

Glossary

Please note that *bold italicized text* refer to terms that are defined elsewhere in the Glossary.

Demand - Demand is the amount of electricity being used at any given moment by a single customer, or by a group of customers. The *total* demand on a given system is the sum of all of the individual demands on that system occurring at the same moment. The *peak* demand is the highest demand occurring within a given span of time, usually a season or a year. The peak demand that a *transmission* or *distribution* system must carry sets the minimum requirement for its capacity

Distribution - Distribution lines and distribution *substations* operate at lower *voltage* than the *transmission* systems that feed them. They carry electricity from the transmission system to local customers. When compared to transmission, distribution lines use shorter poles, have shorter wire spans between poles and are usually found alongside streets and roads, or buried beneath them. A typical distribution *voltage* would be 13.8-kV.

Easement – A right to use another’s land for a specific purpose, such as to cross the land with transmission lines.

DSM (Demand-side Management) - Demand-side management, is intended to defer investments in generation or transmission facilities by curbing electrical *demand* growth. Energy conservation is one kind of DSM.

Generation or Generator - A mechanical generator is a device that converts mechanical *power* from an engine, a water wheel, a windmill, or other source, into electrical power.

kWh (kilowatt-hour) – A kilowatt hour is one thousand watt-hours. A watt-hour is a measure of the amount of electric energy generated or consumed in a given period of time.

kV (kilovolt) - A kilovolt is one thousand volts. Volts and kilovolts are measures of *voltage*.

MW (Megawatt) - A megawatt is one million watts. Watts and megawatts are measures of power. To put this in perspective, the peak power demand for the New England region is approaching 30,000 MW or 30,000,000,000 (thirty billion) watts.

Power - Power is the same thing as *demand*.

Renewable power source - A renewable power source is any power source that does not rely on a *finite* fuel resource to keep it running, such as coal, oil, or natural gas, which will eventually run out. Renewable power sources include solar, wind and hydro generators, because sunlight, wind and running water will not run out. Generators that burn replaceable fuels also qualify as renewable power sources. Examples include bio-diesel generators that run on crop-derived fuels and wood-burning generators.

ROW (Right of way) - A right of way is the long strip of property on which a *transmission* line is built. It may be owned by the utility or it may be an *easement*.

Substation - A substation is a fenced-in area where several *transmission* and/or *distribution* lines come together and are connected by various other equipment for purposes of switching, metering, or adjusting *voltage* by using *transformers*.

Transformer – A transformer is a device that adjusts high-*voltage* to a lower voltage. Different voltages are used because higher voltages are better for *moving* power over a long distance, but lower voltages are better for *using* electricity in machinery and appliances. Transformers are commonly described by the two (or more) voltages that they connect, such as “115/13.8-kV,” signifying a connection between 115-kV and 13.8-kV equipment or lines.

Transmission - Transmission lines and transmission *substations* operate at high *voltage* and carry large amounts of electricity from centralized *generation* plants to lower voltage *distribution* lines and substations that supply local areas. Transmission lines use poles or structures, have long wire spans between poles and usually traverse fairly straight paths across large distances. Typical transmission *voltages* include 345-kV, 115-kV and 69-kV.

Voltage - Voltage is much like water pressure in a system of pipes. If the pressure is too low, the pipes cannot carry enough water to satisfy the needs of those connected to them. If the voltage is too low, the electric system cannot carry enough electricity to satisfy the needs of those connected to it.