

Summer 2021 and 2022 Reliability Analysis – 7/30/21

Following the August 2020 rolling outages, the California Energy Commission (CEC), California Independent System Operator (California ISO), and California Public Utilities Commission (CPUC) jointly developed a root cause analysis report at the direction of Governor Gavin Newsom.

The energy agencies implemented several actions in late 2020 and early 2021 to provide greater grid reliability for summer 2021. Actions included additional procurement, increased coordination, market improvements, and development of additional analysis to support situational awareness and contingency planning.

CEC staff developed a summer reliability analysis to estimate the potential gap between supply and demand under average and extreme weather conditions similar to those in summer 2020 to plan for additional contingencies. The [results of the analysis for August and September 2021](#), <https://efiling.energy.ca.gov/GetDocument.aspx?tn=237646>, were presented at an Integrated Energy Planning Report workshop in May. Following the unexpected extreme weather events in June and availability of updated information on drought conditions, CEC staff updated the analysis with the latest demand and supply conditions. In addition to updating the potential shortfall under extreme conditions for August and September, the CEC analyzed the outlook for July. Without contingency measures or additional procurement for the rest of the summer, the California ISO system could experience up to a 3,500-megawatt shortfall in the event of extreme heat, similar to what happened in 2020. The analysis accounted for the impact of drought on hydro generation. It also assumed no uncontracted imports are available because heat events throughout the West and/or wildfire limits the ability to use imports to handle demand.

Climate change is accelerating and impacting the grid and the drought is expected to continue in 2022. The CEC has begun evaluating the reliability outlook for 2022 using climate-driven extreme conditions.

The events of summer 2020 and thus far in summer 2021 have demonstrated how the increased frequency of climate-driven extreme heat, drought, and wildfires are straining California's electricity supply and demand. California must actively plan for extreme events that fall outside of traditional electricity sector planning. To capture the potential shortfall under extreme conditions, the CEC's analysis for 2022 uses a 22.5 percent planning reserve margin to account for an extreme heat induced demand, standard assumptions for operational reserves, and the CPUC's recently adopted higher assumption for forced outages.

Without contingency measures or additional procurement beyond what has been previously planned for, the combination of extreme heat, wildfire, and continued drought could lead to a 5,000-MW shortfall in the California ISO system for summer 2022. The CEC's analysis looked at planned procurement and retirements before next summer and the impact of drought on hydro generation. It also assumed that no uncontracted imports were available because the changing resource mixes in

neighboring states, heat events throughout the West and/or wildfires may impact the ability to use imports to meet demand.

CEC staff plans to present the analysis at the August 11 business meeting and take public comment. The commissioners are scheduled to consider adopting the analysis, which will be used to support contingency planning for summer 2022, at the September 8 business meeting.