

Disclaimer for Customer Training: ISO New England (ISO) provides training to enhance participant and stakeholder understanding. Not all issues and requirements are addressed by the training. Consult the effective [Transmission, Markets and Services Tariff](#) and the relevant [Market Manuals](#), [Operating Procedures](#) and [Planning Procedures](#) for detailed information. In case of a discrepancy between training provided by ISO and the Tariff or Procedures, the meaning of the Tariff and Procedures shall govern.

Settlements Issues Forum

Q2 2016 Meeting

Rachel Likover
Market Analysis & Settlements





Upcoming Settlement/Market Changes

- Sub-hourly Settlements
- Fast Start Pricing and Dispatch
- Dispatchable Asset Related Demand (DARD) Pump Parameter Changes



Divisional Accounting Update



Informational Items

- “Understanding the Bill” on the ISO-NE website
- Next meeting date

Upcoming Settlement/ Market Changes

- *Sub-hourly Real-Time Settlement*
- *Fast Start Pricing and Dispatch*
- *Dispatchable Asset Related Demand (DARD) Pump Parameter Changes*



Sub-hourly Real-Time Settlement

March 1, 2017*



Joint ISO-NE/NEPOOL Filing

- Settle Real-Time Markets at sub-hourly (5 minute) interval
- Provide more accurate compensation, especially for flexible resources that respond quickly
- Add and revise MIS Reports
 - Current hourly reports will have some revisions
 - New reports will detail sub-hourly calculations

Joint ISO-NE/NEPOOL FERC Filing

[ER16-1828-000](#)

See additional information at :

[Settlements Forum Q1 2016](#)

* Pending FERC approval

Fast Start Pricing and Dispatch

March 31, 2017



Joint ISO-NE/NEPOOL Filing

- Fast Start generators will set LMP under broader range of conditions
- Improve performance incentives for all resources
- Introduce new NCPC payment, Rapid Response Pricing Opportunity Cost, to compensate resources postured down when fast start units are setting price

Joint ISO-NE/NEPOOL FERC Filing

[ER15-2716-000](#)

DARD Pump Parameter Changes

March 31, 2017*



Joint ISO-NE/NEPOOL Filing

- Improve modeling and dispatch of pump storage hydro resources in pumping mode
- Provide new bidding parameters for pumps
- Improve outcome for pump storage owners and for market as a whole through more optimal dispatch solutions

Joint ISO-NE/NEPOOL FERC Filing

[ER16-954-000](#)

* Pending FERC approval



Questions?



