

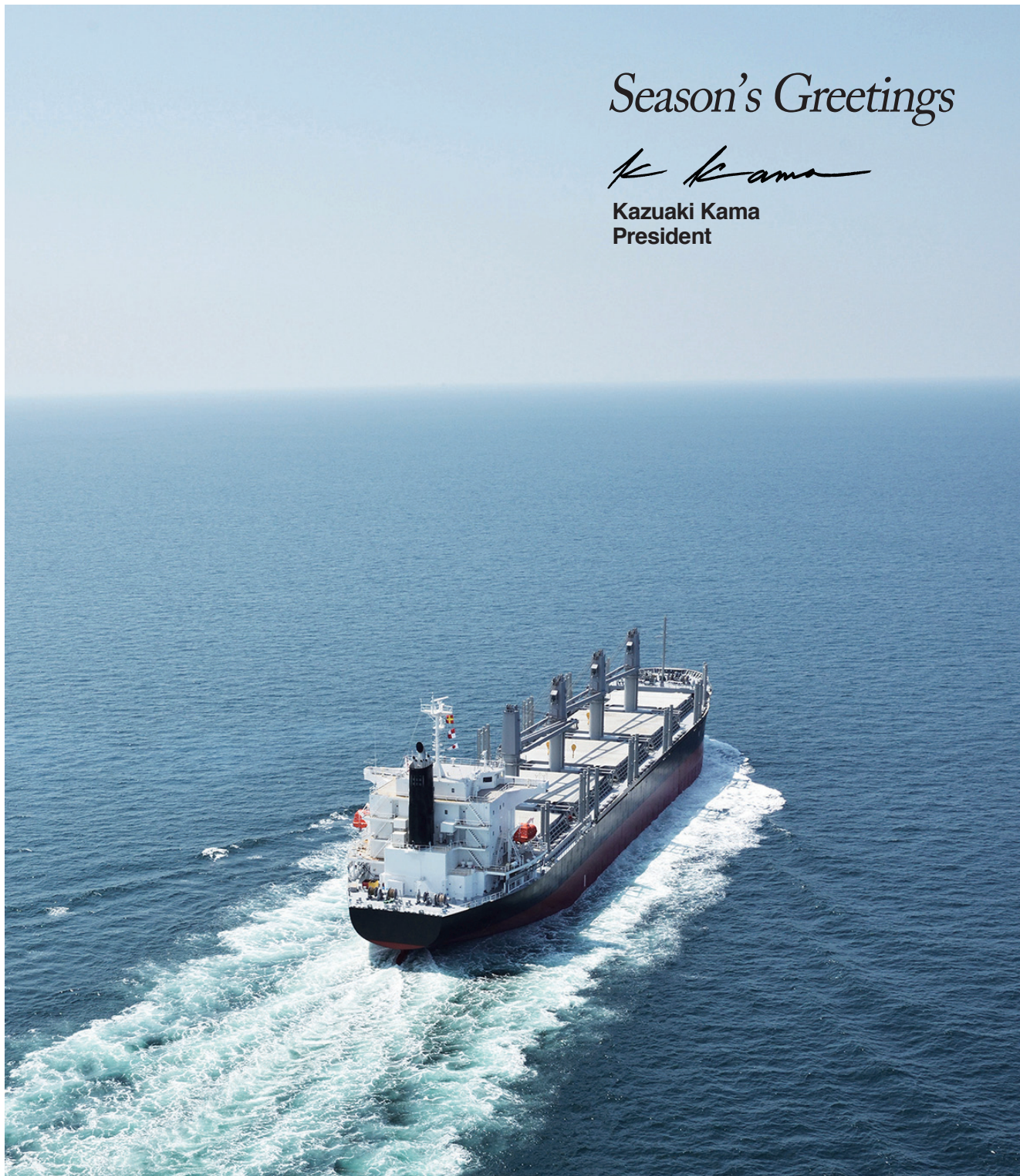
# SEA-Japan

No. 368 Dec.-Jan. 2015

*Season's Greetings*

*K Kama*

Kazuaki Kama  
President



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**JAPAN SHIP EXPORTERS' ASSOCIATION**

