Sureline®

Application Report

Location: South Australia
Project: Honeymoon Mine
Contractors: Robin Johnson Engineering, Cowell Electric Supply, South Drilling
Date: October 2008

Custom size SURELINE® poles suit two-state project

Completion of a 92 kilometre line to deliver 33kV power to Uranium One's Honeymoon Mine site in northeastern South Australia is the latest proof of BlueScope Steel's ability to deliver its SURELINE® steel poles for time-critical infrastructure projects.

Involving nearly 450 poles, the unique line design and installation project was completed by joint tenderers, Robin Johnson Engineering, South Drilling and Cowell Electric Supply. The three companies overcame challenges which included the Honeymoon Mine's remote location, the need for non-standard pole sizes and ultimate load states, and a line with dual ownership and engineering standards.

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John Kentish, South Drilling

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Uranium One Executive Vice President Australia and Asia, Greg Cochran, described the line as "a most important infrastructure development for the Honeymoon Mine Project."

The Honeymoon Mine will have a seven year life and the power line will be of long lasting benefit to regional infrastructure, communities, future explorers and miners, making it one of the long-term benefits to arise from Uranium One's investment in the region. The mine will be Australia's fourth uranium mine and the third in South Australia, with a scheduled production date of 2010.

The new line connects to the Broken Hill network just west of the city and runs beside the Barrier Highway to Cockburn before striking out across country to the Honeymoon Mine, approximately 600km north-east of Adelaide and 300 km east of Port Augusta.

"Slightly less than half of the link is in NSW where Country Energy will own, operate and maintain it and the balance is in South Australia, privately owned, operated and maintained by Uranium One," designer John Kentish explained.

His company, South Drilling, designed the line to take account of its dual ownership as well as the terrain variations along its route. Although other pole materials were considered for the project, none were available in the timeframe required.

"The poles on the NSW and South Australian sections of the line are both non-standard specifications for BlueScope Steel," John said. "The South Australian section of the line required 15.5 metre poles with 19kiloNewton ULS, while the poles for the NSW section were 14 metres, with a 21kiloNewton ULS.

"Because of the large quantity of poles we required for the project, BlueScope Steel were quite prepared to manufacture them in a batch to non-standard sizes and strengths. Beyond that the deciding factor in our specification of SURELINE® poles was their availability.

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"On a subsequent design project involving 20 metre SURELINE® sub transmission poles we did require substantial technical information and that was also provided promptly and comprehensively."

Cameron Thompson, General Manager of powerline construction company, Cowell Electric Supply Pty Ltd, said the ready availability of the SURELINE® poles for the Honeymoon Mine Project wasn't their only advantage.

"The biggest advantage is their relative light weight, with one of the benefits being the number of poles you are able carry on a semi trailer," he said. "With the cost of transport ever rising this provides a cost saving opportunity for our clients."

Cowell Electric Supply company has extensive experience in remote area installation. It has previously installed more than 2,000 kilometres of SWER lines in those conditions.

"Our project manager Charles Nel liaised with BlueScope Steel, especially on delivery matters," Cameron said. "BlueScope Steel's co-operation throughout the project was excellent. They did everything we asked of them.

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"The poles for the South Australian section of the line were all the same, but there were different pole top arrangements required for some of the poles for the New South Wales section.

"All the poles were shipped to Broken Hill, but because of a change of schedule requested by the customer, Uranium One, the poles were stockpiled at our depot instead of being delivered straight to peg. The relatively light weight made the handling of the SURELINE® poles around our yard a breeze.

"The weight advantage of the SURELINE® steel poles is extremely useful at the installation stage. While the equipment required to erect the poles doesn't change, the weight of the SURELINE® pole certainly reduces the effort required for placing the poles into position for example."

All SURELINE® poles were delivered with bitumastic wraps and ground line protection sleeves in place. They were also supplied with holes pre-drilled for steps and cross arms.

"On a some occasions we had to fit extra cross arms to poles to incorporate an existing power line crossover," Cameron Thompson said. "We simply used a magnetic drill and that was very easy. The SURELINE® poles can be drilled at any point, unlike some steel poles where this is not possible due to their octagonal shape.

"The field crew would be very happy to work with the SURELINE® poles again and we'll be recommending them to customers in future. As a matter of fact we have recently won another project where we will be using SURELINE® poles."

Robin Johnson, whose company co-ordinated the project also voted the use of SURELINE® poles a success. "Our standard design will incorporate steel poles from now on," he said. "We found the SURELINE® poles to be price competitive, neat and their structural performance is very good. Compared to alternatives they can cope with a constant load without splitting.

"We were very impressed with them, our designers liked them and the job turned out very well. Assistance such as the supply of a standard sheet for drill patterns helped the whole process go very well."

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