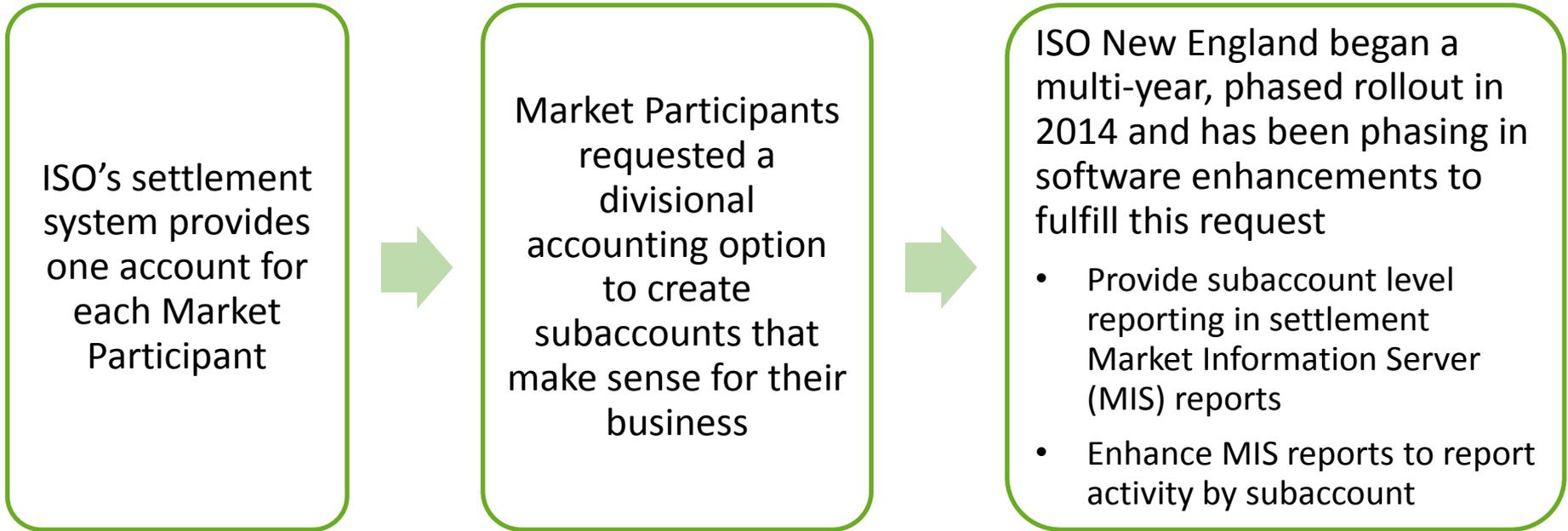
Divisional Accounting Project Update



Overview of Divisional Accounting Project



Divisional accounting is an optional feature that allows customers to assign market activity to a **subaccount** or division for settlement reporting.



View these materials for more information:

[*Divisional Accounting Phase 7 & 8 Webinar \(includes overview and guide\)*](#)

[*Quick Start Guide for Divisional Accounting*](#)

Further detail is provided on the [Divisional Accounting Project Page](#)

** Bills and Financial Assurance determination remain unchanged*



Divisional Accounting Implementation Plan - Projected Schedule

-  **Phase 1**
(Q1 2014) CAMS Subaccount Management available
-  **Phase 2**
(Q2 2014) Asset assignment to subaccounts in CAMS reflected in most Hourly Markets/Transitional Demand Response/Black Start Settlement reporting
-  **Phase 3**
(Q4 2014) Asset assignment to subaccounts in CAMS reflected in NCPC settlement reporting
-  **Phase 4**
(Q1 2015) Asset assignment to subaccounts in CAMS reflected in Regulation Market settlement reporting
-  **Phase 5**
Q3 2015 Most activity entry point assignments to subaccounts reflected in settlement reporting
-  **Phase 6**
Q3 2015 Subaccounts reflected in FCM settlement reporting
-  **Phase 7**
Q2 2016 Subaccounts reflected in OATT and ISO Self-Funding Tariff settlement reporting
-  **Phase 8**
Q2 2016 Informational reporting on billing amounts by subaccount
- Phase 9**
(TBD) Financial Transmission Rights/Auction Revenue Rights and External Transactions reflected in subaccounts.

This schedule may be modified to accommodate competing priorities.

Questions?



Additional Information

- Settlements Information on ISO-NE Website
- Next Settlement Issues Forum Date
- Questions & Discussion



Settlement Information on the ISO Website

Markets and Operations > Understanding the Bill



SEARCH



CALENDAR

LIBRARY

HELP

SIGN UP

SIGN IN

Markets and Groups

System Planning

Markets and Operations

Understanding the Bill has information to help you

- Interactive, sample invoice
- Billable line-item descriptions

See [Appendix A](#) to see screenshots of pages shown during the webinar demo

Settlements

Understanding the Bill

Billing Disputes

Settlement and Metering Holidays

Quarterly Settlements Forum

Metering and Resettlement Deadlines

Tariff Rates

Rate Development of Regional Transmission Charges

Generation Information System

Emergency Power Sales and Purchases

FERC Electric Quarterly Reporting

Pricing-Node Table

Transmission Operations and Services

Transmission Service Types

Transmission Outage Scheduling

OASIS Materials

Operational Transmission Limits



Facilitating competitive markets and reliable wholesale electricity delivery in New England

