

# FRAC-MOO: Eligibility and Counting Rules

# Key Principles For A Robust Flexible RA Program Design

---

- Procure **sufficient** flexible capacity, with the **necessary attributes**, to serve load with a **high level of confidence**
- Avoid over-procurement by:
  - Not procuring **too much**
  - Not procuring from resources with the **wrong attributes**
  - Not procuring from resources that **cannot (or do not) perform**
- Promote efficient, least-cost procurement by **maximizing competition** between and among eligible resources
  - All resource types **capable and willing** of providing flexibility, including solar, demand response, etc.
  - Internal resources as well as **resources located outside** the CAISO BAA

# Powerex Supports Major Elements Of FRAC-MOO Proposal Framework

---

- **Proposed Flex RA framework aligns forward procurement with the operational needs of CAISO markets**
  - 3-hour flexibility (for Day Ahead Load Shaping)
  - 15-minute flexibility (for RTPD positioning and deployment)
  - 5-minute flexibility (for RTD and regulation)
  - Powerex believes this is significant improvement over the current program, where forward products do not translate into resources that can be positioned and deployed effectively through CAISO market
- **Proposal enables Flex RA to be provided by resources located outside the CAISO BAA**
  - External resources will be able to provide DALs and 15-minute Flexible RA products
  - Current program excludes virtually all external resources
- **Proposal enables Flex RA to be provided by renewable resources**

# Ultimate Success Of Flex RA Requires Accurate Determination Of Requirements, And Accurate Assessment Of Supply

---

- Reliability objective of meeting load with a high level of confidence will be **undermined** if:
  - Requirements are understated (*i.e.*, actual needs will exceed procurement requirement more often than target standard); *or*
  - Supply is overstated (*i.e.*, the procured flexibility will not actually be provided when needed)
- **Gap 1: Flexibility requirements appear well below (p50?) what is necessary for a “1-in-10 year” or similar reliability target**
  - Proposal is based on expected (1-in-2?) maximum observed three-hour ramp in each month, plus ~3.5% for contingency reserve
  - Powerex understands this is the same as the current methodology, which understated actual 3-hour ramps in three months in 2017
- **Gap 2: Resource eligibility to sell Flex RA exceeds both demonstrated and expected performance (p0?)**
  - Based on EFC in Master File, which can far exceed the maximum ramp actually achieved by resources under real-world conditions
  - Not adjusted for planned or forced outages, which will systematically leave CAISO short ~10% of Flex RA
  - Eligibility not adjusted for available resources that do not perform when called upon, leaving CAISO further short of Flex RA

*Powerex believes the current Flex RA proposal is based on an insufficiently robust assessment of demand, compounded by unrealistic assumptions of resource capability, availability, and compliance with obligations.*

# Flex RA Proposal Should Be Strengthened To Meet Its Key Objectives

---

- **Correct design flaws that understate demand and overstate supply of Flex RA, either by:**
  - Using **robust** criteria for Flex RA requirements (“p95” estimate of ramp) and resource eligibility (account for outages, performance); *or*
  - Apply a Flex RA “planning reserve margin” for uncertainty of need and of supply
- **If the Flex RA program is not strengthened, how does CAISO plan to “fill the gap” when flexibility challenges arise?**
  - Rely on internal resources that do not have Flex RA contracts or obligations?
  - Lean on voluntary resources in the EIM (and how will the CAISO BAA pass RS in these cases)?
  - Lean on voluntary resource offers in the CAISO day ahead market?
- **Once the Proposal reflects the right needs with the right eligibility requirements, should enable maximum competition to support efficient least-cost procurement of Flex RA**
  - Between internal and external resources: must address widespread “stranding” of MIC
  - Between different types of resources: no need for 25% limit on solar if resources are truly capable and willing to provide service

***powerex.***

*Supply. Flexibility. Commitment.*

Thank You

Powerex Corp.  
1300-666 Burrard Street  
Vancouver, British Columbia  
Canada V6C 2X8

Tel 604 891 5000  
Toll Free 1 800 220 4907  
[www.powerex.com](http://www.powerex.com)