



Flexible Resource Adequacy Requirement Allocation

CAISO Stakeholder Meeting
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What is Changing in Requirement Space?

- Currently the CAISO uses a forecast of expected net load ramp to determine ramping needs
 - Largest monthly three-hour ramp plus 3.5% of expected peak load
- FRACMOO proposal would split this into two components
 - Predictable – the forecastable ramping needs
 - Unpredictable – the ~~inforecastable... non-forecastable... anti-forecastable...~~ the stuff that happens outside of the forecast
 - Changes in wind and solar generation
 - e.g. changes in weather conditions that were not foreseen
 - Changes in load
 - e.g. actual consumption from interval to interval will not be as smooth as predicted
 - Changes in non-wind and solar generation
 - e.g. resources not responding as scheduled

Does the Allocation of Requirements Need to Change?

- It could
 - Since the three sources of each of the causes for ramps can be identified for both predictable and unpredictable, allocations could be made on a causation basis to load, wind and solar generation, and all other generation
- But...
 - Is the complication worth the effort?

What Has Really Changed?

- Predictable
 - No changes to load and non-wind and solar generation
 - Net load ramp can be predicted to get larger as implementation of wind and solar resources continues
- Unpredictable
 - Changes in load
 - Before the first iteration of FRACMOO, changes in load occurred
 - Operating reserves addressed this need
 - Changes in non-wind and solar generation
 - Before the first iteration of FRACMOO, changes in non-wind and solar generation occurred
 - Operating reserves addressed this need
 - Changes in wind and solar generation
 - Before the first iteration of FRACMOO, changes in non-wind and solar generation occurred however...
 - The increasing size of the fleet of such resources should cause this element to increase

Options

- Allocate to each causative category
 - Wind and solar generators
 - Load serving entities
 - Non-wind and solar generators
 - Pro
 - Provides incentive to resources to become more predictable or to change operation in order to reduce requirements
 - Con
 - Significant departure from existing market causing changes in costs and therefore prices
- Allocate as currently performed
 - Load procures based on their portfolio of wind and solar resources