

Delivery of mv "Chow" - 180,000 DWT Bulk Carrier



SMC is pleased to report delivery of mv "Chow", Hull No. H1367, in Shanghai Waigaoqiao Shipbuilding Co., Ltd., China. This is the third vessel delivered from the series of 3 x 180,000 DWT Bulk Carriers ordered by ATLANTIC BULKER.

Vessel's principal particulars: LOA = 292.00 m, B = 45.00 m, D = 24.90 m, T d/s = 16.10/18.30 m. Propelled by MAN B&W 6G70ME-C (Mark 9.2) Tier II, diesel engine with part load ECT and developing 12,598 kW x 69.6 rpm at CSR the vessel will operate at the speed of 14.8 knots. All vessels in the series are classed by ABS and built to Marshall Islands flag requirements. Classification notes: +A1 (E), Bulk Carrier, BC-A (Holds 2, 4, 6 & 8 may be empty), CSR, AB-CM, +AMS, +ACCU, RW, TCM, CPS, PMA, ESP, UWILD, BWT, GRAB [25], GP.

The ceremony took place on 7th September 2016.



Zhichun Niu
Project Manager

Delivery of LPGC "Bering Gas" - 22,000 CBM LPG Carrier

SMC is pleased to report delivery of LPGC "Bering Gas", Hull No. S4053, in STX Offshore & Shipbuilding, Korea. The vessel is the fifth of a series of 7 (4 + 3 optional) x 22,000 CBM LPG carriers, ordered by Ultragas International S.A.

Vessel's principal particulars: LOA = 159.7 m, B = 26.6 m, D = 17.4 m, T d/s = 8.4/11.2 m. Propelled by MAN B&W 6S50ME-C8.2 (derated) developing 6,579 kW x 110 rpm at NCR, the vessel will operate at a service speed of 16 knots. The Danish flagged vessels are classed under Lloyd's Register (LR).

Classification notes: +100A1, Liquefied Gas Carrier, Ship Type 2G, ShipRight(ACS(B)), +LMC, UMS, LI, *IWS, "ShipRight(BWMP (S,T),SCM)", +Lloyd'sRMC(LG), GreenPassport.

The vessel is suitable for carriage of Propylene, Propane, Commercial Propane, Propane-Butane Mixtures, Anhydrous Ammonia, Vinyl Chloride Monomer (VCM), I-Butane, Butylenes, Butadiene, N-Butane, Dimethylamine, Diethyl ether, Ethylamine,



Daniel Knapp
Site Manager



Isoprene(Monomer), Isopropylamine, Vinyl Ethyl Ether, C4-Fraction, Pentanes(all Isomers), Pentene(all Isomers) with a maximum pressure of 5.3 bar, minimum temperature -52°C and specific gravity 972 kg/m3.

The vessel sailed from shipyard on 7th September 2016.

Delivery of mv "Tribini Tin Hau" - 2,700 TEU Container



SMC is pleased to report naming ceremony on August 27th, 2016 followed by delivery ceremony on August 30th, 2016 in Zhejiang Ouhua Shipbuilding Co., Ltd, China of mv "Tribini Tin Hau", Hull No. H691, the first unit from the series of 2 x 2700 TEU container carrier ordered by Tribini Capital.

Vessel's principal particulars: LOA = 185.99 m, B = 35.24 m, D = 17.90 m, T d/s = 8.50/11.00 m. Propelled by MAN 6G60ME C9 TII and developing 10,980 kW x 82.1 rpm at NCR the vessel will operate at the speed of 18.2 knots. All vessels in the series are classed by DNV.GL and built to Hong Kong flag requirements.

Classification notes: GL + 100 A5 CONTAINER SHIP, IW, BWM(D1&D2), DG, ERS, LC, + MC, AUT, EP-D, CM-PS.

The vessel will be chartered by MERSK.



Krzysztof Samelczak
Site Manager

Overview of Cargo Oil Tanks Protection

W.S. Jang

Marketing
Chugoku Samhwa Paints, Ltd / Korea



TANKERS

Oil refinery led to many possible ways of utilizing crude oil. One of the 1st main refined materials – “Kerosene” was used as lamp oil and this new lighting source saved many whales’ life.

Invention of automobile & World war heralded the next great change, global demand for oil & its refined goods rapidly increased. In the more than 100 years’ history, various size of tankers have been built for economical needs and these industrial optimizations are still in progress.

