**Reference Guide**

ISO New England Calculation Summary

**Note:** The relevant ISO New England Markets, Services and Transmission Tariff and the relevant Market Manuals, Operating Procedures and Planning Procedures shall govern.

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### Acronyms

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<th>Acronym</th>
<th>Definition</th>
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<td>ANI</td>
<td>Adjusted Net Interchange</td>
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<td>ARD</td>
<td>Asset Related Demand</td>
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<tr>
<td>CA</td>
<td>Charge Allocation</td>
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<td>CSF</td>
<td>Continuous Storage Facility</td>
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<td>DA</td>
<td>Day-Ahead</td>
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<td>IBL</td>
<td>Internal Bilateral for Load</td>
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<tr>
<td>IBM</td>
<td>Internal Bilateral for Market</td>
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<td>LMP</td>
<td>Locational Marginal Price</td>
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<td>RQM</td>
<td>Revenue Quality Metering</td>
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<td>RT</td>
<td>Real-Time</td>
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<td>RTLO</td>
<td>Real-Time Load Obligation</td>
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<td>SHS</td>
<td>Subhourly settlements</td>
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### Related Calculation Summaries

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

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*energy_market_calc_sum.vsd*

*Most recent changes are shown in red.*

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Version Number: 8.0

Effective Date: 08/01/2021

ISO-NE PUBLIC

Customer, Location

Day-Ahead Energy
ISO New England Calculation Summary

Note: Most recent changes are shown in red.

Real-Time Energy
ISO New England Calculation Summary

Customer, Location, 5-Minute Calculation

RT Charge/Credit

\[
(\text{RT LMP} \times \text{RT ANI Deviation}) / 12
\]

RT Adjusted Net Interchange

DA Adjusted Net Interchange

DA Demand Reduction

RT Generation Obligation

RT Adjusted Load Obligation

Energy Quantity for generation

RT Load Obligation

Energy Quantity for load

Scheduled Imports

Scheduled Exports

RT Load Obligation

DA IBM Sales + IBM Purchases

RT IBM Sales + IBL Purchases

RT IBL Sales + IBL Purchases

Most recent changes are shown in red.

Real-Time Demand Reduction Credit and Charge
ISO New England Calculation Summary

Customer, Location, 5-Minute Calculation

\[ \text{RT Demand Reduction Credit} = \frac{\text{RT LMP} \times \text{RT Demand Reduction Obligation Deviation}}{12} \]

\[ = \frac{\text{RT Demand Reduction Obligation} - \text{DA Demand Reduction Obligation}}{\text{Energy Quantity Net Supply} + \text{Energy Quantity Reduction} \times (1 + \text{Pool Distribution Loss Factor})} \]

Customer, Location, Hourly Calculation

\[ \text{RT Demand Reduction Charge} = \mathbb{R} \times \left( \frac{\text{Pool Total RT Demand Reduction Credits}}{\text{RTLO for Demand Reduction Allocation}} \right) \]

1 Current value is 0.055
2 RTLO excluding RTLO incurred at all External Nodes and RTLO incurred by DARD pumps at the specified location

Most recent changes are shown in red.

External Inadvertent Cost
ISO New England Calculation Summary

5-Minute Calculation

\[
\text{Locational External Inadvertent Cost} = \left( \frac{\text{Locational External Inadvertent MWs} \times \text{Locational RT LMP}^1}{12} \right) - \text{Locational External Ties Energy Quantity} + \text{Hourly RQM} - \text{Hourly Average Telemetry}
\]

1 Includes Energy, Loss and Congestion components

energy_market_calc_sum.vsd
Most recent changes are shown in red.
**External Inadvertent Cost Distribution**

**ISO New England Calculation Summary**

**Note:** The relevant ISO New England Markets, Services and Transmission Tariff and the relevant Market Manuals, Operating Procedures and Planning Procedures shall govern.

