

OUTSOURCING OPPORTUNITIES

GARDEN REACH SHIPBUILDERS & ENGINEERS LTD., KOLKATA

1. **Outsourcing:** The shipbuilding activities for which outsourcing is presently in vogue at GRSE, Kolkata are as follows:-

SI	ACTIVITIES
a	Minor fabrication, sub-assembly, seats, racks, lugs, Bilge Blocks, Keel Blocks.
b	Fabrication and erection of hull blocks
c	Erection alignment and welding of units (Full welding)
d	Chipping, Grinding (Dry survey)
e	Pressure Testing (APT/WPT)
f	Installation – sea tubes
g	Installation of Hatches, Eye plates, Bollard & fairleads
h	Installation of Doors GT/WT/NWT/DS/SS
j	LOI Marking , Dry Survey
k	OBD Fittings , Under Water Valves
l	Installation of A/C, HE & Mechanical Vent System
m	Fabrication / Erection of HVAC Trunking
n	Exhaust Trunking fabrication (uptake/intake)
p	Installation of Engineering & Electrical equipment.
q	Boring of A Bracket, stern tube
r	Machining & installation of fit bolts
s	Installation of piping of Engg System & Pressure Testing including fabrication of small bore pipes.
t	Electrical & Weapon Equipment Installation, cable laying, dressing &

	connecting to the equipment, STW & Trial
u	Outfitting – platforms, Eye plates , Chequered floorings / Gratings
v	Erection of Miscellaneous outfitting work including Doors ,Windows, Scuttles , Manholes , Ladders , Guard Rails , Awnings , LSA, FFA, NBCD, Damage Control, Deck Equipment , Rigging etc.
w	Modular Accommodation, Furniture & wood work & finishing. Carpentry work in general compartment, VIP cabin, WR.
x	Painting.
y	Mooring, Berthing and Movement of Ship for Launching / Docking /Trial

2. **Enhanced Outsourcing planned**. Further, GRSE is planning a multi-pronged approach to meet the future demand for hull blocks and pre-outfitted mega hull blocks for P17A. Brief details in this regard are outlined below:-

(a) **Consolidation of Mega-Blocks at GRSE Premises by Sub-Contractor.**

In order to ensure efficient utilization of yard resources, Turnkey Outsourcing of Mega Blocks is being envisaged where Hull Blocks of max weight up to 225 tonnes will be consolidated and pre-outfitted by Sub-Contractor inside GRSE premises at Module Hall and adjoining area. Vendors for such mega block outsourcing are being developed.

(b) **Feeder line for Hull blocks.** The critical machinery compartment blocks will be fabricated in-house and pre-outfitted. Balance Blocks shall be outsourced for fabrication and block level pre-outfitting. Vendor base for such block fabrication is also being widened. Block fabrication by sub-contractors inside GRSE premises at RBD has been arranged. This concept is already being implemented for WJFACs now under construction. These hull blocks will then feed blocks for consolidation inside Module Hall, as mentioned in previous sub-para.

(c) **Mega Block Outsourcing at Raichak.** In order to meet the demand rate for mega-hull blocks, GRSE is planning to use the captive water front land

available at Raichak. The facility is planned to be put to use for outsourcing fabrication & consolidation of mega-blocks by sub-contractors. Basic facilities for movement of blocks / mega-blocks and for loading mega-blocks on Barge are planned to be established by GRSE. Balance facilities for block fabrication and consolidation will be made by respective sub-contractor on space allotted to them. Preliminary discussions with reputed sub-contractors has established prima-facie viability of this concept. Mega-blocks made at Raichak can then be transported by river to GRSE Main for erection.

(d) **Composite Outfitting**. Frigates are warships having very high outfitting density and also higher complexity vis-à-vis other war vessels. In conventional warship construction methodology, a major portion of the build period is consumed by outfitting activities which means that the outfitting rate has a major say in the build schedule of warship projects. Slow progress of outfitting activities has been one of the major contributors to project delays. Though a number of subcontractors are working simultaneously on various outfitting jobs viz. plumbing, insulation, ventilation trunking, cabling etc. Composite outfitting of compartments is planned which will accord single point responsibility for addressing all interrelated issues of outfitting and sub-contractor would be given turn-key responsibility up to Final Inspection (FI) stage.

Please Note :-

For further details on above Outsourcing opportunities at GRSE, Kolkata, please contact any of the following officials:-

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