Sureline®

Application Report

Customer: Integral Energy
Location: Avon Dam, NSW
Project: Pole replacement

Integral Energy takes to the air for steel pole installation

A single SURELINE® hot dipped galvanised steel pole supplied by BlueScope Steel has helped NSW utility, Integral Energy, ensure the security of electricity supply to a critical facility in a remote location.

In meeting Integral Energy's urgent requirement the 14 metre pole was trucked to a clearing in the Avon Dam catchment area south of Sydney then flown the final kilometre by helicopter to a rugged site to replace a timber pole that had been condemned.

The new steel pole carries electricity to pumping equipment and maintenance facilities at the 80 year old dam in the upper Nepean River.

BLUESCOPE STEEL

Above: Integral Energy workers battled rugged terrain, teeming rain, wind and tight deadlines to install a SURELINE® hot dipped galvanised steel pole at Avon Dam.

"A steel pole was the best solution in this situation because it allowed us to overcome all the obstacles which ruled out other options," Integral Energy Operations Manager, Transmission Mains, Ken Collins, said.

"The area is extremely hard to access, it is bushfire prone, there are known termite problems and because the land is soon to be handed over to the NSW National Parks and Wildlife Service the ongoing use of chemical treatments for wood poles isn't an option.

"We weren't going to replace the condemned pole with another timber pole and the access difficulties meant that we would have had to cut a concrete replacement into three sections just to reach the spot.

"Using a helicopter to drop in a steel pole was the practical solution, but the conditions certainly made the job interesting."

Integral Energy workers trekked to the site from the nearest access road, nearly a kilometre away, then dug a 1.8 metre hole for the SURELINE® pole largely by hand.

Striking sandstone forced them to run 300 metres of compressed air hose for a jackhammer to complete the excavation.

"Once we began the operation it had to be completed as quickly as possible because the maximum allowable outage for the pumps and maintenance equipment at Avon Dam is only eight hours," Mr Collins said.

"Unfortunately the weather conditions were dreadful. Teeming rain and gusty wind prevented the helicopter from hovering to keep the tethered pole vertical while we backfilled the hole with concrete mix, so we had to lasso it on three sides while we worked.

BlueScope Steel has worked hand-in hand with the energy industry to develop the lightweight, high strength poles which are the centre piece of the SURELINE® solution.

The SURELINE® pole has been designed and tested to Australian Standards AS4676 and AS4600. Poles are available in a range of sizes from 9.5 metres to 14 metres in length with a range of wall thickness to deliver a number of structural

"The area is extremely hard to access, it is bushfire prone, there are known termite problems and because the land is soon to be handed over to the NSW National Parks and Wildlife Service the ongoing use of chemical treatments for wood poles isn't an option."

Ken Collins, Integral Energy Operations Manager, Transmission Mains

load strengths. A sealed base system and a vented top cap to release moisture optimise service life and the poles incorporate a special in-ground corrosion protection system.

Innovative features include easy to install SURELINE® cross arms with a "brace-free" saddle construction that allows for their positioning at any height or direction on the pole. A delta extension option is available that fits on most pole types.

SURELINE® cross arms are generally coated with an exceptionally durable thermoplastic coating that has a dielectric strength of (47.8 KV/mm at 370 µ) and a surface resistivity of (8 x 1017 Ohm at 350 µ). Cross arms come in a range of lengths and drilling configurations to suit a number of installation requirements and fittings.

Above: SURELINE® poles are fitted with special in-ground corrosion protection sleeves and can be easily drilled to attach pole steps.

"A steel pole was the best solution in this situation because it allowed us to overcome all the obstacles which ruled out other options."

Ken Collins, Integral Energy Operations Manager, Transmission Mains

Above: SURELINE® galvanised steel poles are supplied with a cross arm featuring brace-free saddle construction.

Coated end caps easily fold and lock into the ends of the cross arm, stopping birds and other wildlife from nesting inside.

"We've put the vast steel know-how of BlueScope Steel into the development of the SURELINE® system to ensure that it more than meets the needs of energy distributors," BlueScope Steel SURELINE® Sales and Supply Chain Manager, Mark Simpson said.

"The SURELINE® solution is engineered to provide control, predictability and peace of mind. The poles allow considerable transport and handling savings because up to 40 can be transported in a single load. They have a predictable service life and can be recycled."

BlueScope Steel is able to utilise its national network of transport and logistics solutions. This provides access to competitive freight rates and key partners whose core business is delivering value to the supply chain.

Mr Simpson said the Integral Energy installation at the Avon Dam was a unique circumstance, but that it highlighted the advantages of the SURELINE® system which are even more significant in routine and multi-pole installations.

9 320075 044749

1800 800 789

www.sureline.com.au

BLUESCOPE STEEL