SEA-Japan
No. 395 June. - July. 2019

# NAMURA completes 38,000m³ LPG carrier, HOURAI MARU


Namura Shipbuilding Co., Ltd. delivered the HOURAI MARU, a 38,000m³ capacity LPG carrier, to Southern Pacific Holding Corporation c/o Kumiai Senpaku Co., Ltd. at its Imari Shipyard & Works on March 11, 2019. The vessel is the first of a newly developed medium-sized fully refrigerated type multi-purpose LPG carrier with the following features.

The principal dimensions of the vessel have been optimized to satisfy the restrictions of the main ports in the world. The high propulsion performance satisfies Phase 2 of EEDI based on the lower resistance hull form with energy saving devices, electronically controlled main engine, and high effiiciency propeller.

The world's first IMO type B independent prismatic cargo tanks are adopted for this multi-purpose LPG carrier, with higher safety performance based on structural fatigue analysis and easier maintenance due to the partial secondary barrier of low-temperature resistance steel. The cargo tanks are arranged so that the distance between the outer shell and cargo tanks satisfies the revised IGC Code.

The cargo tanks and reliquefaction system are designed to carry various cargoes including commercial propane with maximum 5 mol% ethane, anhydrous ammonia, and vinyl chloride monomer. Two sets of deck storage tanks facilitate conditioning of the cargo tanks and cargo change. A settling tank and service tank for low sulfur fuel oil are provided, and future installation onboard of a $SO_x$ scrubber is possible if required, which achieves Class notation EGCSR-G for the IMO 2020 global sulfur cap.

**Principal particulars**

| | |
|---|---|
| L (o.a.) x B (mld) x d (mld): | 182.97m x 29.60m x 10.40m |
| DWT/GT: | 28,894t/25,458 |
| Cargo tank capacity: | 38,543m³ |
| Main engine: | MAN B&W 6G50ME-B9.5 diesel x 1 unit |
| Complement: | 25 |
| Classification: | ClassNK |
| Registry: | Marshall Islands |
| Completion: | March 11, 2019 |

For further information please contact:
Website: http://www.jsea.or.jp
JAPAN SHIP EXPORTERS' ASSOCIATION
15-12, Toranomon 1-chome, Minato-ku, Tokyo 105-0001 Tel: (03) 6206-1661 Fax: (03) 3597-7800 E-Mail: postmaster@jsea.or.jp

# JMU completes Panamax bulk carrier of G-Series, SELINA H

Japan Marine United Corporation delivered SELINA H, a G-Series Panamax bulk carrier at its Maizuru shipyard on 13 March, 2019. The G-Series Panamax bulk carrier achieves dramatic reduction of fuel oil consumption using various and comprehensive measures for energy-saving so that GHG (Greenhouse Gas) emissions can be greatly reduced. This Panamax bulk carrier type has larger deadweight and cargo hold capacity suitable for carrying grain, bulk coal, and iron ore in its seven cargo holds, and has been developed with the expertise and long experience of Japan Marine United Corporation.

The propulsion performance has been improved by adoption of the SSD® (Super Stream Duct®) and SURF-BULB® (Swept-back Upthrusting Rudder Fin with Bulb) equipped in front of and behind the propeller, respectively. Furthermore, the unique bow shape of the LEADGEBOW® can reduce added resistance due to waves, and the well-refined shape of the superstructure can decrease wind resistance.

In addition, compliance with the fuel oil tank protection rule and MARPOL $NO_x$ tier-II for the main engine, and application of a ballast water treatment system and $SO_x$ scrubber to comply with MARPOL ANNEX VI Regulation 14 make the vessel more environmentally friendly.

The safety and maintenance of the vessel have also been improved by adopting the CSR (Common Structural Rules) for bulk carriers and PSPC (Performance Standard for Protective Coatings) for ballast water tanks.