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## JMU completes 310,000DWT crude oil tanker, ENEOS SPIRIT

Japan Marine United Corporation (JMU) delivered ENEOS SPIRIT, a 310,000 DWT Crude Oil Tanker, to LIBERIAN JERBOA TRANSPORTS, INC. at its Kure shipyard on August 29, 2014.

The vessel is newly developed eco-type Malacca max VLCC, which is designed to have flexibility for the domestic ports restrictions and to transport maximum crude oil when she passes through the Strait of Malacca.



While the optimization of deadweight and cargo tank capacity under such restrictions, the vessel is extended in full length and refined on lower resistance hull form with state-of-the-art comprehensive technologies to achieve drastic decrease of fuel oil consumption. Besides that, her hull performance is sophisticated with optimized energy-saving devices, such as Semi-circular Duct and Surf-Bulb (Rudder Fin with Bulb), which are equipped in front of and behind the propeller respectively to improve the propulsion performance.

In addition, electronically controlled marine diesel engine which is complied with MARPOL NO<sub>x</sub>

restriction (Tier II) and the turbo generator contribute to further improvement of fuel oil consumption.

On the other hand, the vessel is designed to advance the compliance with the future environmental rules and regulations by installing the Ballast Water Management System, and furnishing the inventory list of hazardous materials.

All these features ensure her effectiveness in energy-saving and environmental friendly performance.

### Principal particulars

L (o.a.) x B x D x d:	339.5m x 60.0m x 28.5m x 21.091m
DWT/GT:	312,247 t / 159,414
Main engine:	WARTSILA W7X82 x 1 unit
Speed, service:	15.5kt
Complement:	36
Classification:	NK
Completion:	August 29, 2014

## MES delivers AFRICAN BUZZARD, 66,000DWT type bulk carrier

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) completed and delivered a 66,000 dwt type bulk carrier M.V. "AFRICAN BUZZARD" (MES Hull No. 1883) at its Tamano Works on 12th September, 2014 to LEPTA SHIPPING CO., LTD., Liberia.

This is the fourth ship of our "wide beam shallow draft vessel" called "neo66BC", the new generation ship of our line up "neo series".

### Special Features

- 1.The vessel has five (5) cargo holds and four (4) cranes for handling cargo, and keeps the superior usability of "Mitsui 56".
- 2.The ship is designed to have enough deadweight more than 66,000 metric tons and capacity more than 82,800 cubic meters for loading various cargoes like coal, ore, grain, as well as lengthy/heavy cargo such as steel pipe and hot coil.
- 3.Fuel oil consumption is less than that of a conventional Supramax bulk carrier despite its enlargement.

4.As a result of research work of interviews with ship owners and operators, investigations on ports all over the world and present trade patterns, wide beam (over-P'max) and shallow draft make it possible to have wide flexibility for operations and high transport efficiency.

5.The new hull form makes it possible to keep good performance in rough sea conditions as well as calm sea conditions and shows better maneuverability.

6.The size of hatch opening is the largest for this type of vessel in terms of both length and width.

7.Main Engine, MITSUI-MAN B&W Diesel Engine 7S50ME-B9.3, complying with MARPOL NO<sub>x</sub> restriction (Tier-II) for exhaust gas emissions, gives superior fuel oil consumption over wide range of output.

8. Considering strengthened restriction for SO<sub>x</sub>, the ship has low sulfur

fuel oil tanks, which are designed for operation in ECA (Emission Control Areas).

9.The vessel is designed in accordance with IACS Common Structural Rules.

