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October 26-28, 2023  
Northampton, MA

# Settlements

## Lesson 6E: Monthly Credits and Charges (Pay-for-Performance, Failure-to-Cover, and Reliability)

### *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.

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

# Topics

- Forward Capacity Market (FCM) Pay-for-Performance (PFP) Evaluations
- Pre-Annual Reconfiguration Auction (ARA) 3 Market Information Server (MIS) Report
- Maximum Demonstrated Output (MDO)
- Failure-to-Cover (FTC) Overview
- FCM Failure-to-Cover (FTC) Charge
- FCM Failure-to-Cover (FTC) Credit
- FCM Reliability Credits and Charges



# Common Acronyms

*In Order of Appearance*

<b>FCM</b>	Forward Capacity Market
<b>PFP</b>	pay-for-performance
<b>ARA</b>	annual reconfiguration auction
<b>MIS</b>	market information server
<b>MDO</b>	maximum demonstrated output
<b>FTC</b>	failure-to-cover
<b>CSC</b>	capacity scarcity condition
<b>CSO</b>	capacity supply obligation

<b>RCPF</b>	reserve-constraint penalty factor
<b>LMP</b>	locational marginal price
<b>DCR</b>	demand capacity resource
<b>RT</b>	real time
<b>ACP</b>	actual capacity provided
<b>PPR</b>	performance payment rate
<b>CCP</b>	capacity commitment period
<b>FCA</b>	Forward Capacity Auction

<b>CZ</b>	capacity zone
<b>ROP</b>	rest of pool
<b>MRECO</b>	multiyear-rate existing capacity supply obligation
<b>MRA</b>	monthly reconfiguration auction
<b>RFR</b>	retained for reliability
<b>FERC</b>	Federal Energy Regulatory Commission

# FCM Pay-for-Performance Evaluations



# Objectives

- Identify purpose of pay-for-performance (PFP)
- Describe a capacity scarcity condition (CSC)
- Explain pay-for-performance calculations
- Describe how resource types are treated in PFP
- Explain how any excess or deficient collection of capacity performance payments is allocated to resources with capacity supply obligation (CSO) MW

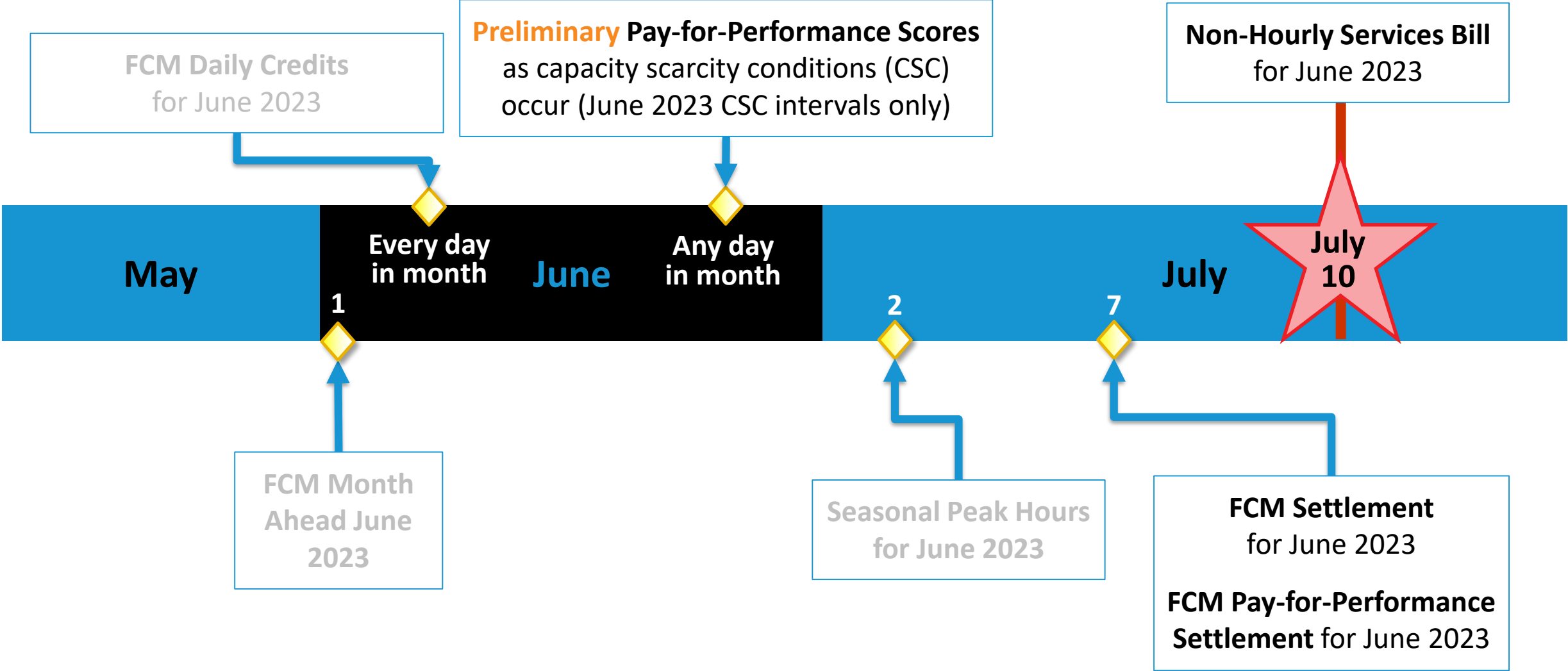


# Purpose and Facts of FCM Pay-for-Performance

- Rewards good performers during capacity scarcity condition (CSC)
- Charge poor performers during capacity scarcity condition (CSC)
- There is a stop-loss mechanism for frequent bad performers
- Revenue neutral overall



# Pay-for-Performance Processing Timeline: June 2023





## FCM Performance Incentives

### *Pay-for-Performance Introduction*

*7-minute video*





# What is a Capacity Scarcity Condition?

- Capacity scarcity condition (CSC) occurs when system is reserve deficient; when both energy and reserve requirement are not satisfied
- More specifically, a scarcity condition is when reserve-constraint penalty factor (RCPF) is setting real-time reserve price and is included in real-time locational marginal price (LMP)
- During a CSC, every resource's performance score is calculated

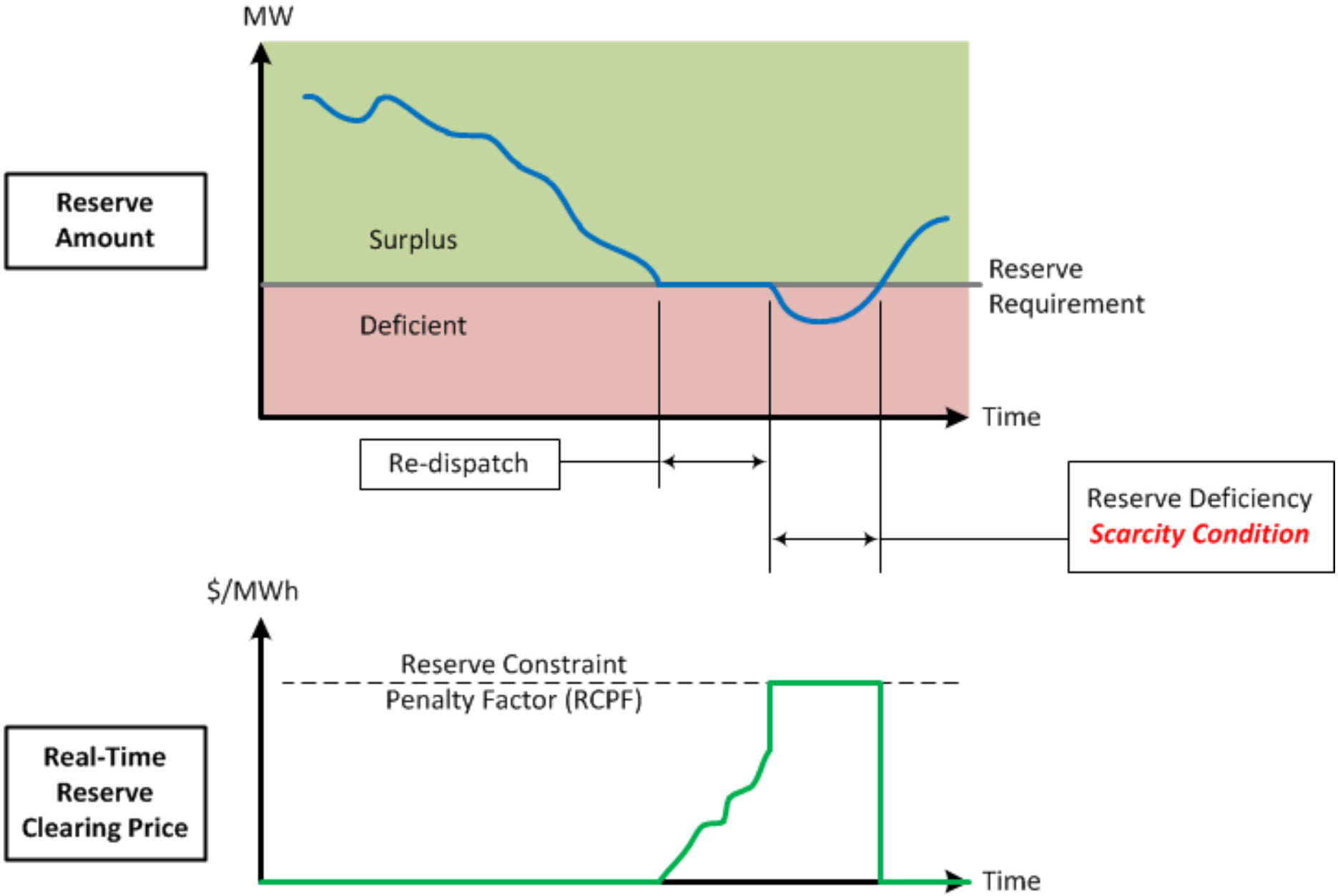


# What is a Capacity Scarcity Condition?, *continued*

- Any five-minute interval may be in a capacity scarcity condition
- Three types of conditions:
  1. Zonal reserve requirement violation
    - Can only occur when a capacity zone shares its boundaries with a reserve zone
  2. Minimum total reserve requirement
  3. System-wide ten minute reserve requirement
- CSC is not declared ahead of time



