

case study

Upgrade

## COMPLETE PACKAGE FOR COAL CONVEYING

Massive investment at Curragh North in Queensland included a requirement for overland coal conveyors – and a partner to project manage the design and installation of the drive system.



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The extracted coal was initially trucked to the coal preparation plant, but this system is being replaced by the construction of a coal-handling system and 20 km conveyor. The conveyor design was led and managed by Barclay Mowlem in conjunction with a number of consultants. The project is expected to be completed in late 2006 with capital expenditure for the whole Curragh North expansion estimated at around A\$360 million. The first coal was exposed in February 2005 at Wesfarmers Curragh's redevelopment of the Curragh Mine with the opening of Curragh North, centred initially on the Pisces Seam.

The two David Brown gearbox types are two G21 and three G18 units that feature modular design and construction, a high degree of interchangeability of parts and sub assemblies, and a universally machined, horizontally split casing has created a family of speed reducing gear units that can be quickly manufactured and is simple to maintain with significant delivery and cost benefits for customers.

David Brown has designed, assembled and supplied six complete drive packages for overland coal conveyors at Curragh North in Queensland, Australia. Coming in on time and on budget, the project is an impressive demonstration of the company's project management capabilities. Each assembly comprises a Series G gearbox, electric motor, fluid coupling and flywheel mounted on a base plate.

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The innovative modular construction of the inherently reliable Series G units minimises part count to maximise availability of product. The goal is to ensure that, in many cases, units can be ordered and delivered within days compared to a typical schedule of over 6 weeks for a comparable competitor unit. This helped David Brown to tie in with scheduled downtime and keep interruptions to a minimum as well as generally enabling end-users to reduce stock levels.

Strength and efficiency are maximised, while noise and vibration are kept to a minimum by case hardened and ground helical gears, and hard finished spiral bevel gears. For extended, efficient life, oil is kept where it belongs by the patented end-cover, which improves bearing lubrication and allows a 30% improvement in thermal capacity.



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