Summary of 7/27/22 RA Workshop

Jaime Gannon from ED said it would be premature to include DR in the schedule for Workstream 2 since the CPUC was not going to vote on the new RA PD until 8/25/22. The PD directs the RA Reform process to address RA counting for DR for the year 2024 under SoD as part of Workstream 2.

NRDC presented on exceedance. (See slides.) Slides include options and recommendations. ED will be putting out data that should be used for further analysis. Three options: PG&E’s peak day, worst day, and LOLE-informed. NRDC used Clean System Power Tool. Exceedance does not consider correlation effects between resource performance and outage risk. It needs to be calibrated with grid stress periods. PG&E’s methodology looks at resource performance on 5 peak days that represent the greatest risk. The worst day method uses profiles of worst days by peak or net peak; it doesn’t necessarily align with an exceedance profile. The LOLE-informed approach takes LOLE analysis for PRM to develop weighted average profiles based on modeled reliability risk; it could be in non-summer months.

A concern was raised about removal of resources for LOLE modeling to surface LOLE. How does this apply to reliability risk? NRDC agreed this is an issue. NRDC was asked about peak day vs. worst day. NRDC said for peak day use 5 days/month/year and use multiple years. When asked how good the correlation with peak days was for resource output NRDC said this needs to be considered. The LOLE approach does consider this. Calibration refers to studying the relationship between results and resource value and also the portfolio assumptions relative to reliability and residual need, especially hourly attributes of resources in the portfolio.

ED said for solar, aren’t we looking at how much energy will be available in the middle of the day to address energy sufficiency, rather than capacity? It would be different for wind. NRDC agreed.

PG&E presented on its peak day proposal. (See slides.) You would keep the exceedance level the same for all hours, use several years of data; can either average or weight the top 5 days each month, review solar and wind performance on those days and get capacity factors. PRM analysis should determine the exceedance value. The 5 peak days are the highest load days, not the worst solar output days.

There was a lot of discussion about whether QC values should be locked down prior to determining the PRM or vice versa. Positions differed. PG&E said if lock worst day load profile first, it may lead to higher PRM. Worst load days profiles can be made more or less conservative but there is not as much space to adjust as there is for exceedance since there are less data for load forecasts. Others said you can’t set a PRM value without setting counting rules.

PG&E heat maps show when exceedance meets reliability needs at what levels. These could be varied by month, but it would be complex.

PG&E said PRM discussion should occur in the IRP.

ED said the issue is energy sufficiency; if assess at individual resource level, need to use more data; if look at gas, gas units would not like to be judged on worst day basis; maybe overthinking exceedance level of solar since it does not generate at net peak. The CAISO agreed and asked if PG&E had looked at the variability for wind year over year compared to individual resource basis using exceedance. PG&E said it will consider this but has not yet done it.

SCE said exceedance should be estimate of output capability in each hour.

SEIA presented (see slides). It proposed a 50% exceedance value for solar. The new LOLE/ELCC study has hours with EUE pushed out later to 6-9 pm except August/September where there is some EUE 5-6 pm. The ELCC values were higher in winter, perhaps due to charging of storage. It likes PG&E’s normalization of solar output to the amount online in each year. It noted that solar does have some output in the early peak period including hours with non-zero EUE. It got 55% exceedance in hours with non-zero EUE. A major concern for the solar industry is data on fixed vs. tracking. It also is concerned about increased winter heating leading to issues with multiple winter cloudy days.

There was discussion of consistency in the PRM between the RA and IRP proceedings. Positions varied.

CalWEA presented its ENLR proposal. (See slides.). It does not like exceedance. ENLR focuses on wider system capacity needs and uses load as a proxy for reliability need. It presented “exceedance ENLR” using the median of samples of data. Average ENLR is not very difference from exceedance ENLR results. PG&E’s 5 peak load days is OK. PG&E uses gross peak load and should focus on highest net peak load days. SCE questioned CalWEA’s resampling. PG&E raised concerns about the use of a small sample size but CalWEA said it could not get more data from the CAISO.

ED presented an analysis using CAISO settlement data for 2017-2021 for all wind and solar resources for peak days. Solar was broken into fixed, tracking, and thermal using SERVM data. Some parties asked if they could see the data. There were big differences between use of mean vs. median. Use of the median tracks more with percentile shapes, especially for wind. Pretty close to 70% exceedance using 3-5 worst days. ED has data to assess on an individual resource basis but this would add complexity. ED said it tends toward using true exceedance but wind has a lot of variation unrelated to load and solar and would have even more with fires. The CPUC has not decided on resource-specific vs. technology-specify analysis. Group technology factors would have to be used for new resources.

The analysis does not take into account renewable curtailment and no one is sure how to do this. ED tried with bidding data, but bids were below the settled amount. It will follow up with the CAISO on this.

ACP-CA presented on geographic variation for wind resources. (See slides.). It would prefer using marginal ELCC data from the IRP for the first three years or exceedance focused on a subset of days with the highest net peak loads in each month. The ELCC for areas without resources yet is based on simulations and maybe resources in other parts of the world.

SCE suggested considering assumptions used in IRP ELCC modeling and using that data set to create more consistency.

IRP results presented last week were at PCAP (perfect capacity) and ICAP (installed capacity) levels. ED is trying to figure out how to use the ICAP data. It wants to look at LOLE output for selected units with the capacity maximum value and see how this could be applied to SoD.