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MHI completes 145,580 m³ Moss type LNG carrier GRAND ELENA

Mitsubishi Heavy Industries, Ltd. (MHI) completed construction of the GRAND ELENA (HN:2229), a Moss type LNG carrier with a tank capacity of 145,580m³, and delivered the vessel to NYK-SCF LNG Shipping No.1 Limited at the Nagasaki Shipyard & Machinery Works on Oct. 31, 2007. Main features are as follows. High propulsive performance is achieved by the refined hull form and optimum design of propeller based on CFD and model experiments. Hull structure design is based on advanced ship structural analysis. Ice certificate has been obtained in order to operate in Sakhalin. Measures against cold to minus 25 degree C. Ice class notations of LR 1B FS (Hull) and Russian maritime register LU2 (Propeller and Propeller shaft) apply, and enclosed type bridge wings, heating for working areas, ice paint, etc., are adopted considering the operation in Sakhalin. LR environmental protection notation of EP applies.

Principal particulars of the Grand Elena

Length (o.a.):	288.0m
Length (b.p.):	274.0m
Breadth:	49.0m
Depth:	26.8m
Design draft:	11.25m
Gross tonnage:	122,239
Cargo tank capacity:	145,580m³
Main engine:	Marine steam turbine x1
Output:	23,600kW x 80rpm
Service speed:	19.5kt
Classification:	LR

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MES completes 320,000DWT very large ore carrier, BRASIL MARU

Mitsui Engineering & Shipbuilding Co., Ltd. (MES) has completed the 320,000DWT ore carrier, BRASIL MARU (HN. 1660) at its Chiba Works, and delivered the vessel to Tamou Line S.A. on Dec. 7, 2007. BRASIL MARU is a very large ore carrier newly designed to satisfy the growing ocean transport demand for iron ore.

Higher saving of fuel oil consumption is achieved by the combination of a hull form of higher propulsive performance, a propeller of higher propulsive efficiency and the MIPB (Mitsui Integrated Propeller Boss) combined with a reaction rudder.

Greater operational flexibility is achieved by introducing mooring equipment to meet loading port conditions in Brazil, securing of air draft to allow entry into Australian ports, and capability of loading/unloading at multiple ports (e.g. loading at 2 ports and unloading at 3 ports). Higher reliability of hull structure is achieved by introduction of UIT processing (improvement of fatigue strength by ultrasonic impact treatment) on critical parts of ship structure for the first time in the shipbuilding industry with the collaboration of Nippon Steel Corporation. Fuel oil tank has complete double hull construction for environmental protection.

The main engine is the Mitsui-MAN B&W 7S80MC-C type which satisfies IMO exhaust gas emission requirements and achieves fuel saving by introducing derating to enable optimum operation at the most appropriate output. An electronically controlled oil supply system is applied to the main engine cylinder oil lubricator.

Generator engines also satisfy IMO exhaust gas emission requirements.

Principal particulars
L (o.a.) x L (b.p.) x B x D x d:
340.00m x 325.00m x 60.00m x 28.15m x 21.13m
DWT/GT: 327,180t/160,774
Main engine: Mitsui-MAN B&W Diesel 7S80MC -C x 1 unit
MCR: 23,640kW x 66rpm
Speed: 15.0kt
Complement: 30
Classification: NK
Delivery: Dec. 7, 2007

11,000 GT passenger and vehicle ferry, SUNFLOWER GOLD

Mitsubishi Heavy Industries, Ltd. (MHI) has completed construction of the SUNFLOWER GOLD, a 11,000GT-class passenger and vehicle ferry for the owner Diamond Ferry Co, Ltd. The ferry was designed and built at the Shimonoseki Shipyard & Machinery Works, and delivered to the owner on Nov. 15, 2007. The SUNFLOWER GOLD is now engaged in regular service on the Beppu, Oita, Matsuyama, Kobe and Osaka route.

