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October 26-28, 2023
Northampton, MA

Settlements

Lesson 6C: Supplier-Side Settlement (Annual Reconfiguration Transaction)

Forward Capacity Market (FCM 101)

The information contained in this presentation is applicable to FCA 18. If market rules related to FCA 19 and beyond are revised, participants need to comply with any applicable rules as approved by FERC. The ISO anticipates updating its training content for such changes, as time permits.

Tammy Brakey
Lead Settlement Analyst, Market Development

Some slides or portions of slides may be intentionally hidden in the printed and posted versions of this presentation.

Objectives

- Define Annual Reconfiguration Transaction (ART)
- Describe how to calculate an ART

Common Acronyms

In Order of Appearance

ART	Annual Reconfiguration Transaction
FCM	Forward Capacity Market
NEPOOL	New England Power Pool
CSO	capacity supply obligation
ARA	annual reconfiguration auction
CCP	capacity commitment period
MIS	market information server

FCM Annual Reconfiguration Transactions

Joint ISO-NE/NEPOOL (New England Power Pool) Filing

- Annual Reconfiguration Transactions (ARTs) allow counterparties to acquire/shed capacity supply obligation (CSO) with price certainty
- ARTs are submitted during annual reconfiguration auctions (ARAs)
- ARTs replaced annual CSO bilaterals as of capacity commitment period (CCP) 2020/21
- FCM market information server (MIS) reports that include ARTs
  - SD_FCMNSCDTL2

The FCM path of a non-intermittent generator …

Example: FCM ART Settlement and Net Position – Resource in Same Capacity Zone

ART Confirmed Contract

Resource 101* transferring to *Resource 501

Where: Capacity Zone Southeast NE (8506)
Amount: *Qty* 100 MW
ART Price: *ART* $0.75/kW-month

Customer A

Resource 101

Transferring Resource

CSO to transfer = 100 MW

ART Contract = ($75,000)

ARA Demand bid	-100 MW
ARA clearing price *ARA*	$1.93/kW-mo.
ARA Charge	**($193,000)**
ART Adjustment =	
(ARA – ART) x Qty x 1000	**$118,000**
ARA Net Position	**($75,000)**

Customer B

Resource 501

Acquiring Resource

CSO to acquire = 100 MW

ART Contract = $75,000

ARA Supply offer	100 MW
ARA clearing price *ARA*	$1.93/kW-mo.
ARA Credit	**$193,000**
ART Adjustment =	
(ARA – ART) x Qty x 1000 x -1	**($118,000)**
ARA Net Position	**$75,000**

See Appendix for ART example showing resources in different capacity zones with price separation

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Summary

In this section, you learned:

- Concepts of Annual Reconfiguration Transactions (ARTs)
- About the FCM ART settlement and net position via an example

Questions

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Settlements

Lesson 6D: Demand-Side Settlement (Daily Charges)

Forward Capacity Market (FCM 101)

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Tammy Brakey
Lead Settlement Analyst, Market Development

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Topics

Who Receives Allocation of Forward Capacity Market (FCM) Daily Charges?

How Are the FCM Daily Charges Calculated?

What Is Peak Contribution Value?

What Is a Load-Serving Entity's (LSE's) Zonal Capacity Obligation (ZCO)?

How Is Capacity Load Obligation (CLO) and CLO Charge Calculated?

Objectives

Recall who receives allocation of FCM Daily Charges

Identify how cost allocation charge rates are used to calculate FCM Daily Charges