**Principal particulars**

L (o.a.) x B (mld) x D (mld) x d (mld): 229.0m x 32.26m x 20.0m x 14.45m
DWT/GT: 80,716t/43,518
Main engine: MAN B&W 6S60ME-C8.2 diesel x 1 unit
Speed: 14.5kt
Complement: 25
Classification: DNV GL

# Oshima completes 91,000DWT type bulk carrier, CORONA YOUTHFUL

Oshima Shipbuilding Co., Ltd. delivered the 91,000DWT-type bulk carrier, CORONA YOUTHFUL, to FGL MAST PANAMA S.A. on February 1, 2019. This is the third delivery of a vessel in the newly developed 91,000 DWT-type series. This series was developed as the optimized ship type for carrying coal to Japanese thermal power plants and is designed to have larger cargo hold capacity and deadweight with shallower draft, which can meet the limitations of the ports.

To achieve higher propulsion effiiciency, the vessel is equipped with an electronically controlled main engine and a high effiiciency propeller. In addition, the Oshima energy saving devices, Advanced Flipper Fins, Rudder Fin, and Seaworthy Bow are installed for further improvement of propulsion effiiciency. These installations have improved effiiciency by almost 30% from the IMO reference EEDI (Energy Effiiciency Design Index). Consequently, $CO_2$ emissions per deadweight and nautical mile are reduced.

Various eco-friendly features of the vessel are as follows: The main engine complies with $NO_x$ emission Tier II regulation to prevent air pollution, and the arrangement of the fuel oil tanks is designed to prevent marine pollution according to the MARPOL convention. A ballast water treatment system is also installed for protection of the ocean environment, and inverter controlled fans of the air conditioning plant help to reduce power cosumption onboard.


For maintenance, access trunks from the upper deck to double bottom are provided for easier tank maintenance even under the laden condition, and the Propeller Shaft Condition Monitoring System of ClassNK is applied for easy management of propeller shaft conditions.

Mooring arrangements and related equipment satisfy the requirements of the expanded New Panama Canal for wider route availability, and crew accommodation is designed to comply with the Marine Labour Convention 2006 for crew and offiicer's comfort during voyages. The main propulsion machinery incorporates automatic and remote-control systems to comply with the M0 notation of ClassNK.

**Principal particulars**

L (o.a.) x L (b.p.) x B x D x d (summer): 234.99m x 230.00m x 43.00m x 18.40m x 12.885m
DWT/GT: 91,861t/52,128
Loading capacity: 110,327$m^3$
Main engine: Kawasaki MAN B&W 6S60ME-C8.5 x 1 unit
MCR: 9,120kW x 84.0rpm
Speed, service: abt. 14.3kt
Classification: ClassNK
Completion: February 1, 2019

# MHIMSB completes new generation MOSS type LNG carrier, MARVEL CRANE

Mitsubishi Shipbuilding Co., Ltd. (MHIMSB), a group company of Mitsubishi Heavy Industries, Ltd. (MHI) completed construction of the MARVEL CRANE (HN: 2321), a new generation MOSS type LNGC with tank capacity of 177,000m$^3$, and delivered the vessel to Lepta Shipping Co., Ltd. on March 28, 2019.

MHIMSB will continue to deliver solutions that enable stable energy supply and environmental benefits by constructing high quality and environmental-friendly LNG carriers with advanced technology. The vessel is equipped with a modified version of the highly reliable MOSS spherical tank, an apple-shaped tank with a protruding upper half. This tank design effectively expands the ship's LNG carrying capacity without increasing its width, allowing passage through the new Panama Canal.

The propulsion system is a hybrid 2-shaft STaGE (Steam Turbine and Gas Engines) system combining a steam turbine and a gas-fired engine. The ship is equipped with MHI's proprietary high-effiiciency reheat marine steam turbine engine, or UST (MHI Ultra Steam Turbine Plant), a dual-fuel engine power generator capable of burning both natural gas and diesel, as well as an electric propulsion plant. Effective utilization of waste heat by the UST provides substantial improvement in effiiciency, allowing for high-effiiciency navigation at both low and high speeds.

