The Ship of the Year 2009 Goes to icebreaker, SHIRASE

The Ship of the Year Award is presented every year by The Japan Society of Naval Architects and Ocean Engineers to one ship excelling technologically, aesthetically and in social significance out of the vessels built in Japan during the past year. This year’s award was the 20th of the series.

The disclosure of candidates for The Ship of the Year Award 2009 and the meeting of the selection committee were held on Tuesday, June 8 at Tower Hall Funabori in Edogawa Ward, Tokyo, and the Antarctic observation vessel SHIRASE was selected for the award.

The award was presented on July 20 at Kaiun Club in a joint commendation ceremony of three maritime academic institutions, of which the other two are The Japan Institute of Marine Engineering (JIME) and The Japan Institute of Navigation (JIN). JIME and JIN respectively gave the Marine Engineering of the Year Award and the Navigation Achievement Prize on that occasion.

The SHIRASE is a state-of-the-art icebreaker, built as the fourth generation vessel to engage in Japan’s Antarctic observation project. The vessel combines functions to break ice while navigating the severe environment of the ice-bound Antarctic sea, to carry supplies and fuel totaling more than 1,000 tons in weight, to carry three helicopters and to accomplish various polar observation tasks.

Inheriting the experience gained by its predecessors and embodying the latest technology, the SHIRASE is double-hulled for environmental protection and has a water flush-
IHI Marine United Inc. delivered 300,000 DWT Double-Hull VLCC, FPMC C INTELLIGENCE, for FPMC C INTELLIGENCE MARINE CORP. at its Kure Shipyard on Apr. 28, 2010.

FPMC C INTELLIGENCE was developed to have maximum dead-weight with maximum draft to pass the Straits of Malacca, and has the following features. Superior economical operation on worldwide trades (Persian Gulf-Far East trade) with optimized arrangement of cargo oil tanks, ballast tanks and other compartments resulting in maximum cargo loading capacity at shallow draft condition. In order to realize superior propulsion performance, economical operation and good maneuverability of the ship, IHIUM designed the ship with its sophisticated technology/engineering, CFD analysis, 3D-FEM ship model analysis, walk-through simulation and apparatus hull-block installation simulation utilizing CIM system “Aisai”, which IHIUM developed.

Principal particulars:
- L (o.a.) x B x D x d: 333.0m x 60.0m x 29.0m x 20.6m
- DWT/GT: Approx. 302,000t/159,869
- Main engine: DU-WARTSILA 7RTA84TB diesel x 1 unit
- MCR: 27,160kW x 74.0rpm
- Service speed: 15.70kt
- Classification: ABS
- Completion: Apr. 28, 2010

The new Japanese icebreaker SHIRASE made her maiden voyage through the Antarctic from November 2009 to April 2010, and accomplished her first mission for Antarctic observation and transportation. The icebreaker had been ordered by the Ministry of Defense from Universal Shipbuilding Corporation and was delivered at Maizuru Shipyard on May 20, 2009.

The icebreaker supports the Japanese Antarctic Research Expedition (JARE) by the transportation of about 1,100 tons of cargo (incl. 600 tons fuel oil) and 80 scientists observers to Japan’s base for Antarctic observation, which is located in Lutzhov-Holm Bay, well-known for very severe ice conditions.

The icebreaker has continuous icebreaking capability of 1.5 m thick ice at 3 knots and ramming icebreaking capability of about 5 m thick ice. To reduce snow resistance, a water flushing system of 260m³/min is equipped at the bow. Newly developed highly anticorrosive stainless cladding steel is applied to the ice belt, which maintains a low friction surface for a long time. The propulsion system consists of four main generator engines, four electric motors with PWM (Pulse Width Modulation) inverter and two fixed pitch propellers.

The icebreaker can carry fifty-six containers (12 feet) and three helicopters for transportation and observation. Some laboratories and research equipment for meteorology, geosciences, oceanography and biology are integrated, and multi-narrow beam sonar (Sea Beam 3020 suitable for ice-bound water) is equipped for profiling the seabed. All fuel oil tanks are protected by the double hull, and waste treatment devices are installed for environment protection.
Mitsui Engineering & Shipbuilding Co., Ltd. (MES) completed and delivered a double hull VLCC MV KAZUSA (HN: 1742) at its Chiba Works to Sammy Shipping Corporation, Liberia, on May 21, 2010.

The KAZUSA is the 8th ship in the series of Mitsui Malacca Doublemax design VLCC with enhanced transport efficiency. This ship has the biggest deadweight and cargo hold capacity for the Malacca-max type tanker and is able to efficiently transport crude oil with a specific gravity of frequently loaded oil.

