AFL CASE STUDY

OIL FIELD SOLUTION

CHALLENGE

To upgrade communications network to enable real time communication between a remote oil field and the oil field control office using existing medium voltage power line infrastructure.

SOLUTION

AccessWrap™ system deployment on existing 10 kV power cables using 24 optical fibre cable and accessories.

RESULTS

AccessWrap cable was installed using specially designed wrapping equipment and accessories. The 50 km fibre optic network was successfully commissioned and used for communications, SCADA, CCTV, Fire detection, electricity metering and control. The oil field has since seen more AccessWrap added to expand the fibre optic network to more areas of the oil field.

CHALLENGE

A large oil generation company based in Central Asia approached AFL with a request for fibre optic infrastructure deployment over their existing 10 kV medium voltage power line network.

The requirement was due to a lack of real time communication within the oil field itself and also between the oil field and control office located miles away from the main site.

The options of stringing ADSS or deploying duct cables were explored, however both were found to be inadequate. Installing ADSS would breach the ground clearance restrictions, add excessive loading to the infrastructure and would require the use of heavy installation equipment on site. Duct solutions were simply not viable as the terrain was difficult to dig, adding time and cost for underground fibre deployment, making it uneconomical.

SOLUTION

AccessWrap quickly became the obvious choice for this application due to the small, lightweight nature of the cable and installation equipment and the speed of fibre deployment available with this solution.

After surveying the route, AFL designed the installation for 50 km of 24 optical fibre AccessWrap cable to be wrapped around the existing medium voltage power cables using AFL's hand pulled wrapping machine and secured using specially designed hardware and accessories.

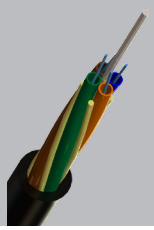
AFL provided project and installation management throughout the project and facilitated on-site training to local installation line crew.

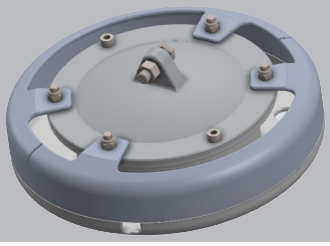
AccessWrap's light, highly manoeuvrable and efficient installation equipment meant that there was no need for any heavy plant equipment to enter the oil field and no need to strengthen existing towers. Ground clearances were maintained throughout avoiding any obstruction of the many access roads used by large site vehicles around the oil field.

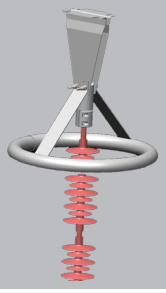
CASE STUDY OIL FIELD SOLUTION

SOLUTION DESIGNED AND INSTALLED BY AFL:

- AccessWrap™







This allowed a significantly reduced capital expenditure compared to the other cable solutions considered due to the fast deployment which minimized outage time. Operational expenditure was also minimised with very little ongoing maintenance costs.

The AccessWrap cable and accessories are designed for a service life of 30 years and to operate in extreme temperatures ranging from -40 to +85 °C making it a suitable long term solution for the conditions found within the oil field location.

RESULTS

The AccessWrap system installed is primarily used for the oil company's internal telecommunications, but also has the following applications: Supervisory Control and Data Acquisition (SCADA), Close Circuit TV (CCTV), fire detection, access control and electricity metering control.

The fibre count of 24 was sufficient for all necessary operations requested by the customer, with spare fibre capacity available for future use.

As a result of the installation success and reliable system operation over the first two years, the oil company has since invested further to grow the fibre network using AccessWrap as the go to solution.

Currently the total size of the AccessWrap network on this single oil field exceeds 80km.

ABOUT AFL

Founded in 1984, AFL is an international manufacturer providing end-to-end solutions to the energy, service provider, enterprise and industrial markets as well as several emerging markets. The company's products are in use in over 130 countries and include fibre optic cable and hardware, transmission and substation accessories, outside plant equipment, connectivity, test and inspection equipment, fusion splicers and training. AFL also offers a wide variety of services supporting data centre, enterprise, wireless and outside plant applications. For more information, visit www.AFLglobal.com.

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