The ship has improved transport efficiency compared with the previous vessel, increasing car loading capacity by 40%. Also, the number of private rooms (for 1P, 2P and 4P) is increased. Furthermore, for safe navigation, the chart radar system, which can superimpose electronic navigational charts on the radar display, is provided for the first time on a Japanese domestic ferry, and for saving fuel oil consumption, a single screw driven by two engines is adopted. The double hull construction is applied to the fuel oil tanks to reduce the risk of oil pollution in case of damage.

The Japanese barrier free rule is applied to the ship, so that all passengers including disabled persons can move safely and enjoy travel with various barrier free facilities onboard. The ship has various kinds of passenger cabins, such as deluxe cabins with veranda, private rooms which can accommodate a pet, and can offer a comfortable voyage to passengers.

Principal Dimensions:
L (o.a.) x L (b.p.) x B x D x d:
165.5m x 154.70m x 27.00m x 14.30m (4th deck) x 6.00 m
DWT/GT: 4,458t/11,178
Speed, service: 23.2kt
Main engine: JFE SEMT-PIELSTICK 12PC2-6B diesel x 2 units
MR: 9,000kW x 600min^{-1}/unit
Propeller: Controllable pitch propeller x 1 unit
Loading capacity of vehicles:
138 units (12m truck)
9 units (8m truck)
75 units (passenger car)
Passengers: 748 persons
Roll-on/Roll-off equipment:
Forward ramp (with bow visor) (3rd deck) x 1unit
Stern quarter ramp (3rd deck) x 1 unit
Stern ramp (3 Deck) x 1 unit
Seesaw ramp (3rd - 4th decks) x 1 unit
Fixed ramp (with cover) (2nd - 3rd decks) x 1 unit
Fixed ramp (1st - 2nd decks) x 1 unit
Bow thruster: 1 uit
Stern thrusters: 3 units

Kawasaki completes LNG carrier SUN ARROWS

Kawasaki Shipbuilding Corporation has delivered the LNG carrier, SUN ARROWS (HN: 1593), to its owner, Maple LNG Transport Inc. jointly owned by Hiroshima Gas Co., Ltd. and Mitsui O.S.K. Lines, Ltd. (MOL). The carrier is now operated by MOL to transport LNG from Malaysia to Japan. The carrier is the second ship with a LNG tank capacity of 19,100m^3 built by Kawasaki Shipbuilding Corporation.

The carrier has three MOSS-type independent spherical tanks, totaling 19,176m^3 loading capacity. The LNG tanks use the Kawasaki Panel System developed as the heat insulation, which has demonstrated proven heat insulation effect. The LNG tank compartment is of double-side shell and double-bottom construction to protect the cargo tanks from damage in an accident such as collision or stranding.

The cargo control room is located in the position overlooking the cargo-loading and unloading area to secure safe cargo-handling. IAS (an integrated and automated monitoring and controlling system) installed in the cargo control room allows monitoring of the engine room status besides cargo handling. IAS displays superior operability due to an operator-friendly system developed based on the various experiences and opinions of operators.

Sakhalin is planned as the main loading port for the carrier. Inevitably, protective measures are taken for the cold environment of minus 25 degrees C for atmospheric temperature and minus two degrees C for seawater temperature to allow transport even under such conditions, which include ice-resistant structure, bow coating for frozen seas, controllable pitch propeller, fully enclosed bridge against cold, night view camera to watch the frozen sea, and adoption of powerful searchlights. All instruments are also protected from cold temperatures to operate without problems.

The SUN ARROWS adopts "Prime Ship-Fatigue Assessment," Class NK PS-FA notation, and totally satisfies the fatigue strength requirements according to the latest guidelines provided by Class NK. In addition, the SUN ARROWS has ice-resistant performance corresponding to LU3 of the RS Ice Class.

