



High Wire Act

California firm puts technology to work for them in power line maintenance applications



In the U.S. alone, it takes more than 200,000 miles of high voltage transmission lines (eight times the circumference of the Earth) and 5.5 million miles of local distribution lines (24 trips to the moon and back) to power our daily lives. Measuring and documenting the maintenance of that power grid are two of Surefire Consulting's key specialties. But, by embracing the use of robotic total stations, the company has streamlined that process, improved on-site safety and dramatically raised the accuracy of the product it presents its customers.

Company

Surefire Consulting, Temecula CA

Project

Measurement and documentation of high-voltage transmission lines

Topcon Products

Robotic total stations, field controllers

Topcon Dealer

Topo Element, Orange CA

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Total Control

Surefire Consulting is a minority-owned, fully-integrated construction management and technical service company with specialties in providing quality control and quality assurance (QA/QC) inspection for utilities throughout the state.

“Using total stations for asset measurement was something we’d done in previous work, but we upped that performance capability with Topcon robotic total stations, field controllers and the software to gather our data said Mark Ramos, one of Surefire’s principals.

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Right out of the gate, we were able to generate a product that showed contractors that we were far different from anyone else they might have worked with in the past.

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Mark Ramos, one of Surefire’s principals



Confidence Booster

Ramos said they’ve had several opportunities to compare equipment to prove the advantages the newer Topcon solutions bring and have not been disappointed.

“We were working alongside a crew that was using a different total station in a sagging operation,” said Ramos. “The contractor, apparently lacking confidence in them, asked us to double check their work. I immediately saw that they were having trouble catching the conductor to get the shot. We set up the IS-3 and were able to nail every shot — with far greater accuracy — every time. We presented our work to the customer who looked at our numbers and promptly told us to finish out the job.

“The Topcon system we use gives us a level of precision that’s just absolutely beyond compare.”

Disaster Response

While most of Surefire Consulting’s work remains unseen by the general public, occasionally a high-profile project comes about. In 2017, Surefire’s crew helped with construction of 22 new towers and the re-routing of 13,500 linear feet of line from the base of the Oroville Dam across the Feather River (several times) before rejoining existing lines.



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Surefire's work included placement of footings for the towers being constructed. Each tower consisted of footings set up in four separate quadrants. To ensure placement accuracy, the Surefire crew set up the Topcon total station, took a shot to a reference point and was able to tell with absolute precision, the distance to each of the four corners.

"The tolerances on these structures are extremely tight — anywhere from .1 to .05 — so you need an instrument that can give you that level of accuracy and precision each and every time. That's exactly what we bring. We were proud to have worked on a high-profile project like Oroville and know that we played a role in helping deal with an extremely serious situation. The solutions — and results — we bring to a project like that speak for themselves; the agencies we work for have learned that we can provide the goods."

