frac{\text{RT LMP}}{\text{RT Reg-Up/Dn Deploy. Cost Rate}} \right) \]
Real-Time Out-Of-Merit

Credit *(or charge)* to compensate Resources that receive an SPP Manual Dispatch Instruction that cause the Resource to move away from their optimal point.

Real-Time Out-Of-Merit: \( \text{RtOom5minAmt}_{a,s,i} \)

\[
\text{RT Out-Of-Merit Incremental Energy} + \text{RT Out-Of-Merit Decremental Energy} + \text{RT Out-Of-Merit Operating Reserve} \times -1
\]
Real-Time Joint Operating Agreement (TBD)

Credit or charge for RTBM congestion management coordination between SPP and JOA counterparties

Real-Time Joint Operating Agreement: \text{RtJoaHrlyAmt}_{a,h,f}

JOA Calculated Charge or Credit (TBD)
Charge or credit that cannot be handled through standard settlement billing. SPP will post supporting documentation on the Portal no later than the Settlement Statement posting date that includes a Miscellaneous Amount.

**Miscellaneous Amount:** MiscDlyAmt\(_{a,s,h}\)
Section 7

ARR / TCR
CHARGE TYPES
ARR / TCR Charge Types

Auction and Day-Ahead Charge Types

The ARR/TCR Charge Types include the charges and credits to ARR (Auction Revenue Rights) holders and TCR (Transmission Congestion Right) holders resulting from the annual and monthly TCR auctions.
**Auction Charge Types: Funding**

**TCR Auction** charge or credit is calculated for each AO for each TCR instrument purchased or sold in the TCR auctions.

**ARR Funding** charge or credit is calculated for each AO for each auction and round. ARRs are valued at the price from the annual and monthly TCR auctions during the lifetime of the instrument.

**TCR Auction Transaction:**  
\[
\text{TcrAucTxnDlyAmt}_{a,aid,d} = \left( \frac{\text{TCR Auction Qty} \times \text{TCR Auction Price}}{\text{Number of Days in Auction}} \right) \times -1
\]

**ARR Funding:**  
\[
\text{ArrAucTxnDlyAmt}_{a,aid,d} = \left( \frac{\text{ARR Auction Qty} \times \text{TCR Auction Price}}{\text{Number of Days in Auction}} \right) \times -1
\]
Auction Charge Types: Uplift

Charge calculated for each AO holding ARRs for each auction and round to the extent that TCR auction revenues collected in each auction and round are not sufficient to fund the ARRs.

Auction Revenue Rights Uplift: \( \text{ArrUpliftDlyAmt}_{a,aid,d} \)

\[
\text{ARR Under Funding Amount} \times \text{ABS} \quad \text{ARR Funding per AO} \div \text{ARR SPP Daily Funding}
\]
Auction Charge Types: Payback

Credit *(or charge)* calculated for each AO receiving an ARR Daily Uplift over the month (or year) in order to ensure full funding of ARRs.

**ARR Monthly Payback:** $\text{ArrPaybackMnthlyAmt}_{a,mn}$

\[-1 \times \text{Min} (\text{ARR Monthly Uplift}, \text{ARF (Auction Revenue Fund) Monthly Amount}) \times (\text{ARR Monthly Uplift}, \text{ARR SPP Monthly Uplift})\]

**ARR Yearly Payback:** $\text{ArrPaybackYrlyAmt}_{a,yr}$

\[-1 \times \text{Min} (\text{ARR Net Yearly Uplift}, \text{ARF (Auction Revenue Fund) Yearly Amount}) \times (\text{ARR Net Yearly Uplift}, \text{ARR SPP Net Yearly Uplift})\]
Annual credit (or charge) calculated for each AO with ARR Nomination Caps to the extent that there are any funds remaining once all credits are paid out.

**ARR Yearly Closeout:**  $\text{ArrCloseoutYrlyAmt}_{a,\text{yr}}$

\[
\begin{align*}
-1 \times &\quad \text{ARF (Auction Revenue Fund) Yearly Amount} \\
+ &\quad \text{ARR SPP Yearly Payback} \\
\times &\quad \text{ARR SPP Yearly Nomination Cap}
\end{align*}
\]
TCR Charge Types: Funding and Uplift

**TCR Funding** is a credit or charge calculated for each TCR instrument held by an AO. TCR instruments are fully funded in each hour.

**TCR Uplift** is calculated for each AO holding TCRs to the extent that congestion revenues collected are not sufficient to fund the TCRs.

**TCR Funding:** \( \text{TcrFundHrlyAmt}_{a,h} \)

- TCR Hourly Qty
- \( \times \)
- DA MCC (Source)
- \(-\)
- DA MCC (Sink)

**TCR Uplift:** \( \text{TcrUpliftDlyAmt}_{a,d} \)

- ShortFall Daily Amount
- \( \times \)
- TCR Uplift Ratio per AO
- \( ÷ \)
- TCR SPP Uplift Ratio
TCR Charge Types: Payback

Credit (or charge) calculated for each AO receiving a TCR Daily Uplift over the month (or year) in order to ensure full funding of TCRs.