Mitigation

Internal Market Monitor

External Market Monitor

Market Development

Wholesale Markets Project Plan

Forward Capacity Market

Financial Transmission Rights

Forward Reserve Market and Real-Time Reserve Pricing

Net Commitment-Period Compensation

Regulation Market

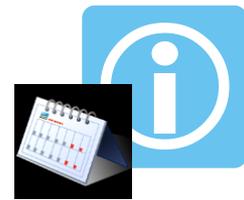
Voltage Support

Blackstart Service

Demand Resources

Winter Program Payment Rate

Settlements Issues Forum Dates 2016



Thursday, March 10 at 10:00 AM



Thursday, June 9 at 10:00 AM



Thursday, September 8 at 10:00 AM



Thursday, December 8 at 10:00 AM



Questions or Discussion?

APPENDIX A:

Understanding the Bill web page screenshots

Settlement Information on the ISO Website

How do I find Understanding the Bill?

The screenshot shows the ISO New England website interface. At the top, there is a search bar and navigation links for CALENDAR, LIBRARY, HELP, SIGN UP, and SIGN IN. Below this is a main navigation bar with categories: About Us, Participate, Committees and Groups, System Planning, and Markets and Operations. A red arrow points to the 'Settlements' link under the 'Committees and Groups' category.

Settlements

- Understanding the Bill
- Billing Disputes
- Settlement and Metering Holidays
- Quarterly Settlements Forum
- Metering and Resettlement Deadlines
- Tariff Rates
- Rate Development of Regional Transmission Charges
- Generation Information System
- Emergency Power Sales and Purchases
- FERC Electric Quarterly Reporting
- Pricing-Node Table

Facilitating competitive markets and reliable wholesale electricity delivery in New England

SYSTEM DEMAND

FUEL MIX

57%	NATURAL GAS
29%	NUCLEAR
8%	RENEWABLES
4%	HYDRO
2%	COAL

INTERNAL HUB PRICE

\$31.06	ENERGY
\$0.00	CONGESTION
\$-0.14	LINE LOSS
\$30.92 ↑	

SYSTEM STATUS

Normal ●

Settlement Information on the ISO Website

Where do I find Billable-Line Item Descriptions?

The screenshot shows the ISO New England website. The browser address bar displays <http://www.iso-ne.com/markets-operations/settlements/understand-bill>. The page title is "Understanding the Bill".

The navigation menu includes: ABOUT US, PARTICIPATE, COMMITTEES AND GROUPS, SYSTEM PLANNING, and MARKETS AND OPERATIONS. The current page is "Markets and Operations > Settlements".

The main content area is titled "Understanding the Bill". It features a sidebar with "IN THIS SECTION" and "RELATED LINKS".

IN THIS SECTION

- Settlements
- Understanding the Bill**
- Billing Disputes
- Settlement and Metering Holidays
- Quarterly Settlements Forum
- Metering and Resettlement Deadlines
- Tariff Rates
- Rate Development of Regional Transmission Charges
- Generation Information
- Emergency Power Sales and Purchases
- FERC Electric Quarterly Reporting
- Pricing-Node Table

RELATED LINKS

- Transmission, Markets, and Services Tariff
- Manuals

The main content area contains the following text:

ISO New England releases billing statements electronically twice a week. The following materials define and describe the billing process:

- **ISO Billing Policy** [PDF](#)—the billing and payment procedures defined in Exhibit 1D within the *ISO New England Inc. Transmission, Markets, and Services Tariff*
- **Billing Process Summary** [PDF](#)—a brief introduction to the billing process for new customers and a guide to available settlement-related resources, including timelines, metering and billing schedules, and other settlement documents

For detailed guidance on the billing process and statements, see the following:

