



Think of transmission lines as an “interstate highway system” for electricity. They are a vital link used to deliver electricity over long distances from power sources to transmission substations closer to homes and businesses. There are about 249,000 miles of overhead transmission lines 200 kilovolt (kV) or higher in the United States and Canada, according to the North American Electric Reliability Corporation (NERC). Primarily because of cost, less than 2 percent is underground. The lines interconnect more than 1,000,000 megawatts (MW) of generating capacity nationwide.

A strong transmission system guarantees reliable electricity. Utilities connect their transmission systems to neighboring systems run by other utilities. These interconnected systems form regional grids that allow power to flow from one area to another, ensuring reliable and efficient electric delivery to customers, even during emergencies.

The flow of electricity cannot be easily controlled, and it cannot discriminate between generation sources. Instead, power follows the path of least resistance and carries power derived from diverse resources, such as wind, coal, natural gas or solar.

Electricity also cannot be stored; it has to be generated, transmitted and distributed the moment you turn on your computer or any other appliance. Traveling at almost the speed of light – 186,000 miles a second – electricity arrives where it’s demanded at almost the same time it’s produced.

Regional transmission organizations (RTOs) ensure reliable power supplies, adequate transmission infrastructure and competitive wholesale electricity prices. The Midcontinent Independent Transmission System Operator (Midcontinent ISO) supports the reliable delivery of electricity in 15 states and the Canadian province of Manitoba, while Southwest Power Pool (SPP) does so in nine southern states, including New Mexico and Texas. In Colorado, the Colorado Public Utilities Commission (CPUC) regulates utilities to ensure reliable electricity delivery. In the United States there are more than 200 investor-owned utilities, 1,800 municipal utilities, 900 cooperatives and 37 federal utilities.



About Xcel Energy transmission

Xcel Energy is one of the fastest growing investor-owned transmission systems with more than 20,000 miles of transmission lines and more than 1,200 substations across 10 states. Major control centers are in Minneapolis, Minnesota; Eau Claire, Wisconsin; Golden, Colorado; and Amarillo, Texas.

Xcel Energy operates its transmission system on a non-discriminatory basis under federal government open access requirements, which means wholesale buyers and sellers of electricity can use Xcel Energy’s transmission system under the same terms and conditions used to serve Xcel Energy’s retail customers.

ABOUT TRANSMISSION

Northern States Power Minnesota (North and South Dakota)

NSP Minnesota provides electricity and natural gas to customers in three Upper Midwest states. The company, a wholly-owned subsidiary of Xcel Energy, operates an integrated generation and transmission system with NSP Wisconsin.

- 5,740 miles of transmission

Northern States Power Wisconsin (Michigan)

NSP Wisconsin provides electricity and natural gas to customers in two Upper Midwest states. The company, a wholly-owned subsidiary of Xcel Energy, operates an integrated generation and transmission system with NSP Minnesota.

- 2,679 miles of transmission

Public Service Company of Colorado (PSCo)

PSCo provides electricity and natural gas to customers in Colorado. The service area of PSCo, a subsidiary of Xcel Energy, covers more than 8,200 square miles.

- 4,795 miles of transmission

Southwestern Public Service Company (SPS)

The service area of SPS, a subsidiary of Xcel Energy, covers more than 52,000 square miles, including most of the Texas Panhandle, the Texas South Plains region, and eastern and southeastern New Mexico. SPS's transmission system is located in four states – Texas, New Mexico, Oklahoma and Kansas.

- 7,750 miles of transmission

Federal oversight

Electric utilities are regulated at the federal level by the Federal Energy Regulatory Commission (FERC) and the North American Electric Reliability Corporation (NERC). FERC was created in 1977 to regulate, among other things, interstate wholesale electricity sales and transportation of gas and electricity at “just and reasonable” rates. NERC was formed in 1968 to promote the reliability of generation and transmission in the electric utility industry.