**Principal particulars**

| | |
|---|---|
| Owner: | Lepta Shipping Co., Ltd. |
| Builder: | Mitsubishi Shipbuilding Co., Ltd. |
| Hull No.: | 2321 |
| Ship type: | LNG carrier |
| L (o.a.) x L (b.p.) x B x D x d (design): | 297.50m x 293.00m x 48.94m x 27.50m x 11.40m |
| Gross tonnage: | 139,049 |
| Cargo tank capacity: | 177,627m$^3$ (100% full) |
| Main engines: | |
| 1) Mitsubishi, MR21-II, marine steam turbine with reduction gear x 1 set | |
| Output: | 13,000kW x 62.0rpm |
| 2) GE, N3 HXC 1000 J8, electric propulsion motor with reduction gear x 1 set | |
| Output: | 13,000kW x 62.0rpm |
| Speed, service: | 19.5kt |
| Classification: | ABS |
| Completion: | March 28, 2019 |

# Kawasaki develops new LNG-fueled bulk carrier

Kawasaki Heavy Industries, Ltd. has developed a design for a 200,000DWT bulk carrier powered by liquefied natural gas (LNG), which has received Approval in Principle (AiP) from Nippon Kaiji Kyokai (ClassNK) based on the classification society' s Rule Part GF, which adopts the IGF Code.

The International Maritime Organization (IMO) is imposing tighter restrictions on emissions of greenhouse gases and air pollutants, so the shipping industry has been increasing its focus on utilizing LNG and other clean fuels in place of conventional fuel oil.

Based on technological experience attained through building LNG carriers for many years, Kawasaki has been developing various LNG-related vessels, such as the world's first LNG-fueled car carrier, delivered in 2016, and LNG bunkering vessels, which has culminated in a rich pool of LNG-related application technology.

Combined with additional technological innovations and knowledge developed in the course of acquiring the AiP for this bulk carrier, which complies with the latest international regulations, Kawasaki is fully equipped to proceed with design and building, as well as application of these technologies to other types of ships.

Moving forward, Kawasaki plans to widen its application of LNG propulsion technology in commercial vessels, and to increase its focus on building LNG-fueled vessels, for which demand is expected to grow globally in the future.

Principal features of the new LNG-fueled carrier are that the LNG fuel tank is located behind the accommodation in the stern, so maintaining cargo space as large as that of conventional oil-fueled ships. The low-speed, dual-fuel diesel engine achieves significantly reduced emissions of carbon dioxide ($CO_2$), nitrogen oxides ($NO_x$), sulfur oxides ($SO_x$), and particulate matter (PM) when using LNG as fuel, meeting the EEDI Phase 3 requirements.

**Dimensions**

| | |
|---|---|
| Length (o.a.): | Approx. 300m |
| Breadth: | 50m |
| Draught: | 18.4m |

*200,000 DWT LNG-fueled bulk carrier (image) — AiP certificate*

## New JSEA President appointed

The 118th Annual General Meeting of the Japan Ship Exporters' Association (JSEA) selected 29 directors and 2 auditors in Tokyo on May 23, 2019. The subsequent 623th Directors' Meeting selected Mr. Yasuhiko Katoh, Senior Adviser, Mitsui E&S Holdings Co., Ltd., as the new JSEA President. Mr. Katoh's tenure will last the usual two years. Mr. Katoh will complete a two-year term as Chairman of the Shipbuilders' Association of Japan (SAJ) on June 19, 2019, having held the position since 2017.

The same meeting appointed four Executive Vice Presidents of the JSEA: Mr. Yukito Higaki, President, Imabari Shipbuilding Co., Ltd. (reappointment); Mr. Yoshio Hinoh, Honorary Consultant, Sumitomo Heavy Industries, Ltd. (reappointment); Mr. Kosuke Takechi, Executive Offiicer, Marubeni Corporation (new appointment); and Mr. Aiichiro Matsunaga, Executive Vice President, Mitsubishi Corporation (new appointment).

*New president Mr. Katoh*

Standing offiicers of JSEA include Mr. Satoshi Ito, Senior Managing Director (reappointment) and Mr. Hidetsugu Ueki, Managing Director, concurrently Secretary General (reappointment).