- **Sample Invoice and Remittance Advice**—a sample bill containing detailed information related to each component/section of the billing statement, including explanations, tips, and key differences between invoices and remittance advice
- **ISO Statement Issuance Document** [PDF](#)—an explanation of invoice issuance dates and their associated payment and remittance due dates
- **Billable Line-Item Descriptions**—links to detailed explanations of each line item found on ISO bills, including related Market Information Server (MIS) Reports, calculation trees, and supporting documents
- **MIS Report Descriptions, Templates, and Samples**—an alphabetical listing of MIS reports with links to report descriptions and explanations, information on report availability, templates, and sample files

Access below the following types of resources to help reconcile your current ISO billing statement or to learn which line items are forecasted to appear on your next billing statement:

A red arrow points from the "Billable Line-Item Descriptions" link in the "RELATED LINKS" section to the main content area.

The Windows taskbar at the bottom shows the Start button and several open applications, including "Book1", "DNE_ASSET_DA...", "NCP Overview...", "Desktop", "Understandin...", "Calendar - Mailb...", "RE: Hourly Mark...", "External Inadve...", "Emailing: DNE...", "RE: Notification...", "ISO New Englan...", "RE: Fun with Fil...", "FW: question a...", and "9f_presentatio...". The system clock shows 4:27 PM.

Settlement Information on the ISO Website

Settlement Information: Understanding the Bill > Sample Invoice and Remittance Advice

Sample Invoice and Remittance Advice - ISO New England

http://www.iso-ne.com/markets-operations/settlements/understand-bill/sample

ISO new england

SEARCH

CALENDAR LIBRARY HELP SIGN UP SIGN IN

About Us Participate Committees and Groups System Planning Markets and Operations

Markets and Operations > Settlements > Understanding the Bill

Sample Invoice and Remittance Advice

IN THIS SECTION

- Understanding the Bill
- Billable Line-Item Descriptions
- MS Report Descriptions, Templates, and Samples
- Sample Invoice and Remittance Advice

RELATED LINKS

- Billing Timeline
- ISO Tariff Rates
- Financial Assurance and Credit
- Report Descriptions
- Billing Disputes
- Market Analysis and Settlements Reference (PDF)

Access information related to the overall format of an ISO Invoice or ISO Remittance Advice and explanations of specific sections contained within both statements.

- An invoice is issued when the total charges exceed the total credits for the given billing period. The customer **owes to the ISO** the net total of the charges and credits (Invoice Total).
- A remittance advice is issued when the total credits exceed the total charges for the given billing period. The ISO **owes the customer** the net total of the credits and charges (Remittance Total).

Roll over areas of interest in the sample statement below; tips will appear containing pertinent information including key differences between an Invoice and a Remittance Advice.

The labels and values below are intended to represent billable line items that customers may expect to see on their bill. The words "sample text" are intentional. The billing periods and monetary amounts shown are for example only. Visit the [Billable Line Item Descriptions](#) page for detailed explanations of and supporting documents for each item.

ISO New England Inc.
One Sullivan Road
Holyoke, MA 01040-2841

Invoice / Remittance Advice

Attn: by Company
New Corporation
Energy Industry
123 Corporate Drive
Anytown, MA 12345-1234

Document Number: 61282
Document Date: 05/12/2014
Page: 1 of 1
Due Date: 05/12/2014
Customer ID: 1