Understand the calculation of Daily CLO Charges

Common Acronyms

In Order of Appearance

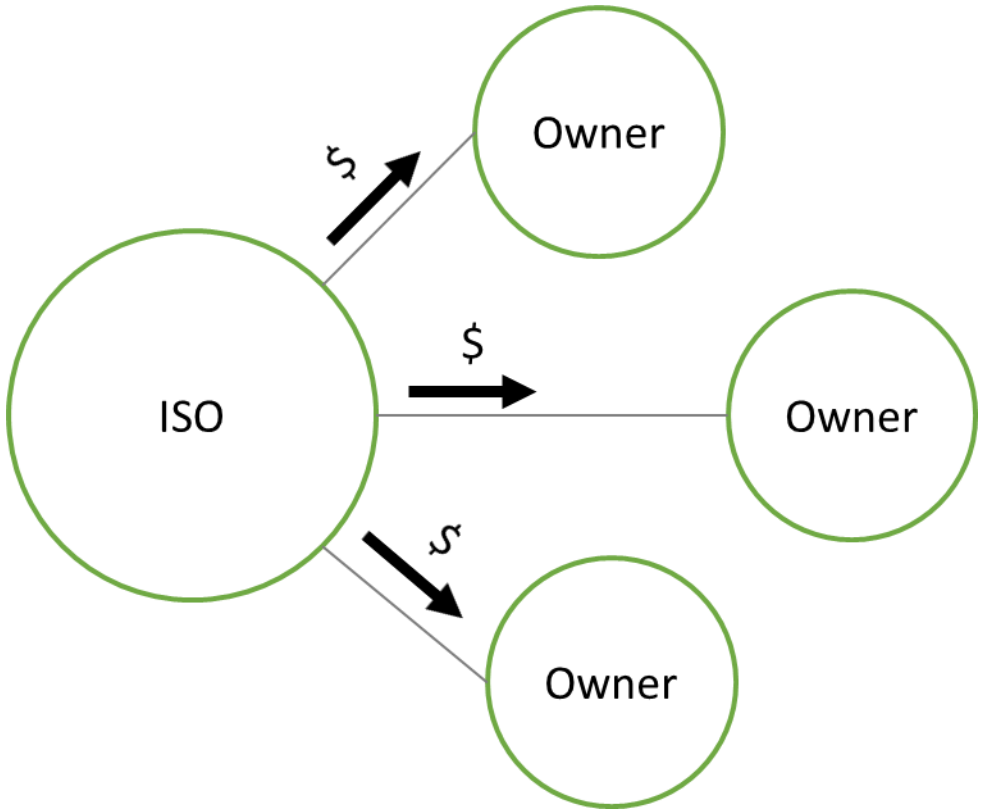
FCM	Forward Capacity Market
LSE	load-serving entity
ZCO	zonal capacity obligation
CLO	capacity load obligation
CCP	capacity commitment period
HQICC	Hydro-Quebec Interconnection Capability Credit

CLO IBT	capacity load obligation internal bilateral transaction
IBT	internal bilateral transaction
FCA	Forward Capacity Auction
ARA	annual reconfiguration auction
MRA	monthly reconfiguration auction

Who Receives Forward Capacity Market Charges?

FCM charges are issued to load asset owners

- Based on ownership shares during obligation month



Who Receives Allocation of Forward Capacity Market Daily Charges?

A load serving entity (LSE) with a capacity load obligation (CLO)

Equal to product of its CLO in capacity zone and applicable charge rate

What is Peak Contribution Value?

Capacity zone obligation for a load asset is based upon load asset's peak
contribution value

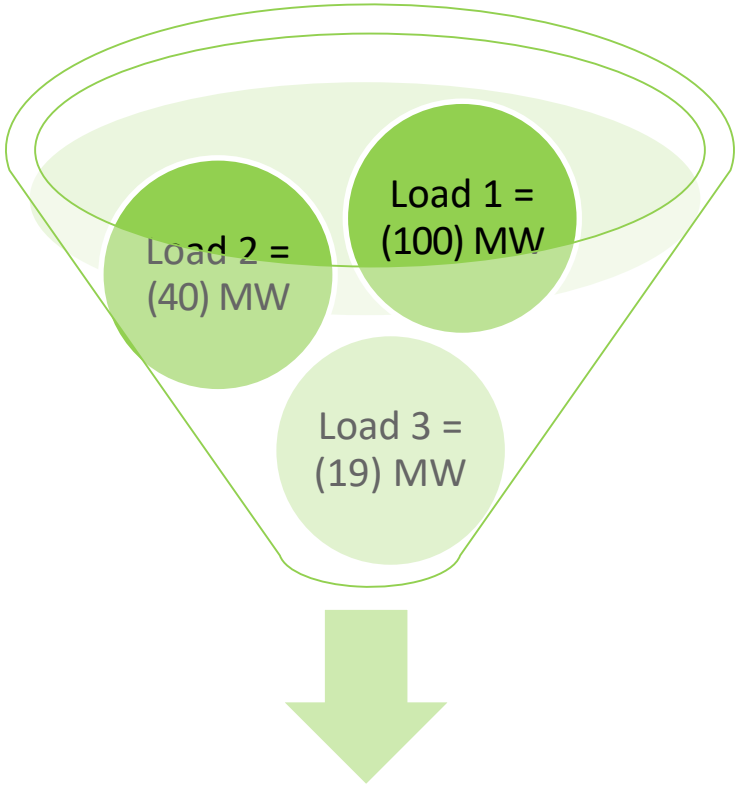
Each year, ISO identifies day and hour of pool peak load

Amount of load consumption is captured for each load asset on that peak day/hour

- Coincident peak contribution value
- Peak contribution values are determined prior to start of capacity commitment period (CCP)

CCP 14 (June 2023 – May 2024) – Annual Peak 8/8/2022 HE16 and Peak Load was (24,395.518)

What is Peak Contribution Value?, *continued*



Peak contribution values:

