California ISO

FACT SHEET

Maintaining operating reserves

Operating reserves are a key part of maintaining reliability. Operating reserves are the electricity supplies that are not currently being used but can quickly come online in the case of an unplanned event on the system — such as a loss of generation or a transmission line — or when real-time demand is higher than forecast. Contingency reserves make up a subsection of this category, and ensure reliability under normal and abnormal system conditions.

In addition to having sufficient resources to meet real-time electricity demand, the ISO is required to meet minimum contingency reserve requirements[1].

The North American Electric Reliability Corporation requires all balancing authorities maintain a minimum amount of contingency reserve at all times, with one limited exception during the period after a balancing authority uses its contingency reserves[2].

The minimum required contingency reserve is generally 6% of load. Two types of generating resources — spinning and non-spinning — can be used to meet this 6% contingency reserve requirement and maintain system balance.

- Spinning reserves is electricity generation that is already operating and can quickly provide energy in case of an unexpected loss of supply on the system.
- Non-spinning reserves are resources, including demand response, which are not running at the time of the shortfall but are available to respond within 10 minutes of being dispatched.

The contingency reserves must be available to address the unexpected failure of a system component, such as a generator or transmission line, to protect the reliability of the Western Interconnection.

[1] http://www.nerc.com/pa/Stand/Reliability%20Standards/BAL-002-WECC-3.pdf
[2] After dispatching contingency reserves, the ISO has 60 minutes to restore the contingency reserves to the minimum levels