WECC

Resource Adequacy Glossary

WECC Staff

January 2026

Western Assessment of Resource Adequacy Definitions	
Annual Demand	Total net energy for load for an entire year.
Balancing Authority (BA)	The responsible entity that integrates resource plans, maintains demand and resource balance, and supports interconnection frequency in real time. [1]
Bulk Power System (BPS)	All the facilities and control systems necessary for operating an interconnected electric energy transmission network; and the electric energy from generation facilities needed to maintain transmission system reliability. The BPS does not include facilities used in the local distribution of electric energy. [1]
Capacity	The full-load, continuous energy output of a generator or generators under specific conditions (such as summer or winter) or as designated by the manufacturer (nameplate). The term capacity in the Western Assessment refers to nameplate capacity unless specified otherwise.
Convolution	The analytical method for computing resource adequacy. This method involves the development of a model that describes the expected system load with uncertainty representation to capture the variation of demand associated with weather and/or economic forecasts. The method also calls for the development of a capacity model that describes the random behavior of thermal resources' outages and the energy generation of variable energy resources. The method then uses probabilistic mathematics to compute reliability indices associated with the combination of the load and capacity models. [2]
Data Center	A physical room, building, or facility that houses information technology (IT) infrastructure for building, running, and delivering applications and services. [3]
Expected Energy	The anticipated average energy output that is available to be provided by resources. Similar to the concept of "expected value" in statistics.
Expected Unserved Energy (EUE)	The summation of the projected number of megawatt hours of demand that will not be served in a given time period as a result of demand exceeding achievable energy output. [2]
Interconnection	A geographic area in which the operation of bulk power system components is synchronized such that the failure of one or more of such components may adversely affect the ability of the operators of other components within the system to maintain reliable operation of the facilities within their control. [1]

Interconnection Queue	Prior to construction, projects looking to connect to the grid are analyzed through impact studies. Projects waiting to undergo these studies form what is known as the “interconnection queue.” [4]
Inverter Based Resources (IBR)	A facility consisting of individual devices that are capable of exporting real power through a power electronic interface(s) such as an inverter or converter, and that are operated together as a single resource at a common point of interconnection to the electric system. Examples include solar photovoltaic (PV) facilities, wind facilities, battery energy storage systems (BESS), and fuel cell devices. [1]
Large Load	Any commercial or industrial individual load facility or aggregation of load facilities at a single site behind one or more point(s) of interconnection that can pose reliability risks to the bulk power system due to its demand, operational characteristics, or other factors. Examples include, but are not limited to, data centers, cryptocurrency mining facilities, hydrogen electrolyzers, manufacturing facilities, and arc furnaces. [3]
Load-Serving Area (or Entity)	An entity that secures energy and transmission service to serve electrical demand and energy requirements of its end-use customers. [1]
Loss of Load Event (LOLEv)	The number of events in which system load is not served for a given time period. [2]
Loss of Load Hour (LOLH)	The expected number of hours per time period when a system’s hourly demand is projected to exceed generating capacity. [2]
Loss of Load Probability (LOLP)	The probability of hourly demand exceeding the available generating capacity during a given period. [2]
Monte-Carlo Simulation	Monte Carlo simulates the actual process and random behavior of a system—treated as a series of experiments. Monte Carlo simulation approaches can be categorized as "non-sequential" and "sequential." A non-sequential simulation process does not move through time chronologically or sequentially, but rather takes only the snap shot of the system state at various time. Non-sequential Monte Carlo simulation is also called state sampling approach. A sequential Monte Carlo simulation steps through the model year chronologically, recognizing the fact that the status of a piece of equipment is not independent of its status in adjacent hours; it tries to simulate the failure and repair history of system components based on their probability distributions of their state residence time. Equipment forced

	outages are modeled by taking the equipment out of service for contiguous hours, with the length of the outage period being determined from the equipment's mean-time-to-repair statistics. [2]
Markov Chain	A Markov Chain describes a system whose state changes over time. The changes are not completely predictable but rather are governed by probability distributions. [5]
Net Energy for Load	Net balancing authority generation, plus energy received from other balancing authorities, less energy delivered to balancing authorities through interchange. It includes losses but excludes energy required for storage at energy storage facilities. [1]
One-Day-in-Ten-Years (ODITY) Threshold	A planning threshold where the loss of load probability is not to exceed 2.4 hours in a given year. [6]
Peak Demand	The highest hourly integrated demand within a given period of time. [1]
Planning Reserve Margin (PRM)	The amount of capacity expressed as a percentage above the expected load that a system must carry to meet a reliability requirement or threshold. [7]
Resource Adequacy	The ability of supply-side and demand-side resources to meet the aggregate electrical demand (including losses). [1]
Tier 1 Resource	Resources that are under construction and expected to be complete and available for the year being studied.
Tier 2 Resource	Resources that are under contract but have yet to begin construction. These resources may be operational by the year being studied.
Tier 3 Resource	Generic placeholder resources that have less certainty in their unit characteristics. These projects do not have signed agreements nor are they undergoing construction.
Variable Energy Resources (VER)	A facility that harnesses an energy source that is (1) renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator. [8]

References

[1] North American Electric Reliability Corporation (NERC), "Glossary of Terms Used in NERC Reliability Standards," 1 October 2025. [Online]. Available:

https://www.nerc.com/globalassets/standards/reliability-standards/glossary_of_terms.pdf. [Accessed 8 January 2026].

[2] North American Electric Reliability Corporation (NERC), "Probabilistic Adequacy and Measures," July 2018. [Online]. Available: https://www.nerc.com/globalassets/who-we-are/standing-committees/rstc/pawg/probabilistic_adequacy_and_measures_report.pdf. [Accessed 8 January 2026].

[3] North American Electric Reliability Corporation (NERC), "Characteristics and Risks of Emerging Large Loads," July 2025. [Online]. Available: https://www.nerc.com/globalassets/who-we-are/standing-committees/rstc/3_doc_white-paper-characteristics-and-risks-of-emerging-large-loads.pdf. [Accessed 8 January 2026].

[4] National Conference of State Legislatures, "Electric Transmission Interconnection Queues," 7 January 2025. [Online]. Available: https://www.ncsl.org/energy/electric-transmission-interconnection-queues. [Accessed 8 January 2026].

[5] J. Chang, "Markov Chains," 2 February 2007. [Online]. Available: http://www.stat.yale.edu/~pollard/Courses/251.spring2013/Handouts/Chang-MarkovChains.pdf. [Accessed 8 January 2026].

[6] Western Electricity Coordinating Council (WECC), "ODITY Threshold Interpretations," 25 October 2022. [Online]. Available: https://www.wecc.org/sites/default/files/documents/program/2024/WECC%20One-day-in-ten-year%20metric%20explanation.pdf. [Accessed 8 January 2026].

[7] Northwest Power and Conservation Council, "Operating and Planning Reserves," [Online]. Available: https://www.nwcouncil.org/sites/default/files/7thplanfinal_chap10_opplanningreserves_1.pdf. [Accessed 8 January 2026].

[8] Southwest Power Pool (SPP), "Glossary," [Online]. Available: https://spp.org/glossary/. [Accessed 8 January 2026].