Wire Transfer Instructions

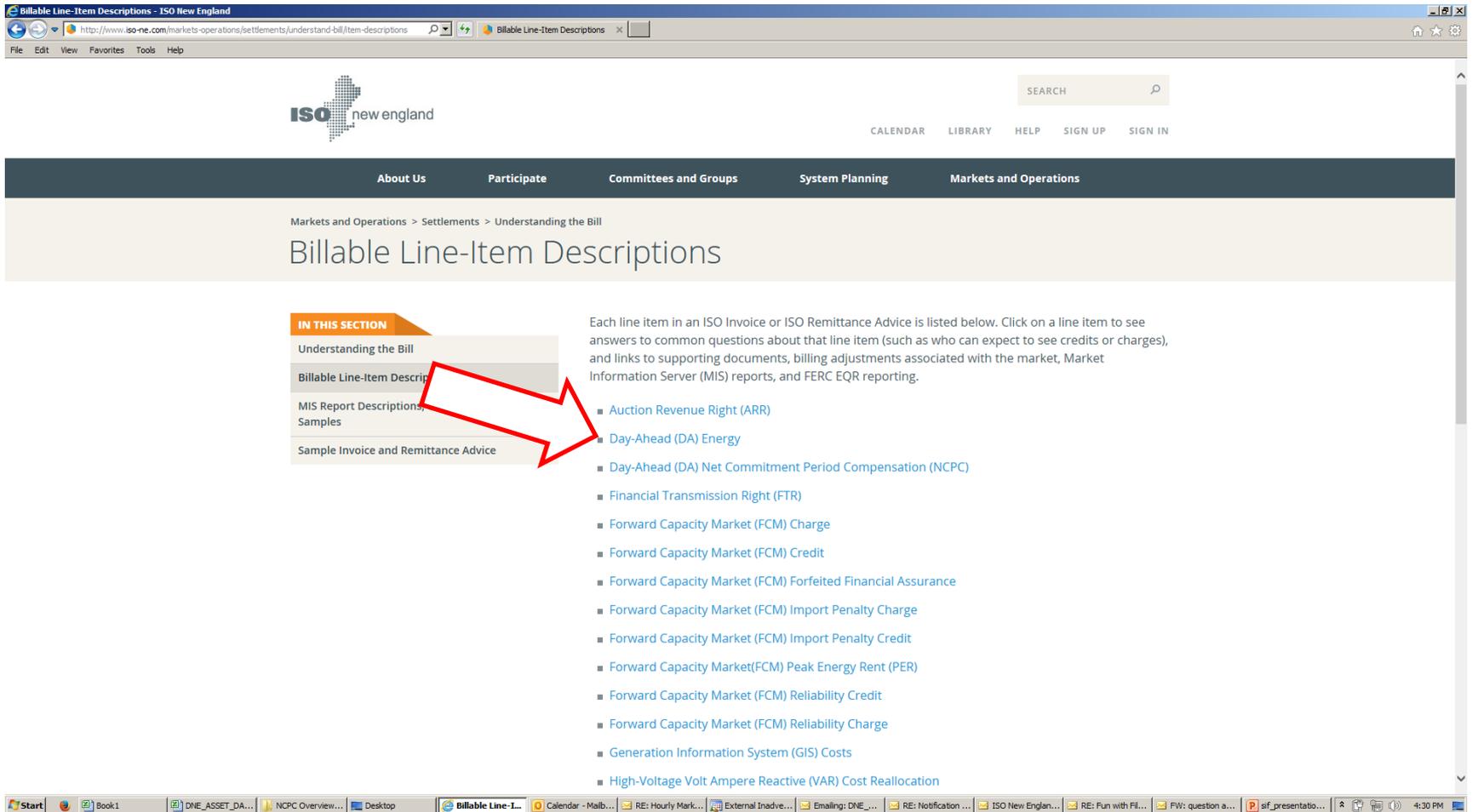
From:
Bank:
ABA:
Account:

To:
Bank:
ABA:
Account:

LINE	DESCRIPTION	BILLFROM/ BILL TO	DOCUMENT REF.	NET AMOUNT
1	Day-ahead Energy	05/01/2009 00:00 05/08/2009 00:00	Sample text	1,000.00
2	Real-Time Energy	05/01/2009 00:00 05/08/2009 00:00	Sample text	700.00
3	RT Energy Emergency South EET	05/01/2009 00:00 05/08/2009 00:00	Sample text	-100.00
4	RT Energy Emergency Trans CA	05/01/2009 00:00 05/08/2009 00:00	Sample text	-100.00
5	RT Energy - Security Purchase	05/01/2009 00:00 05/08/2009 00:00	Sample text	-100.00
6	Regulation	05/01/2009 00:00 05/08/2009 00:00	Sample text	-240.00
7	Reserve Market	05/01/2009 00:00 05/08/2009 00:00	Sample text	-40.00
8	Day-ahead MISC	05/01/2009 00:00 05/08/2009 00:00	Sample text	80.00

