Unforced Capacity (UCAP) Discussion

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An accurate understanding of a resource's unforced capacity during times of need is critical to resource planning and procurement

- Accurate inputs are necessary for accurate results
- Forced outage timing matters
- Resource-specific approach better aligns incentives
- Measured approach is warranted

Ensuring accurate and comparable outage data

- **Distinguishing between normal operating resource limitations and abnormal operating resource limitations**
  - Normal operating limitations should be incorporated into the CAISO resource model / market design as much as possible
  - Identify outages and de-rates due to equipment failures
- **Currently, energy storage resources report normal operating resource limitations as outages due to CAISO reporting practices**
  - The particulars of the outage reporting practices convey an incorrect view of unforced capacity
  - Categorically classifying outages submitted in less than 8 days as “forced” is too broad and not aligned industry standards

Industry standard outage definitions focus on need to remove unit from service or equipment unavailability

- Requires immediate or delayed removal of a unit from service
- Derating reporting focused on system, component, or piece of equipment that became unavailable for service
- Usually results from automatic control system trips or operator initiated manual trips of the unit in response to unit alarms
- Maintenance outages can occur in as little as 3 days notice

Recommendation: Clearly define forced outage/derate for UCAP purposes (in words)

Accurate EFORd considers unit economics

- **Accreditation should be reasonably aligned with expected storage operations**
- **Service hours are those in which the resource received a dispatch**
  - Energy storage is typically always synchronized and available if needed
  - Expectation of being able operate if needed
- **Would the resource have received a dispatch if it were not on forced outage?**
  - If not, it caused no harm to system reliability, and a penalty is not warranted

Supply Cushion Hours approach is not aligned with resource-specific unit economics