For ocean and global environmental preservation, the double hull system is applied not only to the ship’s hull but also to the fuel oil tank and bottom of the pump room of the ship. Furthermore, newly developed fuel saving equipment is installed to improve the propulsion performance, such as navigational speed and fuel oil consumption.

A double hull construction is adopted for the fuel oil tank and pump room bottom to prevent marine pollution. A fixed type inflammable gas detection system is installed to the ballast tank and pump room to achieve safer working conditions. Employment of the latest bow and stern hull forms, high efficiency propeller, and other energy saving devices help reduce energy consumption, together with a turbo generating system to recover exhaust gas from the main engine. The main engine uses an electronic controlled cylinder oiling system to save operational cost. For better safety, engine room is monitored from navigation bridge and engine control room by color camera.

Two sets of Differential Global Positioning System (DGPS) are installed, which allows satellite navigation. The electronic chart display information system (ECDIS) and automatic ship identification system (AIS) are installed to achieve better navigational planning and safer navigation. This ship has means of access required by SOLAS for safety and effective inspection in cargo oil tanks and water ballast tanks. Accommodation for 40 persons is secured considering a possibility of boarding 10 trainees.

Principal particulars

L (o.a.) x L (b.p.) x B x D x d: 333.0m x 324.00m x 60.00m x 28.80m
DWT/GT: 310,406t/160,151
Cargo tank capacity (100%): 354,689m³
Main engine: MITSUI-MAN B&W 7S80MC-C diesel x 1 unit
MCO: 27,160kW x 76rpm
Complement: 40
Classification: NK
Date, delivered: May 21, 2010

Naikai Zosen Corporation has completed construction of the container carrier, GSL AFRICA, for Fortune Line Inc. at the Setoda Shipyard. The carrier can exclusively transport 2,450 TEU containers including 250 reefer containers.

The cargo hold consists of six compartments, and ten hatch openings are provided. Each container holds uses the full cell guide system. Three deck cranes installed on the upper deck facilitate cargo-handling activity even if a calling port has insufficient equipment for cargo handling.

The super long-stroke type main diesel engine of the Hitachi Zosen MAN B&W 7S70MC-C is used for reduced fuel oil consumption, and the energy-saving hull form is adopted. This combined effect help achieve the improved ship propulsion efficiency.

Safe ship operation at a port, or during navigation, is ensured with a bow thruster for easier berthing and unberthing, auto-heeling control equipment for safe cargo handling, and a collision avoidance-assisting unit.

Principal particulars

L (o.a.) x L (b.p.) x B x D x d: 199.93m x 188.00m x 32.20m x 16.60m x 9.80m
DWT/GT: 32,906t/27,213
Complement: 26
Main engine: MAN B&W 7S80MC-C diesel x 1 unit
MCR: 21,735kW x 91min⁻¹
NCR: 19,560kW x 88min⁻¹
Speed, max.: about 24.35kt
Speed, service: about 22.2kt
Classification: NK
Registration: Liberia
Completion: Apr. 27, 2010
Kawasaki completes 180,000DWT bulker, CAPE TSUBAKI, for “K” Line

The CAPE TSUBAKI, an 182,718 DWT bulk carrier, was completed at the Sakaide Shipyard of Kawasaki Shipbuilding Corporation for the owner, Kawasaki Kisen Kaisha, Ltd., on June 29.

The vessel is the fourth of the most advanced 180,000DWT bulk carrier series developed by Kawasaki. The cargo loading capacity is maximized within the allowable ship size to enter the Port of Dunkerque, France. To meet the requirements for safe, economical, and eco-friendly operation, the CAPE CANARY adopts the Common Structural Rule (CSR) of hull structural strength required for bulk carriers to increase safety of the vessel.

Fuel oil tanks are double hull construction, and deck machinery is directly operated by electric power dispensing with hydraulic oil. Therefore, possibility of accidental marine pollution is decreased in the event of collision or damage. The Performance Standard for Protective Coatings (PSPC) is also applied for the improvement of quality of coatings, which provides preventive measures against corrosion of ballast water tanks.

The vessel uses a fuel-saving main diesel engine, which is combined with a highly efficient propeller Kawasaki SDS-F (Semi-Duct System with contra Fins), and Kawasaki RBS-F (Rudder Bulb System with Fins). With the increased propulsion efficiency, the fuel consumption of the main engine is drastically decreased.

