



## **DLTCAD 2014 USER'S INTERFACE**

It is very friendly and versatile, with graphical icons for each option. This allows users to run any of the options using only the mouse in the graphical environment. Among the options presented by the user interface is the following:

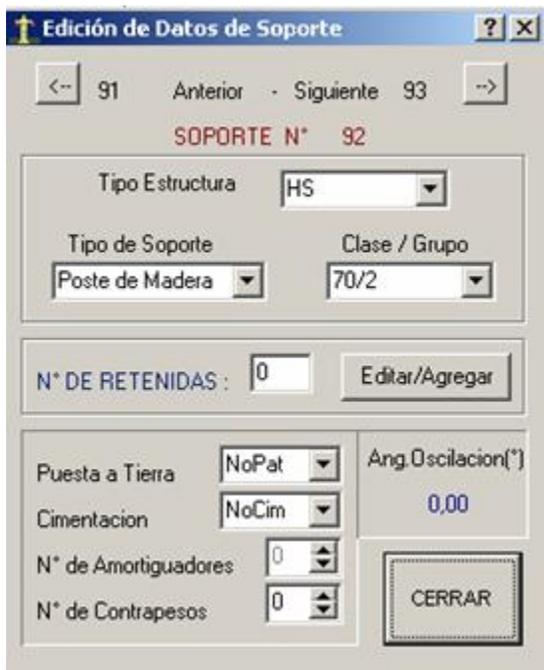


Editing topographic profile:

Once the data for the topographic profile is loaded in the software, it can be manually edited by the user. The software also allows users to manually add new topographic points using the keyboard or graphically using the mouse.

Automatic distribution of transmission line supports:

The software performs this option by taking into account the minimum clearances between conductors to ground, and the maximum allowed distance between overhead conductors.



Editing of transmission line components:

This option allows changing the types of transmission line structures and the types of supports. It also adds or removes guys and assigns a type of grounding. These changes can be made by hand, one by one, or automatically.

Editing of catenary:

The software allows singling out the treatment of especial spans like the case of loose spans. It is possible to vary the initial EDS, also to manually or automatically change the type of conductor for especial spans used in the whole project.

Using mouse movements, the software allows displacement, addition and edition of overhead transmission line structures. It also facilitates the relocation of supports according to certain considerations, such as: minimum distances to terrain, as well as to the nearest topographical point, or to a required distance from the actual location of the lateral structures.

Presentation of overhead transmission line design results in real time.

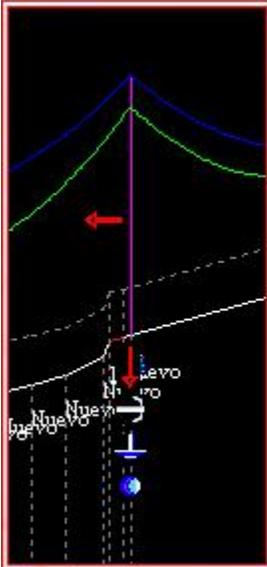
Each time an action is executed, the values of the following parameters are recalculated: catenaries, safety clearances, conductor's sag, stress, strain, and others. Then, placing the mouse near any of the transmission line elements, the new calculated values are displayed on a small window on the screen. As an example, placing the mouse on a catenary, the new values displayed are: catenary value, conductor weight, wind velocity, sag, horizontal tension, and others. Something similar happens by placing the mouse near a transmission line support.

Image Amplification.

The software can present on the computer screen a picture of the entire overhead transmission line (full Zoom), or a picture of a section or sections of it (Zoom in installments). Linear amplification and compression of the picture is done with the mouse. Zoom independent scales can operate in both the X and Z axis. This facilitates the user visualization according to the user's needs for seeing either the entire transmission line or specific sections of it.

Graphic Alarms.

They are widely used to identify design errors. There are different types of alarms for each different type of error, and they are visual aids to help the user in error identification and correction.



Some of the important types of errors that are signaled with graphic alarms are the following:

- Catenary below the minimum safe clearance.
- Horizontal tension exceeds the conductors' safety factor.
- Distance between conductors below the specified limit.
- Negative weight of conductor in a span.
- Oscillation of chain of insulator exceeds the specified limit.

Additional graphic indicators that help the user's design effort are the following:

- Do not move: Meaning not allowed moving a support from its current location.
- It has grounding: Meaning a support is grounded.
- Section not allowed to located supports.
- Type of support: It provides a different color for anchoring structures and for angle alignment.

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