- Load 1 = (100) MW
- Load 2 = (40) MW
- Load 3 = (19) MW

Peak contribution values are submitted for each load asset daily by assigned meter readers

- May be adjusted due to load shift

Calculation of Customer Capacity Zone Obligation

Once capacity obligation is established for capacity zone, ISO New England calculates each customer's share of the obligation

Customer's share is based on their ownership of load assets

Customer's share of peak contributions is calculated as daily peak contribution multiplied by ownership share for each day

- Ownership values as of each day in month are used
- Peak contribution values are from previous calendar year
- *For example, for June 1, 2023, capacity commitment period values reported are based on 2022 peak*

How is Daily Zonal Capacity Obligation Calculated?

Daily ZCO = **Customer share of daily peak contribution** ÷ **Capacity zone daily peak contribution** × **Capacity zone ZCO**

Customer daily zonal capacity obligation (ZCO) is the pro-rata share of the daily peak contributions to daily capacity zone peak contributions

Customer Daily Zonal Capacity Obligation

Daily Peak Contribution Value	Ownership Share	Customer Share of Peak Contribution
-162	50%	(81)

		MW
A	Customer daily peak contribution	(81)
B	Capacity zone daily peak contribution	(9,900)
C	Capacity zone zonal capacity obligation (ZCO)	(14,824)
	Customer daily ZCO (A/B x C)	**(121)**

How is Capacity Load Obligation Calculated?

Customer capacity load obligation (CLO) is its capacity zone obligation adjusted for:

- Hydro-Quebec Interconnection Capability Credit (HQICC)
- Capacity load obligation internal bilateral transactions (CLO IBTs)
- Self-supply MW

Adjustments may cause a customer's CLO to be a positive value, resulting in a payment

Negative Capacity Load Obligation

Customer 1 Capacity Load Obligation MW		
A	Customer Daily ZCO	(121)
B	Self-Supply MW	36
C	CLO IBT MW	40
D	HQICC MW	0
E	**Customer 1 daily CLO MW =**	**(45)**

Positive Capacity Load Obligation

Customer 2 Capacity Load Obligation MW (E = A + B + C + D)		
A	Zonal Capacity Obligation	(250)
B	Self-Supply MW	250
C	CLO IBT MW	0
D	HQICC MW	5
E	**Customer 2 CLO MW =**	**5**

Customer 2 has a positive CLO, which may result in a payment

Prerequisite FCM Cost Allocation Training

Detail	Capacity Zone or Pool	Calculation
Forward Capacity Auction (FCA) Charge Rate	Capacity Zone	Capacity Zone FCA Costs / ZCO MW
Intermittent Power Resource (IPR) Seasonal Variance Capacity Adjustment Charge Rate	Pool	Winter Seasonal IPR Variance Cost / ZCO MW
Annual Reconfiguration Auction (ARA) Charge Rate	Capacity Zone	ARA Cost / ZCO MW
Monthly Reconfiguration Auction (MRA) Charge Rate	Pool	MRA Cost / ZCO MW
Multi-Year Rate Adjustment Charge Rate	Capacity Zone	MRECO Cost / ZCO MW
Capacity Transfer Right (CTR) Pool Planned Units (PPU) Charge Rate	Pool	CTR PPU Cost / (ZCO MW + CTR PPU MW)
CTR Transmission Upgrade (TU) Charge Rate	Capacity Zone	CTR TU Cost / ZCO MW
Self Supply Adjustment Charge Rate	Pool	Self-Supply Variance Cost / CLO MW
Hydro-Quebec Interconnection Capability Credits (HQICC) Capacity Charge Rate	Pool	Total HQICC Credit / CLO MW
Failure to Cover (FTC) Adjustment Charge Rate	Capacity Zone	FTC Cost / CLO MW

Prerequisite FCM Cost Allocation Training, *continued*

Detail	Rest of Pool	Maine	Northern NE	Southeast NE
Forward Capacity Auction (FCA) Charge Rate	$1.939	$1.939	$1.939	$1.939
Intermittent Power Resource (IPR) Seasonal Variance Capacity Adjustment Charge Rate	$0.000	$0.000	$0.000	$0.000
Annual Reconfiguration Auction 1 (ARA1) Charge Rate	$0.031	$0.031	$0.031	$0.031
Annual Reconfiguration Auction 2 (ARA2) Charge Rate	-$0.004	-$0.004	-$0.004	-$0.004
Annual Reconfiguration Auction 3 (ARA3) Charge Rate	-$0.010	-$0.010	-$0.010	-$0.010
Monthly Reconfiguration Auction (MRA) Charge Rate	$0.000	$0.000	$0.000	$0.000
Multi-Year Rate Adjustment Charge Rate	$1.106	$0.007	$0.060	$0.570
Capacity Transfer Right (CTR) Pool Planned Units (PPU) Charge Rate	$0.000	$0.000	$0.000	$0.000
CTR Transmission Upgrade (TU) Charge Rate	$0.000	$0.000	$0.000	$0.000
Self Supply Adjustment Charge Rate	$0.022	$0.022	$0.022	$0.022
Hydro-Quebec Interconnection Capability Credits (HQICC) Capacity Charge Rate	$0.091	$0.091	$0.091	$0.091