# Illustrative Reserve Re-Dispatch and Deficiency



# How is Resource's Capacity Performance Score Calculated?

*Actual Capacity Provided*

$$\text{Score} = \text{Actual Capacity Provided} - (\text{Balancing Ratio} \times \text{CSO})$$

- Actual capacity provided: Sum of resource's output and reserve designation during scarcity condition
- Measure of performance during a capacity scarcity condition (CSC)
- Calculation varies based on type of resource
- Generators, demand capacity resources (DCRs), and external import transactions whether or not associated with an FCM resource

# Actual Capacity Provided (ACP) – Calculations

- **Generating resource**  
= Energy Quantity + Real Time (RT) Reserve Designations – External Transaction
- **Import resources**  
= Max (0, Net Energy Delivered)
- **Demand response resources**  
= Max (0, (RT Demand Reduction x Transmission & Distribution (T&D) Loss Factor + Net Supply + RT Reserve Designation))



# How is Resource's Capacity Performance Score Calculated?

*Balancing Ratio*

$$\text{Score} = \text{Actual Capacity Provided} - (\text{Balancing Ratio} \times \text{CSO})$$

- Actual capacity provided (ACP): sum of resource's output and reserve designation during scarcity condition
- Balancing ratio: ratio representing required capacity and capacity supply obligation (CSO) during scarcity condition

$$\text{Balancing Ratio} = \frac{\text{Load} + \text{Reserve Requirement}}{\sum \text{Capacity Supply Obligation}}$$

# Balancing Ratio

- Each capacity zone has a balancing ratio when impacted by a capacity scarcity condition at a five-minute level
- When capacity scarcity condition is due to a zonal reserve requirement, the balancing ratio is based on values from capacity zone
- When capacity zone is impacted by both a local and system-wide violation, higher balancing ratio is used

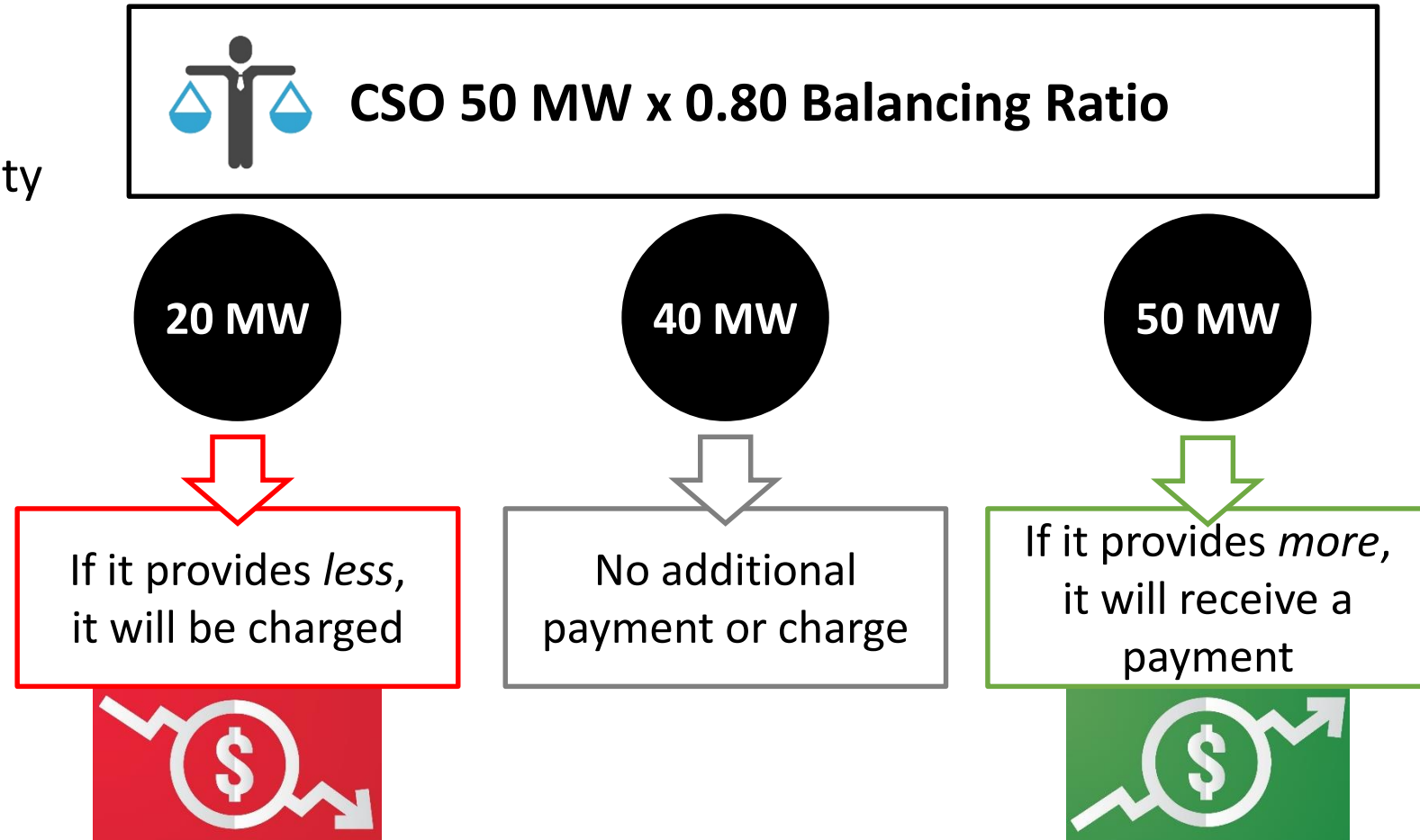


# Balancing Ratio, *continued*

Resource is evaluated to provide capacity equal to CSO times balancing ratio

## Example:

- Resource CSO is 50 MW
- System balancing ratio is 0.80
- Resource share is 40 MW of capacity







# Questions

*The FCM path of a **non-intermittent generator**,  
**intermittent generator**, and **demand capacity resource** ...*



**Capacity Performance Score Calculation**

$$\text{Performance Score} = \text{ACP} - (\text{Balancing Ratio} \times \text{CSO})$$



Description	Resource A	Resource B	Resource/Asset C	Resource D
CSO MW	185	1	0	1.5
Balancing Ratio	0.8	0.8	0.8	0.8
(Balancing Ratio x CSO MW)	148	0.8	0	1.2
ACP MW	163	0	40	1.4
<b>Performance Score (MW)</b>	<b>15</b>	<b>(0.8)</b>	<b>40</b>	<b>0.2</b>

ACP = actual capacity provided

# What is the resource capacity performance score?



ACP = 5 MW

Balancing Ratio = 0.9

CSO = 10 MW

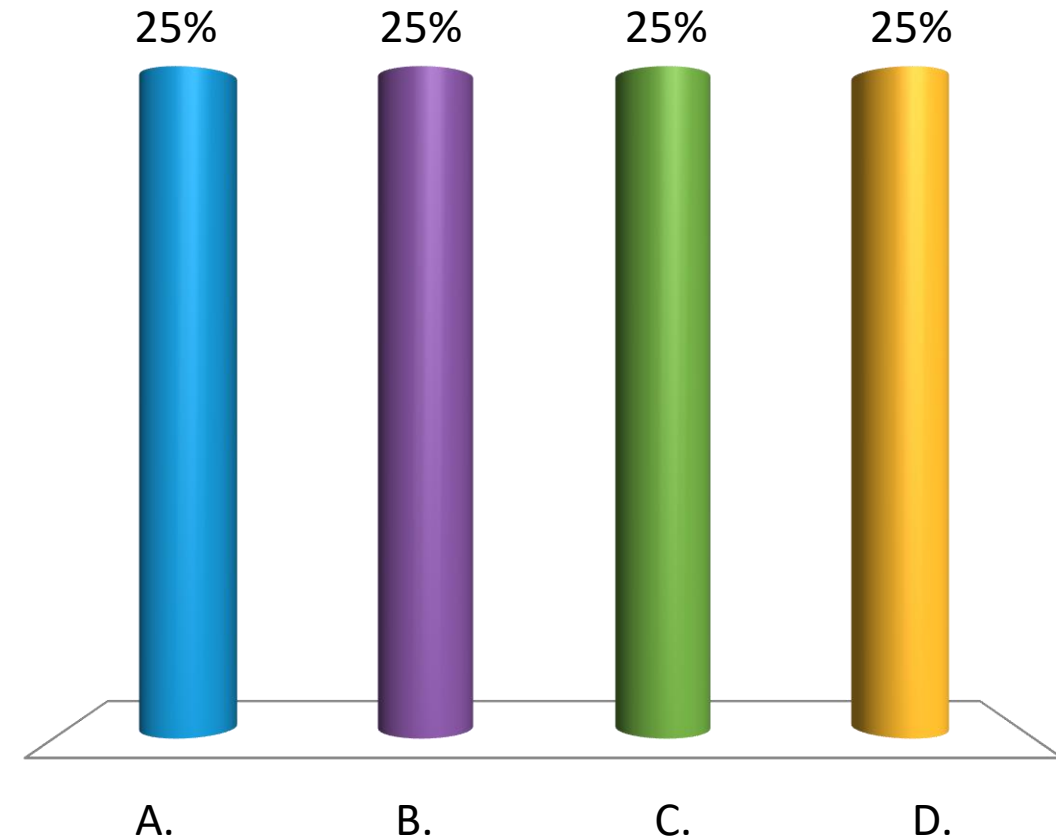
- A. 4
- B. 2
- C. (2)
- ✓ D. (4)

