



CEMCA

Double Pole Erection



Learning Objective

By the end this session, you will be able to:

- Describe the process of double pole structure erection



Questions & Answers

- What is meant by a transformer?
- What is meant by double pole (DP)?
- What is the use of a double pole structure?



Debrief



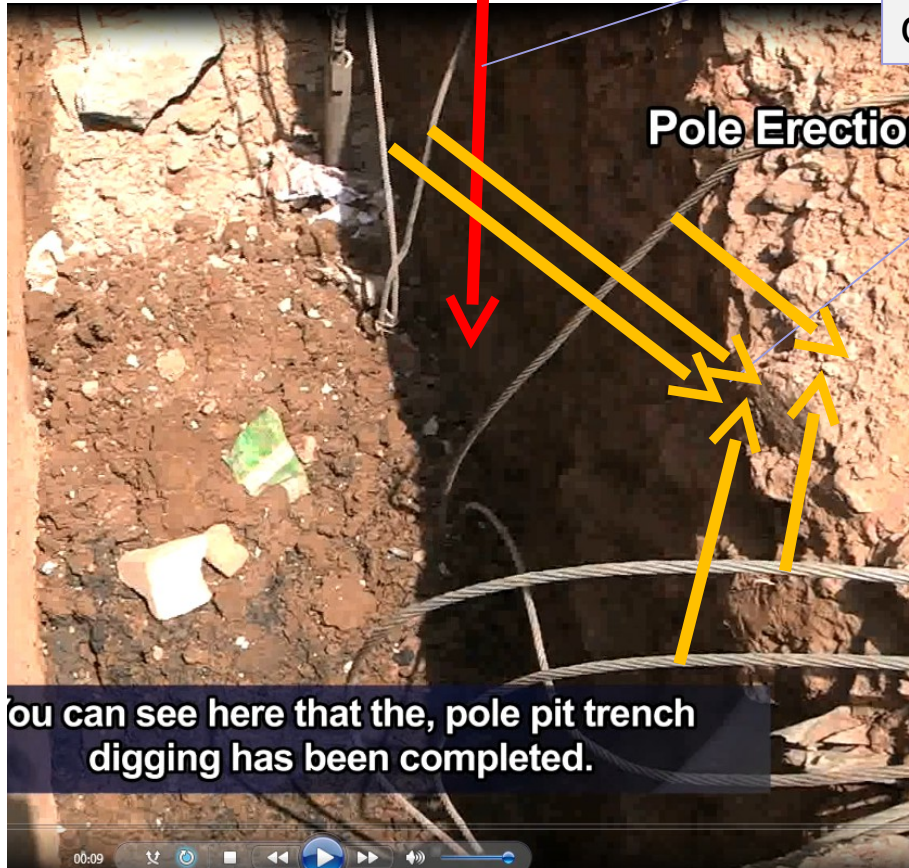
Transformer: Electrical equipment, which either reduces or increases the voltage of an alternating current



Double Pole (DP) structure:

- Ensures that the transformer is firmly fixed
- Ensures public safety

Arranging the Setup



The pole pit trench is dug.

GI wire for is passed through five earthing pipes for earthing connections. These pipes are fixed.



The poles are then transported, unloaded and are kept ready for erection.

Arranging the Setup



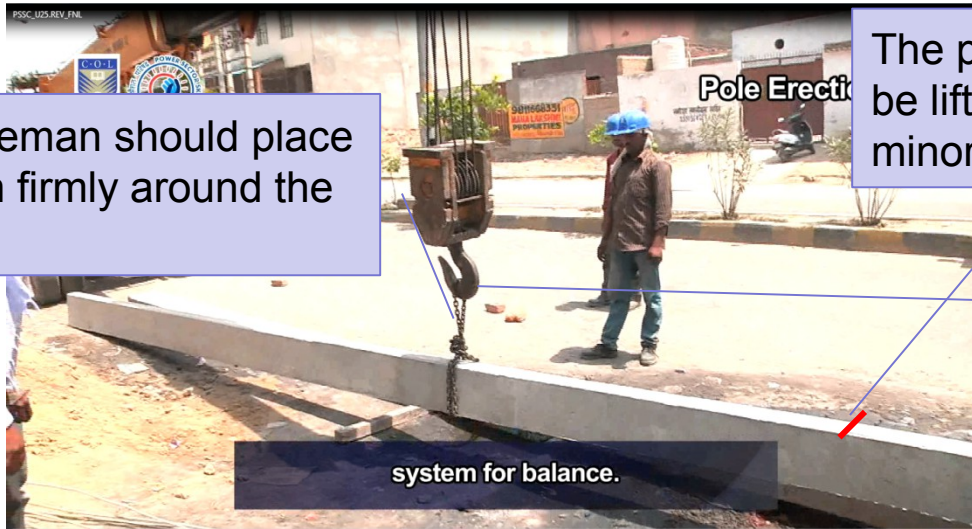
11m-long PCC poles are carried with the help of a crane for HT installation.



