Resource Sufficiency Evaluation Enhancements discussion

Rahul Kalaskar, Manager Market Analysis
Danny Johnson, Lead Policy Developer
Market Policy and Performance

Market Surveillance Committee Meeting
General Session
August 27, 2021
Bid Range Capacity Test – Uncertainty Update

Test purpose

- To ensure each EIM BAA has sufficient bid in capacity to meet fifteen-minute demand forecast (less net schedule interchange)
- Sufficient bid-in capacity to meet uncertainty in net-scheduled interchange

Summer 2021 Enhancement

- Sufficient bid-in capacity to meet net load uncertainty after factoring in diversity benefit
Monthly Average Bid Range Capacity Test Up failure increased since June 2021

Summer 2021 enhancement was implemented on June 15, 2021

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<th>SCL</th>
<th>PSEI</th>
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California ISO
Frequency of Daily Capacity Test Up failure
June 15 - August 15

The diagram illustrates the frequency of daily capacity test up failures from June 15 to August 15. Each cell represents the number of failures per day, with darker colors indicating a higher frequency.

The frequency scale ranges from 0.0% to 25.0%.
Majority of failures are concentrated in peak hours

June 15, 2021 – August 15, 2021

The chart shows the frequency of failures during different hours. The hours are numbered from 1 to 24, with 1 being 12 AM and 24 being 12 PM. The frequency is displayed using a color gradient, where lighter colors indicate lower frequencies and darker colors indicate higher frequencies.
Average imbalance MW is calculated using only those intervals with capacity test up failure.
Failure Interval show those intervals in which the BAA failed the capacity test after removing net load uncertainty component or failed the flexible ramp up sufficiency test.
Failure Interval shows that interval in which the BAA failed the capacity test after removing net load uncertainty or failed the flexible ramp up sufficiency test.
Net Intertie Uncertainty Calculation

• Intended to account for deviation between T-40 and T-20
• Uses a 95% confidence interval. Uses 97.5% and 2.5% for calculation for a high and low percentile
  – Between 15th day of third month prior and 15th day of current month

• \[ \text{Relative Deviation} = \frac{\text{Net Actual} - \text{Net Scheduled}}{\text{Net Scheduled}} \]

• \[ \text{Absolute Deviation} = \text{Net Actual} - \text{Net Scheduled} \]

• \[ \text{Additional Upward requirement} = \min(-1 \times \text{Relative Low deviation} \times \text{net scheduled}, -\text{absolute low percentile}) \]
Net Uncertainty Calculation Example

Relative Low Deviation = -0.03
Absolute Low Deviation = -50 MW

Example 1 – 1000 MW Interchange
Additional requirement = min (-1*-0.03*1000, -1*-50) = 30 MW

Example 2 – 2500 MW Interchange
Additional requirement = min (-1*-0.03*2500, -1*50) = 50 MW
No bigger then 2.5% under delivery, the relative deviation calculate scales to transfer sizes
The proposed ability to adjust an EIM entitles demand forecast is intended to allow their programs that are not able to be modeled as proxy demand resources or don’t fit the narrow ISO reliability demand response resources model, to be included.

The CPUC Emergency Load Reduction Program has been raised as potentially warranting similar treatment:

- While the emergency load reduction program has demand quantities signed up, there is only compensation for demand reduction (no performance = no pay). No financial mechanism to force expected demand reduction.
- The proposed EIM design is based on the expected demand reduction, with charges such as uninstructed imbalance energy and under scheduling for failure to deliver.