RA Program PRM Setting

RA Reform Workshop

9/14/2022

RA Decision language on LOLE and PRM (D.22-06-050)

- LSEs must demonstrate sufficient capacity to meet their load requirements plus a PRM percentage in each hour ("Load+PRM").

- For initial implementation, one PRM will apply to all hours of the year.

- [C]onverting the results of the loss of load expectation (LOLE) study to the counting rules applicable to the 24-hour framework should await the refreshed LOLE outputs from the Integrated Resource Plan (IRP) proceeding.

- Once refreshed LOLE outputs are available, conversion of the outputs to the 24-hour framework counting rules needs to be completed, and the National Resources Defense Council's "proof of concept" template should be leveraged for the conversion.

PRM Setting Prerequisites

- Load Forecast
  - Used to derive stochastic load scenarios for LOLE and PRM
- LOLE Study Results
  - Volume and mix of resources deemed to result in a reliable system
- RA Resource Counting Rules
  - Single monthly today
  - Slice-by-slice in future
- System RA Showing Rules
  - Portfolio limits
  - Excess RA capacity for stand-alone storage

Steps to set PRM

1. Determine volume and mix of resources that achieves reliability and other targets (Iterative LOLE process)

2. Convert nameplates and characteristics to slice-of-day counting (hourly ELCC, daily limitations, etc)

3. Create system-level 24-Hourly-Slice RA stack consistent with steps 1 and 2 that maximizes PRM achieved for the highest load day while satisfying slice-of-day requirements

4. Resulting PRM becomes the RA PRM

Excel PRM Setting Example

- 2030 CAISO System LOLE study from SCE's 2020 IRP

- 2019 IEPR mid-mid

- 2020 IRP SERVM resource profiles

- PRM relative to highest load day of year

Backup

SOUTHERN CALIFORNIA EDISON®

Slice-of-Day LOLE and PRM

- PRM should be set such that the resulting RA showing portfolio meets annual reliability standards and is not larger than necessary
- Slice of day resource counting and excess capacity requirements should be implemented in Capacity Expansion (CE)
  - 24-hour PRM set in CE consistent with eventual requirement in Resource Adequacy program
  - Would ensure resulting portfolio to set PRM is least cost, operable and reliable
  - The final least cost resource portfolio that meets reliability requirements in LOLE determines the PRM requirement
- Resource assumptions should be consistent among RA counting, capacity expansion and Production Cost Modeling (PCM)
  - If RA program analysis shows expected capacity contribution is correlated with load, that finding should be used for both RA and PCM
  - Use limited resource assumptions should also be aligned
- Analysis refreshed periodically to confirm PRM will achieve policy goals