However, in the vicinity of year 2000, many spillage accidents of crude oil happened due to aging tankers. These ruinous accidents triggered discussions about protection of cargo oil tank.

INTERNATIONAL REGULATIONS

Nowadays all tankers which transport oils & chemicals follow these IMO regulations for safety & prevention of marine pollutions.

- SOLAS Chapter VII: Carriage of dangerous goods
- MARPOL Annex II: Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk

The major category of cargo is liquids classified by IBC (International Bulk Chemical) Code which is based on their risk of hazardous materials, and The IBC Code defines three types of chemical tankers.

• Type 1 ship

Products with very severe environmental and safety hazards which require maximum preventive measures to preclude a leakage/spillage of such cargo

• Type 2 ship

Products with appreciably severe environmental and safety hazards which require significant preventive measures to preclude an escape of such cargo

• Type 3 ship

Products with sufficiently severe environmental and safety hazards which require a moderate degree of containment to increase survival capability in a damaged condition

Another new SOLAS regulation- coverage of IMO PSPC was also expanded to include cargo oil tanks by Resolution MSC. 288(87) along with PSPC for dedicated sea water ballast tanks to aim for 15 years coating quality.

Hence, whole coatings shall be tested & approved by classification Societies prior to applying on cargo oil tanks which insist on loading crude oils.

PROTECTION TECHNOLOGIES FOR CARGO OIL TANKS

Firstly, marine engineers did not consider ‘resistance’ of structures when loading oils because these are not ‘electrolytes’ like sea water.

But many surveyors found different types of deformations caused by various reasons such as combination with high humidity, acidic or alkalinity characteristics.

• Inert gas injection

This is a good way to prevent explosive risk when handling cargoes & one of the protection methods that eliminates oxygen at the same time.

However, the tanks’ bottom area cannot be protected by this method properly. Hence more strengthening solutions are required.

• Stainless Steel Tank

Changing material into more durable ones like SUS is also a possible way to decrease risk of fracturing. But SUS is expensive & heavy weight.

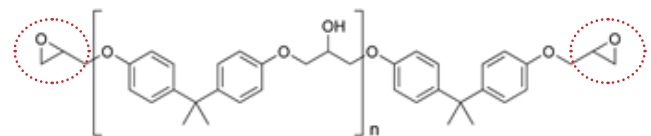
• Protective coatings

When coating suppliers decide type of protective coatings for cargo oil tanks, following points are considered.

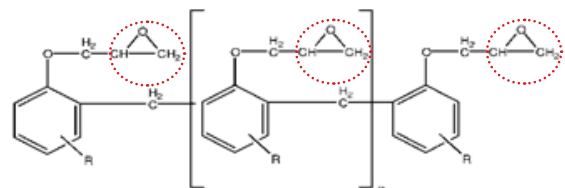
- A. Water proof & Anti-corrosion performance
- B. Chemical resistance against specific cargoes
- C. Curable under normal temperature (Ship is too big for baking)
- D. Relatively economical way

Basic cargo resistant coating consists of epoxy & amine combination, which is able to provide reasonable resistance when petroleum & natural products are loaded. Hence, most crude oil tankers have adopted this solution so far.

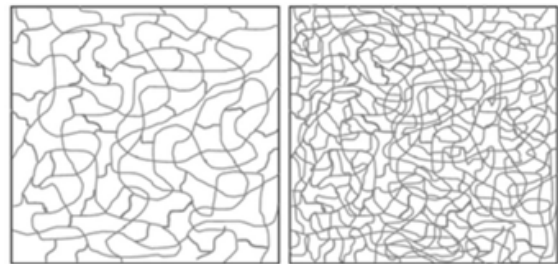
The next material is “Phenol epoxy coating” as current major technology with the widest ranged cargo resistance by more functional groups than epoxy coatings.



“Bisphenol A Epoxy” structure for epoxy coatings



“Novolac epoxy” structure for phenol epoxy coatings



“Denser networking” makes higher resistance

Inorganic zinc coatings can protect tank structures the most effectively for transportation of small molecular chemicals like Methanol. However, this coating has its limitation as the presence of zinc as one of the metals causes weakening against acid, alkali, and vegetable oils.



Completion of application by Phenol epoxy coating



Completion of application by Inorganic zinc coating

Currently, post curing type cargo resistance coatings are released with higher allowance of cargo handling. And market will be shifted after getting green signal through verification from actual operations.

