

CASE STUDY ANGLO COAL

Bramco conveyor control system Lake Lindsay Mine Qld

Lake Lindsay Coal Mine

Lake Lindsay coal mine is located approximately 30 km from the town of Middlemount Queensland. The mine started producing coal mainly for export in early 2007, initial production was at an average of around 3.5 to 4 Mtpa.

The mine is open cut and the life expectancy of the mine is estimated to be in excess of 20 years, coal is moved by a 25 km overland conveyor to the existing coal processing plant at German Creek and then transported by rail to Gladstone port via the German Creek rail link.

The new CHPP opened in 2009 and will operate at a capacity of 700 tonnes per hour; this will complement the existing processing facility at Capcoal, giving a combined sales output of over nine million tonnes.

The Opportunity

The overland conveyor is 25km long; it required one single line conveyor control system over the total length with the highest safety standards.

The cable belt consists of a vertical and horizontal curved belt.

As a complex conveyor system it presented problems with reliability and false trips were a common occurrence, this stopped the belt and halted production with considerable loss of time and income.

At a length of 25 km it made it hard to determine where the fault originated.

False trips and belt restarts have a mechanical impact on the belt plus an increase of power consumption on startup of the belt and variations in temperature had a big effect on false trips.

The false trips were costing time and money in lost production, trucking the coal was the alternative method of coal delivery. Trucking coal instead of the conveyor was uneconomical in diesel fuel, increased emitted diesel emissions and cost money in water consumption for dust control systems.

The Solution

The key to success was to eliminate false trips of the conveyor which would have a direct impact on increased production

After identifying all the issues, Bramco installed a conveyor control system, control & monitoring system with the BK400 pullkey, this proved to be reliable and safe over the total length of the 25 km conveyor, temperature variations had an impact on the system which was eliminated by a Bramco temperature compensation unit.

Working closely with the Lake Lindsay engineers the Bramco system has proved to be extremely reliable and robust.

False trips are now a thing of the past and the conveyor is in full operation for distribution of coal to the processing plant at German Creek.



Bramco Integrated conveyor management system

The Bramco system provides a cost effective electronic control for the mining industry as a conveyor control package. The system offers unique features with the latest technology in microprocessor control, advanced modular software to provide a totally flexible and powerful system. It can be directly interfaced to a PLC to provide status information for overall control and/or management. Proudly designed and manufactured in Australia.



Testimonial

"Prior to the installation of the upgraded Bramco Conveyor Control System we were having unacceptable conveyor down time resulting in loss of production and difficulties with fault finding intermittent faults.

Reliability is paramount in any conveyor system and our experience has shown that the installation of the upgraded Bramco Conveyor Control System has reduced the service demands increasing the conveyor uptime.

Overall I would have to say the experience with Bramco Electronics has been highly positive and is going a long way towards keeping us in a position to provide improved conveyor reliability".

Tessa Back
Graduate Electrical Engineer

The Results