**TCR Monthly Payback:**\[TcrPaybackMnthlyAmt_{a,mn}\]

-1 \( \times \) Min \( \left( \begin{array}{c}
TCR Monthly Uplift \\
ECF (Excess Congestion Fund) Monthly Amount
\end{array} \right) \times \)

\[\begin{array}{c}
TCR Monthly Uplift \\
TCR SPP Monthly Uplift
\end{array}\]

**TCR Yearly Payback:**\[TcrPaybackYrlyAmt_{a,yr}\]

-1 \( \times \) Min \( \left( \begin{array}{c}
TCR Net Yearly Uplift \\
ECF (Excess Congestion Fund) Yearly Amount
\end{array} \right) \times \)

\[\begin{array}{c}
TCR Net Yearly Uplift \\
TCR SPP Net Yearly Uplift
\end{array}\]
TCR Charge Types: Closeout

Annual credit (or charge) calculated for each AO with ARR Nomination Caps to the extent that there are any funds remaining once all credits are paid out.

TCR Yearly Closeout: $TcrCloseoutYrlyAmt_{a, yr}$

-1 \times \begin{cases} 
ECF \text{ (Excess Congestion Fund) Yearly Amount} \\ 
TCR SPP Yearly Payback \\ 
ARR SPP Yearly Nomination Cap 
\end{cases} \times 
\begin{cases} 
ARR Yearly Nomination Cap 
\end{cases}$
Section 8

REVENUE NEUTRALITY

UPLIFT
Revenue Neutrality Uplift

Charge or credit calculated at each SL/AO for each hour in order for SPP to remain revenue neutral.

Real-Time RNU Distribution: $R_{tRnuHrlyAmt}^{a,s,h}$

RT RNU SPP Distribution Rate per Day $\times$ RT RNU Distribution Qty per AO $\times$ -1

RT RNU Distribution Quantity is the sum of the AO’s actual generation, actual load, actual Interchange, DA Market cleared Virtual Offer/Bid for the each hour.

RT RNU SPP Distribution Rate represents the total SPP amount to be uplifted for the day – taking into account all charges and credits in the DA Market, RTBM, and TCR/ARR – divided by the total RT RNU Distribution Quantity for all AOs for the day.
Section 9

GRANDFATHERED AGREEMENT CHARGE TYPES
Grandfathered Agreement Charges - Uplift

Excludes transaction with Grandfathered Agreements from Market Settlement of congestion, losses, and hedging instruments. These charges create uplift to the market.

Day Ahead GFA Carve Out Daily Amount: \( \text{DaGFAA} \text{oA} \text{m} \text{t}_{a,m,d} \)

- DA Energy Cost
- TCR/ARR Credit
- OCL

Day Ahead GFA Carve Out Monthly Amount: \( \text{DaGFAA} \text{oM} \text{nthlyA} \text{m} \text{t}_{a,m,mn} \)

- TCR Monthly Payback
- ARR Monthly Payback

Day Ahead GFA Carve Out Yearly Amount: \( \text{DaGFAA} \text{oY} \text{rlyA} \text{mt}_{a,m,mn} \)

- TCR Yearly Payback
- ARR Yearly Payback
Grandfathered Agreement Charges - Distribution

A RT charge or credit calculated for each Resource or Load, internal to the SPP footprint, that has pseudo-tied out of the SPP Balancing Authority to cover Congestion Charges.

Day Ahead Pseudo-tie Congestion: \( \text{DaGFCarveOutDistDlyAmt}_{a,s,d} \)

- **GFA Daily Amount** × **GFA RT Load Ratio Share** × **-1**

Day Ahead GFA Carve Out Monthly Amount: \( \text{DaGFCarveOutDistMnthlyAmt}_{a,s,mn} \)

- **GFA Monthly Amount** × **GFA RT Load Ratio Share** × **-1**

Day Ahead GFA Carve Out Yearly Amount: \( \text{DaGFCarveOutDistYrlyAmt}_{a,s,yr} \)

- **GFA Yearly Amount** × **GFA RT Load Ratio Share** × **-1**
Section 10

PSEUDO-TIE CHARGES
Real-Time Pseudo-Tie Congestion

A RT charge or credit will be calculated for each Resource or Load, internal to SPP footprint, that has pseudo-tied out of the SPP Balancing Authority for congestion costs.

RT Pseudo-Tie Congestion Amount: \( \text{RtPseudoTieCong5minQty}_{a, \text{source, sink, i}} \)

\[
\text{RT Pseudo-Tie Congestion Amount} = \text{RT Meter Quantity} \times \left( \text{Congestion Price @ Sink} - \text{Congestion Price @ Source} \right)
\]
Real-Time Pseudo-Tie Losses

A RT charge or credit will be calculated for each Resource or Load, internal to SPP footprint, that has pseudo-tied out of the SPP Balancing Authority for losses.

RT Pseudo-Tie Loss Amount: \( \text{RT}_{\text{PseudoTieLoss5minQty}}_{a,\text{source},\text{sink},i} \)

\[
\text{RT Meter Quantity} \times (\text{Loss Price @ Sink} - \text{Loss Price @ Source})
\]

- Not Committed
- Not Dispatched
- No Must-Offer Requirement

Resource Output included in the current RTBM analysis as echo.
Helpful Links

Settlements Reference Tools – Folder containing helpful Settlements Tools, including Charge Type by Transaction Chart and Integrated Marketplace Dictionary.

LMS Information (Type SUG in search box) – Link to LMS Learning Center for training.
Questions?

Any additional questions, issues, or concerns can be entered into our Request Management System: