

Aerobelt steps in to remedy grain terminal conveyor woes

When commissioning of air-supported conveyors at a grain terminal in Southern China ran awry, Aerobelt – which passed on the job at the tender stage – was brought in to remedy the situation.

With China's demand for grain growing quickly, the country's various municipalities and agencies have been strengthening their infrastructure.

And so it was that the Guangxi Grain Bureau asked an Australian construction firm (the head contractor) to engineer a major new grain handling facility in Southern China.

As part of its contract, an order was placed with an Australian vendor (the vendor) for the design and supply of critical components for five air supported conveyors, in widths of 1,000 and 1,200 mm.

Chinese subcontractors, on advice from the vendor, manufactured other components and took responsibility for installation of the air supported conveyors.

Aerobelt, which had originally been in the running for the design role, ruled itself out of the bidding at the tender stage. This was due to concerns the firm had over pricing, quality and communications with a distant Chinese manufacturer.

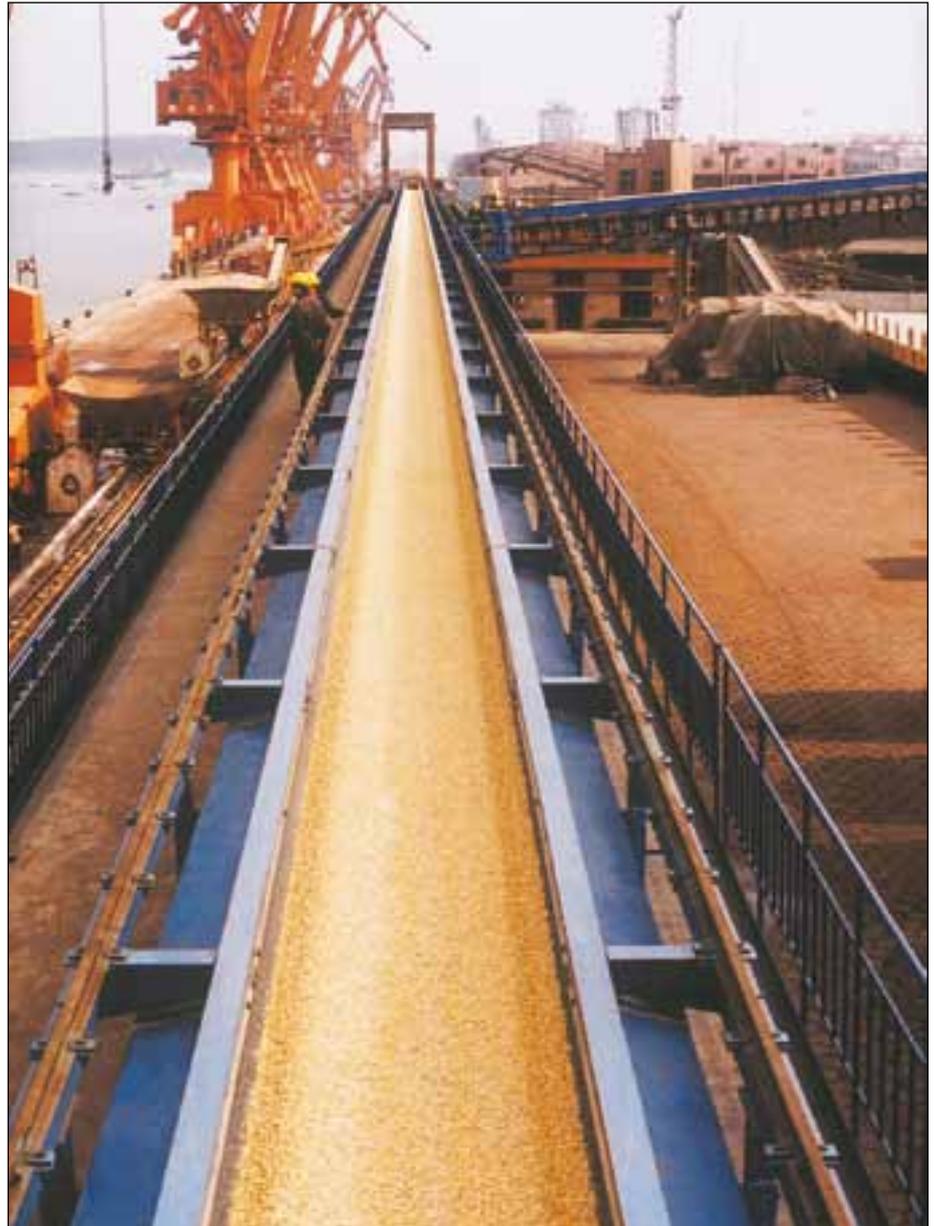
Moving forward, attempts by the head contractor and the vendor to commission the conveyors failed. None of the conveyors could handle the design tonnages due to motor overload. At this stage the head contractor sought outside help.

