

# Locally made reel on wheels to keep mines safer

**ASI fabricator member, Alfabs Engineering has designed and manufactured a truck-mounted cable reeler to more safely and efficiently retrieve and dispense electric power cables for massive draglines used in open-cut mining operations.**

According to the company, the need for a purpose-built vehicle was called for as there was no 'off the shelf' model that would meet the high safety standards and detailed scope of work required to handle electric cables used to power draglines to walk between locations.

Their power consumption is so great that they have a direct high voltage grid connection and the vehicle allows for electrical cable to be handled without undue damage in such rugged environments onsite whilst helping transport coordination, alleviating a range of safety risks.

Alfabs' Queensland Operations Manager, **Carl Howe** said the main operational risk the vehicles need to head off is the cable contacting with the operator and loading the cable onto the spool.

"The use of the remote control when outside the cab reduces this risk by allowing the operator to operate the spool at a safe distance," he said.

He said that cameras installed at the rear of the truck cab give the operator a clear view of the retrieving and dispensing of the cable and eliminate risk as the operator can carry this out from the safety of the truck cab.

It can be controlled from four locations, either from inside the cab, on the left and right side of the deck or via the hand held remote control unit. And each hydraulic joystick is fitted with a 'deadman' switch as well as the reeler having emergency stops at designated points of operation for increased safety.

"If at any time the operator needs to shut down the operations of the cable reeler, the joystick 'deadman' or emergency stops come into play and immediately stop the reeler turning," he said.

"Its design incorporates the use of a hydraulically operated gearbox and motor as well as a range of features to ensure the safest operation possible."

All design and drawings of the vehicle were completed at Alfabs' Engineering Department in Kurri Kurri on the NSW Central Coast with the fabrication and full assembly carried out by its branch in the Queensland regional centre of Mackay.

The design and manufacturing are covered by a full plant safety file including risk assessment. The cable reeler was built in accordance with requisite Australian standards and regulations covering steel structures, work health and safety, engineering and Billiton Mitsubishi Alliance (BMA) site-specific specifications.

A risk assessment is carried out on all products supplied by Alfabs Group to assess each product manufactured by the Group and is included in the plant safety file which is supplied to each customer.



The risk assessment of the Truck Mounted Cable Reeler was conducted by Alfabs Group personnel to determine the operational and maintenance duties that would be required to operate and transport the reeler, once onsite.

All hazards were quantified and the risks were assessed and ranked. The approximate total weight of steel used to complete the manufacture was in the region of 10 tonnes consisting mainly of grade 250 and 350 mild steel.

"The cable reeler is manufactured from mild steel as there are no major wear or abrasive related areas that require the use of hardened plate," Mr Howe said.

Components and sections have been sandblasted to Grade 2.5, coated with zinc rich primer and two coats of two-pack paint. All wear parts are of a modular design and can be removed in a field environment and sent to designated workshops for refurbishment if required.

Mr Howe said there have been a number of enquiries in relation to further manufacture of the cable reeler which Alfabs is following up.

"There's a lot of potential to utilise the basic design in other areas of industry as we can tailor-make the reeler to specific site requirements and encourage customers to offer their input as to the final build specifications," he said.

## PROJECT TEAM

**Engineering Design:** Alfabs Engineering

**ASI Steel Fabricator:** Alfabs Engineering

**Electrical Contractor:** Eveready Technologies

**Hydraulic Engineering:** Berensden Fluid Power

**Coatings Supply:** Emeco Group

**ASI Steel Distributor:** Southern Queensland Steel

**ASI Steel Manufacturer:** BlueScope