- It is not necessary that all poles be erected by cranes
- Poles can also be erected manually
- The method used depends on:
 - Site
 - Availability of resources

Placing Pole in the Pit

- The distance between the two poles should be 2200mm
- Lift the pole carefully for erection



The lineman should place a chain firmly around the pole.

The pole should be lifted from its minor axis.

The pole is hooked to the crane to be lifted up.



Placing Pole in the Pit



adopted for the pole.

The lineman must tighten the knot of the rope to anchor the pole.

The pole is hooked straight and placed vertically.

The assistant linemen anchor the pole on both the sides.



Now you can see that the pole is hooked straight and placed

Placing Pole in the Pit

- The operator must move the crane very slowly and diligently
- The pole may have to be slightly tilted to avoid contact with the overhead lines



- The pole is placed inside the pit onto the cemented base plate
- The other poles should also be erected for completing the DP structure

Checking Alignment of the Pole



- The pole is twisted so that it is placed exactly over the base plate
- Alignment should be checked regularly
- Assistant linemen should keep turning the pole to ensure correct placement

Refilling the Pit

- Pit is refilled with soil
- Hook used for mounting the pole can be removed
- Crane is used to pick up the next pole
- A soil tamper is used while filling soil



A soil tamper is used to ensure that the soil is tight around the pole.

Checking and Correcting the Clearance



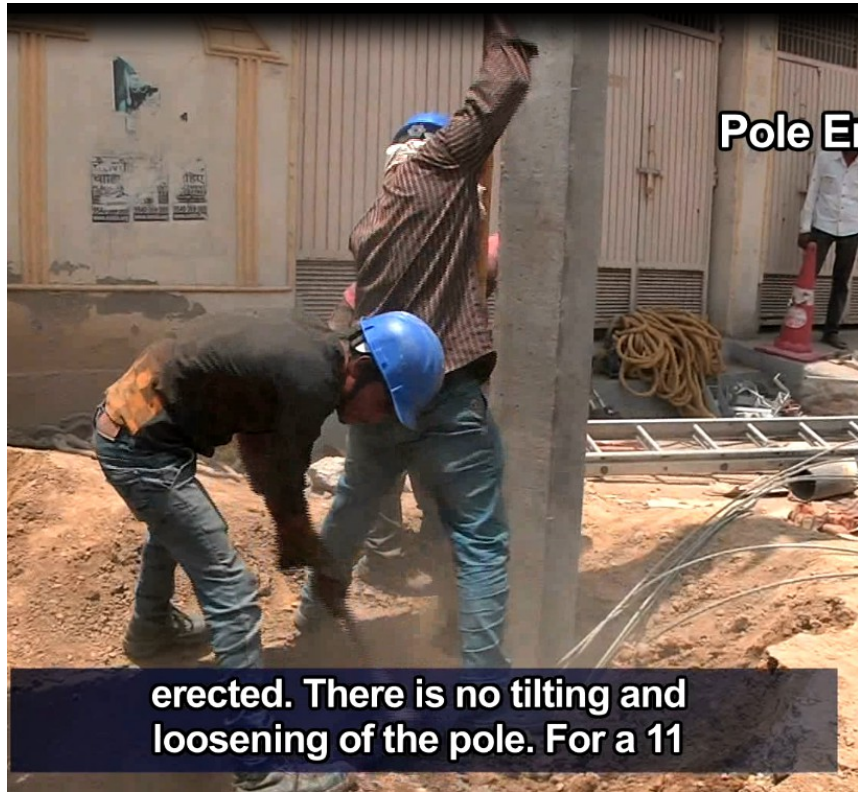
- Care should be taken that the clearance between the two poles be **2200 mm**
- Distance should be measured by using a **measuring tape**
- If there is any difference in the clearance, the pole must be lifted and placed correctly

Checking and Correcting Vertical Alignment



- MS channel is placed from the surface of one pole to the surface of the next pole
- The lineman should check the alignment
- If there is a difference, the alignment should be corrected

Completing the Refilling Exercise



- The pit is refilled by using alternate layers of soft and hard soil
- These layers are tightened by the soil tamper
- Ensure that the poles are firmly embedded in the ground



Tips for Pole Erection



Ensure that 1/6th of the pole is inside the pit.



Ensure:

- Refilling is completely done
- Followed by dressing exercise
- **First layer:** Soft soil
- **Second layer:** Hard soil
- **Third layer:** Brick lining



Tips for Pole Erection



- Complete dressing should be done
- Ground should be levelled
- Entire area should be cleaned

Key Learning Outcomes

- The pole should be lifted carefully with the help of a crane and placed in the pit
- 11m-long PCC poles are carried with the help of a crane for HT installation
- Erect the pole in the pit made for pole erection and align
- The distance between the two poles should be 2200mm
- A soil tamper is used to ensure that the soil is tight around the pole
- Distance should be measured by using a measuring tape
- MS channel is placed from the surface of one pole to the surface of the next pole
- Ensure that $1/6^{\text{th}}$ of the pole is inside the pit