Capacity Performance Score =  $ACP - (\text{Balancing Ratio} \times \text{CSO})$

Capacity Performance Score =  $5 - (0.9 \times 10)$

Capacity Performance Score =  $5 - (9)$

Capacity Performance Score = (4)



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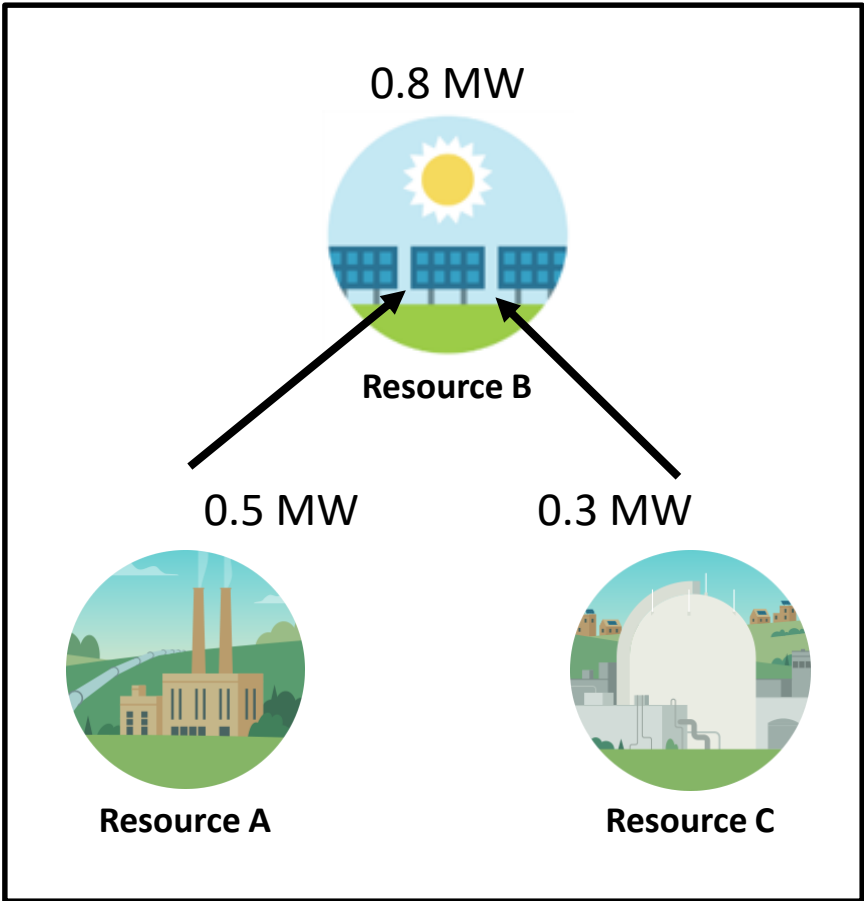
The FCM path of a *non-intermittent generator*, *intermittent generator*, and *demand capacity resource* ...




Capacity Performance Score Bilateral Contracts

Resource with a positive capacity performance score in an interval may sell part or all of score to any resource impacted by same capacity scarcity condition (CSC)

Resource or Asset	Performance Score (MW)	Performance Score Bilateral Contract (MW)	Performance Score (MW)
A	15	(0.5)	14.5
B	(0.8)	0.8	0.0
C	40	(0.3)	39.7
D	0.2	0	0.2



[User Guide for Submitting Internal Bilateral Transactions Using SMS](#)

# What is Performance Payment Rate?

Performance payment rate (PPR) is a fixed number by Market Rule and is same for all resource types

FCA/CCP	Period	PPR (\$/MWh)
9, 10, 11	2018-19, 2019-20, 2020-21	\$2,000
12, 13, 14	2021-22, 2022-23, 2023-24	\$3,500
15 +	2024-25, +	\$5,455



Five minute performance payment rate:  $\text{PPR} / 12$

Five minute performance payment rate:  $\$3,500 / 12$

Five minute performance payment rate: \$291.67

The FCM path of a *non-intermittent generator*,  
*intermittent generator*, and *demand capacity resource* ...



Preliminary Capacity Performance Dollar Calculation

Preliminary Capacity Performance Dollar = Performance Score x Pay-for-Performance Rate

Resource or Asset	Performance Score (MW)	Five-Minute PPR	Dollar
A	14.5	\$ 291.67	\$ 4,229
B	0	\$ 291.67	\$ 0
C	39.7	\$ 291.67	\$ 11,579
D	0.2	\$ 291.67	\$ 58
E	(80.0)	\$ 291.67	\$ (23,334)



Credit	B A L A N C E	Charges
\$ 4,229		
\$ 0		
\$ 11,579		(\$23,334)
\$ 58		
-----		-----
\$ 15,866		(\$23,334)

# Why Don't Performance Payments Net to Zero?

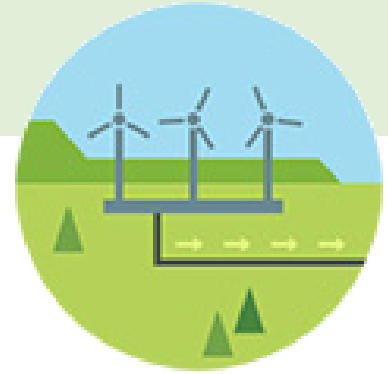
**During a scarcity condition there will be an imbalance in the performance payments and charges**

- When there is a scarcity condition, there will generally be more under-performers than over-performers, which will result in an over-collection
  - In other words, the absolute value of charges will be greater than the absolute value of the credits
- It is possible for under-collection:
  - As an example, if under-performing resources have hit “stop-loss”, their performance charges will not be collected. This can result in an under-collection.

**Note:** Previous tariff provision waived collection from underperforming *Energy Efficiency* resources under certain conditions, which could result in under-collection. Now Energy Efficiency has been entirely excluded.



# What is the capacity performance payment?

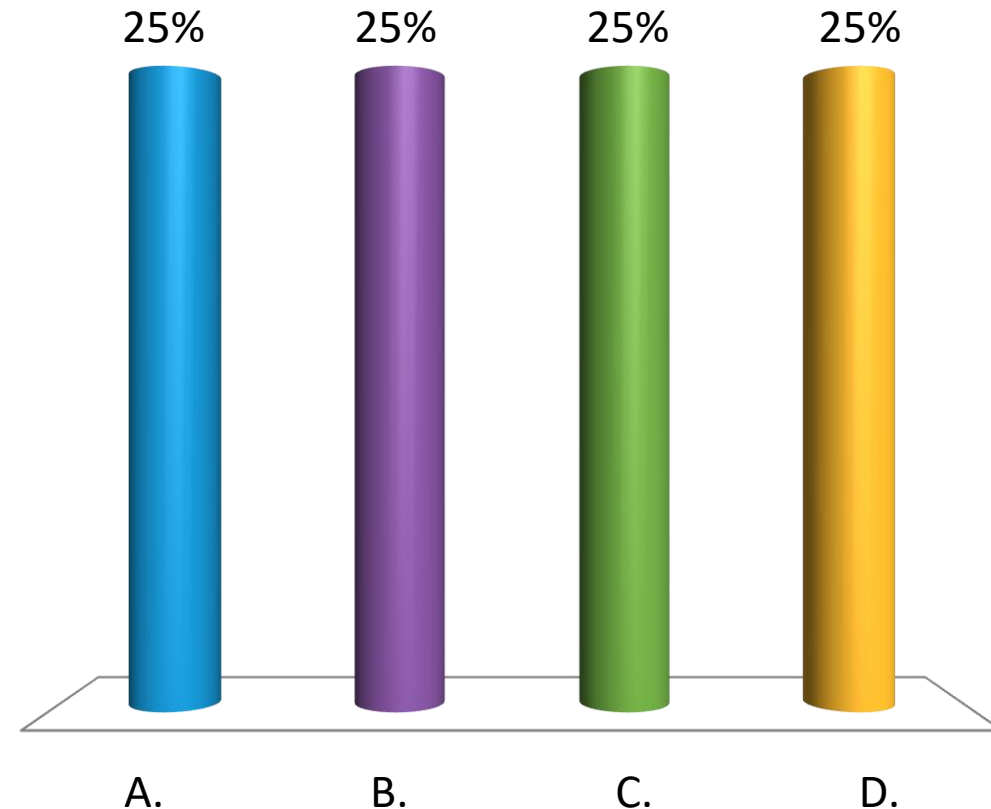


Capacity performance score = (4)  
Performance Payment Rate = \$291.67

- A. \$1,167
- B. \$4,000
- ✓ C. (\$1,167)
- D. (\$4,000)

**Clue:** Round the answers

Capacity performance payment = (4) × \$291.67  
Capacity performance Payment = (\$1,166.68)  
Capacity performance payment = (\$1,167)





# What is Stop-Loss?

Stop-loss mechanism prevents unlimited financial risk to market participants with CSO



A resource stops incurring charges once it is charged an amount equal to its stop-loss limit

## Two types of stop-loss

Monthly stop-loss

Annual stop-loss

# Monthly Stop-Loss

## How do you find your resource's monthly stop-loss limit?

Multiply your resource's capacity supply obligation (CSO) by the Forward Capacity Auction (FCA) starting price for the current capacity commitment period (CCP)

FCA Starting Price

X

CSO

### Example:

- 2023/2024 FCA starting price \$13.099/kw-month (\$13,099/MW-month)
- Resource's CSO (rest of pool capacity zone): 100 MW

