
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGC</td>
<td>Automatic Generator Control</td>
</tr>
<tr>
<td>LMP</td>
<td>Locational Marginal Pricing</td>
</tr>
<tr>
<td>TMSR</td>
<td>Ten-Minute Spinning Reserve</td>
</tr>
<tr>
<td>TMNSR</td>
<td>Ten-Minute Non-Spinning Reserve</td>
</tr>
</tbody>
</table>

### Related Calculation Summaries

<table>
<thead>
<tr>
<th>Calculation Summary</th>
<th>Related Market</th>
</tr>
</thead>
</table>

### Related Market Information Server (MIS) and World-wide Web (WW) Reports

<table>
<thead>
<tr>
<th>Report Code</th>
<th>Report Long Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD_REGDTL5MIN</td>
<td>Regulation Five Minute Unit Detail Report</td>
</tr>
<tr>
<td>SD_REGHRLYDTL</td>
<td>Regulation Hourly Unit Detail Report</td>
</tr>
<tr>
<td>SR_REGSUMMARY</td>
<td>Regulation Market Report</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page Number</th>
<th>Page Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Regulation Market Calculation Summary</td>
</tr>
<tr>
<td>3</td>
<td>5-Min Regulation Service Credit</td>
</tr>
<tr>
<td>4</td>
<td>5-Min Regulation Capacity Credit</td>
</tr>
<tr>
<td>5</td>
<td>5-Min Regulation Service Cost</td>
</tr>
<tr>
<td>6</td>
<td>5-Min Regulation Capacity Cost</td>
</tr>
<tr>
<td>7</td>
<td>5-Min Regulation Opportunity Cost</td>
</tr>
<tr>
<td>8</td>
<td>5-Min Regulation Make Whole Cost Payment</td>
</tr>
<tr>
<td>9</td>
<td>5-Min Regulation Up Reserve Charge</td>
</tr>
<tr>
<td>10</td>
<td>Hourly Regulation Up Reserve Charge Credit</td>
</tr>
<tr>
<td>11</td>
<td>Hourly Regulation Charge</td>
</tr>
<tr>
<td>12</td>
<td>Hourly Net Regulation Settlement</td>
</tr>
</tbody>
</table>

5-Min Regulation Service Credit
ISO New England Calculation Summary

Regulation Service Credit ($)

Regulation Service (MW)  x  Regulation Service Clearing Price ($/MWh)  x  Regulation Interval Performance Score*

* Regulation Interval Performance Score will be a factor from 0 to 1.

<table>
<thead>
<tr>
<th>Regulation Capacity Credit ($)</th>
<th># of Minutes on Regulation / 5</th>
<th>Regulation Capacity (MW)</th>
<th>Regulation Capacity Clearing Price ($/MWh)</th>
<th>Regulation Interval Performance Score*</th>
</tr>
</thead>
</table>

* Regulation Interval Performance Score will be a factor from 0 to 1.

5-Min Regulation Service Cost
ISO New England Calculation Summary

Regulation Service Cost ($)

Regulation Service (MW) \times\text{Regulation Service Offer Price ($/MWh)} \times\text{Regulation Interval Performance Score*}

* Regulation Interval Performance Score will be a factor from 0 to 1.

5-Min Regulation Capacity Cost
ISO New England Calculation Summary

Regulation Capacity Cost

\[
\left\lfloor \frac{\text{# of Minutes on Regulation}}{5} \times \text{Regulation Capacity (MW)} \times \left( \frac{\text{Regulation Capacity Offer Price ($/MWh)}}{\text{Regulation Inter-temporal Opportunity Costs ($/MWh)}} \right) \times \text{Regulation Interval Performance Score*} \right\rfloor / 12
\]

* Regulation Interval Performance Score will be a factor from 0 to 1.

