

VARIABILITY IN LOADS AND RESOURCES

Executive Summary



This assessment examined the reliability risks involved with variability of loads and resources and how Battery Energy Storage Systems can help reduce these risks.

Finding #1

Heat wave weather events causing unusually heavy loading on the system have the potential to cause unserved energy.

Finding #3

Battery Energy Storage Systems can provide valuable ancillary services such as frequency response.

Finding #2

Adding Battery Energy Storage Systems near load centers can reduce the possibility of unserved load that could otherwise occur due to variability in loads and resources.

WECC recommends that entities study the variability in electric load and generation, plan for the potential reliability risks, and make use of potential benefits of energy storage systems.

WHAT IS VARIABILITY IN LOADS AND RESOURCES?

Unforeseen changes in system load due to sudden changes in temperature, and unpredictable generation output from resources like wind and solar, cause significant uncertainty in loads and resources.

WHY DOES THIS MATTER?

The resource mix is changing from fossil to renewable generation, which inherently has high variability due to its dependence on weather conditions. In the last several years, extreme weather events have been observed in western North America. A combination of extreme weather events, lack of firm resources, and the variability of generation could result in possible unserved energy, which is a reliability risk to the Western Interconnection.

Read the report

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Variability in Loads and Resources Advisory Group
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