

Chinese port restrictions lead to Subic Bay floating terminal solution

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Behind the creation of a new floating transshipment terminal in the Philippines on behalf of the Brazilian mining giant Vale, is the story of emerging geopolitical tensions over China's seemingly endless need for raw materials; between China, who believe that it is they who should carry the flows of raw materials into the world's manufacturing heartland; and one of the world's largest shippers, which sells said iron ore to the Chinese – and pays for its shipments.

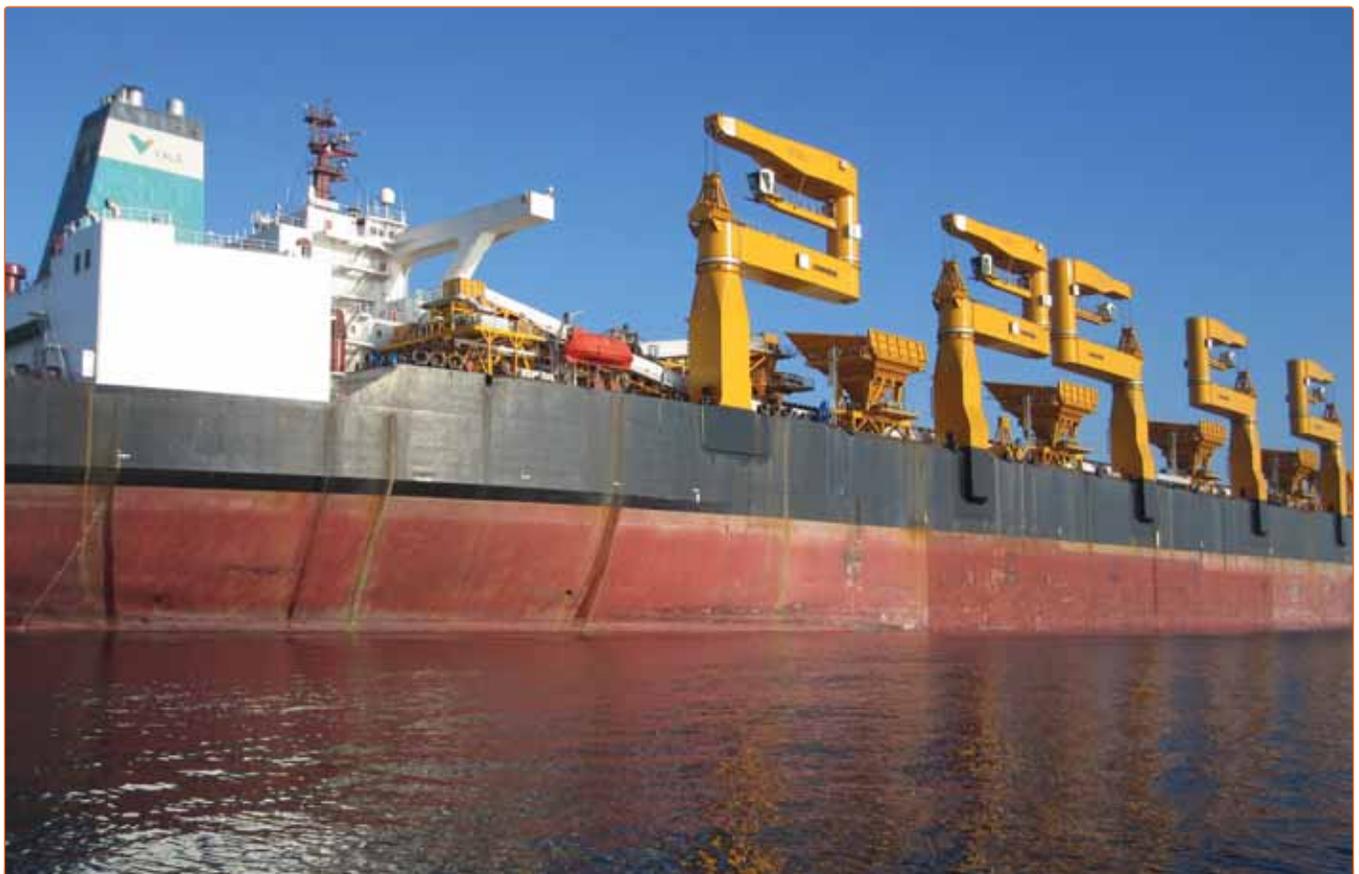
The origins of this dispute lie in the desire by Vale to limit its exposure to the tempestuous swings in freight rates to which it was subject prior to the terrible depression into which the dry bulk shipping industry has found itself. Before the recession and subsequent crash in vessels values and charter rates, Vale found that its profit margins on the ore it was selling to Chinese steel mills were being eroded by a long-running bull market in freight rates and charter rates in the largest dry bulk vessel sizes – demand from China for iron ore was high and vessel space was in short demand, and Chinese and other shipowners made a lot of money out of transporting iron ore from Brazil to China.

