



एक कदम स्वच्छता की ओर

माझगांव डॉक शिपबिल्डर्स लिमिटेड

(भारत सरकार का उपक्रम)

Mazagon Dock Shipbuilders Ltd.

(Formerly Mazagon Dock Limited)

(A Govt. of India Undertaking)

CIN : U35100MH1934GOI002079

डॉकयार्ड रोड, माझगांव, मुंबई - 400 010

Dockyard Road, Mazagon, Mumbai - 400 010

Certified - ISO 9001-2015

संदर्भ क्रमांक

Ref. No. 15 November 2022

दिनांक

Date

To
BSE Limited
Phiroze Jeejeebhoy Towers
Dalal Street,
Mumbai- 400 001
Scrip Code: **543237**

To
National Stock Exchange of
India Limited
Exchange Plaza, C-1, Block G
Bandra Kurla Complex
Bandra (E), Mumbai - 400 051
NSE Symbol: MAZDOCK

Sub: Intimation under Regulation 30 of SEBI (Listing Obligation and Disclosures Requirements) Regulations, 2015 – Publication.

Dear Sir,

1. We are enclosing herewith a copy of the article to be published in Geopolitics and Chanakya Aerospace Magazine for publication.
2. The above information is submitted in terms of Regulation 30 of SEBI (Listing Obligations and Disclosures Requirements) Regulations, 2015.

This is for your kind information.

Thanking You,
Yours Faithfully,

For MAZAGON DOCK SHIPBUILDERS LIMITED

Digitally signed
VIJAYALAKS
by
HMI KAMAL
KUMAR
Date: 2022.11.15
17:49:35 +05'30'

(Vijayalakshmi Kumar)
Company Secretary

Encl: as above



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WRITEUP ON MDL

Inception

Mazagon Dock Shipbuilders Limited (MDL) was established over 200 years ago. In the year 1774, a small dry dock was built to service ships of the British East India Company. It passed through various ownerships like the P&O lines and the British India Steam Navigational Company, till it was taken over by the Government of India and established as a Public Sector Undertaking under the Ministry of Defence in 1960.

MDL is the premier shipbuilding yard in the country, producing world class state of the art ships and submarines. From the time it was taken over by the Government of India in 1960, MDL has built 799 vessels, including 26 capital warships and 6 conventional submarines. MDL has also exported 243 vessels to its various clients abroad. The range of platforms delivered to various customers range from Destroyers, Stealth Frigates, Submarines, Missile Boats, Corvettes, Offshore Patrol Vessels, Multipurpose Support Vessels, Offshore Supply Vessels, Dredgers, Tugs and Cargo-cum-Passenger Vessels. The main customer for MDL is the Indian Navy. Presently, MDL is involved in building 04 in nos Guided Missile Destroyers, 04 in no Stealth Frigates and 06 in no. Scorpene class submarines for the Indian Navy.

Ongoing Projects

- Project 17A
- Project 15B
- Project 75

- The first Stealth Frigate of the Project 17A, 'Nilgiri' was launched on 28th Sept 2019 & currently is in advanced stage of outfitting. The second ship of P17A class 'Udaygiri' was

launched on 17 May 2022. The third ship 'Taragiri' was launched on 11 Sep 2022, and the keel of the fourth ship has already been laid on 28 Jun 2022 and is planned to be launched in April 2023.

- The first Guided Missile Destroyer of the Project 15B, INS Visakhapatnam was delivered to Indian Navy on 28 Oct 21, the second ship 'Mormugao' is undergoing Sea Trials and is likely to be delivered in end 2022, the third ship 'Imphal' is currently at an advance stage of outfitting and trials of various auxiliary equipment is in progress. The fourth ship of the P15B class named *Surat* was launched 17 May 2022.

- MDL has delivered Four out of Six Scorpene Class Submarines of Project 75 namely 'Kalvari', 'Khanderi', 'Karanj' & 'Vela' to the Indian Navy on 21 Sep 17, 19 Sep 19, 15 Feb 21 & 09 Nov 21 respectively. Fifth Submarine 'Vagir' is undergoing final Sea trials and is scheduled for delivery by end 2022. Sixth and last submarine 'Vaghsheer' was launched on 20 April 2022 and has commenced Harbour trials.

Indigenisation

MDL has set-up a dedicated Department of Indigenisation in Oct 2015 to boost and strengthen the indigenisation effort and to provide focused impetus to the Hon'ble Prime Minister's vision of "Make-in-India".