\$13,099/MW-month

X

100 MW

=

Monthly stop-loss limit\*

-\$1,309,900

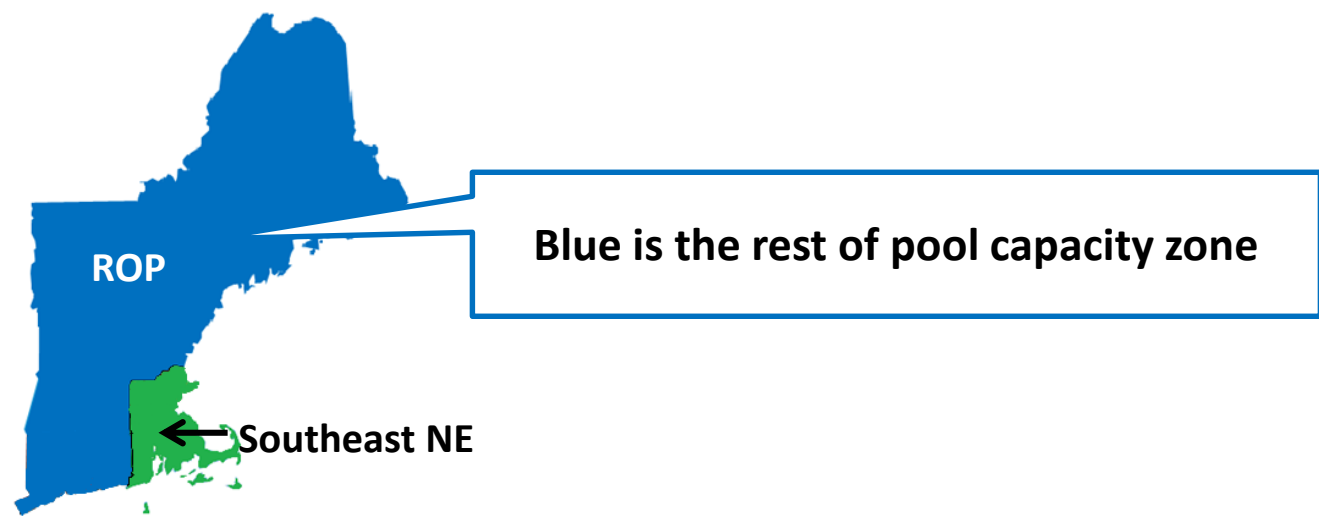


# Monthly Stop-Loss Example

## How is the stop-loss applied?

### System and FCA data:

FCA starting price: \$13,099/MW-month  
Capacity zone (CZ): Rest of pool (ROP)  
ROP clearing price: \$2,001/MW-month



**CSO x ROP Clearing Price**

100 MW

x

\$2,001

**Resource data:**

Capacity supply obligation: 100 MW

Monthly stop-loss limit: **-\$1,309,900**

FCM base payment: **\$200,100**

### Maximum monthly loss exposure

Monthly Stop-Loss  
-\$1,309,900

+

FCM Base Payment  
\$200,100

=

Max Loss Exposure  
-\$1,109,800



# Annual Stop-Loss

## How is the stop-loss applied?

### System and FCA data:

FCA starting price: \$13,099/MW-month

Capacity zone (CZ): Rest of pool (ROP)

ROP clearing price: \$2,001/MW-month

### Resource data:

Capacity supply obligation: 100 MW

Monthly max loss exposure: \$1,109,800

FCM base payment: \$200,100

Annual FCM base payment: \$2,401,200

Annual stop-loss limit: **-\$5,730,600**

Max Loss Exposure: **-\$ 3,329,400**

## No further charges incurred after a resource is charged the equivalent of:

Max CSO x (3 x (ROP Clearing Price – FCA Starting Price) – (12 x ROP Clearing Price))

$$100 \text{ MW} \times (3 \times (\$2,001 - \$13,099) - (12 \times \$2,001))$$

In English: No further charges incurred once resource is charged an amount equal to the *entire annual base payment*, plus three months of “max loss exposure” incurred when monthly stop-loss applied



# Stop-Loss

## Two stop-loss mechanisms for resources:

### 1. Monthly stop-loss

**= FCA Starting Price x Capacity Supply Obligation**

- Resources with multi-year rate existing capacity obligation (MRECO) acquired prior to FCA 9 use capacity clearing price modified by Handy-Whitman instead of FCA starting price for MRECO obligation

### 2. Annual stop-loss

**= Max CSO x [3 x (FCA Clearing Price - FCA Starting Price) - 12 x FCA Clearing Price] - 1**

- Max CSO is highest CSO value for resource in capacity commitment period up to settlement month

When resources reach either stop-loss, penalties beyond stop-loss are considered to be not charged

# Capacity Performance Settlement Timing

**A resource's performance payment for the month is the total of its capacity performance payments for each capacity scarcity condition during the month**

- Credits (for over-performance) and charges (for under-performance) are aggregated across all capacity scarcity conditions (CSCs) that occurred within the month

# The FCM path of a *non-intermittent generator*, *intermittent generator*, and *demand capacity resource* ...

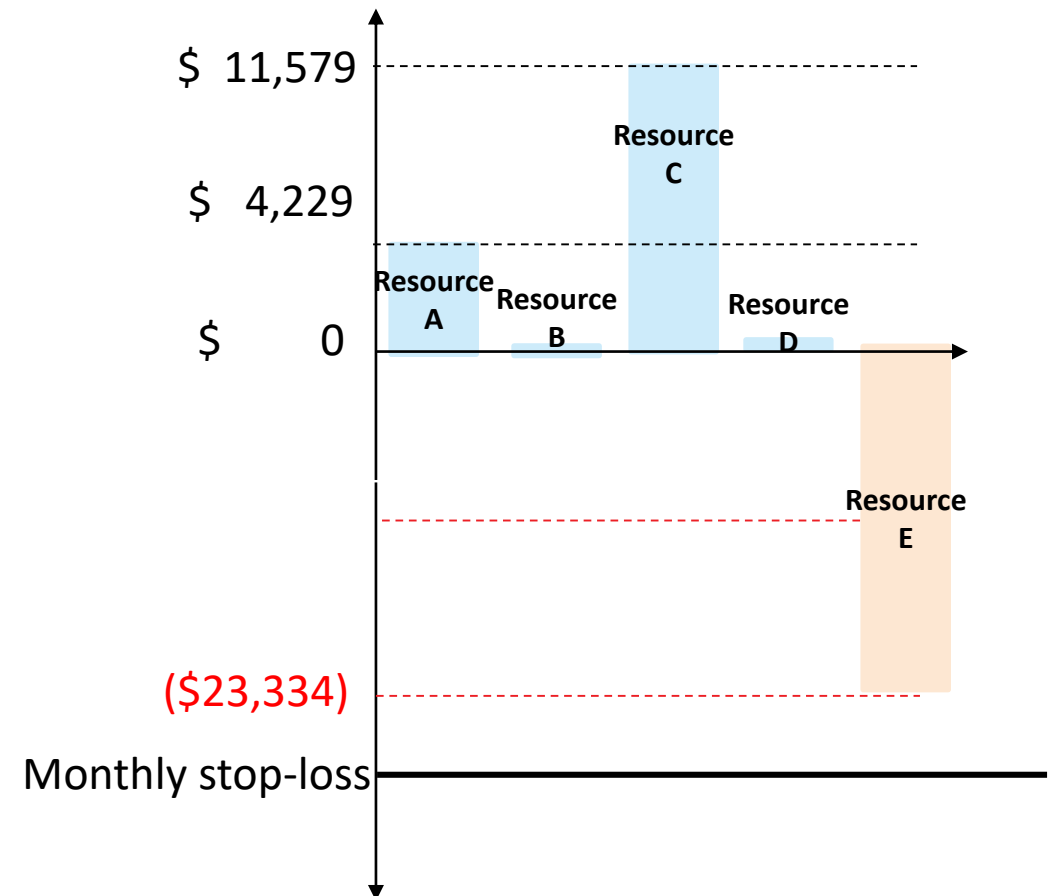


## Pay-for-Performance Payment Calculations

### Case A: Over collected and no resource impacted by stop-loss

Credit		Charges
\$ 4,229	BALANCE	
\$ 0		
\$ 11,579		(\$23,334)
\$ 58		
		-----
\$ 15,866		(\$23,334)

Balancing fund = \$7,468



# Balancing Fund

Any over collection/under collection of funds are allocated to all suppliers with a capacity supply obligation (CSO) [pro rata] at end of each month

- Exception: The CSO of a resource that reaches its stop-loss amount will not be included in the pro rata allocation





The FCM path of a *non-intermittent generator*,  
*intermittent generator*, and *demand capacity resource* ...



