Silo project continues trend to steel

A $100 million upgrade to grain handling facilities in the Western Australian port of Albany has confirmed the growing preference for steel silos.

The new 60,000 tonne capacity Albany silos at the centre of the work are very similar to ten built at Esperance in 2000.

The Albany and Esperance port facility projects were both undertaken on behalf of Co-operative Bulk Handling Limited (CBH), which also operates port terminals in WA at Geraldton and Kwinana.

The silo projects and facility upgrades were designed to provide greater storage capacity for improved operating efficiency, especially during the harvest period, and to create a safer working environment.
More than 3,000 tonnes of XLERPLATE® steel from BlueScope Steel has gone into the fabrication of the new Albany silos.

Both upgrades have included steel fabrication and silo construction by Kwinana firm SDR Australia Pty Ltd, working for Leighton Contractors.

Leighton Contractors is part of the Leighton Group; Australia's largest services contractor and project developer, employing 12,000 people throughout Australia and Asia.

The majority of Leighton Contractors’ project management team involved on the Albany project were also employed on the similar CBH Esperance Grain Terminal upgrade.

SDR Australia is a privately owned construction and engineering company with a workforce of up to 250 and a track record of successful project completion all over Australia.

“SDR Australia Pty Ltd has a broad range of engineering skills and also handles civil works on many of the projects in which we are involved,” SDR site manager, Michael Hoson said.

“In the company's 20 year history, tanks and storage facilities have always been part of our order bank, whether it has been tanks for the WA Water Corporation, sulphuric acid tanks for industry or grain silos for bulk handling facilities.”

The newly upgraded CBH Albany Grain Terminal has a load-in capacity of 2,000 tonnes per hour, an additional storage facility of 60,000 tonnes and an outloading capacity of 2,000 tonnes per hour.

SDR Australia Pty Ltd won the contract to fabricate the sections of the silos, known as storage cells, deliver to site, erect and surface treat them.

Leighton Contractors, the principal contractor, was responsible for the installation of the inloading and outloading equipment, including
Above: Silo sections were erected with the help of large pin jib cranes.

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Michael Hoson, SDR Site Manager

conveyors, bucket elevators and associated structural steelwork for the storage facility upgrade.

The XLERPLATE® steel required to fabricate the storage cells for the $120 million project was purchased by Leighton Contractors and issued to SDR.

“The steel design concept is mostly for life expectancy,” a spokesman for Leighton Contractors said. “Concrete cells used for grain storage in the past have been prone to failures that have led to expensive repairs. There were also concerns about the cost of construction and the importance of maintaining the quality of the grain.”
“The majority of the shell and cone sections of the storage cells have been fabricated from 250 Grade XLERPLATE® steel.”

Michael Hoson, SDR Site Manager

The majority of the shell and cone sections of the storage cells have been fabricated from 250 Grade XLERPLATE® steel. Ring beam sections and columns have been fabricated from 350 Grade XLERPLATE® steel.

Wall thickness of the storage cell shell and cone sections varies from 20mm in the ring beam area to 6mm at the top of the shell and bottom of the cone section. The ring beam section is fabricated from 50mm plate with 16mm stiffeners. Columns are rolled from 16mm XLERPLATE® steel.

SDR Australia Pty Ltd fabricated and painted the storage cell sections at its workshop in Kwinana then transported them to Albany by road.

The sections were erected on site with the use of 450 tonne and 150 tonne pin jib cranes.

Each storage cell has an inside diameter of 20 metres, an overall height of 37 metres and a capacity of 6,000 tonnes.