

## Remote Andes Mountains Ideal for AFL's SkyWrap® Solution

### Summary

AFL completed a complex and time-critical fibre optic installation project for a major power network situated in the Andes Mountains in central Peru. Given the remote location of the installation site and the pending winter months, AFL's SkyWrap fibre optic cable solution was the ideal alternative for a quick and reliable communications installation.

### Challenge

With operations in the mid and south of the country, EnerSur is the second largest power generation company in Peru. Following security concerns at a remote substation in the mountainous region of Cerro de Pasco, EnerSur identified a need to upgrade network communications links.

Installation of a fibre optic link was required for monitoring and controlling the power line infrastructure and remote substation. Because EnerSur's power line and substation are situated at very high altitudes and away from road access, costs and speed were important factors for EnerSur to complete the project before winter.

### Solution

After line surveys and project review, AFL found that the existing ground wire was less than 10 years old and in good condition making Optical Ground Wire (OPGW) an uneconomic option, while the long spans and climate conditions made ADSS unsuitable.

AFL identified that SkyWrap would provide the ideal solution for EnerSur. The SkyWrap system uses specialist equipment to helically wrap fibre optic cable onto existing ground or phase wires of overhead power lines. The equipment is lightweight and easily transported to the work site in one single off-road vehicle. Once installed, the SkyWrap cable does not affect the ice or wind loading of existing networks and modifications to towers are not necessary.

AFL supplied fibre optic cable and hardware, specialized installation equipment, engineers and training for the local crews in Peru. The SkyWrap tug's two-stroke engine was modified to cope with high altitudes in the Andes. When donkeys or mules could not be used on narrow mountain paths, local citizens were recruited to help move the equipment across the treacherous mountain terrain.

### Results

In just two weeks a total of 50 km of cable was installed at altitudes over 4500 meters above sea level, setting a new AFL record for the highest installation. The quick and efficient way of installing SkyWrap fibre optic cable provides power utilities with a solution to a number of communications and control needs, especially where other optical cable solutions are unsuitable.