Indigenous warship building has been a distinct success story in our attempt to be self-reliant in Defence through Make in India policy. Today the country is capable of building Destroyers, Frigates, Corvettes as well as strategic submarines. Indigenous contents have steadily increased in these construction programs and presently it is pegged at 72-75%. More can be done in this direction by a collaborative approach amongst all stakeholders.

MDL has launched a separate “Atmanirbhar Bharat” Webpage in the company’s website. The process of indigenisation, various items/equipment indigenised, items required to be indigenized (EoIs) are displayed under the webpage. Success stories of indigenisation are published on MDL website as a compendium of items indigenised.

MDL has indigenised 25 items/equipment/systems. Most of the items are being procured by Services/ Shipyards which has resulted AtmaNirbharta and considerable savings in Foreign Exchange. The contribution of MDL in the Positive Indigenisation List (PIL) published by Hon’ble Raksha Mantri are as follows: PIL-1:- 05 items, PIL:-2: 06 items and PIL-3:- 134 items. Once these items are indigenised by Indian industry, it will give a big thrust on self-reliance and will have big potential for Export also.

Diversification

In a bid to diversify and bag new orders, MDL is looking at a multi-pronged approach:

a) MDL has embarked on a diversification drive. MDL is venturing into the business of shipping container manufacturing and has already bagged two orders from M/s Container Corporation of India Ltd (CONCOR) totalling to 2500 containers.

b) MDL has also been awarded an order for repair of a launch boat from MbPT. In addition, MDL is also bidding for refit orders for other naval, domestic and foreign commercial vessels.

c) MDL has initiated design and development of indigenous MDL conventional Submarine. Towards achieving the goal, MDL has completed concept design of Midget Submarine and the detailed design is in progress.

d) Construction of Midget Submarine prototype is likely to commence by end 2022.

e) Hydrogen Fuel Cell Vessel- MDL in collaboration with M/s Tata Advanced Systems & M/s Vijai Marine Service has developed a 06 Pax Fuel cell electric vessel as a pilot project and is currently developing 24 Pax Fuel Cell electric vessel for inland waterways. These vessels are eco-friendly with zero emissions, low acoustic & heat signatures and longer endurance.

f) Also, in accordance with Mission Raksha Gyan Shakti (MRGS) an initiative of Ministry of Defence, MDL has received 05 Patent grants from Indian Patent Office (IPO) and is further pursuing cases for grant of IPR under MRGS.

STRIDES MADE BY MDL IN ARTIFICIAL INTELLIGENCE AND VIRTUAL REALITY

- a) AI assisted "Automatic Defect Recognition" in X-ray welding: X-Ray weld defect detection is a vital task when it comes to shipbuilding industry, which requires trained experts to perform routine inspection. Use of AI assisted Automatic Defect Recognition has reduced the time required, by achieving faster detection of defects in the weld joints.
- b) The use of Industry 4.0 technologies like Virtual & Augmented Reality and Artificial Intelligence are very imperative for MDL. We can now provide access to 3D design models to production and inspection teams working on the actual vessel. Not just that, it enables them to see each and every inch of design details in 1:1 scale by superimposing the model data on the physical ship. We are proud to announce that the complete technology has been developed indigenously as part of the honourable PM's Aatmanirbhar Bharat and Digital India initiatives.
- c) Aveva Net: For enhancement of production activities on board it is envisaged that the 3D CAD Model of ship shall be made available to onboard ship, Production, Planning SQC and other departments. Aveva Net system which is empowered with intelligent search can be accessed from MDL Intranet Portal. This will make the 3D CAD Model available along with other related information like drawings, sketches, Installation, Manuals, Inspection reports etc. attached to the model. This System bridges the gap between various departments and allows the proper synchronization between the Departments thereby reducing the time required for execution.
- d) Virtual Reality and Augmented reality: Line out inspection of the ships are carried out as a part of preliminary inspection which is a time taking process as there are almost about 500 Compartments in the Ship. MDL in its VR Lab facilitates this Line out inspection by providing immersive 3D environment of the actual compartment in a lucid way to our esteemed clients thereby reducing ample amount of time required.

- e) In future, MDL is also looking forward to implement AI based systems for "Predictive Failure Analysis" for receiving early warnings in case of any anticipated failure in critical systems having higher failure rates due to continuous movements/operations.