Pay-for-Performance Payment Calculations, *continued*

Case A: Over collected and no resource impacted by stop-loss

Resource or Asset	Preliminary Capacity Performance Dollar	CSO	Reallocation	Capacity Performance Dollar
A	\$ 4,229	185	\$ 5,165	\$ 9,394
B	\$ 0	1	\$ 28	\$ 28
C	\$ 11,579	0	\$ 0	\$ 11,579
D	\$ 58	1.5	\$ 42	\$ 100
E	(\$ 23,334)	80	\$ 2,233	(\$21,101)
<b>Total</b>	<b>(\$ 7,468)</b>	<b>267.5</b>	<b>\$ 7,468</b>	<b>\$ 0</b>

Resource A: Reallocation = (CSO / Total CSO) × Balancing Fund

Resource A: Reallocation = (185 / 267.5) × (\$ 7,468) × - 1

Resource A: Reallocation = \$ 5,165



# Questions

# Failure-to-Cover Charge Overview



# Objectives

- Understand failure-to-cover
- Understand how Maximum Demonstrated Output (MDO) is calculated
- Understand Pre-ARA 3 MIS report
- Recall how failure-to-cover charge (FTC) is calculated



# What is a Failure-to-Cover Charge?

- Adjustment to FCM credit
- Ensures resources with capacity supply obligation (CSO) can meet their obligation
- Encourages resources to shed any CSO they cannot meet
- Based on capability compared to CSO



# How Do We Calculate Maximum Demonstrated Output?

Maximum demonstrated output (MDO) period is the period beginning six years prior to start of applicable capacity commitment period (CCP) and ending with the most recently completed calendar month in CCP

6/1/2018

6/30/2023



June 2018

June 2023

- Generators – Energy quantity
- Active Demand Capacity Resource – Energy quantity
- Passive Demand Resource – Monthly performance value

# Pre-ARA 3 MIS Report

- Pre-ARA 3 MIS report run mid-February
- Shows asset MDO from six years prior to last complete settlement month (January)
- Provides information customer can use to determine if they should shed CSO in ARA 3

**6/1/2018**



**June 2018**

**1/31/2023**

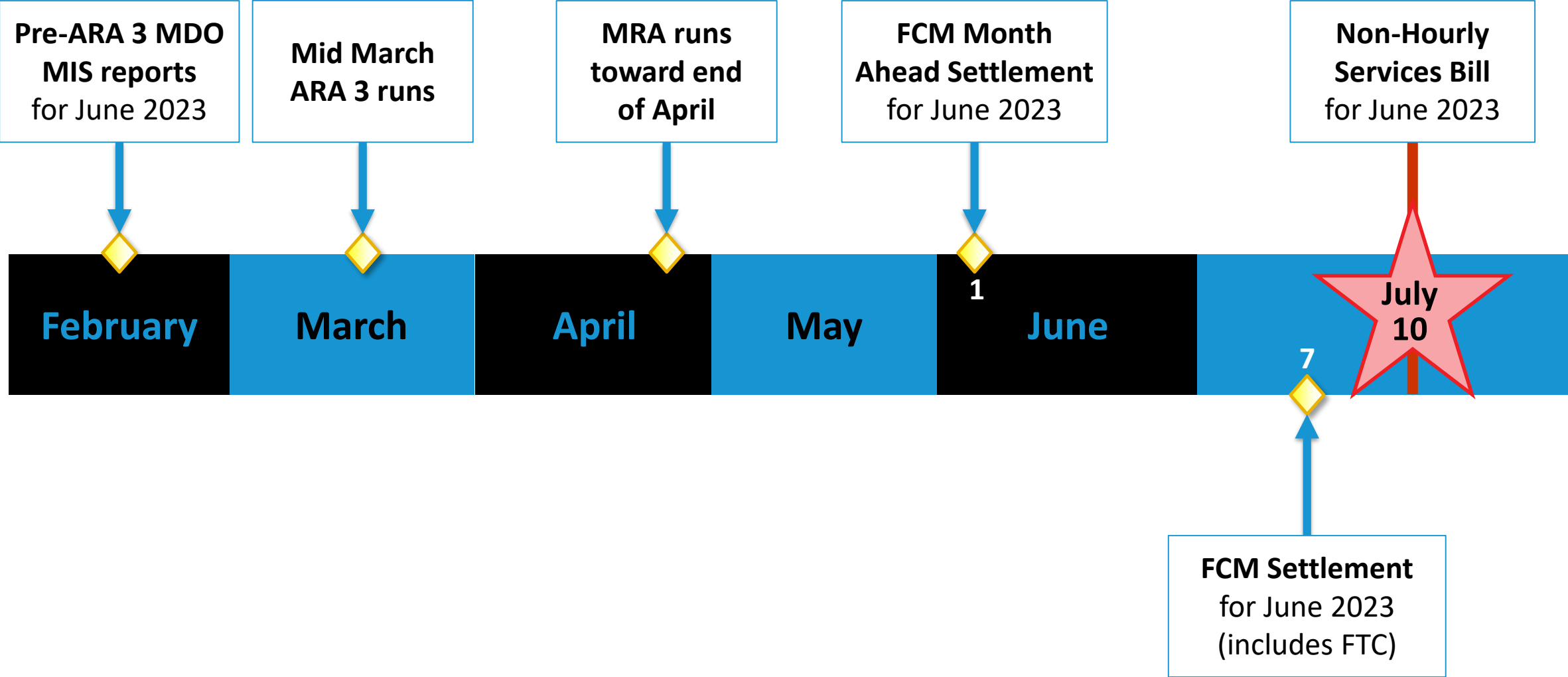


**6/30/2023**



**June 2023**

# Timeline 2022





# Calculating Failure-to-Cover Charge



## *The FCM path of a non-intermittent generator ...*



FCM Failure-to-Cover Charge		
	Component	Resource
A	FCA	180
B	ARA	10
C	MRA	(5)
D	Total CSO (A+B+C)	185
E	MDO	175
F	Difference (E – D)	(10)

# FCM Failure-to-Cover Charge Rate

The failure-to-cover (FTC) charge rate for a capacity zone is determined through a second clearing of the third annual reconfiguration auction (ARA)

Auction Type	Clearing Price
Second clearing of ARA 3	1.71
Failure-to-cover charge rate	1.71



## *The FCM path of a non-intermittent generator ...*



FCM Failure-to-Cover Charge		
	Component	Resource
A	FCA	180
B	ARA	10
C	MRA	(5)
D	Total CSO (A+B+C)	185
E	MDO	175
F	Difference (E – D)	(10)
G	Failure-to-cover charge rate \$/kw	1.71
H	Failure-to-cover charge (F x G) x 1000	(\$17,100.00)

The failure-to-cover charge is the difference between a resource's maximum demonstrated output (MDO) and its monthly capacity supply obligation multiplied by the failure-to-cover charge rate times 1000

## *The FCM path of a demand capacity resource...*



FCM Failure-to-Cover Charge		
	Component	Resource
A	FCA	0
B	ARA	2
C	MRA	(1)
D	Total CSO (A+B+C)	1
E	MDO	3
F	Difference (E – D)	2

MDO is larger than CSO; therefore no failure-to-cover charge is calculated

## *The FCM path of an intermittent generator ...*

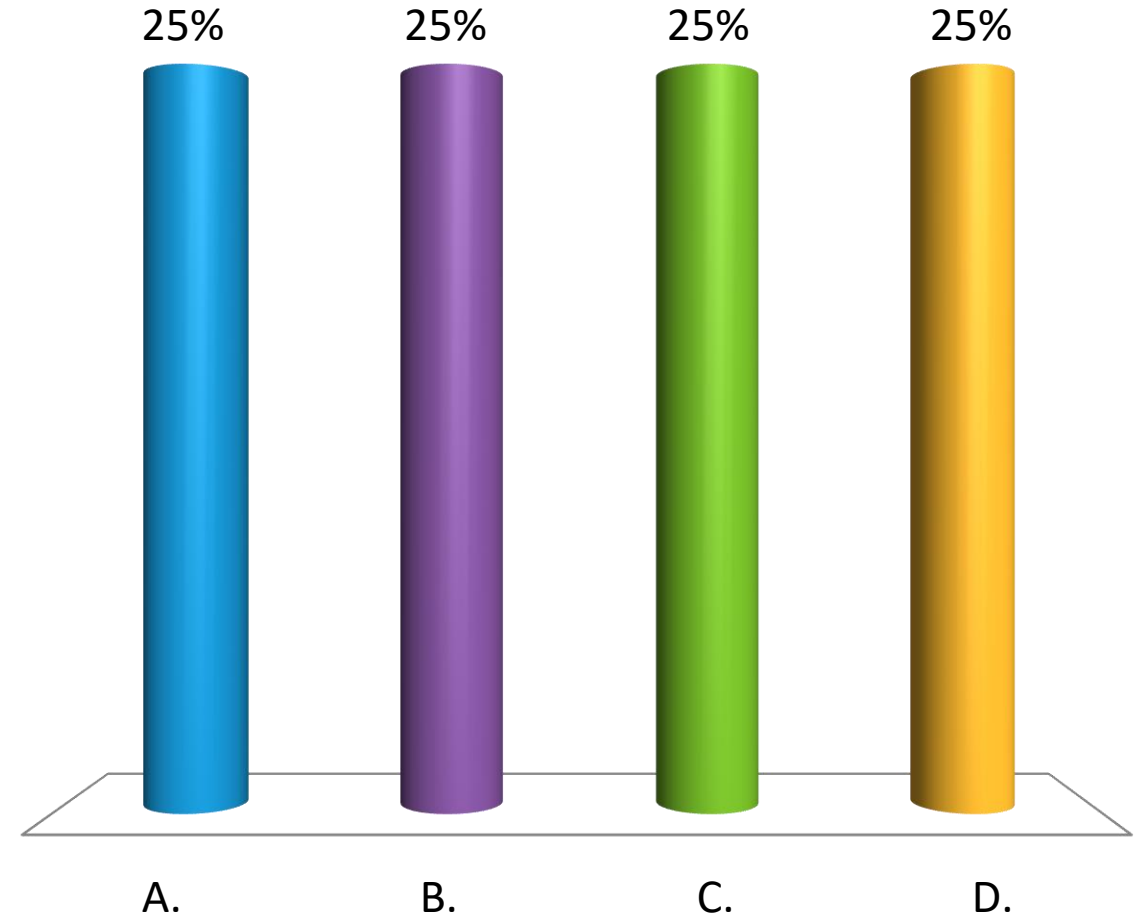


FCM Failure-to-Cover Charge		
	Component	Resource
A	FCA	2.6
B	ARA	0
C	MRA	(1.1)
D	Total CSO (A+B+C)	1.5
E	MDO	3
F	Difference (E – D)	1.5

