



Esperance Port Authority

Shore Based Gantry Crane

The Esperance Port Authority awarded the Shanghai-based Zhenhua Port Machinery Co Ltd (ZPMC) of China a contract in July 2006 to design, construct and deliver to Esperance a multi-purpose rail mounted shore-based gantry crane.

The \$12 million crane will be delivered to the Port in August 2007 aboard a purpose-built vessel, will be rolled off the ship on to berth two, jacked up and turned around, and placed on rails installed on the berth. It will take about two months to commission, and ZPMC engineers will be at the Port for a further three months to deal with any operating issues. Port staff will operate and maintain the crane.

The crane is required to meet the logistical requirements of BHP Billiton's Ravensthorpe Nickel Project, which will produce and export up to 220,000 tonnes of nickel hydroxide through Esperance annually, and import 500,000 tonnes of sulphur a year from Canada.

The characteristics of the crane are unique given that the Port has the dual role of handling containers and unloading bulk sulphur.

When completed, the crane will weigh 1200 tonnes, will be 33 metres long and the top of the apex structure will extend 59 metres above the berth. It will have a container handling outreach of 36 metres on the seaside and 28 metres on the landside of the waterside wharf crane rail. The crane's boom will extend 46 metres on the seaside.

A grab will be fitted to the crane capable of lifting 20 tonnes of sulphur from a ship's hold, and it will be capable of loading and unloading six metre long, four metre wide and two metre high containers using a powered container spreader operated from the operator's cabin.

The crane will load and unload about 1300 empty and full containers from a dedicated container vessel that will visit the Port about once a month, as well as discharge up to 50,000 tonnes of bulk sulphur from between 10 and 12 ships that will berth at the Port each year.

The containers will be used to transport nickel hydroxide from the Ravensthorpe mine site to the Yabulu refinery located near Townsville in Queensland. Sulphur imported from Vancouver, Canada, will be used to process the laterite nickel.



A shore-based gantry crane similar in size to the one being built for Esperance Port is delivered to the Port of Oakland in San Francisco Bay aboard a dedicated ZPMC delivery vessel.