

Installation Methods – Guy Anchors

Distribution Company Awareness

ESA has witnessed some issues regarding the installation methods with respect to guy anchors. This Bulletin addresses what some of these installation practices and reviews some proper installation practices.

Regulation 22/04 Excerpt

Section 4(2) of Regulation 22/04 states:

All distribution systems and the electrical installations and electrical equipment forming part of such systems shall be designed, constructed, installed, protected, used, maintained, repaired, extended, connected and disconnected so as to reduce the probability of exposure to electrical safety hazards. O. Reg. 22/04, s. 4 (2).



Anchoring – Power-Installed Screw Anchor (PISA)

PISA anchors are at times not installed as per approved standards. PISA anchors are to be installed in proper alignment and with appropriate down pressure.

Alignment: Some manufacturer's instructions explicitly state that the anchor shaft must be aligned with the guy load to prevent premature failure of the rod. The rod and guy strand should not join at an angle of departure exceeding $\pm 5^\circ$ on PISA anchors.

Down Pressure and Speed: In some circumstances the anchor will not be advancing downwards as it is turned, resulting in churning of the soil and not achieving sufficient torque readings. In the event the soil is being churned the anchor is expected to have a reduced holding capacity.

Anchoring – Plate Anchor

Plate anchors are at times not installed as per approved standards. The hole for the plate anchor is sometimes drilled on the same angle and is in alignment with the guy wire. This type of installation has the plate pushing against backfilled soil and the anchor is expected to have a reduced holding capacity. Typically the direction for installing plate anchors includes creating a hole in a vertical plane with a key hole created for the angle of the anchor rod. This installation has the plate pushing against native soil and the anchor is expected to have the documented holding capacity.

ESA Recommends

ESA recommends that LDCs review current installation practices with their staff.