

TENDER SPECIFICATION OF MOBILE CRANE (LIGHT)

1. **Name of the Equipment.** Mobile Crane (Light) (Capacity: 10 tons).
2. **Purpose.** The Mobile Crane will be used for lifting/shifting of heavy machinery/equipment at Naval Base.
3. **Quantity.** 01 (One) in number complete set.
4. **Manufacturer, Principal Supplier & Local Supplier.** Name and full address to be mentioned.

a.	Manufacturer	To be mentioned
b.	Principle Supplier	To be mentioned
c.	Local Supplier	To be mentioned

5. **Year of Manufacture.** 2023 or later.
6. **Country of Origin.** USA, UK, EU Countries, Canada, Japan, Australia, South Korea, Turkey, and New Zealand.
7. **Manufacturing Country.** USA, UK, EU Countries, Canada, Japan, Australia, South Korea, Turkey, and New Zealand.
8. **Standard.** The Mobile Crane is to be designed and constructed fulfilling the requirement of international standards. The standards to which the quoted Mobile Crane complies with are to be specified in details (ISO or class certificate).

9. **Ambient Condition.**

a.	Air Temperature	5°C to 45°C
b.	Relative Humidity (RH)	Upto 95%
c.	Location	Close to the sea shore or hilly area

10. **Certificate/ Document of Authentication.** The local supplier must provide following original certificate(s)/ document(s) with the offer/ quotation of the crane as regard to the genuinity of source and item(s) in order to establish chain of links from the original source to supply items:

- a. One certificate/ document by the manufacturer in favour of the supplier (in case of manufacturer as direct source).
- b. Two certificates/ documents, one by the manufacturer to authorized agent and other by the authorized agent to supplier (in case of authorized agent as immediate source).
- c. Three certificates/ documents, first one by manufacturer to authorized agent, second one by authorized agent to sub-agent and third one by sub-agent to supplier (in case sub-agent as immediate source). If the supplier is unable to obtain the first certificate (by manufacturer to authorized agent), then it has to produce relevant document to prove agency-ship of its claimed agent of the recognized manufacturer.

11. **Scope of Supply.** The scope of supply is to include the followings:
 - a. Main item (01 x Mobile Crane), complete with all items necessary for immediate operation without the requirement of any other items (attachments, accessories, consumables etc) (as per paragraph 15 to 19).
 - b. Optional Items and spare parts (as per paragraph 20 and 21).



- c. Tools and special tools (as per paragraph 22 and 23).
- d. Documents (user manual, maintenance manual, spare parts catalogue, drawings etc; as applicable) and Certificates (as per paragraph 24 and 25).
- e. Inspection, Test, Trial and Acceptance (as per paragraph 26).
- f. Training (as per paragraph 28).
- g. Warranty and Guarantee (as per paragraph 29 and 30).
- h. Any other issue relevant (if any).

12. **Chassis.** Mobile Crane should be constructed with high tensile steel, all welded mono-box construction. Detailed description of construction of the chassis is to be provided with the quotation.

13. **Load Rating Charts.** Load Rating Charts at different radius/height are to be provided with the offer.

14. **Cab Control and Instruments.**

a. The crane and drive operation can be performed from one cab mounted on rotating superstructure. One sided one man type, steel construction with sliding door access and tinted safety glass windows opening at side. Door window is powered control. The cab is to be air conditioned. The instrument panel in front of the driver should include the following:

Ser	Description
(1)	Lighting switches
(2)	Engine low oil pressure light
(3)	Air pressure gauge (if applicable)
(4)	Fuel content gauge
(5)	Speedometer
(6)	Flashing indicator light
(7)	Safe load indicator and load meter
(8)	Inclinometer

b. Following controls are to be conveniently located:

Ser	Description
(1)	Hand brake and emergency brake
(2)	Gear lever
(3)	Stability lock control lever
(4)	Slew parking brake
(5)	Operating levers spring centred for hoist, derrick, slew and jib telescoping

c. Standard equipment which are to be fitted with the crane is:

Ser	Description
(1)	Over head fan
(2)	Windscreen
(3)	Wiper with washer
(4)	Warning horns
(5)	Different lights including Spotlight and Floodlight