Principal particulars
L (o.a.) x L (b.p.) x B x D x d: 151.00m x 140.00m x 28.00m x 16.00m x 7.60m
DWT/GT: 11,142t/20,620
Cargo tank capacity: 19,176m^3 (at -163^{o}C, 98.5%)
Main engine: Kawasaki UA-120 steam turbine x 1 unit
MCR: 8,830kW x 121rpm
Speed, service: about 18.1kt
Complement: 33
Classification: NK
Completion: Nov. 9, 2007

NAMURA completes power max type bulk carrier, HOUYO

Namura Shipbuilding Co., Ltd. delivered HOUYO, a 93,492 DWT bulk carrier, to S.K.F. MARITIME, S.A. at its Imari Shipyard & Works on Dec. 5, 2007. The vessel is designed for mainly carrying coal to power plants, and wide beam and shallow draft achieve more efficient cargo loading compared with conventional designs.

The vessel has a forecastle, six cargo holds, six hatches and six pairs of water ballast tanks and double sided skin construction is fully applied for the fuel oil tanks to reduce the risk of fuel oil outflow in accordance with the new MARPOL regulations.

The vessel is equipped with a MAN B&W 6S60MC (Mark 6) 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 are arranged to comply with new SOLAS regulations.

Central fresh water cooling system and sufficient capacity of ballast systems 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: 93,492 t / 50,933
Main Engine: MAN B&W 6S60MC (Mark 6) x 1 set
M.C.R.: 12,240 kW x 105rpm
Service Speed: 15.0kt
Complement: 25 P
Classification: NK
Flag: Republic of Panama

Imabari completes 205,000 DWT type bulk carrier

Imabari shipbuilding has delivered the 206,330 DWT bulk carrier, BW ODEL (HN: 8055), to the owner, E.K. LINE S. A., at the Saijo Shipyard. The BW ODEL is the fifteenth of the series of 205,000DWT type bulk carriers with a beam of 50m developed by Imabari.

The vessel has been designed to meet recent bulk carrier safety requirements as an ocean going bulk carrier suitable for carrying coal, ore, and bulk cargoes except grain.

The vessel consists of nine cargo holds of double hull construction with top side tanks and side hopper tanks. This design makes cargo handling and cargo hold cleaning easier, providing the owners and operators with superior cost performance.

The vessel has high loading performance to load heavy cargoes at slack loading of SF=12.0CF/LT in the alternated loading condition of Nos. 1, 3, 5, 7 and 9 cargo holds (other holds remain empty) under 45% bunker condition with not more than assigned draft. The vessel can also load/unload at two different ports under the condition of homogeneous cargo with the same 45% bunker condition. Each hold has a side sliding type hatch cover that is driven by hydraulic operation and well fitted to the cargo hatch coaming on the upper deck. Two hatch covers can be operated(opening/closing)simultaneously within about 3min. No. 6 cargo hold is utilized as the water ballast tank and No. 2 and 8 holds are designed as port use water ballast tanks to increase loading ability. The ballast water pumps are provided with a sufficient capacity of two 3000m^3/h to cope with the ballast exchange required by the rule.

An energy saving device, "hybrid fine" developed by Imabari, is installed at the fore edge of the rudder just after the propeller. The main engine is a low speed, 2-stroke, single acting, direct reversible crosshead diesel engine, which conforms to restrictive regulations against NO_X emission.

Principal particulars
L (o.a.) x L (b.p.) x B x D x d: 299.94m x 291.40m x 50.00m x 24.50m x 18.083m
DWT/GT: 206,330t/104,721t
Cargohold capacity: 220,021.91m^3
Main engine: MITSUI-MAN B&W 6S70MC-C x 1 unit
MCR: 18,630kW x 91rpm
Speed, service: 15.1 kt
Complement: 25
Classification: NK

SHI-ME delivers 105,500MTDW D/H tanker to New Advance Shipping Inc.

Sumitomo Heavy Industries Marine & Engineering Co., Ltd. (SHI-ME) delivered a 105,500MTDW double-hull Aframax tanker, NEW ADVANCE to New Advance Shipping Inc. at Yokosuka Shipyard of SHI-ME on Dec. 10, 2007.