### Hourly Calculation

\[
\text{Participant External Inadvertent Cost Distribution (\$)} = X \left( \text{Participant Allocator (MW)} \right) / \text{Pool Allocator (MW)}
\]

- **Pool External Inadvertent Cost\(^1\) (\$)**
- **Participant RT Generation Obligation for CA\(^2\) (MW)**
- **Participant RT Load Obligation for CA\(^2\) (MW)**
- **Participant RT Demand Reduction Obligation (MW)**
- **Pool RT Generation Obligation for CA\(^2\) (MW)**
- **Pool RT Load Obligation for CA\(^2\) (MW)**
- **Pool RT Demand Reduction Obligation (MW)**

\(^1\) Sum of Locational External Inadvertent Cost 5-minute intervals for the hour

\(^2\) Excludes Coordinated External Transactions

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**5-Minute Calculation**

\[
\text{Participant Marginal Loss Revenue Allocation (\$)} = \left( \frac{\text{Pool Marginal Loss Revenue (\$)}}{\text{Participant Marginal Loss Revenue Load Obligation}^1 (\text{MW})} \right) \times \left( \frac{\text{Load Obligation (RTLO) for CA}^3 (\text{MW}) + \text{DA IBM Sales + IBM Purchases}^2 (\text{MW}) + \text{RT IBM Sales + IBM Purchases}^2 (\text{MW})}{\text{DA Pool Marginal Loss Revenue (\$)}} + \text{RT Pool Marginal Loss Revenue (\$)} \right) - 1 \left( \text{Pool DA Energy Settle}\text{ment (\$)} + \text{Pool DA Loss Revenue (\$)} \right) - 1 \left( \text{Pool RT Energy Settlement (\$)} + \text{Pool RT Loss Revenue (\$)} + \text{Pool External Inadvertent Cost (\$)} + \text{Pool Emergency Purchases or Sales (\$)} \right)
\]

1 Excludes Coordinated External Transactions
2 Includes only IBM Purchases & Sales flagged to be included in the Marginal Loss Revenue Allocation in the IBT User Interface.
Determination of profile method used to determine Energy Quantity for Resources with telemetry

\[ \text{Telemetry Deviation (MW)} > \text{MW Threshold}^1 (\text{MW}) \quad \text{and,} \quad \text{Telemetry Deviation Percent (\%)} > \text{Percent Threshold}^2 (\text{MW}) \], then Flat Profile, ELSE Telemetry Profile

\[
\text{Telemetry Deviation Percent (\%)} = \frac{\text{AVG} \left( \frac{5 \text{-Minute Telemetry (MW)} - \text{Hourly RQM (MW)}}{\text{Hourly RQM (MW)}} \right) \times 100}
\]

\[ ^1 \text{Set at 10 MW} \\
^2 \text{Set at 20\%} \]

**Flat Profiled Energy Quantity**

- Load assets
- Settlement Only Resources
- External Transactions
- Generators and Dispatchable ARDs with telemetry not meeting telemetry variance threshold test
- If hourly average telemetry is zero, then flat profile

**Telemetry Profiled Energy Quantity**

- Generators and Dispatchable ARDs (that are not part of a CSF) with telemetry meeting telemetry variance threshold test

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**Energy Quantity Non CSF**

ISO New England Calculation Summary

Net Adjustment Energy Quantity
Generator

5-Minute Energy Quantity CSF GEN (MW)

[ ( Net Hourly RQM Generator (MW) - Net Hourly Average Telemetry (MW) ) x ( 5-Minute Telemetry Generator (MW) / Total 5-Minute Telemetry (MW) ) x ( 12 / Non Zero Telemetry Interval Count ) ] + 5-Minute Telemetry Generator (MW)

[ Hourly RQM Generator (MW) - Hourly RQM ARD (MW) ]

[ Net 5-Minute Telemetry (MW) ] / 12

COUNTIF ( Net 5-Minute Telemetry Generator (MW) + 5-Minute Telemetry ARD (MW) ) <> 0

Note: If hourly average telemetry for both generator and ARD is zero, then flat profile.

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**Energy Quantity CSF ARD**

**ISO New England Calculation Summary**

**Net Adjustment Energy Quantity ARD**

\[
\text{Net Hourly RQM (MW)} - \text{Net Hourly Average Telemetry (MW)} \times [\text{Net 5-Minute Telemetry ARD (MW)} / \text{Total 5-Minute Telemetry (MW)} \times (12 / \text{Non Zero Telemetry Interval Count})] - \text{5-Minute Telemetry ARD (MW)}
\]

\[
(\sum \text{Net 5-Minute Telemetry (MW)}) / 12 - \text{5-Minute Telemetry ARD (MW)} - \text{5-Minute Telemetry Generator (MW)} + \text{5-Minute Telemetry ARD (MW)} < > 0
\]

Note: If hourly average telemetry for both generator and ARD is zero, then flat profile.

**Most recent changes are shown in red.**