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MAN Energy Solutions SE
Tegholmegade 41, 2450 Copenhagen SV,
Denmarkwww.man-es.com

Group Communications
Nils Søholt
P +45 33 85 26 69
Nils.Soeholt@man-es.com

First Dual-Fuel 11G90ME-GI Runs on 100% Gas on Way to Successful Shop Test

Dual-fuel engine features innovative PBIV that reduces pilot-oil consumption to just 1.5%

HHI-EMD (Hyundai's Engine Machinery Division) has announced the completion of the first shop test for the first of six ME-GI engines bound for a series of container ships for Singapore-based, Eastern Pacific Shipping. MAN Energy Solutions reports that, during testing, the engine successfully ran at 100% load in gas mode.

The six units are MAN B&W 11G90ME-GI dual-fuel configurations operating on LNG with delivery dates scheduled between 2020-2022. Hyundai Samho Heavy Industries (HSHI) will construct each of the neo-Panamax boxships.

Capt. Anil Singh, Chief Operating Officer at Eastern Pacific Shipping, said: "EPS is proud to be working alongside MAN by installing their ME-GI engines in our LNG dual-fuel ultra-large containerships. Instead of taking a wait-and-see approach towards decarbonisation and environmental protection, EPS decided to use LNG as a marine fuel and chose to install the two-stroke ME-GI engine in these newbuilds. When powered by LNG, the ME-GI will reduce these vessels' carbon footprint by significantly lowering CO₂, NO_x, and SO_x emissions. The success of the shop test reinforces our decision, and we look forward to the addition of this environmentally-friendly tonnage to our diverse fleet."

Market debut

The shop test also marked the debut of of MAN Energy Solutions' new Pilot Booster Injection Valve (PBIV), which employs smaller or larger atomising holes, depending on fuel mode, to inject fuel into engines. As such, in gas mode, the use of smaller holes significantly reduces pilot-oil consumption to just 1.5%, approximately half of what was previously required; diesel mode employs the larger-sized holes.

The PBIV valves represent MAN Energy Solutions' latest pilot-injection technology, which caters for dual-fuel running by optimising SPOC (Specific Pilot Oil Consumption).

Bjarne Foldager – Senior Vice President, Head of Two-Stroke Business at MAN Energy Solutions – said: "This shop test is notable for a number of reasons. Again, the ME-GI has shown what mature technology it is, running stably at 100% load in gas mode, while the introduction of our PBIV technology drastically cuts pilot-oil consumption by half compared to previous. The test also showed that the ME-GI capably handles load changes and maintains an impeccable cylinder condition. As such, the ME-GI has set the bar even higher for dual-fuel propulsion and is the de facto industry standard."

MAN Energy Solutions reports that it has over 200 ME-GI units on its order books or already in service, with references in every major marine segment, while the ME-GI design has logged over 750,000 dual-fuel operating hours in establishing itself as well-proven technology.

The ME-GI continues to act as a standard bearer for environmentally friendly, reliable propulsion technology with its seamless switching between fuels and elimination of methane slip.

The company also states that it has confirmed 250+ sales within its entire portfolio of low-speed, dual-fuel engines – all running on LNG or other, clean fuels such as LPG and methanol – testament to its leadership within this critical market segment.

The ME-GI engine – the new industrial standard

MAN Energy Solutions successful ME-GI (-Gas Injection) engine has set a new industrial standard for two-stroke propulsion engines aboard – among others – LNG carriers, container vessels, car carriers and bulk carriers. The ME-GI engine provides ship-owners and operators with a peerless solution within environmentally friendly and high-efficiency, two-stroke technology, without the greenhouse emissions such as methane slip, which is a hallmark of competing engines.

With the ME-GI engine, two-stroke development has taken a step further by combining the unique properties of multi-fuel combustion and the well-known reliability of MAN Energy Solutions ME-engine. The Diesel principle provides the ME-GI engine with high operational stability and efficiency, including during load changes and fuel change-over, while defining properties such as a stable change-over from fuel to gas with no fuel-penalties are maintained. The ME-GI engine is the most environmentally friendly, technology available within the two-stroke engine segment.

MAN Energy Solutions has also developed an ME-LGI (-Liquid Gas Injection) dual-fuel engine that expands the company's dual-fuel portfolio, enabling the use of more sustainable fuels such as methanol and liquefied petroleum gas (LPG).

The Maritime Energy Transition

MAN Energy Solutions believes that it is time for what it terms a 'Maritime Energy Transition' to find clean, decarbonised solutions for seaborne trade and transportation. Essentially, it is the company's call to action to reduce emissions and establish natural gases as the fuels of choice in global shipping. It strongly promotes a global 'turn to gas', driven by the IMO, and a common approach by the shipping industry and politics to invest in infrastructure development and retrofits.

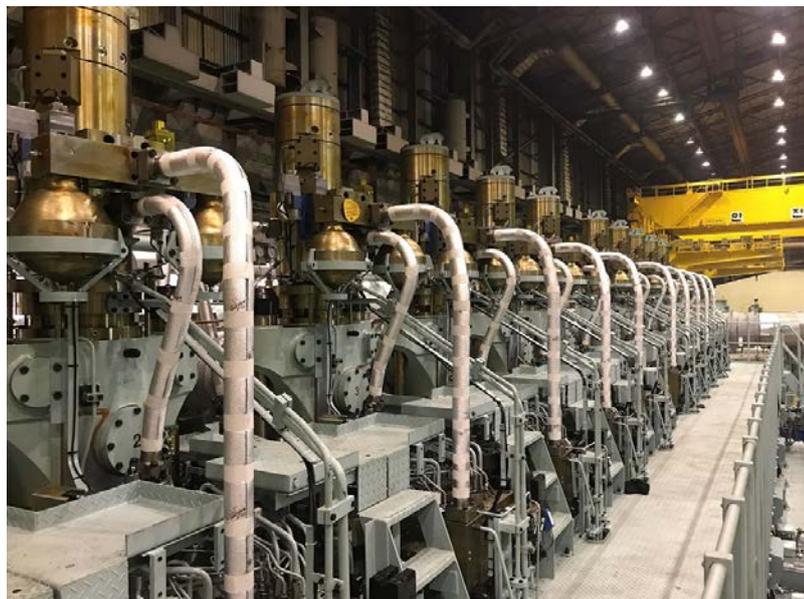
About Eastern Pacific Shipping

With a history spanning 60 years, Eastern Pacific Shipping Pte. Ltd. (EPS) has emerged as an industry-leading ship management company that is committed to the green and technology-driven growth of the industry. Headquartered in Singapore for the past 30 year, EPS is driven by its mission to be the safe and efficient transportation provider of choice to the shipping industry. Empowering that mission are 5,000 skilled and dedicated sea and shore staff that oversee a versatile fleet of 14 million deadweight-tonnes comprising of Container, Chemical, Dry Bulk, Gas, Crude and Product Oil Tankers, and Pure Car and Truck Carrier vessels. EPS' shore team is fully integrated with innovation, marine technical, operations, crewing, IT, legal, finance and commercial departments.

www.epshipping.com.sg



Six Eastern Pacific engines will be built as MAN B&W 11G90ME-GI dual-fuel configurations operating on LNG. Pictured here, a similar MAN B&W G70ME-GI type





MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.