### Principal Particulars

L (o.a.) x B (mld.) x D (mld.):	199.99m x 36.00m x 18.45m
DWT/GT:	66,652t/38,203
Main engine:	Mitsui-MAN B&W 7S50ME-B9.3 diesel x 1 unit
MCO:	8,470kW
Speed, service:	about 14.5kt
Complement:	25
Classification:	NK
Registry:	Panama
Delivery:	September 12, 2014



## MHI completes new generation MOSS type LNG carrier, SEISHU MARU

Mitsubishi Heavy Industries, Ltd. (MHI) completed construction of the SEISHU MARU (HN: 2297), a new generation MOSS type LNGC called "SAYAENDO" with a tank capacity of 155,696m<sup>3</sup> (100% full), and delivered the vessel to Trans Pacific Shipping 1 Ltd. at the Nagasaki Shipyard & Machinery Works on September 30, 2014.

The name "SAYAENDO," which means peas in a pod in Japanese, comes from the vessel's appearance, featuring spherical tanks ("endo" or "peas") in a continuous cover ("saya" or "pod"). The "SAYAENDO" LNGC employs a continuous cover to house four spherical tanks, enabling the cover to be used as a hull-reinforcing element, resulting in greater overall strength and reduction in weight. The capacity to transport 8,000m<sup>3</sup> more LNG than a typical 147,000m<sup>3</sup> carrier is achieved without increasing the beam by using vertically stretched spherical tanks that maintain the

same tank diameter. Thus, the new design provides a higher cargo capacity while meeting the New Panamax requirements.

A significant reduction in fuel consumption is achieved through improvements in ship weight and propulsion performance, as is a reduction of longitudinal wind force with the use of the continuous tank cover and adoption of the high-efficiency UST (Ultra Steam Turbine) propulsion plant. The "SAYAENDO" type LNGC is expected to achieve CO<sub>2</sub> reduction of approximately 25% per cargo unit during actual operations compared with a conventional 147,000m<sup>3</sup> LNGC.

With a conventional configuration, the pipes, wires and catwalks atop the tanks are supported by complex structures. By covering



the tanks with an integrated cover, which makes such supporting structures unnecessary, the new design also improves maintainability.

### Principal Particulars

L (o.a.) x L (b.p.) x B x D x d:	288.0m x 275.0m x 48.94m x 26.0m x 11.55m
Gross tonnage:	136,740
Cargo tank capacity:	155,696m <sup>3</sup>
Main turbine:	MR36-II
	(Ultra Steam Turbine)x1
Output:	25,000kW x 78.2rpm
Speed, service:	19.45kt
Classification:	LR

## NAMURA completes Power Max type bulk carrier, TAIYO

Namura Shipbuilding Co., Ltd. delivered the TAIYO, a 92,389DWT bulk carrier, to Erica Navigation S.A. at its Imari Shipyard & Works on September 5, 2014. The vessel is particularly designed for carrying coal to Japanese power plants, so employs wide beam and shallow draft design to achieve more efficient cargo loading compared with conventional types. The vessel type is thus called the "Power

Max." This is the 11th vessel of the Power Max series, and the seventh to comply with the CSR (Common Structural Rule). The vessel has a forecastle, six cargo holds with hatches, and six pairs of water ballast tanks, and double side-skin construction is fully applied to the fuel oil tanks to reduce the risk of fuel oil outflow in accordance with the latest MARPOL regulations. The vessel is equipped

with a MAN B&W 6S60MC-C (Mark 7) type main engine with an alpha lubricating system, and an air seal type stern tube aft oil sealing device is adopted to prevent oil leakage. The Namura flow Control Fin (NCF) and high-efficiency propeller are equipped for improving propulsion performance and fuel oil saving. Means of access for inspection is provided and protective coatings of dedicated water ballast tanks are applied to comply with the latest SOLAS regulations. The central fresh water-cooling system and sufficient capacity for the ballast water system are also equipped.

