

## Installation Methods – Sags and Tension Overhead Conductor

### Distribution Company Awareness

ESA has witnessed some issues regarding the installation methods and not following plans with respect to installation of overhead lines. This Bulletin addresses some of these installations and reviews some proper installation practices and provides some rationale.

### 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).*

### Overhead Lines – Sags and Tensions

Sag and tension tables are included in LDC standards in order to provide information on how to install overhead lines to ensure these lines are installed in a manner which ensures all clearances and strength limitations of the infrastructure are not exceeded. LDCs often attempt to maximize the use of space available on their poles, and that is when following the sags and tension tables becomes very important. By using the sags and tension tables correctly, infrastructure will be installed such that all conductors remain within the expected zones. When conductors are installed within their expected zones there is a reduction of make-ready work for future installations such as for communications attachments.

### ESA Recommends

ESA recommends that LDCs continue to reinforce with field staff use of the sags and tension tables when stringing lines, and ensuring slack spans are installed when recorded on the work instruction or plan. Reinforcement with 3rd Party Attachers can be particularly important as they are often the lowest attachment on the pole and if communication lines are not installed to the design tensions they can expose the pole line to the greatest risk of contact with vehicles.

Recording of ambient temperature during stringing is also recommended.