

OBC Vessels

For Offshore Research



Chinese Seismic Exploration Require New OBC Vessels

MAN B&W Diesel has added two interesting reference plants to the four-stroke order book.

Complete twin-screw medium speed propulsion packages have been ordered for a twin set of 65 m offshore research vessels. The twins will each be specified and equipped for their very specific operational tasks, i.e. seismic sourcing and seismic recording. The vessels are designated as an OBC Source Vessel and an OBC Recorder Vessel, respectively. The OBC abbreviation refers to 'Ocean Bottom Cable' and the actual seismic exploration equipment applied.

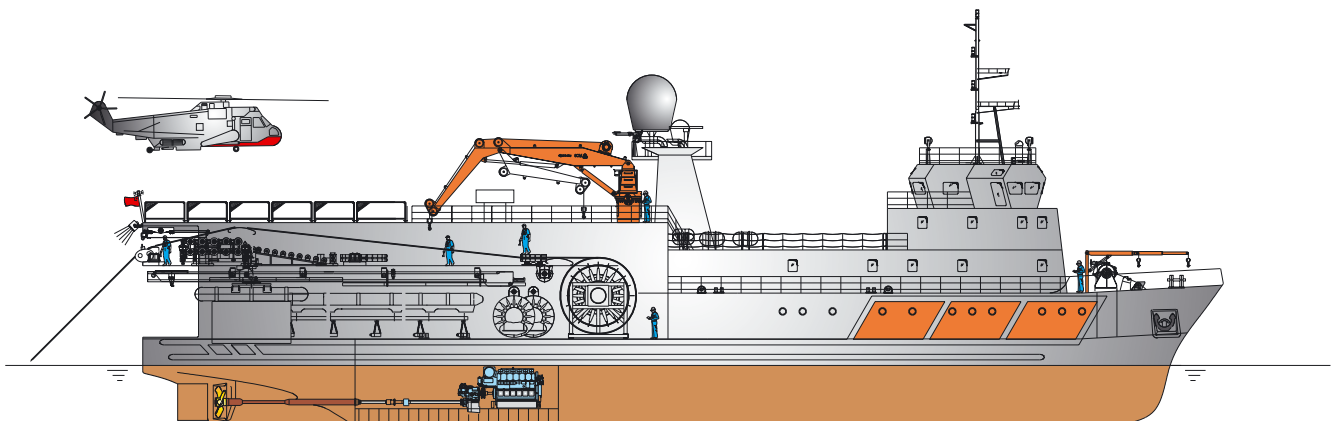
The design consulting company for this project is Dalian Shipbuilding Technology Research Center Co. Ltd., located in Dalian, China. Both vessels will be built by Liao Nan Shipyard, also located in Dalian, and the delivery of the first vessel is scheduled to the end of next year. Operator and owner is BGP/CNPC (China National Petroleum Corporation), with its fleet mainly based in Tanggu, Tianjin.

MAN B&W Diesel's Four-stroke Propulsion Sales Manager, Mr Jorgen Vinde, explains: "Very low levels of vibration and noise from propellers, engines and propulsion systems are key issues for these installations. A very soft resilient seating arrangement of baseframe and sandwich mountings has been applied for the dampening of structure-borne vibrations

by up 97%. Additionally, the ducted propellers have been specially designed and shaped with high priority to low levels of cavitation and noise emission. From an underwater point of view, an absolute decisive factor for the customer is a very quiet ship, with minimal noise emission and disturbance in relation to the seismic exploration equipment"

Principal Particulars - OBC Research Vessels

Length oa	65.0 m
Length pp	58.4 m
Breadth	13.8 m
Depth	5.10 m
Draught	3.50 m
Crew	45 persons
Propulsion	MAN B&W Diesel
Classification	CCS - China Classification Society
Ice class	B
Notation	★ CSA 5/5 Ice Class B, Research Ship ★ CSM, MCC



Graphical view of the OBC research vessels from Liao Nan Shipyard

Propulsion Package

The MAN B&W Diesel twin-screw Alpha Propulsion System type 6L23/30A-DVO, which has been specified for the newbuildings, includes:

Main Engines

Two MAN B&W 6L23/30A-D engines are resiliently seated with baseframe and sandwich mountings. Each engine develops 960 kW (1305 bhp) at 900 r/min.

Reduction Gearboxes

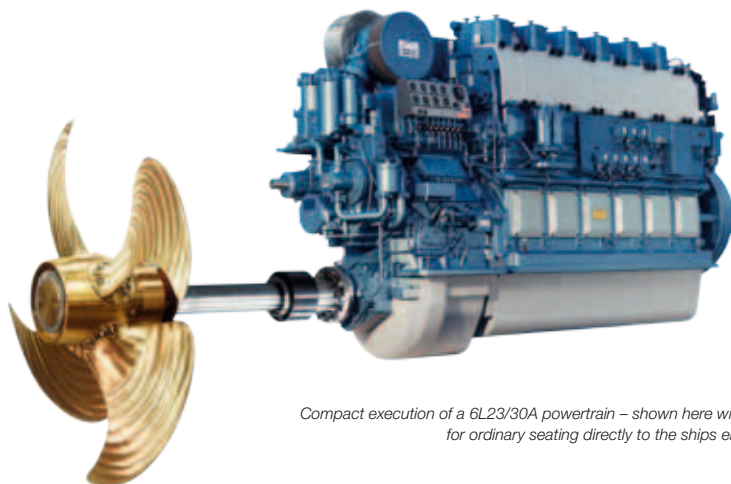
Two MAN B&W Alpha AMG8 gearboxes, type 31VO8, with a speed reduction ratio of 900:292.

Propellers

Two MAN B&W Alpha type VB560 four-bladed controllable pitch propellers. The 1,900 mm diameter CPP systems are complete with tail shafts, intermediate shafts, bearings and stern tube equipment. Epoxy coated tailshafts with bronze liners are applied for water lubricated stern tubes. Additionally, two propeller nozzles type, FD1930, are part of the scope of supply.

Control System

In addition to the twin main bridge control station, the complete Alphasonic IIA Propulsion Control and Safety System includes a twin engine room control station.



Compact execution of a 6L23/30A powertrain – shown here without baseframe for ordinary seating directly to the ships engine foundation

About CNPC

China National Petroleum Corporation (CNPC) is one of the world's leading integrated energy companies. It is a state holding company whose business operations cover a broad spectrum of upstream and downstream activities, domestic marketing and international trade, technical services, and equipment manufacturing and supply.

CNPC serves as China's largest producer and supplier of crude oil and natural gas, holding a dominant position in domestic petroleum production, processing, and marketing sectors. At the same time, CNPC is also a major producer and supplier of refined oil products and petrochemicals. As one of the largest service suppliers in the global petroleum and petrochemical industries, CNPC can

provide operational services and technical support in such areas as geophysical prospecting, well drilling, logging, well testing, downhole operations, oilfield surface facilities construction, pipeline construction, refining and petrochemical projects, and manufacturing and supply of petroleum equipment.

BGP - A Leading Geophysical company

BGP has a 30 year history of shallow water seismic operations, offering offshore services for CNOOC (China National Offshore Oil Cooperation) and other Chinese and foreign oil companies within China's offshore areas.

MAN Diesel

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