

OMC's DUKC® contract with Arrium Limited mining group opens up new markets

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OMC International's contract with Arrium Limited for a DUKC® system to enhance the safety and efficiency of capesize ships travelling down the Spencer Gulf showcases OMC's expansion into new markets, Executive Director Dr Terry O'Brien OAM announced today.

"This is a real turning point for OMC because the Arrium Whyalla DUKC® real-time software navigation system is not only our first South Australian installation but also, more significantly, this is the first time that DUKC® is being used for a transshipment operation," Dr O'Brien said. "These are exciting times for our maritime engineering company whose priority is always safety first."

DUKC® innovator Dr O'Brien, who is the recognised world expert in under keel clearance management, said work was underway on this new installation for Arrium (an Australian iron ore exporter and steel maker previously known as OneSteel) and it was expected to be commissioned by June this year. "DUKC® technology will help enhance Arrium's operations by safely maximising the drafts of ocean-going iron ore carriers above the existing limit of 18.2m down the Spencer Gulf from a transshipment point," Dr O'Brien said.

As part of Arrium's operations, hematite is being mined from the Middleback ranges of South Australia and transported to the Port of Whyalla. From there, smaller transshipment vessels take the ore out to the larger ships which are moored about 15km offshore in the Spencer Gulf because the Whyalla port is too shallow to load capesize ships.

"With regards to the engineering of the DUKC® system, transshipment operations bring unique challenges because the loading cycle is longer," Dr O'Brien said. "The decision timeframe is different because the barge cycle is around eight hours and it takes 15-18 barges to load a capesize ship.

"Aside from the additional risk management that DUKC® brings to the operations, a key benefit is to reduce freight rates by maximising the tonnage on every ship."

OMC's senior engineer and WA Manager Brendan Curtis, who is project managing this DUKC® installation, said Melbourne-based OMC was commissioned to undertake a study into the UKC requirements for capesize ships transiting the Spencer Gulf back in 2005. This study was revised in 2006 with additional tide data and updated bathymetry. The study found that a DUKC® system could increase the sailing drafts and available windows of the capesize ship.

OMC will host its latest Generation web-based DUKC® Series 5 system for Arrium and Mr Curtis said Series 5 had the added benefit of also simplifying some of the technical challenges for Arrium by allowing OMC to manage the IT infrastructure. All DUKC® products are developed and supported entirely in-house 24/7 by the OMC team.

Science-based DUKC® technology is so accurate that, under extreme weather conditions, a 250,000 tonne bulk carrier could negotiate a channel within a metre's clearance to the seabed. It is the only dynamic e-Navigation system



worldwide that has proven capacity to predict in real-time the critical vertical component of navigation (what you can't see under the water) during the actual transit. In most cases, DUKC® allows large ships to go deeper than permitted by the traditionally conservative guesswork static rules, and therefore safely load more cargo and/or sail with wider tidal windows.

Since OMC's world-leading and award-winning technology was installed in Queensland's Hay Point coal terminal in March 1993, DUKC® systems have provided more than \$15 billion in economic benefits to ports and port users worldwide, and helped prevent ship groundings and environmental disasters. DUKC® enjoys an unblemished safety record of nearly 22 years.

Almost all of the iron ore and most of the coal exported from Australia are shipped out under DUKC® advice. OMC's customised DUKC® systems are now operational in some of the largest bulk, container and multi-cargo ports in the world, including the Pilbara iron ore ports in north Western Australia, and in some of the world's most important waterways, including the ecologically sensitive waters of Torres Strait and a system is currently being deployed in the St Lawrence River (one of the world's busiest inland waterways) from Montreal to Quebec City in Canada.

In November 2014 at the Lloyd's List Australia 19th Australian Shipping Awards in Sydney, Dr O'Brien was inducted into the Australian Maritime Hall of Fame for "making an outstanding contribution to Australia's maritime industry" during an impressive career spanning more than 50 years.