Principal particulars
Owner: Kawasaki Kisen Kaisha, Ltd. “K” Line
Builder: Kawasaki Shipbuilding Corporation

Hull No.: 1635
Ship type: Bulk carrier
Length, o.a.: 292.00m
Length, b.p.: 288.00m
Breadth, mld.: 45.00m
Depth, mld.: 24.70m
Draught, mld.: 18.20m (full load, summer)
DWT/GT: 182,718/92,977
Main engine: Kawasaki-MAN B&W 6S70MC-C (Mk7) diesel x 1 unit
M.R.: 17,780kW x 87rpm
Speed, service: about 15.3kt
Classification: NK
Delivery: June 29, 2010

MHI completes 2,000-car roll on/off vehicle carrier, TRANS FUTURE 8

The roll on/off type vehicle carrier TRANS FUTURE 8 was built at Shimonoseki Shipyard & Machinery Works of Mitsubishi Heavy Industries, LTD. and delivered to Feng Li Maritime Corporation on May 21, 2010.

The vessel has eight car decks including one liftable deck available for the carriage of 2,021 cars (Toyota Crown) at maximum. The main loading deck (No.4 deck) is designed to load heavy cargoes such as dump trucks, busses, forklifts, backhoes, lumber and MDFs (Medium Density Fiberboards).

The triple hull construction is applied to the fuel oil tanks in order to reduce the risk of oil pollution in case of damage. The vessel is equipped with ballast water treatment units in order to keep marine ecology ahead of enforcement of the International Convention for the Control and Management of Ship’s Ballast Water and Sediments.

The main engine is the Mitsubishi UE type with the ECL (Electronically Controlled Lubricating) system, which reduces fuel oil and lubricating oil consumption and NOx emission. The vessel has a steel windscreen in front of the superstructure in order to reduce wind resistance.

Principal particulars
Length, o.a.: 165.00m
Length, b.p.: 157.00m
Breadth, mld.: 27.60m
Depth, mld.: 24.15m (at No.8 deck)
Draught, mld.: 6.50m
DWT/GT: 6,220t/28,755
Car loading capacity: Toyota Crown 2,021 units
Main engine: Mitsubishi-UE 7UEC52LSE diesel x 1 unit
M.R.: 11,935kW x 127min⁻¹
Speed, service: 21.0kt
Flag: Panama
Classification: NK, NS° (RORO, EQ CV & DG), MNS° (M0)
Universal completes 207,000 DWT bulk carrier, HYUNDAI FRONTIER

Universal Shipbuilding Corporation delivered the HYUNDAI FRONTIER, a 207,000 DWT Bulk Carrier, at the Tsu shipyard on May 25, 2010. The vessel is designed to carry bulk coal and iron ore between Asia and Australia more efficiently and to have flexibility for port restrictions. This is the 15th vessel of a new design series of Newcastle-max that is not only the most efficient for shallow draft but also has large cargo hold capacity. The vessel has the double side skin construction for cargo holds in order to reduce flooding risk due to side damage and improve cargo handling. In spite of having cargo holds bound by a double side skin, the cargo capacity is equivalent to that of the previous single skinned Newcastle-max series.

The vessel is equipped with high propulsion efficiency and energy saving devices, SSD (Super Stream Duct) and Surf-Bulb (Rudder Fin with Bulb) in front of and behind the propeller, respectively.

In addition, the bow above the waterline is shaped as the Ax-Bow that can decrease added wave resistance at sea.

Deck machineries such as windlasses/mooring winches and hatch covers are driven by the electric-motor system for oil leak prevention on deck.

Principal particulars

| L (o.a.) x L (b.q.) x B x D x d: 299.7m x 290.2m x 50m x 25.0m x 18.2m | DWT/GT: 207,945t/106,367 |
| Loading capacity: | 218,790m³ |
| Main engine: MAN B&W 6S70MC-C diesel x 1 unit | Speed: 14.7kt |
| Complement: | 25 |
| Classification: NK | Completion: May 25, 2010 |

Universal completes 207,000 DWT bulk carrier, HYUNDAI FRONTIER

Oshima completes OS-MAX60, the World’s largest Handymax bulker, DUBAI SUN

Oshima Shipbuilding Co., Ltd. delivered the 61,344DWT type DUBAI SUN, the first vessel of OS-MAX60 series, to SUN MARITIME INC. on Apr. 15, 2010. OS-MAX60 is newly developed by Oshima and has the world’s largest deadweight of the Handymax bulk carrier with shallow draft of 12.8m. In spite of the large deadweight, the vessel accomplishes decreased fuel consumption based on the new optimized hull form and adoption of a set of Flipper-Fins increases propulsive efficiency.