FCM Daily Charge Calculation

Detail	Rest of Pool	Monthly CZ CLO	Monthly CLO charge	CZ Daily CLO Charge	Daily Charge Rate
Forward Capacity Auction (FCA) Charge Rate	$1.939	-11,573.768	-$22,441,536.15	-$748,051.21	$0.06463333333
Annual Reconfiguration Auction 1 (ARA1) Charge Rate	$0.031	-11,573.768	-$358,786.81	-$11,959.56	$0.00103333333
Monthly Reconfiguration Auction (MRA) Charge Rate	$0.000	-11,573.768	-$0.00	-$0.00	$0.00000000000
Multi-Year Rate Adjustment Charge Rate	$1.106	-11,573.768	-$12,800,587.41	-$426,686.25	$0.03686666667
Self Supply Adjustment Charge Rate	$0.022	-11,573.768	-$254,622.90	-$8,487.43	$0.00073333333
Hydro-Quebec Interconnection Capability Credits (HQICC) Capacity Charge Rate	$0.091	-11,573.768	-$1,053,212.89	-$35,107.10	$0.00303333333
Daily CLO Charge					

CZ Daily CLO Charge = **Applicable Rate** × **Monthly CZ CLO** ÷ **30**

Daily Charge Rate = **CZ Daily CLO Charge** ÷ **Monthly CZ CLO** ÷ **1000**

FCM Daily Charge Calculation

Detail	CZ Daily CLO Charge	Daily Charge Rate	Customer Daily CLO	Customer Daily CLO Charge
Forward Capacity Auction (FCA) Charge Rate	-$748,051.21	$0.06463333333	-45	-$2,908.50
Annual Reconfiguration Auction 1 (ARA1) Charge Rate	-$11,959.56	$0.00103333333	-45	-$46.50
Monthly Reconfiguration Auction (MRA) Charge Rate	$0.00	0.00000000000	-45	$0.00
Multi-Year Rate Adjustment Charge Rate	-$426,686.25	$0.03686666667	-45	-$1,659.00
Self Supply Adjustment Charge Rate	-$8,487.43	$0.00073333333	-45	-$33.00
Hydro-Quebec Interconnection Capability Credits (HQICC) Capacity Charge Rate	-$35,107.10	$0.00303333333	-45	-$136.50
Total Customer Daily CLO Charge				-$4,783.50

Customer Daily CLO Charge = **Daily Charge Rate** × **Customer Daily CLO** × **1000**

Summary

In this section, you learned:

- Recall who receives allocation of FCM Daily Charges
- Identify how cost allocation charge rates are used to allocate FCM Daily Charges
- Understand the calculation of Daily CLO Charges

The Big Picture

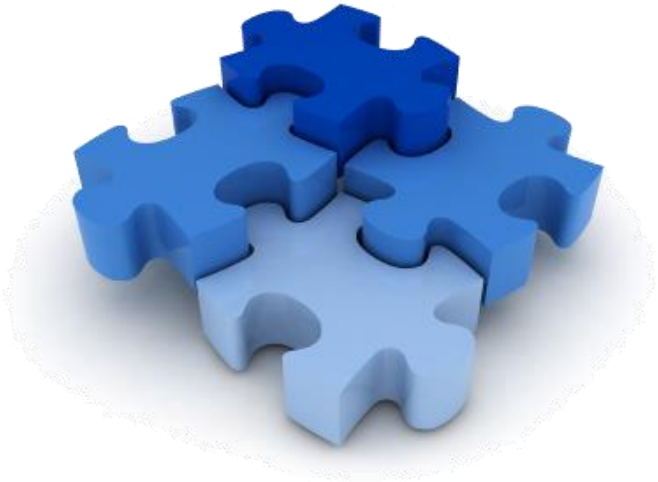
Six Forward Capacity Market (FCM) line items may appear on your bill invoice:

- FCM Daily Credit
- FCM Daily Charge
- Forward Capacity Market Credit
- Forward Capacity Market Charge
- FCM Reliability Credit
- FCM Reliability Charge

This lesson covered the FCM Daily Charge

You learned how to calculate ZCO and CLO

You learned how to calculate Daily CLO Charge



Questions