SMC's New building Supervision Module software

MariApps Marine Solutions (www.mariapps.com) is our Group technology company offering state of the art marine enterprise solutions for ship managers and ship owners. MariApps has developed a flagship Enterprise Resource Planning (marine ERP) suite called PAL V3, a software targeting ship management and ship owners providing 'single version of the truth' having all data in one place to enhance the organization's performance and profitability. Headquartered in Singapore and with offices in India, Singapore, and Cyprus MariApps is a Microsoft Gold Certified Development Partner and has been certified by Deloitte with ISAE 3402 – Type 2 certification for enterprise standard development and operating framework readiness to deliver systems.

MariApps has been developed for SMC, with dedicated modules specific to newbuilding projects: Plan Approval, Site Supervision, HR, Standard Code of Practice (under development), and Master Makers List (under development).

PAL V3 New Building Module (NB) is a sophisticated, web-based system that provides an efficient management tool for Owners and Owner's representatives to aid, execute, monitor, and manage effectively new building projects. The following are key benefits:

- Provides a web portal that can be accessed from anywhere on-line.
- Dashboard – a customized 'home page' projecting detailed construction progress on each hull updated on regular basis.

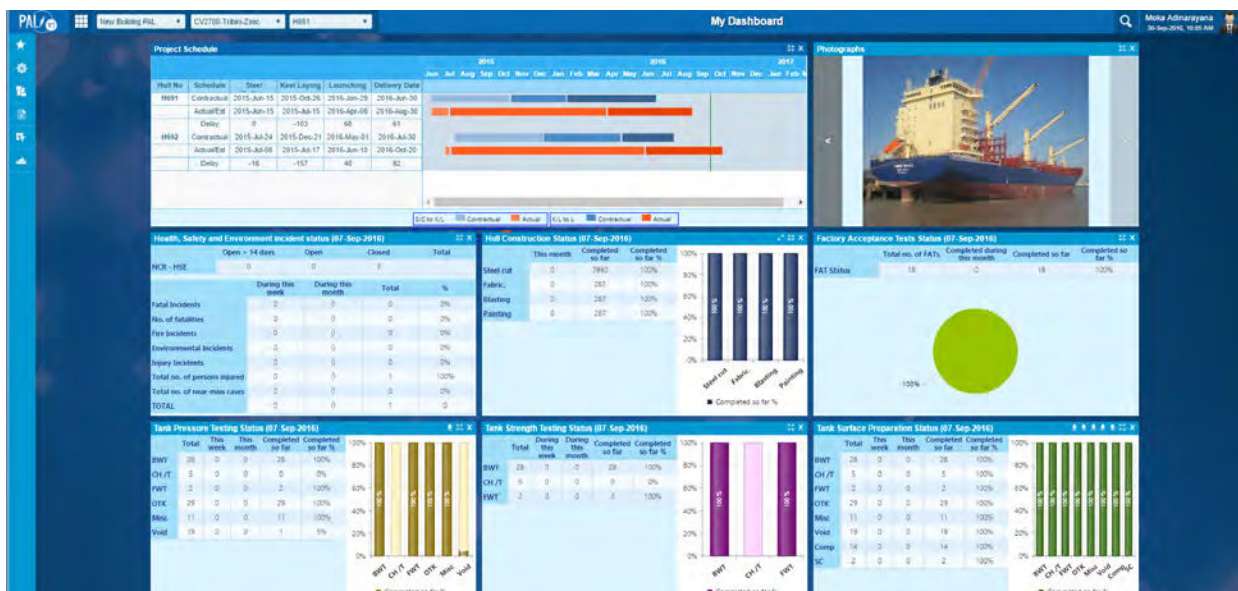
Moka Adinarayana
Project Manager
Schulte Marine Concept



NB Module

- System generated Monthly and Weekly Progress Reports which saves considerable amount of time spent in preparation of such reports.
- Provides a well-organized single point 'e-filing system' of all documents, Records and Reports related to construction activity of all vessels in new-building project.
- Arms site teams with organized check list to track, monitor and follow up inspection activities.
- Improves tremendously clarity on construction progress to various stake holders in the project.
- No special software is required to be installed for access. Works across various operating system platforms.
- Possible to access on handheld devices.
- Multi-layered access security levels.
- Provides Owners any time access to complete information on construction status including records.
- Intuitive, simple, easy to use, highly customizable.

SMC has commenced implementing PAL V3 New Building Module on their new projects.