The Seaworthy Bow of excellent seaworthiness is also adopted to improve speed performance under the rough weather conditions (about 5% power saving compared with the ordinary bulbous bow).

The vessel includes environment protections such as complying with the IMO regulation-fuel oil tank protection and equipped with tanks for exclusive use of the low sulfur fuel oil. Additionally, the vessel is the world’s first vessel assigned Class NK’s “Environmental Awareness” notation, EA for new vessels.

For effective cargo loading/unloading, the vessel has wide hatch openings on the five (5) cargo holds, high performance jib cranes (capacity: 30MT, hoisting speed: 25m/min.). The vessel also has the IBS Console (Integrated navigation Bridge System Console) and monitoring camera on the foremost to increase safety of navigation.

Principal Particulars

| L (o.a.) x L (b.p.) x B x D x d: 199.98m x 196.00m x 32.26m x 18.33m x 12.82m | DWT/GT: 61,344t/33,988 |
| Loading capacity: 76,913m³ | Main engine: Kawasaki MAN B&W 6S50MC-C diesel x 1 unit |
| MCR: 8,201kW x 110.0rpm | Speed, service: 14.5kt |
| Classification: NK | Completion: Apr. 15, 2010 |

No. 342 Aug. - Sept. Page 5
FIRST EAGLE
Owner: Panamanian owner
Builder: Imabari Shipbuilding Co., Ltd. (Saijo Shipyard)
Hull No.: 8079
Ship type: Bulk carrier
L (o.a.) x L (b.p.) x B x D x d: 288.93m x 280.80m x 45.00m x 24.70m x 18.151m
DWT/GT: 180,199t/90,111
Main engine: MAN B&W 6S70MC-C diesel x 1 unit
MCR: 18,630kW x 91.0rpm
Speed, service: 15.35kt
Classification: NK
Completion: Apr. 19, 2010

KING ORE
Owner: Southern Route Maritime, S.A.
Builder: Namura Shipbuilding Co., Ltd.
Hull No.: 309
Ship type: Bulk carrier
L (o.a.) x B x D x d: 288.97m x 45.00m x 24.40m x 17.93m
DWT/GT: 176,944t/89,605
Main engine: MAN-B&W 6S70MC (Mk6) diesel x 1 unit
Speed, service: abt. 14.60kt
Classification: NK
Completion: May 10, 2010

ALSTROEMERIA
Owner: Cygnet Bulk Carriers S.A.
Builder: Sanoyas Hishino Meisho Corp.
Hull No.: 1267
Ship type: Woodchip carrier
L (o.a.) x L (b.p.) x B x D x d: 209.99m x 204.00m x 37.00m x 22.85m x 12.029m
DWT/GT: 64,500mt/49,720
Cargo hold capacity: 123,618m³
Main engine: MAN B&W 6S50MC-C diesel x 1 unit
Speed, service: about 14.6kt
Registration: Panama
Classification: NK
Completion: June 2, 2010

SAPPORO PRINCESS
Owner: Prosperity Faith S.A.
Builder: Sumitomo Heavy Industries Marine & Engineering Co., Ltd.
Hull No.: 1356
Ship type: Tanker
L (o.a.) x B x D: 228.60m x 42.00m x 21.50m
DWT/GT: 105,354t/55,909
Main engine: Mitsui MAN B&W 6S60MC-C diesel x 1 unit
Speed, service: About 14.8kt
Classification: LR
Completion: April 14, 2010

CLIPPER HOPE
Owner: Bulk Shipinvest I Ltd.
Builder: The Hakodate Dock Co., Ltd.
Hull No.: 832
Ship type: Bulk carrier
L (o.a.) x B x D x d: 175.50m x 29.40m x 13.70m x 9.640m
DWT/GT: 31,883t/19,831
Main engine: Mitsubishi-6UEC45LSE diesel x 1 unit
Service Speed: 14.4kt
Registration: Bahama
Classification: ABS
Completion: Mar. 8, 2010

MERCURY LEADER
Owner: Yamabiko Shipholding S.A.
Builder: Shin Kurushima Dockyard Co., Ltd.
Hull No.: 5522
Ship type: Car carrier
L (o.a.) x B x D x d: 186.03m x 28.20m x 29.43m x 7.40/8.50m
DWT/GT: 15,045t/42,487
Main engine: B&W 8S50MC (Mk 6) diesel x 1 unit
Speed, service: 19.2kt
Registration: Panama
Classification: NK
Completion: June 18, 2010