In fact, such was the cost of transporting iron ore from Brazil to China at the height of the boom in 2008 that Vale almost lost its market share to Australian miners – despite the fact that the grade of ore mined in Australia is of a far lower quality – because of the differential in freight rates.

Vale then decided to enter the shipowning game itself, in what must be one of the most ambitious attempts by a cargo owner to assert its control over its supply chain with an original order of a series of very large ore carriers (VLOCs). At 362 meters long and 65 meters wide, and with a carrying capacity of 400,000 deadweight tonnage, Vale's VLOCs represent the largest dry bulk carriers on the seas, and have subsequently been termed Valemaxes.

The initial order, placed in 2008, was for a series of 12 vessels worth \$1.6 billion, or around \$140 million per vessel and, at the time they were ordered, represented considerable cost savings for the Brazilian company – it was estimated that a fully laden Valemax vessel running between Brazil and China would be carrying its cargo at 28 percent cheaper per tonne than a vessel half its size.

The first in the series, the Vale Brazil was delivered in the middle of last year, and unfortunately coincided with the complete devastation of the dry bulk trades. Demand from China for iron ore has slowed markedly, but far more destructive has been the glut of newbuildings of similar size, or in the slightly smaller capsizes segment that have been delivered since Vale placed its orders – and eventually it is due to operate a fleet of 35 Valemaxes.



Vale's Ore Fabrica is equipped with five Liebherr MPG cranes and has a handling capacity of 5,000 tonnes per hour.

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This downturn in the market has had two effects – it has ruined the financial prospects of Chinese dry bulk shipowners, some of whom are partially state-owned and are now suffering dreadful losses, according to the latest financial results being posted on the Hong Kong and Shanghai stock exchanges; but it has also made iron ore cheaper for the Chinese steel mills to purchase.

As a side point, it is ironic that it is those self-same steel mills that provided the materials to the Chinese shipyards which continue to construct all these vessels that are causing such havoc to the market.

But crucially, there are only a few ports in China which are able to handle vessels of such sizes, and the Chinese government has yet to give its permission for the Vale vessels to dock at either Qingdao or Dalian – the two that it had earmarked to construct massive distribution facilities at.

There are reports that one Valemax did a trial docking at Dalian, but since then China's ministry of transport has placed a ban on vessels of that size entering its ports, citing safety concerns – and in that respect it has been vindicated by a recent crack found on the hull of the Vale Beijing.

Vale's plan B has been to develop a floating terminal in Subic Bay in the Philippines to operate as a hub-and-spoke transshipment port, with the ore being loaded onto smaller vessels, and thus partially losing the economies of scale that the Valemaxes were originally intended to achieve.

Nonetheless, until Vale and China come to some sort of agreement over the Valemaxes calling directly at Chinese ports, the interim solution, centred on the creation of a floating iron ore terminal, will have to suffice, with ore loaded onto capsize vessels.

Built with the assistance of Italian classification society RINA's supply chain consulting subsidiary Logmarin, Vale has converted the former very large crude carrier Front Duchess into the world's largest floating transshipment vessel.

Renamed the Ore Fabrica, managed by Singapore's MSI Ship Management and now moored at Subic Bay, the vessel was converted at the Chinese shipyard of Jiangsu Xinrong, which installed five Liebherr MPG cranes and a sophisticated conveyor belt/loading system designed and built by Bedeschi of Padova. The cargo handling facility is certified by RINA.

The double girder deck grab cranes have been designed for vessel to vessel transshipment operations, with a lifting capacity of 35 to 41 tonnes and radius of 38 meters, and have four independent drive systems.

Altogether 4,643 tonnes of new plant and structure went into the conversion of the vessel, and the installation of 9,680 kilowatts of power gives it a 5,000 tonnes per hour capacity – enough to load a capesize vessel in 36 hours. From design to delivery, the entire conversion took 333 days to complete.

Vale is also constructing a new land-based transshipment terminal in Malaysia, which is due to open in 2014 and will boast an annual handling capacity of 60 million tonnes. What will happen to the Subic Bay operation after that is operational is yet to be decided.

ABOUT THE AUTHOR

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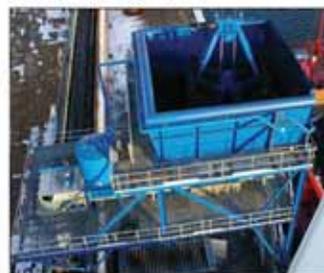
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