MDO is larger than CSO; therefore no failure-to-cover charge is calculated

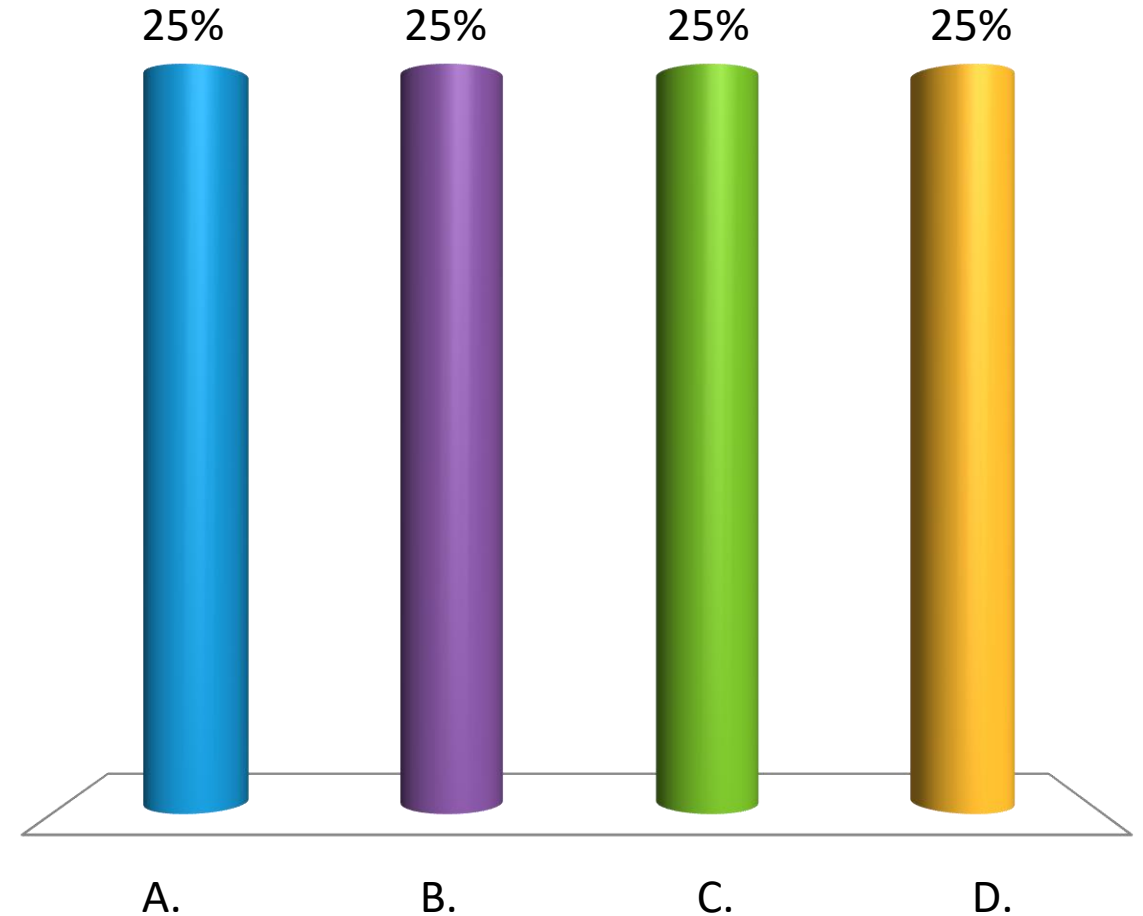
# What is failure-to-cover (FTC) charge?

- A. Adjustment to FCM credit
- B. Intended to ensure resources with CSO can meet their obligation during the commitment period
- C. Encourages resources to shed any CSO they cannot meet
- ✓ D. All of the above



# How is maximum demonstrated output (MDO) determined?

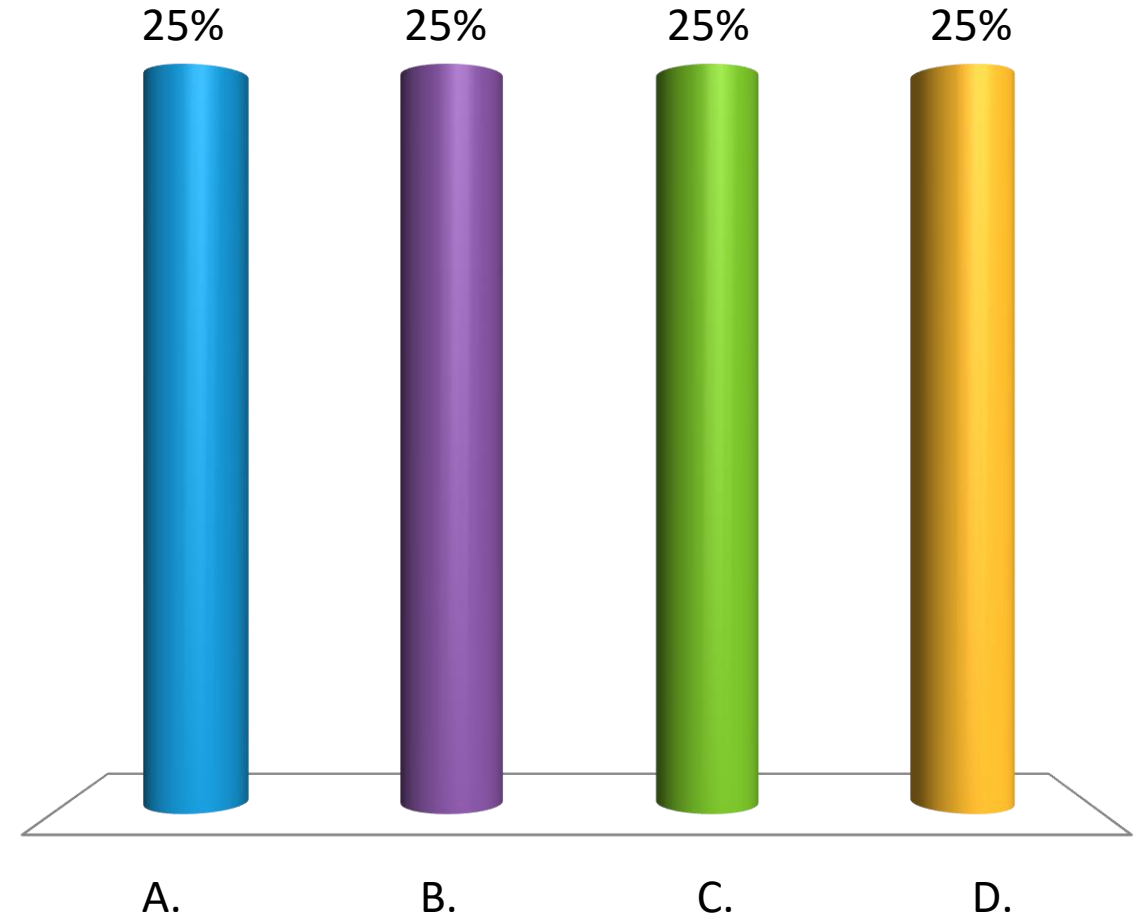
- A. Based on Seasonal Claimed Capability (SCC) value
- B. Based on nameplate MW
- ✓ C. Maximum output over prior six capacity commitment periods through current settlement month
- D. CSO MW





# Who gets charged for failure-to-cover (FTC)?

- ✓ A. Capacity resource with CSO greater than MDO
- B. Capacity resource with MDO greater than CSO
- C. Resources without a CSO
- D. Resources that have shed their CSO



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# Questions

# Monthly FCM Credit

# Topics

- How to Calculate Monthly FCM Credit for a Resource

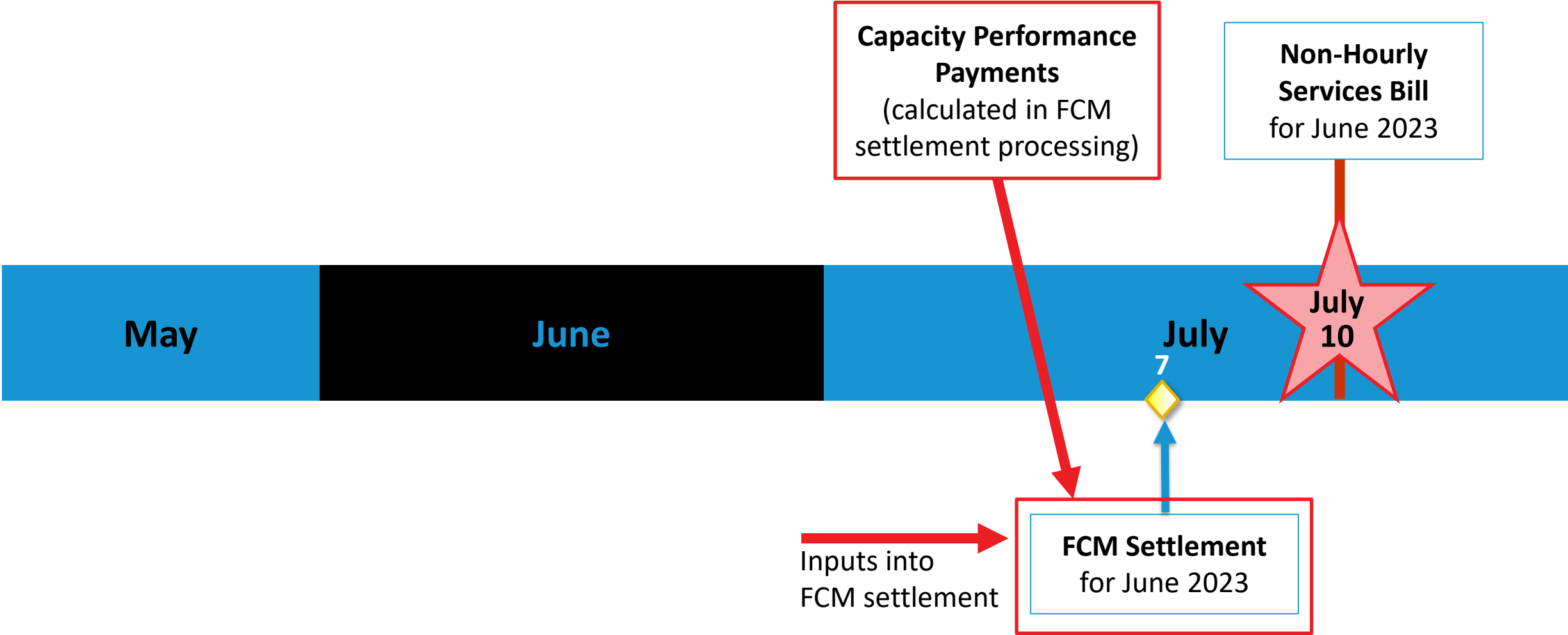


# Objective

- Discuss FCM Credit line item



# FCM Settlement Processing Timeline: June 2023



## The FCM path of a non-intermittent generator ...



### FCM Credit for Generating Resource

**FCM Supply Credit Adjustment** = (FCM Capacity Performance Payment + Failure-to-Cover Charge)

Description	Resource Payment
FCM Capacity Performance Payment	\$9,394
+ Failure-to-Cover Charge	(\$17,100)
<b>FCM Supply Credit Adjustment</b>	<b>(\$7,706)</b>

