Apprenticeship
Second Year

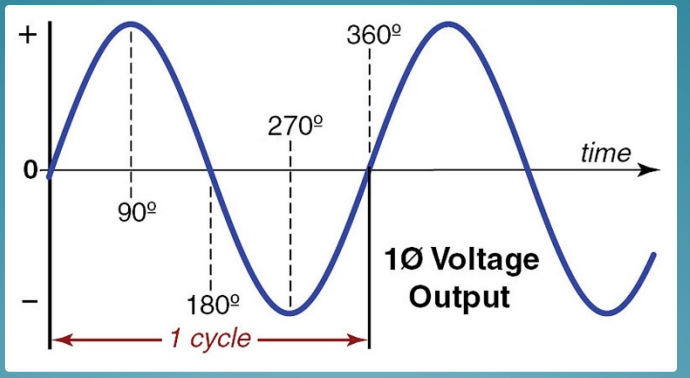
Lesson 219 – Power Generation – Three-Phase Transformers, Circuits, and Calculations

Objectives

- 219.1 Recognize delta and wye voltage systems and be able to utilize 3-phase formulas to calculate values for various circuits.
- 219.2 Understand how to determine the rating of a three-phase bank of transformers, be able to determine supply voltage requirements and perform calculations.
- 219.3 Recognize methods and components utilized in the transmission and distribution of power from various types of power plants.

219.1: Power Generation and Calculations

- A single-phase (1Ø) generator consists of a coil of wire (or winding) attached to the inside of a cylinder. This "winding" doesn't rotate and is called the *stator* – meaning stationary.
- The two ends of the stator winding are extended (or brought out) and connected to the output terminals.
- There is also a set of magnets mounted on a shaft that runs through the middle of the stator winding. This shaft is called the *rotor* – because it rotates.



…Continued on next slide