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Comments on Midterm Reliability Assessment

Additional submitted attachment is included below.

September 7, 2021

The Honorable Karen Douglas
California Energy Commission
21-ESR-01
Electric System Reliability

Dear Commissioner Douglas:

Vote Solar and the Solar Energy Industries Association (SEIA) would like to express our appreciation for your work in organizing and hosting the recent workshop on the Midterm Reliability Assessment. The workshop was very informative and the presentations by Liz Gil and Mark Koostra were excellent. It is very useful to have an independent check on future electric system reliability given the challenges California faces with the imminent closure of multiple fossil and nuclear power plants and our commitment as a state to rapidly decarbonize the electric system and the economy.

Vote Solar and SEIA agree that the scope of the Midterm Reliability Assessment should be focused on three key questions. First, is additional capacity beyond the amount in the current procurement orders needed to maintain system reliability while reducing greenhouse gas emissions? Second, would incremental fossil fuel powered resources provide more reliability benefits than equivalent quantities of preferred resources? And third, are there potential risks to relying on the deployment and operation of increasing quantities of grid-connected batteries?

The August 30, 2021 workshop provided preliminary answers to each of these questions. Both the draft Preferred System Portfolio under consideration by the California Public Utilities Commission and a procurement portfolio with 11.5 gigawatts of additional net qualifying capacity meet the traditional metric of less than one loss of load event every 10 years and provide a reasonable level of reliability.

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As for the comparison between clean energy resource portfolios and ones that rely more on fossil-fueled resources, the study suggests that there is little material difference in reliability. If there is any difference, a system with more fossil-fueled resource may be slightly less reliable.

Finally, the analysis of the performance of the existing fleet of batteries participating in CAISO wholesale markets show they are performing as expected - charging when wholesale power is inexpensive and discharging when prices for power are high. Both the CEC presentation and the CAISO presentation confirmed this finding.

There is still need for further research into the key issues identified in the Midterm Reliability Assessment. The CEC staff has appropriately identified the need to better correlate demand as well as the performance of wind and solar resources to the 30 years of weather data used in the production cost model. Also, the very important question of energy sufficiency has not been fully answered. There is a need for a better understanding of whether there will be sufficient resources in the future to fully charge the fleet of batteries during certain periods of the year. Also, it will be important to understand whether the resources used to charge the batteries will result in a decrease in greenhouse gas emissions for the electric system or not.

Regarding the question of the future reliability of the fossil fuel fleet, more detail would be valuable regarding the trends in forced outage rates for aging plants that will be used with decreasing frequency. Also, while the study did not focus on the costs of maintaining the fossil fuel fleet as their usage declines it is nonetheless an important question. Likewise, the possibility of the conversion of some of the fleet to use non-fossil combustion fuels was not investigated, including impacts on reliability.

Finally, regarding the possible risks of relying on a much larger fleet of batteries, the question of the impact of tax incentives on how the batteries would be charged was raised. While this does not appear to be an issue at the present time it is worth further investigation. Also, the issue of the discharge duration for individual batteries and other storage facilities was raised by

the CAISO staff. There was a presumption that more, longer duration devices would be needed in the future. Is that presumption correct? Does the discharge duration of any individual device influence system reliability or does the system depend more on the aggregated quantity of stored energy available at different periods of time?

Vote Solar and SEIA are very encouraged by the close collaboration of the Energy Commission with the Public Utilities Commission in the research on the important topic of midterm reliability. We are also pleased with the opportunity to actively participate in the investigation as well as the deep engagement of Commissioners from both bodies in this important matter.

Best regards,

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