### To our readers

- Please notify us of any change in address by letter, telefax, or E-mail together with the old mailing label to ensure you continue to receive SEA-Japan.
- We welcome your comments about SEA-Japan. Please address all correspondence to the Japan Ship Exporters' Association (JSEA), or the Japan Ship Centre (JETRO) in London.
- Address (Tokyo): 15-12, Toranomon 1-chome, Minato-ku, Tokyo 105-0001 / Tel: +81-3-6206-1661 Fax: +81-3-3597-7800
  E-mail: postmaster@jsea.or.jp
- Address (London): Japan Ship Centre (JETRO), MidCity Place, 71 High Holborn, London WC1V 6AL, UK / Tel: +44-20-7421-8340 / Fax: +44-20-7421-0009
- Portal site: maritimejapan.com

## Mitsui E&S Shipbuilding commences manufacturing of tanks for gas carriers at Chiba Works

Mitsui E&S Shipbuilding Co., Ltd. started the business of construction of cargo tanks for small-scale gas carriers at its Chiba Works.

Mitsui E&S has already received a letter of intent, as the first project, from Sasaki Shipbuilding Co., Ltd., for construction of cargo tanks and supply of gas handling system for a 5,000m$^3$ type LPG carrier.

The scope of Mitsui E&S fully covers the gas handling and storage system of gas carriers, such as engineering of gas handling system, supply of gas handling equipment, construction and installation of cargo tanks and outfitting work of them.

The engineering work will be done in collaboration with TGE Marine AG, a subsidiary in German which has affluent experience of engineering of cargo tank and gas handling system for liquefied gas carriers.

At Chiba Works, Mitsui E&S provides the construction, installation and outfitting work of cargo tanks and gas handling equipment. Since acquiring TGE Marine in 2015, Mitsui E&S Group has provided Japanese clients with the EPCS (Engineering, Procurement, Construction, Supervising) service for cargo tank and gas handling systems for small-scale gas carriers by combining the technologies both TGE's gas engineering and Mitsui E&S's shipbuilding and engineering.

Adding the service at Chiba Works, Mitsui E&S will step up its efforts to provide clients with higher added value solutions, and will further enhance its business portfolio.

*Chiba Works for production*

# JSEA participates in NOR-SHIPPING 2019

The Japan Ship Exporters' Association (JSEA) participated in the 27th NOR-SHIPPING 2019 international maritime exhibition (organized by Norges Varemesse) in cooperation with The Shipbuilders' Association of Japan (SAJ) and with support from The Nippon Foundation. The exhibition was held from Tuesday June 4 through Friday June 7 at the Lillestrom Exhibition Centre in Norway. According to its organizer, 846 exhibitors from 47 countries participated in NOR-SHIPPING 2019, which attracted 30,170 visitors.

The JSEA set up a national stand in cooperation with the Japan Ship Machinery and Equipment Association (JSMEA) and Nippon Kaiji Kyokai (ClassNK). European and American shipowners and other guests who visited the booths were impressed with the unique technologies centered on new-generation ships featuring high fuel effiiciency, and development of Eco-ships and environmentally friendly ships satisfying the tightened rules on $CO_2$, $NO_x$ and $SO_x$ discharges. Japanese exhibitors had successful exchanges with the many visitors, succeeding in promotion of Japanese ship exports and enhancing recognition of the Japanese presence in the maritime world.

**Seminar**

JSEA with the collaboration of the MLIT held a Seminar under the main theme, "GHG Reduction and Digitalization in the Maritime Industry – Japan's Contribution & Challenges – " on Wednesday, June 5, from 13:00 till 16:00 at "Romerike" of Thon Hotel Arena next to the Exhibition Centre. Over 120 participants in the seminar came, and began with the Opening Address of the JSEA president Mr. Katoh.

The first part of the seminar proceeded with a keynote lecture by Mr. Yoshio Otagaki, Adviser Management & Technology to Japan Marine United, followed by talks by Mr. Tomohito Takeuchi from MLIT, Mr. Masanori Yoshida of The Nippon Foundation, and Mr. Stephen Gordon, Managing Director of Clarkson Research Services Ltd. The second part featured presentations by four shipbuilding companies, Japan Marine United, Kawasaki Heavy Industries, Mitsubishi Shipbuilding, and Mitsui E&S Shipbuilding, and by ClassNK. All these presentations focused on topics that are now attracting keen interest in the shipping and shipbuilding industries worldwide.

