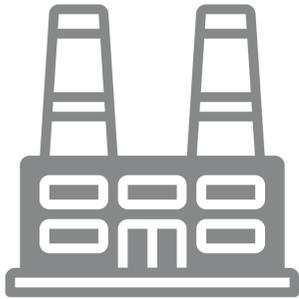


# HOW THE SYSTEM WORKS



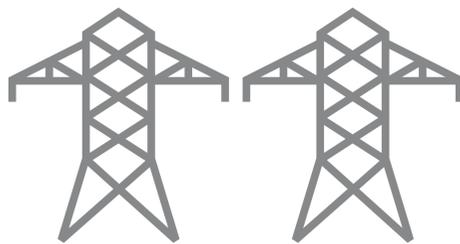
An AEP Company

BOUNDLESS ENERGY™



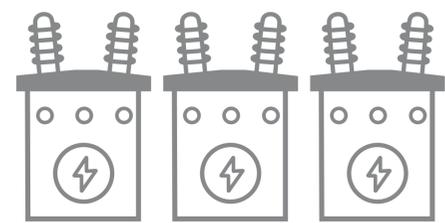
## 1) GENERATION STATIONS

Utilities produce electricity at coal, natural gas, nuclear, wind and hydroelectric power stations and then transport it long distances over transmission lines.



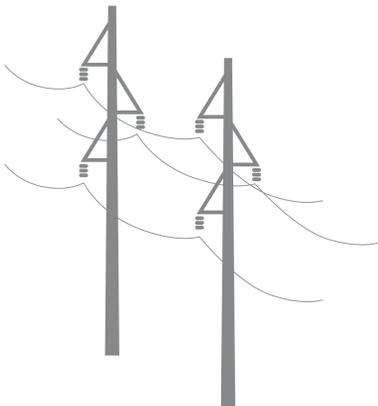
## 2) EHV TRANSMISSION

Extra-high Voltage electric transmission lines are generally 765 kilovolt (kV), 500 kV, and 345 kV on AEP Ohio's system.



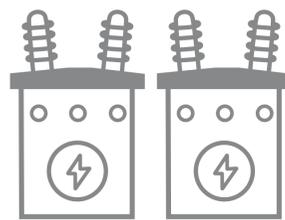
## 3) SUBSTATIONS

Substations direct the flow of electricity and either decrease or increase voltage levels for transport.



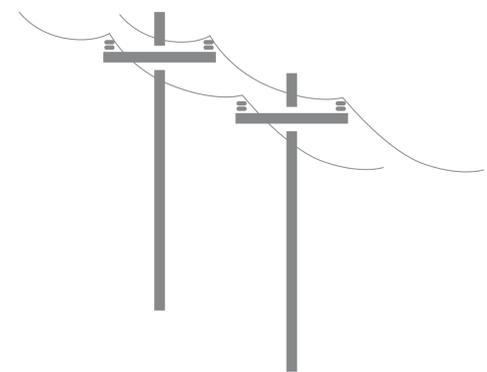
## 4) LOCAL TRANSMISSION

AEP Ohio typically uses 69 kV and 138 kV transmission lines to move power shorter distances - for example, to different parts of a city or county.



## 5) SUBSTATION

Substations transform 69 kV and 138 kV electricity into lower distribution level voltages such as 34.5 kV, 12 kV, or 7.2 kV.



## 6) PRIMARY DISTRIBUTION

These main lines (also called circuits) connect substations to large parts of the community.



## 7) LATERAL DISTRIBUTION

These smaller capacity lines deliver electricity to neighborhoods and other smaller groups of customers.



## 8) INDIVIDUAL SERVICE

Smaller transformers step down voltage to levels customers can use. Individual residences typically use 120/240 volts.

**TO USE AN ANALOGY, ELECTRIC TRANSMISSION IS SIMILAR TO OUR NATIONAL ROAD SYSTEM. THREE KINDS OF POWER LINES EXIST BETWEEN POWER PLANTS AND HOMES AND BUSINESSES:**

- Extra-high Voltage lines are like electrical interstate highways.
- High-voltage local transmission lines are like four-lane roads.
- Distribution lines are like two-lane roads that eventually connect to your driveway.