Shortly after, Steve Kutassy, general manager of Aerobelt Australia, and Alan Jordan, the company's managing director, visited the facility in China. Their inspections and recalculation of important design and engineering parameters revealed a host of problems.

Conveyor troughs, manufactured in Australia and supplied from Australia, were substandard, while the fans used to push air through the conveyors had the wrong specifications.

On the advice of the vendor, no sealing compound was used between the troughs and the plenums, resulting in a significant loss of air volume and pressure. In addition, the size and spacing of the holes feeding air to support the belt were incorrect.

After examining data supplied by the head contractor, and building and pressure testing a full scale model of the original



Commissioning trial of wharf conveyor for the unloading of ships at 1000 tph of grain.

Conveyor troughswere substandard, while the fans used had the wrong specifications.

design, Aerobelt came up with a list of remedial repairs and component changes.

"We recommended that all the troughs be replaced with ones using Aerobelt

profiles, hole sizes and spacing," explained Steve Kutassy. "The plenums (the pressurised air box beneath the belt) needed to be strengthened as testing of the original

TECHNICAL INFORMATION

NO. OF CONVEYORS	5
PRODUCT	GRAIN
BELT WIDTH	1000, 1200MM
LENGTH	UP TO 291M
INCLINATION	UP TO 10 DEGREES
CAPACITY	UP TO 1200TPH
BELT SPEED	3.57M/S
DRIVE POWER	160KW
FAN POWER	UP TO 22KW
PRODUCT DENSITY	0.75T/M3

design showed plenum distortion when the required working pressure was applied.

"In addition, the fans needed to be replaced, the plenums and trough to plenum joints sealed and the conveyors correctly aligned."

Facing penalties and various performance guarantees, the head contractor instructed Aerobelt to go ahead with supply of new components and supervision of remedial repairs.



Air supported conveyor linking the wharf conveyor to the storage silo for processing.

Aerobelt's work was a complete success. In short order, all five conveyors were re-commissioned, running smoothly to the present day.

"All the predictions regarding power consumption and carrying capacity as

designed by Aerobelt Australia have been fulfilled to the complete satisfaction of our customer," said Steve Kutassy. ■

Contact: Steve J. Kutassy, steve@aerobelt.com.au

If you want staying power, you need really tough drives

For robust, long lasting drives that give you peace of mind, you want Brevini PIV Drives. Available as both helical and bevel helical gear units from Brevini PIV Drives of Germany, these drives have now been proven in Australia in the most difficult applications.

Brevini Australia supplies PIV gear units as stand alone gear units or complete drive packages:

- To all demanding specifications
- Fully engineered and documented
- Medium to large powers
- Wide range of drive configurations.

Call NOW for details.

Brevini Planetary
Samhydraulik
VPS Brevini
Brevini Winches

Brevini Hydraulics
Aron
Hydrapp
Pullmaster

PIV Bevel Helical
Emmegi
PT Tech
PIV Posiplan

Phone 1300 657 771 Email sales@brevini.com.au www.brevini.com.au