## *The FCM path of a demand capacity resource...*



### FCM Credit for Demand Capacity Resource

**FCM Supply Credit Adjustment** = (FCM Capacity Performance Payment + Failure-to-Cover Charge)

Description	Resource Payment
FCM Capacity Performance Payment	\$ 28
Failure-to-Cover Charge	\$ 0
<b>FCM Supply Credit Adjustment</b>	<b>\$ 28</b>



## *The FCM path of an intermittent generator ...*



### **FCM Credit for Intermittent Resource**

**FCM Supply Credit Adjustment** = (FCM Capacity Performance Payment + Failure-to-Cover Charge)

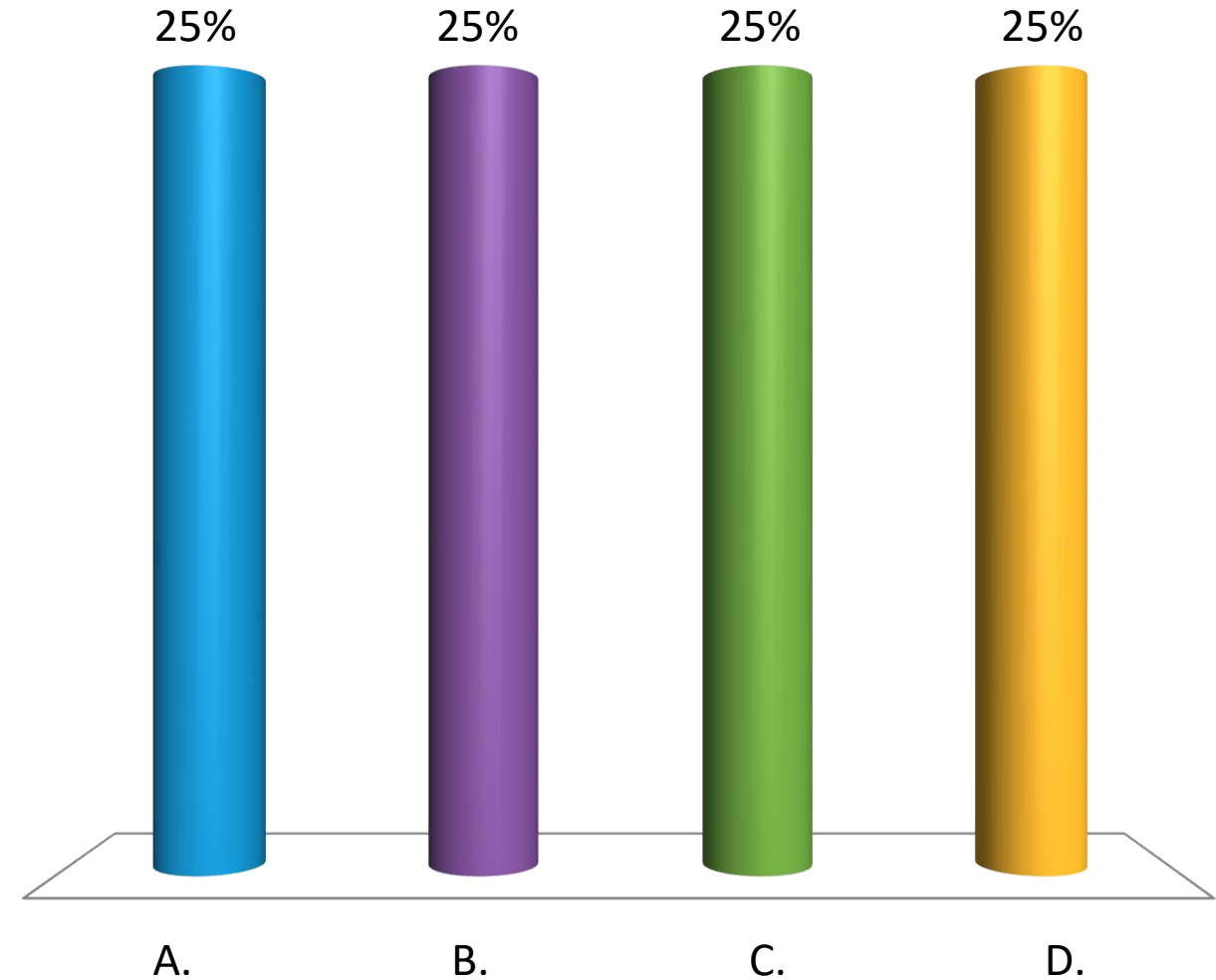
CSO Component Source	CSO Component Credit (A x B x 1000)
FCM Capacity Performance Payments	100
Failure-to-Cover Charge	\$0
<b>FCM Supply Credit Adjustment</b>	<b>\$100</b>

# What value will appear as a line item in the monthly bill?

## If a generator has:

- FCM Capacity Performance Payments of \$35,000
- Failure-to-Cover Charges of -\$5,000

- A. FCM Supply Credit Adjustment / \$30,000
- B. FCM Supply Credit Adjustment / \$40,000
- ✓ C. Forward Capacity Market Credit / \$30,000
- D. Forward Capacity Market Credit / \$40,000



# Invoice Line Item

## Invoice / Remittance Advice

BL\_INVOICE\_Customer ID\_Date\_Date.CSV

Customer Name

Date: 07/06/2023 and Version: 0709/2023 13:16:10 GMT

Line Items							
Line	Description	Bill From	Bill To	Document Ref	Quantity	Unit of Measure	Net Amount
Number	String	Timestamp	Timestamp	String	Number	String	\$
81	Forward Capacity Market Credit	6/1/23 12:00 AM	7/1/23 12:00 AM				-7706.00



# Questions

# Calculating Failure-to-Cover Charge Adjustment




# FCM Failure-to-Cover Charge Adjustment

The failure-to-cover charges are distributed back to capacity load obligation (CLO) as a failure-to-cover charge adjustment. Customer failure-to-cover charge adjustment is the customer share of the capacity zone (CZ) failure-to-cover charge.

Failure-to-Cover Charge Adjustment

Customer


(A x B)



CZ CLO %

Customer

(A)



Failure-to-Cover Charge


CZ

(B)

CZ Failure-to-Cover Charge

CZ


(A x B)



Peak Load Allocator Ratio

CZ

(A)



Failure-to-Cover Charge

Pool


(B)

# FCM Failure-to-Cover Charge Adjustment Allocation

Failure-to-Cover Charge Adjustment

*Customer*


(A x B)



CZ CLO %

*Customer*

(A)



Total Failure-to-Cover Charge

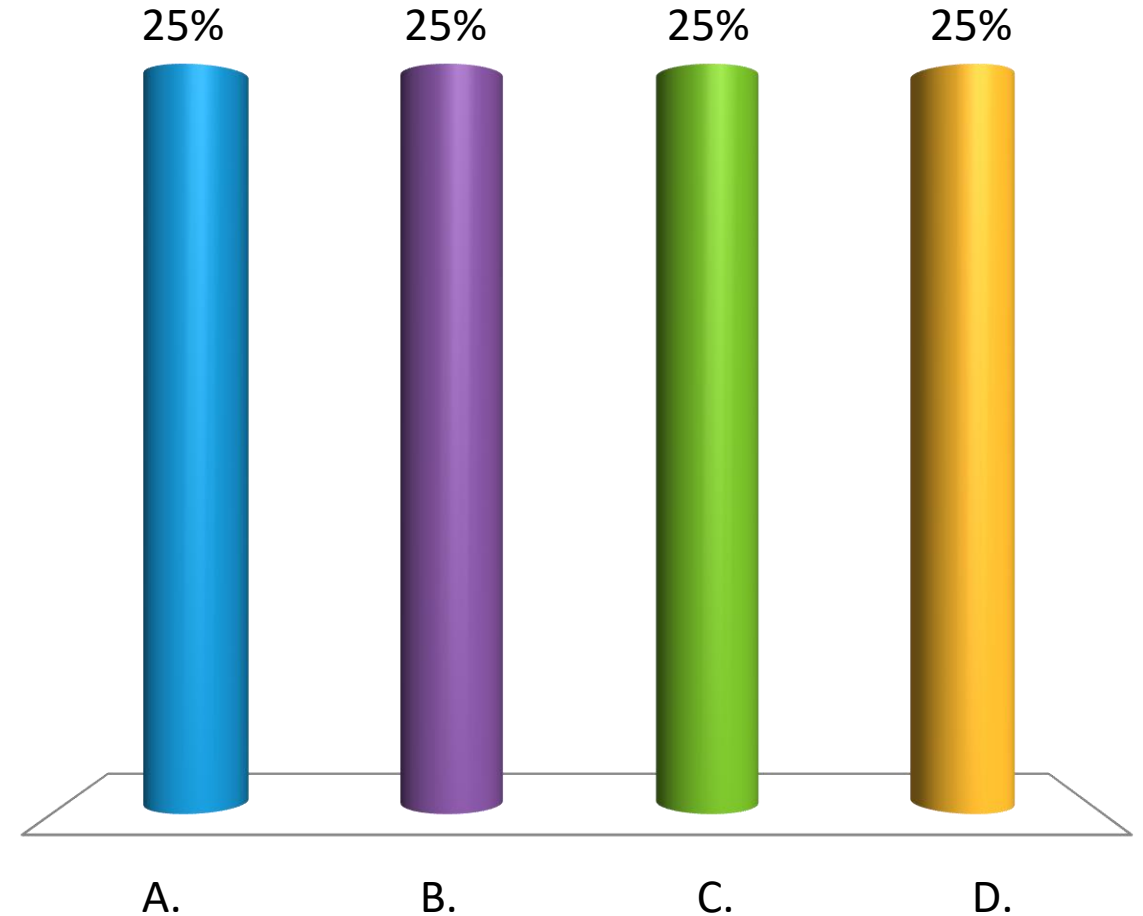
(B)

