

About Transmission & Distribution Measurement Solutions

sag pro•file (sag prō fil) *n.* Modeling a conductor to determine dimensional values for span, sag and tension.

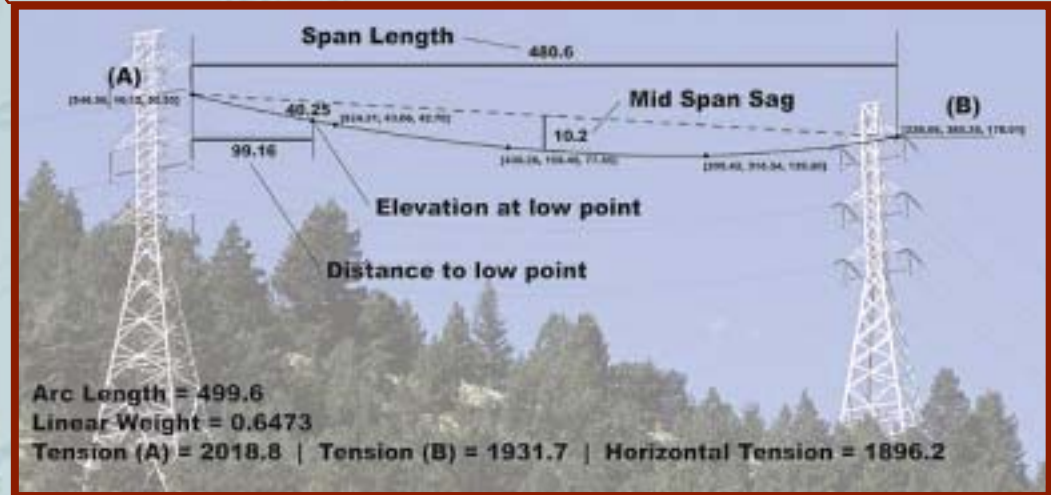
veg•e•ta•tion man•age•ment (vej i tā sh n man ij mōnt) *v.* The act of monitoring all vegetation growth along transmission or distribution lines so that safe clearances can be maintained.

AM / FM (ā em ef em) *v.* Automated Mapping and Facilities Management – automated cartography or geographic information systems for storing, manipulating, and mapping facility information.

There's nothing like the power of reflectorless distance measurement! Now, with one person standing in a safe location, you can get all those distance, height and clearance values you need every day to make critical decisions. Just point at your target and shoot – it's that easy. Solutions for Horizontal Distance, Vertical Distance, Height and Missing Line (distance between two remote points) can all be measured, calculated and displayed right on LTI instruments. You can also use the LTI T&D Pro for Pocket PC software to perform more complicated measurements and electronically store necessary data.

Sag Profile

Collecting measurements of an existing power line can help determine upgrade capacity and power efficiency. Critical measurements are also needed for accurate tensioning of newly constructed lines.

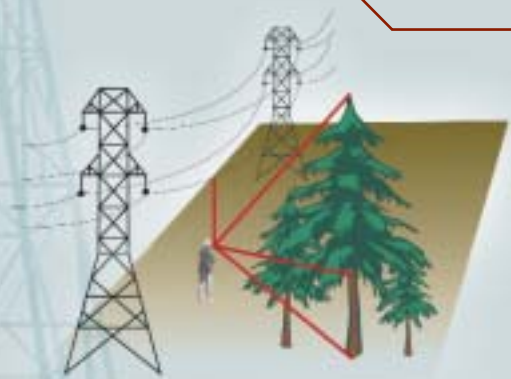


Traditional survey methods are commonly used to collect these measurements; yet the field procedures can be inaccurate, inefficient and even hazardous. For example, since reflectors cannot be placed directly on the wire, its location can only be estimated. Physically climbing a tower, placing equipment on a conductor or extending a height stick to a wire can all be safety concerns.

Utilize LTI long-range reflectorless technology to measure directly to the conductors and safely gather more accurate data at a fraction of the cost. Once the data has been collected with an LTI MapStar System and T&D Pro software, the values for span, sag and tension can be calculated instantly.

Vegetation Management

According to the final report issued by the U.S.-Canada Power System Outage Task Force, one of the main causes of the August 2003 blackout was the failure to adequately manage tree growth within a transmission line's right-of-way. The report also suggests that "fly-overs do not allow effective identification of the distance between a tree and the line above it, and needs to be supplemented with ground patrols."



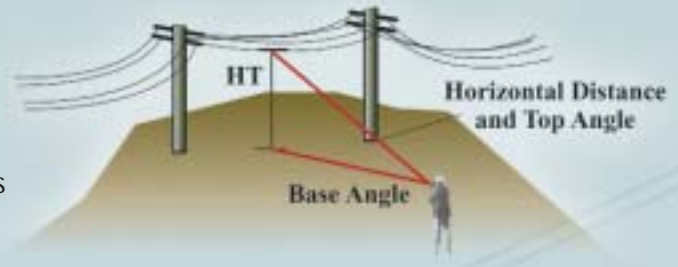
Improve your vegetation management practice by following some simple step-by-step routines. For danger trees along side a right-of-way, position yourself either under the conductor or at the tree in question. After measuring the tree height, take a measurement to the conductor and the T&D Pro software will display the clearance value.

For clearance checks on any type of obstruction, from any vantage point, simply shoot at the object in question and then the wire. This procedure will instantly provide you with the distance between the two measurement points. It only takes one person with LTI equipment to determine conductor clearance, and it can be done quickly, safely and accurately.

Attachment / Conductor Heights



Increased voltage, ever-changing temperatures and wind conditions all contribute to a conductor's varying sag value. Safe clearance over roadways is just one of many areas that needs to be closely monitored. Verifying separation distances between services such as power, phone and cable are also critical to maintaining a quality system.



The benefit of being able to shoot directly to a conductor, or other features, can save you time and eliminate the use of fiberglass rods in dangerous areas. LTI T&D Pro software offers four versatile routines for determining a conductor's height above ground or some other point of reference. Making certain assumptions about the work area will help you determine which routine will work best. For example, if the ground below a conductor is obviously uneven, measuring the horizontal distance first is essential. Matching this up with a corresponding point on the ground will produce the correct result.

AM / FM

Creating a digital database of assets and facilities can assist in quality management planning and can be useful in sharing information with local industry. Global Positioning Systems (GPS) can be effective in locating and mapping certain features such as towers, poles, etc. Increase your productivity by integrating GPS with an LTI MapStar System and avoid having to occupy every point. Now you can remotely position features from one convenient location! This geo-referenced data can be imported directly into your existing Geographic Information Systems (GIS). Alternatively, if all you have are historical paper maps, you can effectively verify their quality and update them using LTI instruments alone.



Laser Technology's T&D Pro Software Solution



- Touch-screen activation in Pocket PC
- Step-by-step graphical aids written for non-surveyors
- Electronically record and store field data
- Calculate critical values right in the field
- Create text and or spreadsheet reports





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