Settlement Information on the ISO Website

Settlement Information



The screenshot shows a web browser window displaying the ISO New England website. The page title is "Billable Line-Item Descriptions". The navigation menu includes "About Us", "Participate", "Committees and Groups", "System Planning", and "Markets and Operations". The breadcrumb trail is "Markets and Operations > Settlements > Understanding the Bill". The main heading is "Billable Line-Item Descriptions".

IN THIS SECTION

- [Understanding the Bill](#)
- [Billable Line-Item Descriptions](#)
- [MIS Report Descriptions, Samples](#)
- [Sample Invoice and Remittance Advice](#)

Each line item in an ISO Invoice or ISO Remittance Advice is listed below. Click on a line item to see answers to common questions about that line item (such as who can expect to see credits or charges), and links to supporting documents, billing adjustments associated with the market, Market Information Server (MIS) reports, and FERC EQR reporting.

- [Auction Revenue Right \(ARR\)](#)
- [Day-Ahead \(DA\) Energy](#)
- [Day-Ahead \(DA\) Net Commitment Period Compensation \(NCP\)](#)
- [Financial Transmission Right \(FTR\)](#)
- [Forward Capacity Market \(FCM\) Charge](#)
- [Forward Capacity Market \(FCM\) Credit](#)
- [Forward Capacity Market \(FCM\) Forfeited Financial Assurance](#)
- [Forward Capacity Market \(FCM\) Import Penalty Charge](#)
- [Forward Capacity Market \(FCM\) Import Penalty Credit](#)
- [Forward Capacity Market \(FCM\) Peak Energy Rent \(PER\)](#)
- [Forward Capacity Market \(FCM\) Reliability Credit](#)
- [Forward Capacity Market \(FCM\) Reliability Charge](#)
- [Generation Information System \(GIS\) Costs](#)
- [High-Voltage Volt Ampere Reactive \(VAR\) Cost Reallocation](#)

Settlement Information on the ISO Website

Billable Line-Item Description Page

IN THIS SECTION

Billable Line-Item Descriptions
Auction Revenue Right (ARR)
Day-Ahead (DA) Energy
Day-Ahead (DA) Net Commitment Period Compensation
Forward Capacity Market (FCM) Charge
Forward Capacity Market (FCM) Credit
Forward Capacity Market (FCM) Forfeited Financial Assurance
Forward Capacity Market (FCM) Import Penalty Charge
Forward Capacity Market (FCM) Import Penalty Credit
Forward Capacity Market (FCM) Peak Energy Rent (PER)
Forward Capacity Market (FCM) Reliability Charge
Forward Capacity Market (FCM) Reliability Credit
Financial Transmission Right (FTR)
Generation Information System (GIS) Costs
Open Access Transmission Tariff (OATT) - Schedule 1 Regional Network Service (RNS)
Open Access Transmission Tariff (OATT) - Schedule 1 Through or Out Service (FOUT)
Open Access Transmission Tariff - Schedule 10 Blackstart Service
Open Access Transmission Tariff (OATT) - Schedule 2 Volt Ampere Reactive (VAR)
Open Access Transmission Tariff (OATT) - Schedule 4 Through or Out Service (FOUT)
Open Access Transmission Tariff (OATT) - Schedule 8 Regional Network Service (RNS)
Regulation
Reserve Market
Real-Time (RT) Energy
Real-Time (RT) Energy Emergency Purchasing Energy Transactions (EETs)
Real-Time (RT) Energy Emergency Trans Control Area (CA)
Real-Time (RT) Energy - Security Purchase
Real-Time (RT) Net Commitment Period Compensation (NCP)
ISO Schedule 1 Regional Network Service (RNS)
ISO Schedule 1 Through or Out (FOUT)
ISO Schedule 2
ISO Schedule 3
ISO Schedule 4 New England State Committee on Electricity (NEESCO)
Transitional Demand Response
High-Voltage Volt Ampere Reactive (VAR) Cost Reallocation