Customer	CZ CLO MW	CZ CLO % (A)	Total FTC Charge (B)	Failure-to-Cover Charge Adjustment
Customer 1	(1400)	93.33%	\$ 17,100.00	\$ 15,960.00
Customer 2	(200)	13.33%	\$ 17,100.00	\$ 2,280.00
Customer 3	100	(6.67)%	\$ 17,100.00	\$ (1140.00)
Total	(1500)	100%		\$ 17,100.00

The Failure-to-Cover Charge Adjustment accounts for the monthly FCM Charges in the current commitment period.

# Who gets paid in failure-to-cover (FTC)?

- A. Instructor
- B. ISO New England
- ✓ C. Customers with CLO
- D. Resources that have MDO exceeding CSO



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# Calculating Reliability Credits and Charges

# Objectives

- Recognize reliability credit calculations
- Understand reliability charge allocation



# What are Retained for Reliability Credits?

- Retained for reliability (RFR) credits are awarded when a delist bid is denied, and resource must remain in auction
- Resources receive two credits:
  - FCM credit (processed with daily settlements)
  - Reliability credit
- Reliability credits are charged to regional network load in reliability region in which resources were retained



# How is Credit Calculated for Retained for Reliability Resources?

- For resources retained for reliability, credit depends on attempted method to exit capacity market
  - Resource receives the difference between resource delist bid price and FCA payment rate, unless the delist bid is a permanent delist bid for entire resource or a retirement delist bid for the entire resource
- A rejected permanent delist bid for entire resource receives either:
  - Difference between resource delist bid price and FCA payment rate, or
  - Pursues a cost-of-service agreement at Federal Energy Regulatory Commission (FERC)
- A rejected retirement de-list bid for entire resource receives either:
  - Difference between resource delist bid price and FCA payment rate
  - Pursue a cost-of-service agreement at FERC, or
  - Choose to retire despite reliability need

# FCM Credits for Retained for Reliability Resource (10 MWs)

RFR Reliability  
Credit  
*Resource*

⊖

Cost-of-Service Rate  
or Delist Bid Price  
*Resource*

⊖

FCA  
Payment Rate  
*Capacity Zone*

)

⊗

RFR CSO MW  
Resource

⊗

1000

Description	Rate	CSO Component Credit
Retained for Reliability (RFR) - 10 MW		
FCA Payment Rate (\$/kW-mo)	\$2.001	
FCM Credit \$2.001 x 10 x 1000		\$20,100
Delist Bid Price	\$10.00	
Reliability Credit (\$10.00 - \$2.001) x 10 x 1000		\$79,900
Total Compensation		\$100,000

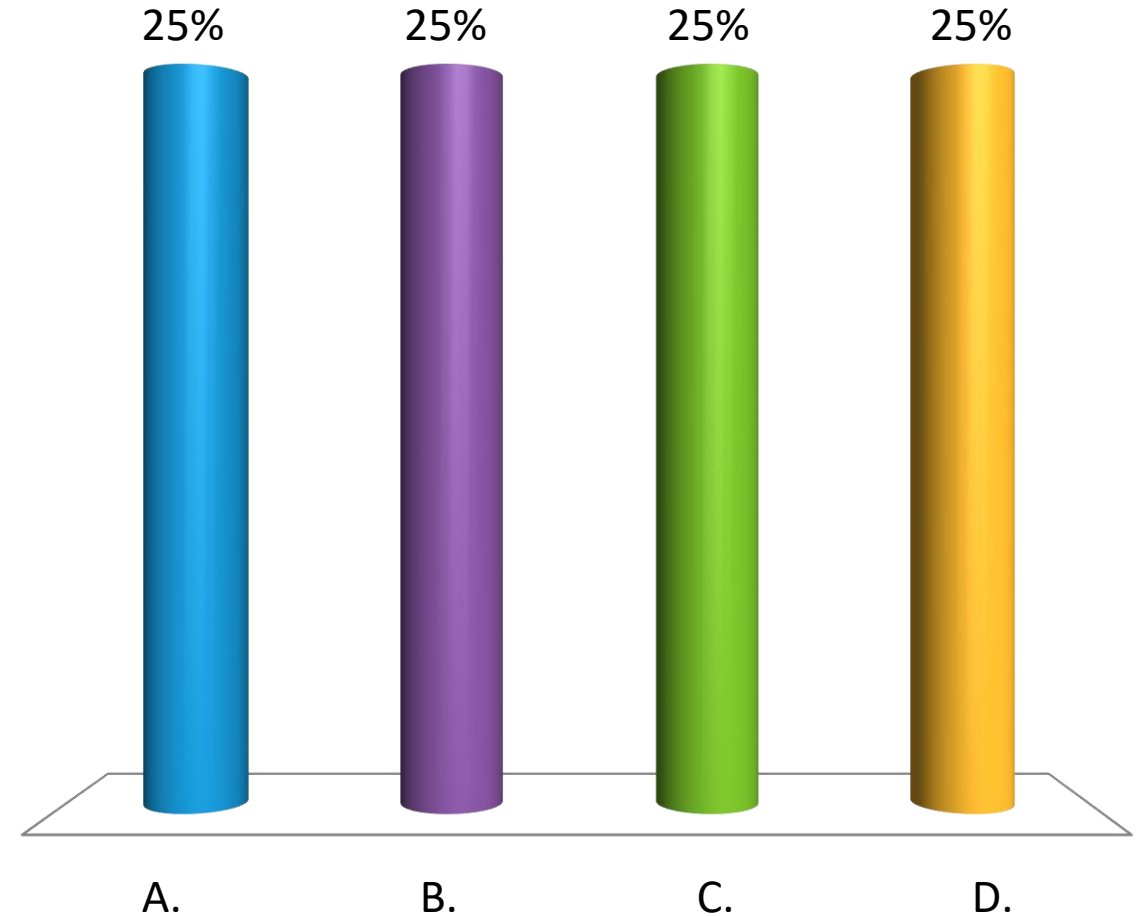
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# If a resource is retained for reliability after submitting a static delist bid how is the resource compensated?

- ✓ A. Resource receives difference between resource's delist bid price and FCA payment rate
- B. Resource pursues a cost-of-service agreement at FERC
- C. Resource may choose to retire despite reliability need
- D. Any of the above



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# Summary

## In this section, you learned:

- Purpose of pay-for-performance (PFP)
- How a capacity scarcity condition (CSC) occurs
- Calculations for pay-for-performance (PFP)
- Who receives payments and why they receive payments
- What failure-to-cover (FTC) is
- How maximum demonstrated output (MDO) is determined
- Pre-ARA 3 MIS report
- How failure-to-cover (FTC) charge is calculated
- How failure-to-cover (FTC) charge adjustment is allocated
- How reliability credits are calculations
- The way reliability charges are allocated



# The Big Picture

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

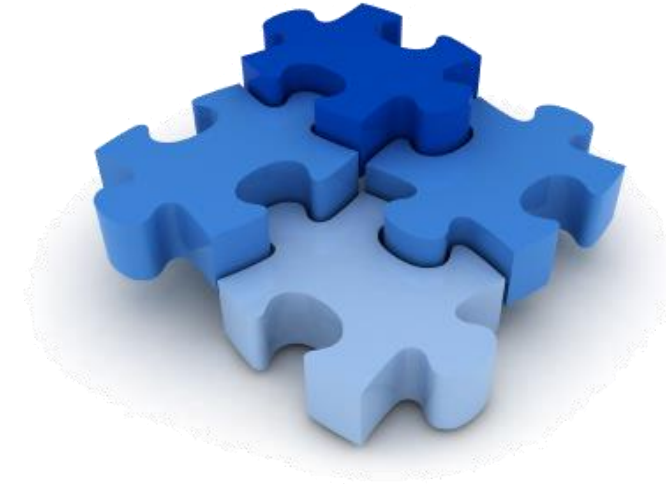
- FCM Daily Credit
- FCM Daily Charge

- Forward Capacity Market Credit

- Forward Capacity Market Charge

- FCM Reliability Credit

- FCM Reliability Charge



- This lesson addresses four of the FCM line items
- You learned how the capacity performance payments and failure-to-cover (FTC) charges are used to calculate the FCM credit line item
- You learned how the failure-to-cover charge adjustment and FCM charge is calculated
- You also learned how reliability credits are calculated and how the associated reliability charges are allocated





# Questions