### Principal Particulars

L (o.a.) x L (b.p.) x B (mld.) x D (mld.) x d (mld.):	234.88m x 226.00m x 38.00m x 20.00m x 14.20m
DWT/GT:	92,389t/50,927
Main engine:	MAN B&W 6S60MC-C (Mark 7) diesel x1unit
MCR:	11,040kW x 97.7rpm
Speed, service:	about 14.3kt
Complement:	25
Classification:	NK
Registry:	Republic of Liberia





## Tsuneishi completes 192nd KAMSARMAX bulk carrier, MARTHA

Tsuneishi Shipbuilding Co., Ltd. has completed construction of the MARTHA, an 81,600DWT bulk carrier, at the Tadotsu Shipbuilding of the Tsuneishi group for delivery to the ship owner.

The vessel is a KAMSARMAX bulker type developed by Tsuneishi Shipbuilding in 2004. The first KA-

MSARMAX was completed in 2005 at the main shipyard of Tsuneishi Shipbuilding, and this delivery was the 192nd achieved by the group.

Tsuneishi Shipbuilding was one of the first shipbuilders that increased the deadweight of Panamax bulkers from the previous 70,000 tons to over 80,000 tons (as much as 82,000 tons), which are permitted to navigate the Panama Canal, greatly improving the transport efficiency of the Panamax type.

The name KAMSARMAX is based on the vessel having the

maximum ship length permitted to enter Kamasar Port, a major bauxite shipping port in Guinea, which restricts ships to a length of 229m.

### Principal particulars

Builder:	Tsuneishi Shipbuilding Co., Ltd.
Shipyard:	Tadotsu Shipbuilding
Ship name:	MARTHA
Type:	KAMSARMAX bulk carrier
Length:	about 229m
Breadth:	32.26m
Depth:	20.00m
DWT/GT:	81,879t/42,995
Main engine:	MAN-B&W 6S60ME-C8.2 diesel x 1 unit
Speed, service:	14.5kt (normal output)
Classification:	NK
Registry:	Panama
Delivery:	September 19, 2014



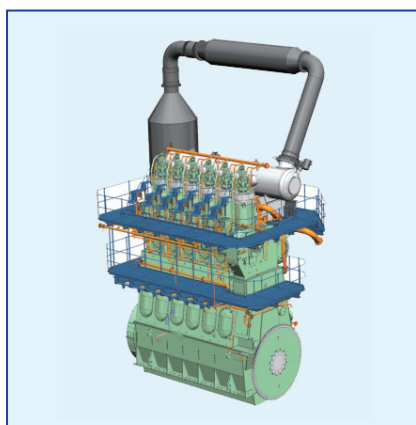
## Hitachi Zosen obtains the world's first-time approval for SCR System of marine engines from MAN Diesel & Turbo

Hitachi Zosen Corporation has become the world's first firm to receive first-time approval (FTA) for a selective catalytic reduction (SCR) system for marine engines from its licensor MAN Diesel & Turbo SE (Germany; MAN) in the field of the design and manufacturing of marine diesel engines.

The International Maritime Organization (IMO) proposed the standards for the reduction of nitrogen oxide (NO<sub>x</sub>) and sulfur oxide (SO<sub>x</sub>) emissions during maritime transportation. In April 2014, The IMO Marine Environment Protection Committee adopted stringent Tier III controls, which require 80% reduction of NO<sub>x</sub> emissions from Tier I (17.0 g/kWh) within emission control areas (ECA) from 2016.

Hitachi Zosen in partnership with MAN, its licensor with more than 80% global share of the marine diesel engine market, began to develop a SCR system for marine engines by using Hitachi Zosen's proprietary NO<sub>x</sub> removal catalyst and system installed in a test engine in 2009. The SCR system was

certified by NK (Japan Maritime Association) ahead of the competition and fitted in a new vessel for in-service testing for three years from November 2011. The greatest benefit of the system is that the high-pressure exhaust gas upstream of the turbocharger is used,



which has high density and requires only a low-capacity catalyst, for a compact design less than half the size of conventional systems.