**Opening Ceremony**

The opening ceremony of the Japanese stand was held on June 4 with the participation of senior executives of the JSEA and JSMEA member companies, presided over by Mr. Masahiro Tauchi, Japanese Ambassador to Norway (center in above photo), JSMEA chairman Shinzo Yamada (extrem left), JSEA president Yasuhiko Katoh (2nd from left), Mr. Yasuhiro Shinohara, Vice-Minister for International Affairs, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) (2nd from right), and Mr. Koichi Fujiwara, President & CEO of ClassNK (extreme right).

**Party**

A party jointly hosted by Mr. and Mrs. Tauchi, Japanese Ambassador to Norway, and Mr. and Mrs. Katoh, JSEA president, was held in the evening of June 5. This event was attended by 674 people including major shipowners and ship brokers in Norway and other Western countries, the financial community, the press, the Norwegian government and foreign embassies in Norway. Ambassador Tauchi delivered a welcome speech.

*674 guests gathered at party (above), over 120 participants at seminar (left), and many guests enjoyed Sushi Luncheon at JSEA stand (right).*

## NIAGARA HIGHWAY

Owner: Yahata Kisen Co., Ltd./ Pedregal Maritime S.A.
Builder: Imabari Shipbuilding Co., Ltd.
Ship type: Pure car carrier
L x B x D: 199.98m x 37.2m x 38.79m
DWT/GT: 21,052t/75,528
Main engine: 7UEC60LSE-Eco-A2 diesel x 1 unit
Speed, service: 20.0kt
Classification: ClassNK
Completion: March 25, 2019

## MEDI NORFOLK

Owner: Seiun Shipping S.A.
Builder: Mitsui E&S Shipbuilding Co., Ltd.
Hull No.: 1918
Ship type: Bulk carrier
L (o.a.) x B (mld) x D (mld): 199.99m x 32.25m x 18.50m
DWT/GT: 60,384t/34,589
Main engine: Mitsui-MAN B&W 6S50ME-B9.3 diesel x 1 unit
Speed, service: 14.5kt
Complement: 25
Classification: ClassNK
Registry: Panama
Completion: March 28, 2019

## ALFA FINLANDIA

Owner: Shinobu Shipping Company Limited
Builder: Sumitomo Heavy Industries Marine & Engineering Co., Ltd.
Hull No.: 1396
Ship type: Crude oil carrier
L x B x D: 237.0m x 44.0m x 21.8m
DWT/GT: about 112,000t/60,152
Main engine: Hitachi MAN B&W 6G60ME-C9.5 diesel x 1 unit
Speed: 15.0kt
Classification: LR
Registry: Bahama
Completion: February 7, 2019

## KEN JYO

Owner: Delica Shipping S.A.
Builder: Saiki Heavy Industries Co., Ltd./Onomichi Dockyard Co., Ltd.
Hull No.: 763
Ship type: Log bulk carrier
L (o.a.) x B x D x d (ext.): 174.44m x 30.00m x 15.10m x 10.05m
DWT/GT: 37,109t/23,765
Main engine: MAN B&W 6S46ME-B8.5 diesel x 1 unit
Speed, service: 15.0kt
Classification: ClassNK
Registry: Panama
Completion: January 15, 2019

## CHEMROAD HAWK

Owner: Cassiopeia Marine S.A.
Builder: Shin Kurushima Dockyard Co., Ltd.
Hull No.: S-5977
Ship type: Chemical tanker
L (o.a.) x B x D: 172m x 27.4m x 16.3m
DWT/GT: 35,647t/21,274
Main engine: 6UEC50LSH-Eco-C2 diesel x 1 unit
Speed, service: 15.0kt
Classification: ClassNK
Registry: Panama
Completion: March 1, 2019

## LAURENCE FRANCOISE

Builder: Tsuneishi Shipbuilding Co., Ltd.
Hull No.: S1578
Ship type: Bulk carrier
L (o.a.) x B x D: 229.00m x 32.26m x 20.00m
DWT: 81,600t
Main engine: MAN B&W 6S60ME-C8.2 diesel x 1 unit
Speed, service: 14.5kt
Classification: ClassNK
Registry: Isle of Man
Completion: February 1, 2019