

Sureline®

Application Report

Location: Appin, NSW
Project: Coal Mine Power Supply
Contractor: Transect
Date: April 2008



Short lead times make SURELINE® poles a winner for mine project

Coal miner BHP Billiton Illawarra Coal has taken advantage of the short delivery times available with SURELINE® steel power poles to keep a new power supply project on schedule at its Appin coal mine development south of Sydney.

The flexible supply arrangements provided for the BlueScope Steel range of SURELINE® steel poles enabled the project to remain on schedule for completion without risking disruption to mining activities.



**BLUESCOPE
STEEL**



BHP Billiton Illawarra Coal had commissioned accredited service provider Transect to design and construct the necessary power line and the two companies entered into discussions with Integral Energy to confirm acceptance of the use of SURELINE® poles.

Transect is a business unit of Tony Pollard Electrics Pty Ltd. It specialises in high voltage and low voltage power supply design, construction and maintenance, particularly within the footprint of the Integral Energy network area in the Illawarra and Southern Highlands in NSW.

BHP Billiton Illawarra Coal is establishing a new sub station near Douglas Park with the intention to provide a new source of 11kV supply to underground workings which are part of the Appin mine's Area 7 development.

"As mine workings continue to develop further from the original points of supply there is a need to establish a new and higher capacity source of supply closer to the coal face," Transect Business Manager, John Duck said.

"Integral Energy have an existing substation about a kilometre away from the new BHP Billiton Illawarra Coal substation site, so there were negotiations with Integral Energy to allow the sharing of their easement which carries a de-energised transmission line past the area."

Transect's task was to design and build the line to get the power from the Integral Energy switching station at Douglas Park, through the shared easement then deliver it to the new substation.

The approved design included a partial rebuild of a one kilometre section of Integral Energy's 66kV feeder, using a twin circuit configuration which placed the BHP Billiton Illawarra Coal feeder on one side of the pole and Integral Energy's on the other.

"It's a 66kV line transformed down to 11kV by the BHP Billiton Illawarra Coal sub station and then transferred below ground to the mine workings via vertical bore holes and high voltage dropper cables," John Duck said.

“We knew that the SURELINE® sub transmission poles had the strength ratings we required.”

Transelect Business Manager, John Duck



“When the design plans were approved it became apparent that the poles on which the design was based would not be available for six months. Timber poles weren’t an option either, because they don’t have the strength to carry what we had designed.”

Transelect discussed options with BHP Billiton Illawarra Coal before approaching BlueScope Steel regarding lead times to deliver SURELINE® steel sub transmission poles for the project.

“We only needed 18 sub transmission poles for the job, and the 18.5 and 20.0 metre pole lengths are not part of the standard SURELINE® range,” John said. “Our design also called for them to mimic what would have been required on the concrete pole equivalent.”

"BlueScope Steel gave us a very quick turnaround, on our pole order, provided a product which met our requirements and they also came to site to assist us."

Transelect Business Manager, John Duck



"We knew that the SURELINE® sub transmission poles had the strength ratings we required, but it was a matter of whether BlueScope Steel could supply them to custom sizes so that we could avoid erecting taller poles than required.

"Our design also included a 66kV vertical isolating switch which is mounted on one of the poles and there were also hole details which were unique to certain poles, so we had to do the design and engineering for them to be pre-drilled by BlueScope Steel."

Despite the very specific requirements, BlueScope Steel was able to use its flexible production arrangements to ensure supply of the necessary poles in less than two months, in time to keep the project's critical path unaffected.

"BlueScope Steel gave us exactly what we requested," John said. "They gave us a very quick turnaround on our pole order, provided a product which met our requirements and they also came to site to assist us.

"Although Transelect has worked successfully with SURELINE® poles on several other projects, the particular crew we used for the BHP Billiton Illawarra Coal project did not have previous experience with steel poles.

"BlueScope Steel came out to site and provided basic familiarisation as well as giving instruction on assembly of the first of the two-part sub transmission poles.

"Our crew obviously had no problem working with SURELINE® poles and BlueScope Steel subsequently shot a video of their work to be used for training purposes.

"We think SURELINE® poles look pretty good on site and this project has certainly come together quite well. The short lead times were very important to the project's success."

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