The FTA from MAN verified that Hitachi Zosen's SCR system for marine engines is fully compliant with Tier III standards. Hitachi Zosen is

the only marine diesel engine supplier worldwide to receive official approval from MAN. Tier III NO<sub>x</sub> standards are applicable to new ships constructed on or after January 1, 2016. Since design of a new ship takes at least one year, the demand for new shipbuilding with SCR is rising significantly for NO<sub>x</sub> reduction systems. Hitachi Zosen commenced full-scale marketing of SCR systems for marine engines this year, and plans to build on the FTA and collaborate further with MAN to carry out aggressive marketing activities worldwide.

Hitachi Zosen's SCR system for marine engines offers the following benefits: The system uses high-temperature exhaust gas upstream of the turbocharger to prevent excessive CO<sub>2</sub> emissions. The system uses high-pressure exhaust gas upstream of the turbocharger, with high density requiring compact catalyst volume, for optimized design. The system uses urea as a reductant to render NO<sub>x</sub> harmless for enhanced safety and user-friendliness.

## Naikai completes 19,000DWT white product tanker, SPAS TIGA

Naikai Zosen Corporation completed building the SPAS TIGA, a 19,000DWT white product tanker, for P.T. SCORPA PRANEDYA at the Setoda Works on September 30, 2014. The product tanker is now servicing South Asian routes for transporting petroleum products (light oil).

The tanker is the wide beam and shallow draught type with a navigation draught limited to 7.13m. The cargo tanks are seg-

regated by 12 sections including slop tanks. These compartments are protected by double side-shells and bottom to prevent outflow of petroleum products to avoid marine contamination. Moreover, fuel oil tanks are also protected by double-skin structures to prevent the outflow of fuel oil. Total volume of the cargo tanks is 23,900m<sup>3</sup>, and loading and unloading are achieved by three electric screw pumps with a capacity of 600m<sup>3</sup>/h.

The product tanker employs a newly developed hull form and a large rudder for improved propulsion efficiency and maneuverability. Even at a shallow port, the vessel has superb course-

keeping and turning performance. The tanker can maintain even keel navigation by shifting fuel oil between the tanks located at the bow and stern.

### Principal particulars

L (o.a.) x L (b.p.) x B x D x d:  
160.00m x 152.00m x 27.90m x  
11.20m x 7.13m

DWT: 19,000t

GT: 13,221

Main engine: Hitachi-MAN B&W  
7S35MC7.1 diesel x 1 unit

MCR: 4,900kW x 170min<sup>-1</sup>

NCR: 4,165kW x 161min<sup>-1</sup>

Speed, service: About 13.0kt

Complement: 25

Classification: NK

Registry: Panama

Completion: September 30, 2014

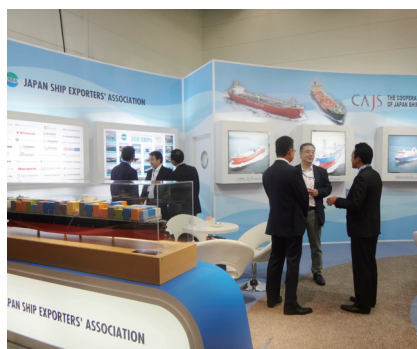


## Participation in SMM 2014 International Maritime Exhibition

Japan Ship Exporters' Association (JSEA) participated in the SMM 2014 International Maritime Exhibition (organized by Hamburg Messe und Congress GmbH) held from September 9 to 12 (Tuesday to Friday) in Hamburg, Germany, with a grant from the Nippon Foundation, a public interest incorporated foundation. This was 26th SMM exhibition, a thriving event in which 2,141 exhibitors from 67 countries participated, attracting some 50,000 visitors.

