



AEMTC provides a link with mega vessels & Maersk McKinney Moller

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Aug 28, 2013, 4:05PM EST

Anglo Eastern Maritime Training Center provides trained manpower for operating the electronic controlled main engines which power the mega ships including McKinney Moller

The biggest sea giant, Maersk Mc-Kinney Moller, launched in June this year at the Shipbuilding & Marine Engineering shipyard in Okpo, South Korea, and entered into service on July 15, may never make it to any port in India. In fact there is no port here that can accommodate this quarter-of-a-mile long, 195ft wide — equivalent to an eight-lane motorway — and 240ft high vessel. So also will be the case of the other 10 similar ships which the South Korean shipyard has been contracted to build and deliver between 2013 and 2015. But there is another angle to it. A landmark in engineering Maersk Mc-Kinney Moller, also referred to as Triple-E, as it offers economy of scale, energy efficiency and environment protection, is powered by MAN B&W's two electronically controlled main engines having 8 cylinders of 800 mm bore size capable of producing power of 29,680 kw each and a total power of approximately 80,000 BHP. To operate this engineering marvel, requires marine engineers of high caliber capable of delivering optimum output.

In advance of the debut of these electronically controlled engines on the maritime scene, Anglo-Eastern Maritime Training Center (AEMTC) based in Mumbai has been harvesting a pool of marine engineer well equipped to operate these engineering achievements. Today, more than a thousand ships are in operation worldwide using this technology. Many marine engineers from South Asia trained at AEMTC play a dominant role on several of these ships. The versatility of these electronically controlled engines is apparent from the fact they give insignificant NOx emission which is 1/3rd of that of a conventional engines.

AEMTC, Mumbai is the authorized training centre for MAN B&W courses equipped with MAN Diesel Marine Electronic Engine Simulator and has been imparting training for the past eight years. It is the only one of its kind of Full Mission ME engine simulators installed in the South East Asia. The training centre is also fitted with the full mission engine simulator modeled on the MAN B&W 6S50MC the pneumatic control system for MC Engines and the MAN B&W Holby 6L 28/32 diesel engine. This simulator is used for training crews specifically in the management and operation of its ME range of electronically-controlled camless engines, to meet the growing challenge of solving electro technical problems which might arise out at sea. Anglo Eastern Maritime training centre is one of the well

acclaimed value added training centre which regularly trains more than 10,000 sea going personnel each a year. Anglo Eastern technically manages more than 450 ships world-wide and has a crew-strength of more than 12,000 Indians.

Giving details Francis Akkara, Sr. General Manager and Vice Principal of AEMTC in Mumbai and an authority in this field and having been closely associated with the development especially that of **MAN B&W TURBO**, informed that these engines are used on large merchant ships such as container vessels of 12,000 plus TEU capacity cruising at 24 to 30 knot speed. The operation is contrary to conventionally powered vessels which resort to slow steaming to cut down cost but cannot cut down the speed too much because they have to maintain the required rpm.

“Some electronically controlled main engines are also manufactured by Wartsila,” says Mr Akkara. “But they produce their hydraulic power supply which is equivalent to cam shaft in conventional engines to operate cylinder specific functions. In MAN the hydraulic power supply is produced by the main engine system oil, while RT flex engines use heavy fuel oil. MAN electronic engines hydraulics power supply system operates at 200 and 300 bars, while Wartsila RT flex engine operates at around 1000 bars. To operate these engines special training is very critical for marine engineers. The engines of Maersk Mc-Kinney Moller are of the latest type with mark version of 9.2 with respect to fuel economy and emission control. So far the Anglo Eastern Maritime training Centre has conducted over 60 batches since inception and 640 marine engineers have already trained.”

Experience has shown that these electronically controlled engines can run below 10 rpm very efficiently bringing huge cost saving in fuel consumption to cover the distance,” stated Mr. Akkara. “This is made possible by the use of various multi-purpose electronic systems used for controlling the fuel injection, exhaust valve function and cylinder oil lubrication. Mechanical components such as chain drive, camshaft, air distributors, etc., are omitted and exhaust valve, fuel pump and local maneuver system, etc., are redesigned to achieve the best desired results. Redundancy of electronic components is well thought of to ensure high reliability and overcome any eventuality at sea. The engine works with hydraulic power supply coupled with electronic controls. All the mechanical activations in the conventional engines have been modified with hydraulic power supply in the electronic engines.