Introduction of Oman Shipping site team

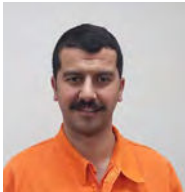
Site office for HMD MR2 OSC was opened on 26th February 2015.

Hyundai Mipo Dockyard Co., Ltd. (HMD), founded in 1975, has entered into newbuilding market in 1996. It is being acknowledged as one of the leading and most versatile shipbuilders in the sectors of medium-sized conventional and specialized vessels. Since 1996, HMD has delivered about 810 vessels including product/chemical tankers, bulk carriers, LPG carriers, LEG carriers, pure car and truck carriers, container ships, con-ro/ro-ro vessels, asphalt carriers, Sulphur carriers, platform supply vessels, drillships, cable layers, pipe layers, FPSO etc.

Oman Shipping Company S.A.O.C.(OSC) ordered 10 x 50,000 DWT Product/ Chemical tankers IMO Type II& III at HMD in 2013. Currently, eight vessels from the series have been delivered to Owners and remaining two vessels are under construction. The project is scheduled to be completed by November 2016.

The Site Team is comprised of 18 members : three (3)hull supervisors, three (3) machinery supervisors, two (2) electrical supervisors, seven (5) paint supervisors, one (1) HSE supervisor, and one (1) secretary appointed by SMC. In line with the professional and safety-conscious motto of the SMC mission statement the site team is committed to deliver high-quality vessels.

Supervisors of Oman Shipping site team



Burak Sarac
Hull Supervisor



Byoung Gwan Cho
Painting Supervisor



Byung Ho Lee
Machinery Supervisor



Chang Sik Yun
Machinery Supervisor



Chang Yoo
HSE Supervisor



Dong Seung Lee
Electrical Supervisor



Eui Young Kim
Coating Supervisor



Jeffrey Wood
Machinery Supervisor



Jin Do Yu
Hull Supervisor



Joerhen Melo
Electrical Supervisor



Jong Gil Ha
Hull Supervisor



Nam Sik Lee
Coating Supervisor



Seong Keun Park
Coating Supervisor



Sudhir Tiwari
Coating Supervisor



Sung Kim
Coating Supervisor

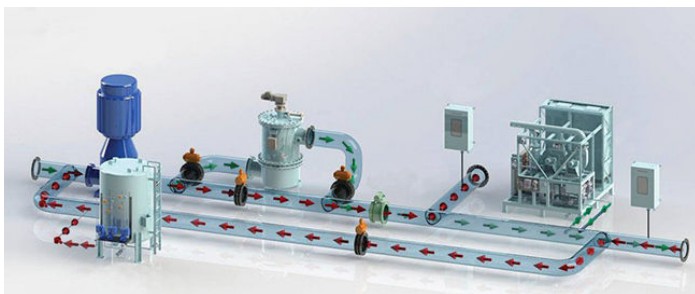


Woo Duck Kim
Coating Supervisor



Ga Jin Choi
Secretary

It has happened - Ballast Water Management Convention has been ratified



After almost twelve years of ratification process, accession by Finland fulfilled the requirements of the convention (20 States, representing 35% of the world's merchant shipping tonnage) and triggered its entry into force on September 8, 2017.

The BWM Convention requires all ships in international trade to install IMO Type Approved ballast water treatment system during first International Oil Pollution Prevention (IOPP) certificate renewal survey after entry into force of the Convention. This implies that most vessels (which do not already have a BWTS installed) will be requested to install such equipment in the period 2017-2021. Ships constructed after entry into force will be required to have a treatment system installed at delivery.



Marcin Danilos
Senior Technical Officer
Schulte Marine Concept

For ships operating in US waters, the BWTS complying with USCG requirements must be installed at delivery for new vessels and during first scheduled dry-docking after 1 January 2016 for existing ships.

Since, currently there are no available USCG Type Approved systems, USCG accepts IMO type approved systems as Alternate Management Systems with acceptance limited to use for up to 5 years.

Nevertheless, USCG does not guarantee that AMS systems will be granted with USCG Type Approval. This fact creates the situation that for newbuildings, shipowners have to install costly BWTS, which later may not be approved for use in US waters.

For existing vessels, it seems reasonable for shipowners to consider completing IOPP renewal survey ahead of the original survey schedule to subsequently postponing the installation of treatment systems on their vessels as much as possible; and at that same time apply to USCG for an extended compliance date. Since first USCG Type Approved systems are expected to be available in 2017, this approach will give shipowners a chance to select a system that allows ships to operate in US waters.