

# Environmental Impact Statement

Appalachian National Scenic Trail  
Delaware Water Gap National Recreation Area  
Middle Delaware National Scenic and Recreational River

National Park Service  
U.S. Department of the Interior



U.S. Army Corps of Engineers  
Philadelphia District



## Powering the Grid

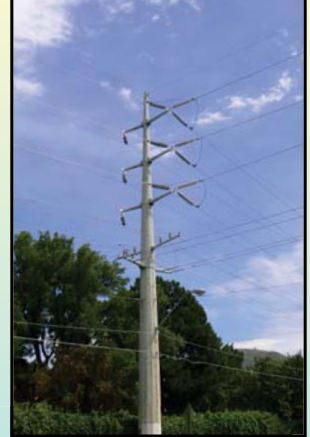
### Structure

- Typical 500kV (500,000 volts) structure height is 160 – 200 feet single poles or lattice towers.
- Most 500kV towers are made of galvanized steel to support large loads (wind, ice, and conductors).
- Transmission conductors carry current from generator (source) to load (substation), where it is reduced to usable power and placed on distribution lines as energy for end users.
- Conductors are typically made of aluminum, steel, and copper.
- Other structures help carry the conductor in angles and straight lines (tangent) to minimize costs and impacts.
- Larger wires can carry larger capacity but require much larger structures.

### Reliability

- Reliability standards are federally mandated by the North American Electric Reliability Corporation (NERC).
- Utilities must report periodically to NERC to ensure standards are implemented and maintained.
- The regional “main grid” transmission system must be able to survive the single worst condition.

Transmission line along a street



### Transmission Lines

A 500kV line carries 1,000 to 1,500 Megawatts, enough to power about 1-1.5 million homes.

Higher voltage is more efficient for long distance bulk energy transmission.