(6)	Complete spare wheel with tyre
(7)	4 set Pad and wear side/side wear pad

15. **Technical and Operational Data.** Following items are mandatory to be supplied with the cranes. Detail technical and operational data are to be provided as follows:

a.	Type	:	Mobile Hydraulic Crane
b.	Model	:	To be mentioned
c.	Capacity	:	10 ton (see paragraph 13 also)
d.	Overall Dimension of the crane		
	(1) Length	:	To be mentioned
	(2) Width	:	To be mentioned.
	(3) Height	:	To be mentioned
e.	Weight of the crane		
	(1) Gross weight	:	To be mentioned.
	(2) Front axle weight	:	To be mentioned.
	(3) Rear axle weight	:	To be mentioned.
f.	Performance		
	(1) Max. Travelling Speed (Should be at least 50 km/hr)	:	To be mentioned.
	(2) Economic Travelling Speed	:	To be mentioned.
	(3) Gradeability (tan θ)	:	To be mentioned.
g.	Boom		
	Four section full power partially synchronized telescoping boom of round hexagonal box construction with 3 sheaves at boom head.		
	(1) Fully retracted length	:	To be mentioned.
	(2) Fully extended length (minimum 30 m)	:	To be mentioned.
	(3) Extension speed	:	To be mentioned.
h.	Jib		
	Two stage swing around boom extension. Triple offset type. Box type top section telescopes from lattice type base section which stows alongside base boom section. Single sheave at jib head.		
	(1) First Stage Jib Length	:	To be mentioned.
	(2) Second Stage Jib Length	:	To be mentioned.
	(3) Offset angle	:	To be mentioned.
j.	Elevation		
	(1) Boom angle (at least 0° to 81°)	:	To be mentioned.
	(2) Boom raising speed	:	To be mentioned.
k.	Hoist – Main Winch		
	Variable speed type with grooved drum driven by hydraulic axial piston motor through which speed reduces. Power load lowering and hoisting. Equipped with automatic brake (Neutral brake) and counterbalance valve. Spin resistant type wire rope of minimum dimension (Diameter x Length) 16 mm x 170 m. Details are to be mentioned as follows:		
	(1) Single line Pull	:	To be mentioned.
	(2) Single line speed	:	To be mentioned.
	(3) Wire rope diameter x length	:	To be mentioned.
l.	Hoist – Auxiliary Winch		
	Variable speed type with grooved drum driven by hydraulic axial piston motor through which speed reduces. Power load lowering and hoisting. Equipped with automatic brake (Neutral brake) and counterbalance valve. Spin resistant type wire rope of minimum dimension (Diameter x Length) 16 mm x 90 m. Details are to be mentioned as follows:		



	(1) Single line Pull	:	To be mentioned.
	(2) Single line speed	:	To be mentioned.
	(3) Wire rope diameter x length	:	To be mentioned.
m.	Hook Block		
	1 x Hook Block of at least 30 tonne capacity for use with the main winch and 1 x Hook Block of at least 4 tonne capacity for use with the auxiliary winch are to be provided. Sheaves, Swivel type hook with safety latch are to be provided.		
	(1) 1 x Hook Block of at least 30 ton capacity	:	To be mentioned.
	(2) 1 x Hook Block of at least 4 ton capacity	:	To be mentioned.
n.	Slewing		
	Continuous 360° full circle slewing on ball bearing slew ring.		
	(1) Slewing speed	:	To be mentioned.
p.	Outriggers		
	Hydraulically operated H-type outriggers. Each outrigger controlled simultaneously or independently from the cab equipped with sight level gauge. Crane operation with different extended length of each outrigger.		
	(1) Maximum extended width	:	To be mentioned.
	(2) Minimum extended width	:	To be mentioned.
q.	Ground clearance (High ground clearance will be preferable).	:	To be mentioned.
r.	Minimum Turning Radius		
	The turning radius should be maximum 10 meters at 2 wheels steering and maximum 6 meters at 4 wheels steering.		
	(1) Minimum turning radius at 2 wheels steering	:	To be mentioned.
	(2) Minimum turning radius at 4 wheels steering	:	To be mentioned.
s.	Tires		
	(1) Front size	:	To be mentioned.
	(2) Rear size	:	To be mentioned.
t.	Axles		
	(1) Front axle type	:	To be mentioned.
	(2) Rear axle type	:	To be mentioned.
u.	Transmission		
	Electronically controlled full automatic transmission. Transmission details are to be specified	:	To be mentioned.
v.	Suspension		
	(1) Front	:	To be mentioned.
	(2) Rear	:	To be mentioned.
w.	Steering System		
	Hydraulic power steering controlled by steering wheel. Following steering mode to be specified:		
	(1) 2-wheel front	:	To be mentioned.
	(2) 4-wheel coordinated	:	To be mentioned.
	(3) 4-wheel crab	:	To be mentioned.
x.	Emergency Steering System		
	Type and detail of emergency steering system are to be specified	:	To be mentioned.
y.	Brake System	:	To be mentioned.
z.	Electric System		
	(1) Number of Batteries	:	To be mentioned.
	(2) Each battery capacity	:	To be mentioned.



