

GOA SHIPYARD LIMITED
(A GOVERNMENT OF INDIA UNDERTAKING)



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EXPRESSION OF INTEREST (EOI) TO DESIGN, MANUFACTURE AND SUPPLY ONE 100 TONS AND ONE 200 TONS SELF PROPELLED SHIPYARD TRANSPORTERS AT GOA SHIPYARD LTD

1. Goa Shipyard Ltd. (GSL), 63 years old Defence Shipyard of India having the best reputation for its quality & timely delivery and has been consistently undertaking constructions of myriads of complex war ship and auxiliary vessels and delivering those well before the stipulated delivery time.
2. GSL requires one Self Propelled Shipyard Transporter capable of transporting blocks up to 100 T & one Self Propelled Shipyard Transporter capable of transporting blocks up to 200 T.
3. The Self Propelled Shipyard transporter is a special purpose multi axle vehicle which has a platform to carry load/blocks. The multi axles are hydraulically operated and also allow lifting and lowering motion of the platform. The vehicle has a diesel engine that drives the hydraulic pump which in turn provides pressure for turning the wheels and for lowering and lifting of the platform. There is a single operator cabin under the platform. However the transporter can be also operated using a remote joystick.
4. The transporter has following main components:
 - a. **Loading Platform:** The loading platform is a steel welded structure with strong outboard main beams. The deck of the lifting platform is fitted with removable cover installed between the frame sections. The platform also has ladders, headlights, tail lights and side warning lights. The loading platform structure holds the Wheel bogies, engine, hydraulic pump, operator cabin and other accessories.
 - b. **Wheels bogies:** Wheel bogies would be suspended from turn tables attached to the frame structure of the loading platform. Movement according to road irregularities is provided by swing axles and hydraulic cylinders connecting the rocker arm to the wheel frame. Each wheel bogie will have two tyres with rims on either side and the hydraulic cylinder in the centre.
 - c. **Steering System:** The transporters will have electronic steering system which provides multiple modes for steering. It should provide following steering modes:
 - i. All Wheel steering along and cross.
 - ii. Diagonal Steering along and cross.
 - iii. Rear wheel steering
 - iv. Rear wheel steering 90 degree.
 - v. Front wheel steering
 - vi. Front wheel steering 90 degree.
 - vii. Circular Steering.

- d. **Brake System**: The transporter will be equipped with compressed air brake system. In addition, there should be an emergency brake.
 - e. **Driver's cabin under platform**: The sound insulated single seat cabin will be designed to latest ergonomic standards. It will have following:
 - i. Adjustable driver seat and adjustable back rest.
 - ii. Front and side windows. Side windows can be lowered or raised using manual handle.
 - iii. Wind spins wiper and washer system for front window.
 - iv. Fan/ blowers for cabin ventilation.
 - v. Ergonomic arrangement for controls and pilot lamps to ensure safe operation.
 - vi. Touch screen colour display 10" with all functions to ensure easy controls.
 - vii. Two rear view mirrors, sun visor.
 - f. **Electronically controlled hydraulic equal lifting system**: The lifting system will have lifting cylinders which will be part of the wheel bogies. The operating pressure for lifting and steering will be produced by a hydraulic pump. The platform height in driving position will be such that there should be enough space for axle load compensation.
 - g. **Electrical System**: the Electrical system will comprise of 24 volts alternator system with at least two lead acid batteries of sufficient rating so that the batteries last for eight hours of continuous operation/ provide 10 starts to the engine in eight hours without charging. The Electrical System will also provide following:
 - i. Supply to the control system of the transporter.
 - ii. Electric horn, lighting in cabin, lights for travelling, hazard warning lights and four working lights two in front and two behind.
 - h. **Drive System**. The transporter will be driven by variable displacement Hydraulic Pumps which in turn would be driven by a Diesel Engine. The output of the pumps would be transmitted through a closed circuit system to variable displacement hydraulic motors installed in the drive axles of the wheels. The Drive System will have an Oil cooler, Hydraulic fluid reservoir.
 - i. **Wireless Remote Joystick Control**. There will be a wireless Remote Joystick control for controlling motion of the transporter in addition to the manual control from Driver's cabin. The remote control will indicate all parameters of the Transporters. In addition, in of a fault, fault errors/ reasons for a fault will be also indicated on the Remote Controller.
 - j. **Load Sensors**. The Transporter will have sufficient load cells located on the platform to indicate the load being carried as well as indicate the centre of gravity of the load to the operator. The load cells and load indicator should be duly calibrated. In case of an overload, the system will give an audio visual alarm.
 - k. **Safeties**. There should be adequate safeties for Diesel engine, Hydraulic Pumps, Hydraulic motors, control system and for operation and motion of the Transporter.
5. The following are the technical parameters of the **100 T Self Propelled Shipyard Transporter**:-