The hull form is optimised to achieve high propulsive efficiency and is designed with highly reliable structures. Cargo oil tanks and piping systems are arranged in triple-segregation groups for flexible cargo handling. Water ballast tanks are coated with light colour modified epoxy coating for easy maintenance and inspection.

The vapour emission control system (VECS) is installed, complying with the US Coast Guard requirements to prevent air pollution during cargo handling. For ship safety, a fixed flammable gas detection system is provided in water ballast tanks adjacent to cargo oil tanks.

Principal particulars
L (o.a.) x L (b.p.)x B x D x d: 239.00m x 229.00m x42.00m x 21.30m x 12.19m
DWT/GT: abt. 105,500MT/abt. 56,170
Loading capacity: 122,330m^3
Main engine: DU-Sulzer 6RTA58T diesel x 1 unit
Service Speed: 14.9kt at 12.19 draft
Complement: 30
Classification: LR
Cargo oil pump: 3 x 2,500 m^3/h x 135m
Ballast pump: 1 x 3,000m^3/h x 30m
Completion: Dec. 10, 2007

Sanoyas completes wood chip carrier, PAX SILVA

Sanoyas Hishino Meisho Corp. has completed the PAX SILVA (HN: 1252) for Kotobuki Shipping Corporation, S.A. The vessel has a cargo hold capacity of 3.6 million cubic feet, or about 100,000m^3, designed mainly to transport wood chips.

The vessel has six cargo holds along the ship centerline, and the living quarters and engine room are arranged aft. Cargo holds, and structural members are appropriately designed to facilitate loading and unloading of wood chips.

Wood chips, which have low density, require larger cargo hold capacity than conventional bulk cargo. Therefore, the PAX SILVA has a deeper depth than the bulk carrier of the same deadweight tonnage class. Cargo handling machinery consists of a 975t/h chip unloader, three cranes, and four hoppers between cargo hatches. The main belt conveyor is laid fore-and-aft over the main deck. A shuttle conveyor is equipped at the bow to unload wood chips onto a land facility. The main engine is a low-speed, long-stroke, 2-cycle diesel engine for improved fuel consumption, and the engine room meets the requirements for unattended engine operation.

Principal particulars
L (o.a) x L (b.p.) x B x D x d: 199.99m x 194.00m x 32.20m x 22.75m x 11.178m
DWT/GT: 46,900t/39,802
Cargo hold capacity: 102,040m^3 (grain), (3,603,542ft^3)
Main engine: MAN B&W 6S 50 MC-C diesel x 1 unit
MCR: 10,800ps
Speed, service: about 14.3kt
Complement: 28
Classification: NK
Completion: Nov. 29, 2007

World's largest bunker tanker

Niigata delivers PEARL NAOMI to Consort Bunkers of Singapore

Niigata Shipbuilding & Repair, Inc. has delivered the world's largest bunker tanker, PEARL NAOMI, to Consort Bunkers Pte. Ltd. of Singapore at the Niigata Shipyard. The bunker tanker of 10,400 cargo DWT is a fuel oil supply vessel designed to refuel other vessels visiting the Port of Singapore and is the largest ship ever built by Niigata Shipbuilding. The PEARL NAOMI is provided with superior maneuverability to move around inside the congested port. Refueling work can be achieved in a short time with the following equipment.

A bunker boom to send the hose over the ship to be refueled is positioned amidship and capable of turning through 270 degrees. The boom can cover refueling for a small ship as well as VLCC. The bunker tank has 12 tanks provided for two types of heavy fuel oils, A and C grade. Cargo oil pumps consist of three different capacities of 1,800m^3/h, 1.500m^3/h, and 750m^3/h for efficient refueling.

For the swift approach to the ship to be refueled, the tanker has twin engines and propellers, and two bow thrusters. These allow turning of the tanker on the spot, and two fender davits are installed at the starboard and port side. The fender is used to avoid direct contact. After connecting the refueling hose with the target bunker manifold, refueling work proceeds automatically.

