



FCM Performance Incentives

A Strategic Planning Initiative

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Presentation Topics

- Overview
- FCM PI Quick Reference Guide
- Stop-Loss Mechanism and Details
- Bilateral Trading - concepts

OVERVIEW

FCM Performance Incentives - Overview

- Capacity suppliers with resources that have uncertain performance present a risk to system reliability if too many resources cannot 'perform' when needed most – during a capacity deficiency
- In this context, 'perform' means delivery of either energy or reserves during a capacity deficiency
- The current FCM construct provides insufficient incentives for capacity suppliers to make investments to improve resource performance
- FCM Performance Incentives provides market signals and investment incentives for capacity suppliers to improve performance *i.e.*, deliver energy or reserves during a capacity deficiency

Future Topics (approximate dates)

- Elaboration on the details of this proposal will be the topic of future presentations to the Markets Committee, including but not limited to:
 - Balancing ratio & application to zones ~ May/June
 - Maximum Loss Limit (or stop loss) ~ May/June/July
 - Resources with multiple commitment period elections ~ June
 - Financial Assurance impacts (w/B&F committee) ~ August
 - Establishing the Performance Payment Rate ~ August
 - Bilateral trading ~ July/August
 - Reliability rejection of de-list bids ~ August

FCM PERFORMANCE INCENTIVES QUICK REFERENCE GUIDE

FCM PI Reference Guide

- A separate document, '**FCM Performance Incentives Reference Guide**' has been posted on the ISO web-site with the other presentation materials for this agenda item
- This annotated document is intended to be a working document; details will be added as final design aspects are presented
- This is meant to provide a concise guide for understanding and putting into context the proposed tariff changes

STOP-LOSS PROVISIONS

Things to Note

- **Purpose.** Provide a liability limit on a capacity supplier's financial loss exposure for non-performance during the commitment period
- **Details and Examples.** A separate memo, '**FCM Performance Incentives – Stop Loss Mechanism**', has been posted on the ISO web-site with the other presentation materials for this agenda item

Review: Conceptual Approach

- **The stop-loss is a mutual insurance system** among capacity suppliers
 - A resource with a CSO will be ‘stopped-out’ at a point where the resource’s net capacity payments would exceed the stop-loss limit
 - All other capacity suppliers each bear (a portion of) this risk: Their total compensation is reduced if a resource ‘stops-out’.
- **Key: Maintain performance incentives.** A good stop-loss design should minimally distort:
 - Incentives to perform during scarcity conditions
 - Incentives to trade-out or replace a non-performing CSO resource

Stop-Loss Details – Resource Level

- The stop-loss will be applied to individual resources with a Capacity Supply Obligation each Obligation Month
 1. The stop-loss limit will be equal to the product of the CSO amount (kW) and the stop-loss rate (\$/kW)
 2. The stop-loss rate will be equal to the FCA Starting Price (~\$15/kW)
 3. The stop-loss limit (\$ amount) will apply to the net capacity payments (the sum of the base payment and performance payments)

Stop-Loss Details – System Level

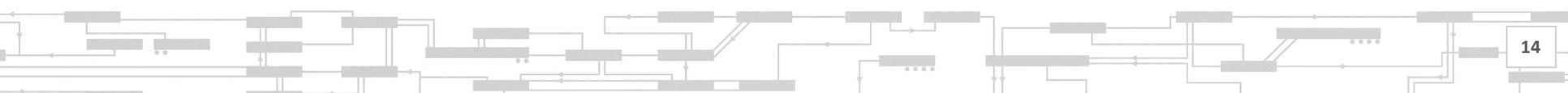
- **Potential net surplus.** During a scarcity (deficiency), total performance **charges** exceeds total performance **credits**.
- When a capacity resource is ‘stopped-out’, no additional performance charges (based on the CSO amount) are ‘collected’ from the resource
 - This can result in the sum of all performance **credits** exceeding the sum of all performance **charges**, and would lower the net surplus (possibly making this a net *deficit*)
 - The disposition of any net surplus amount, or net deficit, is done *pro-rata* based on CSOs, accounting for each CSO MWs performance charges not collected (*i.e.*, ‘stopped-out’)

BILATERAL TRADING

CSO and Performance Payment Exchange

Bilateral Trading

- The current mechanisms for trading CSOs will remain in place (*e.g.*, reconfiguration auctions)
- The current Supplemental Availability Bilateral mechanism, with modification, is another alternative



Bilateral Trading of Capacity Supply Obligation

- The current mechanisms for trading CSOs will remain in place
- A CSO can be exchanged on a prospective basis, however there are some limitations
 - Reliability review - *Is the resource needed?*
 - Market depth of non-CSO capability - *Is there enough out there?*
- While shedding the CSO is one way to reduce performance risk, there are other means possible
 - Supplemental Availability Bilateral (SAB) – can be conformed for FCM Performance Incentives

Supplemental Availability Bilateral (SAB) - Background

- These transactions essentially allow the swap of one resource's 'availability' above its CSO to another resource
 - For on-line resources: amount \leq (Economic Maximum – CSO)
 - For off-line resources: amount \leq (designated reserve amount – CSO)
- This does not involve an exchange of CSO
 - Can be used for shorter periods (less than a month)
 - The ISO does not settle the bilateral, only the exchanged amount during a shortage event, if any
 - The accounting of the exchanged amount is done after the fact when all values are known
 - Because this is an exchange of 'availability' there are zonal checks and limitations

Transforming SABs to Trade a Resource's Score

- Under FCM PI, each resource will have a score during scarcity conditions

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

- When the score is positive, the resource is performing above its *adjusted* CSO amount
 - This is an actual measurement, but it is analogous to the ‘availability’ of a resource above its CSO amount in SABs
 - Being an actual measurement there is no need to enforce zonal limitations on transactions
- Hence, with modifications, the SAB concept could be transformed to facilitate a trade of a resource's score, *when the transferring resource's score is greater than zero*

Example

- Resource 1
 - During a scarcity condition, this resource's score is positive
 - Actual $MW_1 = 1.0$; Balancing Ratio = 0.5, $CSO_1 = 1.0$ MW (max amount)
 - $Score_1 = \text{Actual } MW_1 - (\text{Balancing Ratio} \times CSO_1)$
 $1.0 - (0.5 \times 1.0) = 0.5$ MW
- Resource 2
 - During a scarcity condition, this resource's score is negative
 - Actual $MW_2 = 0.0$; Balancing Ratio = 0.5, $CSO_2 = 1.0$ MW
 - $Score_2 = 0.0 - (0.5 \times 1.0) = -0.5$ MW
- Resource 1 can sell the positive score to Resource 2
 - Similar to SAB, positive scores (known after the fact) can be exchanged
 - After the transaction both resources would have a score of zero; the performance credit of Resource 1 is used to offset the performance charge of Resource 2

Score Trade – Pro's and Con's

- Pro's:
 - This mechanism, like SABs, allows trades to mitigate performance risk without swapping CSO amounts
 - The ISO could, like today, facilitate only the exchanged amount during scarcity conditions (notification after the fact)
 - No check on location of resources is necessary because actual measurements will determine exchanged amount
 - Both resources must be experiencing the same scarcity condition – a resource's score only applies when the resource is in a location that is also experiencing a scarcity condition
- Con's:
 - Amount transferred is *variable*: limited to *transferring* resource's positive score
 - A *fixed* amount fundamentally changes the nature of the exchange, and consequently the financial assurance implications

Questions

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