Day-Ahead Energy

What is Day-Ahead Energy?

The Day-Ahead Market clearing process produces a schedule of financially binding commitments for the purchase and/or sale of Day-Ahead Energy in advance of the operating day, based on the bid and offer data submitted to the Day-Ahead Market by Market Participants. The clearing process schedules and dispatches resources using least cost security-constrained unit commitment and dispatch software, such that sufficient generation is scheduled in each hour to serve Energy consumption, while meeting transmission security requirements. The Participant's hourly Day-Ahead Energy credits and charges are calculated by multiplying the net cleared amount of supply or consumption at a location by the LMP for that location, and then summing all locational credits and/or charges for the hour. The invoice amount is the net of all hourly credits and/or charges for the billing period.

In what document(s) do I find details about Day-Ahead Energy?

Primary provisions for the settlement of the Day-Ahead Energy Market are included in, but not limited to Market Rule 1 and ISO New England Manual for Market Rule 1 Accounting Manual M-28.

Who can expect to incur a Day-Ahead Energy Credit or Charge?

Credits

Market Participants with a Day-Ahead Generation Obligation will receive credits for this service based upon the location specific Day-Ahead Adjusted Net Interchange and the associated Day-Ahead Locational Marginal Price. Generation Obligation is the sum of cleared generation, cleared incremental offers and cleared imports at the location. The Day-Ahead Adjusted Net Interchange is the net of the Generation Obligation and the Adjusted Load Obligation at the location.

Charges

Market Participants with a Day-Ahead Adjusted Load Obligation will be charged based upon the location specific Day-Ahead Adjusted Net Interchanges and the associated Day-Ahead Locational Marginal Prices. The Adjusted Load Obligation is the sum of cleared demand, cleared decremental bids, and cleared exports, as adjusted for internal bilateral purchases or sales. The Adjusted Net Interchange is the net of the Generation Obligation and Adjusted Load Obligation at the location.

Related Standard Settlements

N/A

Related Billing Adjustments

N/A

Bill Detail

The hourly services bill contains a single line item netting charges and credits entitled "Day-Ahead Energy."

Reports

Day-Ahead Locational Cleared Energy Market Settlement Report
SD_DAILYCLEARED: Hourly detail of Participant's cleared generation, cleared demand, and cleared incremental offers and/or decremental bids, issued upon settlement of the Market Day.

Day-Ahead Transaction Activity Report
SD_DAILYTRANSACTION: Hourly detail of Participant's External Transactions and Internal Bilateral Transactions, issued upon settlement of Market Day.

Day-Ahead Energy Market Locational Settlement Report
SR_DAILYLOCSET: Summary of Participant's hourly Day-Ahead Energy charges and credits by location, issued upon settlement of Market Day.

Day-Ahead Energy Market Summary Report
SR_DAILYSUM: Summary of Participant's hourly Day-Ahead Energy charges and credits, issued upon settlement of Market Day.

Day-Ahead Energy is reported on the SP_EQR report, available on a monthly basis one month after the given settlement, as referenced in the FERC EQR mapping line item Energy Day Ahead.

Daily Financial Position Report

BL_DAILYPOSITION: Daily financial position including all market service settlements and miscellaneous billing adjustments generated on a daily basis and, issued to all active customers registered as a Participant or Non-Participant.

Related Calculation Summary

Energy Market Calculation Summary