The PEARL NAOMI conforms to the IACS rules to navigate in high seas. The rules of the Maritime and Port Authority of Singapore (MPA) are applied to the tanker for ensuring safety of the ship operation within the port to prevent an accident.

Principal particulars
Contractor: Consort Bunkers Pte. Ltd.

Length, o.a.:	119.02m
Length, b.p.:	114.00m
Breadth:	21.00m
Depth:	10.10m
Draft:	7.50m

DWT/GT: 11,652.09t (d=7.50m)/7,120
Main engine: Niigata diesel engines x 2 units
Speed, trial Max.: 13.33kt
Complement: 18

CHARLOTTE BULKER

Owner: White Cosmos Shipping S.A.
Builder: The Hakodate Dock Co . , Ltd .
Hull No: 814
Ship type: Bulk carrier
L (b.p.) x B x D x d: 167.00m x 29.40m x 13.70m x 9.64m
DWT/GT: 32,132t/19,831
Main engine: Mitsubishi-6UEC52LA diesel x 1 unit
Speed: 14.4kt
Classification: KR
Completion: Sept. 26, 2007

NYK OCEANUS

Owner: Ruta Shipholding S.A.
Builder: IHI Marine United Inc.
Hull No.: 3226
Ship type: Container carrier
L (o.a.) x L (b.p.) x B x D x d: 336.0m x 318.3m x 45.8m x 14.0m
DWT/GT: 99,563t/98,799
Maine engine: DU SULZER 12RT-flex96C diesel x 1 unit
Output: 65,210kW
Speed, trial max: 25kt
Classification: NK
Completion: Sept. 28, 2007

DUBAI GALACTIC

Owner: Galactic Maritime Inc.
Builder: Oshima Shipbuilding Co., Ltd.
Hull No.: 10450
Shiptype: Bulk carrier
L (o.a.) x L (b.p.) x B x D x d: 189.99m x 185.79m x 32.26m x 17.62m x 12.48m
DWT/GT: 55,418t/30,719
Main engine: Kawasaki MAN B&W 6S50MC-C diesel x 1 unit
Output: 8,208kW at 110rpm
Classification: NK
Completion: Oct. 12, 2007

AOMI

Owner: Kumiai Navigation (Pte) Ltd
Builder: Sasebo Heavy Industries Co., Ltd.
Hull No.: S750
Ship type: Coal carrier
L (o.a.) x L (b.p.) x B x D x d: 229m x 218m x 36.5m x 18.5m x 12.8m
DWT/GT: 77,215/43,605
Maine engine: Mitsui B&W 5S60MC diesel x 1 unit
Output: 9,855kW x 102.0min^{-1} (MCR)
Speed, trial max: 16.50knot at MCR
Classification: NK
Completion: Nov. 26, 2007

KOHZAN MARU V

Owner: JSMC Panama S.A.
Builder: Shin Kurushima Dock yard Co., Ltd.
Hull No.: 5401
Ship type: Chemical/product tanker
L (o.a.) x B x D x d: 182.03m x 28.20m x 18.20m x 11.320m (ext.)
DWT/GT: 37,784t/25,184
Main engine: 6UEC50LS II diesel x 1 unit
Speed, service: 14.9kt
Classification: NK
Completion: Oct. 10, 2007

TRITON OSPREY

Owner: Triton Navigation B.V.
Builder: Universal Shipbuilding Corporation - Maizuru Shipyard
Hull No.: 111
Ship type: Bulk carrier
L (o.a.) x L (b.p.) x B x D x d: 225.00m x 222.02m x 32.26m x 20.00m x 14.38m (ext.)
DWT/GT: 81,200t/42,702
Cargo capacity (Grain): abt. 96,030.0m^3
Main engine: Hitachi Zosen MAN-B&W 7S50MC-C type diesel x 1 unit
NCR: 8,730kW x 112.0rpm
Speed, service: 14.6kt
Classification: NK
Completion: Nov. 14, 2007