JSEA, participating in SMM for the first time, exhibited a model ship and a panel at the Japanese Shipbuilding Industry Booth jointly produced with the Cooperative Association of Japan Shipbuilders mainly to feature Japanese Eco-ships. To further enhance the effectiveness of the display, individual shipbuilders' publicity video programs were shown on a liquid crystal monitor installed in the

booth, and this and other public information activities in the exhibition are considered to have keenly interested visitors with the technical excellence of the Japanese shipbuilding industry.



## Namura announces merger with Sasebo Heavy Industries

As of 1st day of October, 2014, Sasebo Heavy Industries Co., Ltd. became a wholly owned subsidiary of Namura Shipbuilding Co., Ltd. through share exchange. Now the Namura group has three shipyards including The Hakodate Dock Co., Ltd. This is necessary for both companies, and to survive in the severe competition, shipyards now must enhance cost competitiveness and their capabilities in design and technological development to cope with serve customers' needs for fuel-efficiency at a high level, and to appropriately and promptly respond to amendments of international rules, especially environmental rules.



**CAPE HOPE**

Owner: La Darien Navegacion S.A.  
 Builder: Imabari Shipbuilding Co., Ltd.

Ship type: Bulk carrier

L (o.a.) x B x D: 299.94m x 50m x 24.7m

DWT/GT: 206,600t/107,229

Main engine: Hitachi-MAN B&W  
 6S70ME-C8.2 diesel x 1 unit

Speed, service: about 14.6kt

Classification: NK

Completion: September 9, 2014

**AMSTEL EAGLE**

Owner: Triton Navigation B.V.  
 Builder: Oshima Shipbuilding Co., Ltd.

Hull No.: 10579

Ship type: Bulk carrier

L (o.a.) x B x D x d (ext.): 189.99m x 32.26m x 17.87m x 12.569m

DWT/GT: 56,108t/31,543

Main engine: Kawasaki MAN  
 B&W 6S50ME-C8.2 diesel x 1 unit

Speed, service: 14.30kt

Registry: Panama

Classification: NK

Completion: July 16, 2014

**ESTRELLA**

Owner: Lundquist Shipping Company Limited

Builder: Sumitomo Heavy Industries Marine & Engineering Co., Ltd.

Hull No.: 1379

Ship type: Tanker

L (p.p.) x B x D: 224.64m x 42.00m x 21.45m

DWT/GT: 106,200t/57,312

Main engine: Mitsui MAN B&W  
 6S60ME-C8 diesel x 1 unit

Speed, service: About 15.0kt

Classification: LR

Completion: October 31, 2014

**SAGITTARIUS OCEAN**

Owner: Diamond Star Shipping Pte. Ltd.

Builder: Onomichi Dockyard Co., Ltd.

Hull No.: 595

Ship type: Super box-shaped bulk carrier

L (o.a.) x B x D x d (ext.): 177.85m x 28.60m x 15.00m x 10.85m

DWT/GT: 37,052t/ 22,963

Main engine: Mitsubishi 6UE-C45LSE diesel x 1 unit

Speed, service: 15.7kt

Registry: Singapore

Classification: NK

Completion: August 7, 2014

**TASCO NIRAND**

Owner: Alpha Maritime Co., Ltd.

Builder: Shin Kurushima Dockyard Co., Ltd.

Ship type: Asphalt carrier

L (o.a.) x B x D x d: 104.22m x 17.00m x 8.80m x 5.773m

DWT/GT: 4,485t/4,225

Main engine: Makita B&W  
 4L35MC6.1 diesel x 1 unit

Output: 2,450kW

Speed, service: 13.50kt

Classification: NK

Registry: Bangkok, Thai

Completion: August 6, 2014



Clear blue sky,  
 Deep blue sea,  
 And a sea trial

“IS BARI-STAR,” a 38,000DWT bulk carrier, is under a sea trial, which has been constructed by Imabari Shipbuilding Co., Ltd.

