MSOC

RASTF

May 4, 2022

IMM

Monitoring Analytics

Definition of MSOC

- **MSOC is the competitive offer for a capacity resource**
- **MSOC is net going forward costs**
- **CPQR is part of going forward costs**

Competitive Offer

- **Unit specific competitive offer for a CP resource:**

$$p = Net\ ACR + Net\ (Expected\ Penalties - Expected\ Bonuses)$$

$$or, p = \begin{cases} Net\ ACR + CPBR \times H \times (\overline{B} - \overline{A}), & if\ \overline{B} < \overline{A} \\ Net\ ACR + PPR \times H \times (\overline{B} - \overline{A}), & if\ \overline{A} < \overline{B} \end{cases}$$

- **Where:**
  - Net ACR = Other components of ACR − Net E&AS revenues
  - CPBR is the average bonus payment rate during PAI
  - PPR is the average nonperformance charge rate during PAI (tariff defined).
  - H is the expected number of PAI divided by 12
  - $\overline{A}$ is the expected unit performance during PAI
  - $\overline{B}$ is the expected balancing ratio during PAI

Capacity Performance Quantifiable Risk (CPQR)

- **CPQR is the cost of mitigating the risk of nonperformance.**
  - **Risk that net nonperformance charges could be greater than the expected value.**

- **Energy market risks not includable in CPQR.**

CPQR

- CPQR includes both the expected net nonperformance charges and the cost to mitigate the risk associated with the estimated net nonperformance charges.
- Net nonperformance charges can be simulated to account for uncertainty in the inputs to calculation (A, B, H and bonus ratio).
- The MMU framework for evaluating the simulation approach was presented on March 24, 2022.

CPQR

- The MMU will use the simulation approach to evaluate the inputs, assumptions and risk of nonperformance charges in participant CPQR values.
- Probabilistic modeling with inputs and assumptions will be evaluated.
- Third party insurance quotes, with terms adequately specified, are another approach to defining the risk of paying nonperformance penalties.

CPQR

$$CPQR = E(net\ penalties) + Cost\ of\ mitigating\ risk$$

Where:

- $E(net\ penalties)$: **expected value (mean) from distribution of simulated outcomes**
  - Can be positive, negative, or zero.
- $Cost\ of\ mitigating\ risk = Risk\ Cost \times (Extreme\ Value - Mean)$
- **Extreme value: for example 90th percentile or 95th percentile of distribution of simulated outcomes.**
- **Risk Cost:**
  - Cost of incurring risk of nonperformance penalties
  - Affected by factors including portfolio

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