a. Working temperature	0 to 50 degree centigrade.
b. Working relative humidity	98 % maximum.
c. Load Platform	length- 10 m maximum, Breadth – 5 m maximum.
d. Number of wheel Bogies	08 maximum
e. Number of tyres	16 maximum
f. Driving axles (front)	02
g. Driving axles (Rear)	02
h. Payload	100 T
i. Deadweight	not more than 30 T
j. Number of bogies driven	04
k. Number of bogies braked	04
l. Ability to be towed	Yes.
m. Ability to tow	Yes.
n. Height adjusting Ability	Yes.
o. Diesel Engine	Adequate power meeting emission standards in India.
p. Transporter speed	10 km / hour maximum - Unloaded. 02 km / hour maximum - Loaded.
q. Slope climbing ability	Vertical slope maximum 6 %.
r. Adjusting ability on transversal slope	Transverse or zigzag +/- 2 %.
s. Steering modes	Normal steering, transversal driving, diagonal driving, swing head, swing tail, centre steering.

6. The following are the technical parameters of the **200 T Self Propelled Shipyard Transporter**:-

a. Working temperature	0 to 50 degree centigrade.
b. Working relative humidity	98 % maximum.
c. Load Platform	length- 15 m maximum, Breadth – 5 m maximum.
d. Number of wheel Bogies	10 maximum
e. Number of tyres	20 maximum
f. Driving axles (front)	02
g. Driving axles (Rear)	02
h. Payload	200 T
i. Deadweight	not more than 40 T
j. Number of bogies driven	04
k. Number of bogies braked	04
l. Ability to be towed	Yes.
m. Ability to tow	Yes.
n. Height Adjusting Ability	Yes.
o. Diesel Engine	Adequate power meeting emission standards in India.
p. Maximum transporter speed	10 km / hour.
q. Slope climbing ability	Vertical slope maximum 6 %.
r. Adjusting ability on transversal slope	Transverse or zigzag +/- 2 %.
s. Steering modes	Normal steering, transversal driving, diagonal driving, swing head, swing tail, centre steering.

7. Firms who are interested in Designing, Manufacturing and Supplying the above mentioned transporters may respond to this EOI. The vendors/designer are required to accept the below terms & conditions & the necessary confirmations / undertakings in support of same & to be submitted by the vendors/designer in response to this EOI:
 - a) The Designer should maintain the secrecy & confidentiality of the type of work / data / costing etc.
 - b) The Designer should have earlier designed/modified on similar system previously, details of work to be submitted.
 - c) The Designer should be able to depute their representatives on their own cost during Technical evaluation meetings.
 - d) The Designer must not be de-barred /blacklisted by any of the Government organization and necessary legal undertaking in this regard is to be submitted by the designer.
8. Those interested & eligible designers shall submit their response to GM (Prod.) at GSL at the above address in sealed envelope super scribing "Expression of Interest for Design, Manufacture and Supply of one 100 Tons Self Propelled Shipyard Transporter and one 200 Tons Self Propelled Shipyard Transporter at Goa Shipyard Ltd" on or before 30th May 2021 (15:00 hrs) along with necessary supporting documents as stated in paragraphs above.
9. Firms who are responding to this EOI should submit requisite supporting documents. Yard will request for more documents if not insufficient.
8. GSL reserves the right to accept or reject any or all applications without assigning any reasons thereof. Only selected designers will be informed about the outcome of the scrutiny of the respective EOI. For any clarification, Cdr. Santosh Gupte (Retd.), AGM (Yard Services) or Mr. Mukesh K. Meena DGM (Prod.) may be contacted.