### 5-Min Regulation Opportunity Cost
ISO New England Calculation Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Minutes on Regulation / 5</td>
<td>[ \text{Regulation Opportunity Cost ($)} \times \text{ABS(LMP ($/\text{MWh}) - Opportunity Price ($/\text{MWh}) \times \text{ABS(Economic Level (MW)} - \text{Perfect AGC Output While Regulating (MW))}} / 12 ]</td>
</tr>
</tbody>
</table>

Legend:
- LMP (\$/MWh)
- Opportunity Price (\$/MWh)
- Economic Level (MW)
- Perfect AGC Output While Regulating (MW)

5-Min Regulation Make Whole Cost Payment
ISO New England Calculation Summary

\[
\text{Regulation Make Whole Cost Payment (\$)} = \max(0, \text{Total Regulation Cost (\$)} - \text{Regulation Payment (\$)})
\]

\[
\begin{align*}
\text{Total Regulation Cost (\$)} &= \text{Regulation Service Cost (\$)} + \text{Regulation Capacity Cost (\$)} + \text{Regulation Opportunity Cost (\$)} \\
\text{Regulation Payment (\$)} &= \text{Regulation Service Credit (\$)} + \text{Regulation Capacity Credit (\$)}
\end{align*}
\]

5-Min Regulation Up Reserve Charge
ISO New England Calculation Summary

Regulation Up Reserve Charge ($)

[ # of Minutes on Regulation / 5 × Regulation Up MW * (MW) × MIN( Telemetered MW (MW) - Regulation High Limit (MW) ), ( Regulation High Limit (MW) - Energy Quantity (MW) ), Regulation Capacity (MW) ) ] / 12

Real-Time Reserve Market TMSR/TMNSR Clearing Price ($/MWh)

Regulation Selector Price ($/MWh)

* If this value is negative, it will be set to zero

Hourly Regulation Up Reserve Charge Credit
ISO New England Calculation Summary

Regulation Up Reserve Charge Credit ($)

Load Ratio Share (%)

X

Pool Regulation Up Reserve Charge Credit ($)

Real-Time Load Obligation for Charge Allocation* (MWh)
Real-Time Load Obligation for DARDs (MWh)

Pool Real-Time Load Obligation for Charge Allocation* (MWh)
Pool Real-Time Load Obligation for DARDs (MWh)

-1 X

SUM ( )

Hourly Calculation

5-Minute Calculation

* Excludes Coordinated External Transactions and Dispatchable Asset Related Demand (providing Regulation) consumption above the Minimum Consumption Limit.
**Hourly Regulation Charge**

ISO New England Calculation Summary


\[
\text{Regulation Charge} = (-1 \times \text{Load Ratio Share} + \text{Pool Regulation Service Credit} + \text{Pool Regulation Capacity Credit} + \text{Pool Regulation Make Whole Cost Payment})
\]

\[
\text{Load Ratio Share} = \frac{-\text{Real-Time Load Obligation for Charge Allocation}^*}{-\text{Real-Time Load Obligation for DARDs}^*}
\]

\[
\text{Pool Real-Time Load Obligation for Charge Allocation}^* = \frac{-\text{Pool Real-Time Load Obligation for Charge Allocation}^*}{-\text{Pool Real-Time Load Obligation for DARDs}^*}
\]

\[
\text{Pool Real-Time Load Obligation for DARDs}^* = \frac{-\text{Pool Real-Time Load Obligation for Charge Allocation}}{\text{Pool Real-Time Load Obligation for DARDs}^*}
\]

\[
\text{Regulation Service Credit} = \sum (\text{SUM} (\text{Regulation Service Credit}) + \text{SUM} (\text{Regulation Capacity Credit}) + \text{SUM} (\text{Regulation Make Whole Cost Payment}))
\]

*Excludes Coordinated External Transactions and Dispatchable Asset Related Demand (providing Regulation) consumption above the Minimum Consumption Limit.*

Hourly Net Regulation Settlement
ISO New England Calculation Summary

Net Regulation Settlement

Total Regulation Credits

Total Regulation Charges

Regulation Service Credit

Regulation Capacity Credit

Regulation Make Whole Cost Payment

Regulation Up Reserve Charge Credit

Regulation Charge

Regulation Up Reserve Charge

* Sum of 5-Min Values.