aa.	Pad Out Rigger		
	Minimum 2 pair pad out riggers are to be supplied with the crane	:	To be mentioned.
ab.	Pump Details:		
	(1) Name of the pump	:	To be mentioned.
	(2) Number of Pump	:	To be mentioned.
	(3) Type	:	To be mentioned.
	(4) Model	:	To be mentioned.
	(5) Maker	:	To be mentioned.
	(6) Capacity	:	To be mentioned.
ac.	Oil Motors Details:		
	(1) Name of the oil Motor	:	To be mentioned.
	(2) Number of oil Motor	:	To be mentioned.
	(3) Type	:	To be mentioned.
	(4) Model	:	To be mentioned.
	(5) Maker	:	To be mentioned.
	(6) Power	:	To be mentioned.
ad.	Covers		
	Crane water proof cover is to be provided.	:	To be mentioned.

16. **Engine.** Detail description of the engine is to be provided which should include the following:

a.	Type	Four stroke diesel engine.
b.	Model	To be mentioned.
c.	Maker	To be mentioned.
d.	No of cylinders	6 cylinders or above.
e.	Stroke and bore of the cylinders	To be mentioned.
f.	Maximum continuous rating	To be mentioned.
g.	RPM	To be mentioned.
h.	Specific fuel consumption of the engine	To be mentioned.
j.	Piston displacement	To be mentioned.
k.	Cooling system	Water cooled.
l.	Starting system	Battery operated.
m.	Fuel used	High Speed Diesel Oil (HSDO).
n.	Lubricating oil used (Shell or Equivalent)	To be mentioned.
p.	Overhauling period (Not less than 30,000 hours)	To be mentioned.
q.	Fuel tank capacity	To be mentioned.
s.	Power - Engine rated output	To be mentioned
t.	Power - Engine rated torque	To be mentioned

17. **Safety Device.** All required safety devices as per standard classification society must be included in the Mobile Hydraulic Crane. List of safety devices in the mobile hydraulic crane are to be provided with the offer.

18. **Hydraulic Equipment.** A detailed description of the construction and function of the hydraulic systems are to be provided with the quotation. The standard to which the equipment conforms is to be specified. Capacity of the oil reservoirs, rpm and discharge rate of the pump, circuit pressure etc, are to be specified.

19. **Standard Accessories.** Standard accessories must include all items and accessories, which are essential to operate the Mobile Hydraulic Crane whether those are mentioned in the specification or not. The price of standard accessories is to be included in FOB value. However, item wise price list of standard accessories is to be provided with the offer for reference value only.



20. **Optional Items.** A list of optional items (if any) which may be required to operate Mobile Hydraulic Crane is to be provided with the quotation with item wise price. The prices will not be added with total price while evaluating the comparative price of the suppliers.
21. **Spare Parts.** A recommended list of spare parts required for 05 years or 3000 hrs satisfactory operation of Mobile Hydraulic Crane is to be provided indicating item wise price. The prices will be added with total price while evaluating the comparative price of the suppliers.
22. **Tools.** 01 (one) set of standard tools for maintenance of Mobile Hydraulic Crane is to be provided indicating item wise price. Quantity and size of these tools are to be mentioned in the quotation. That price will be added with total price while evaluating the comparative price of the suppliers.
23. **Special Tools.** A recommended list of special tools required for carrying out maintenance of Mobile Hydraulic Crane is to be submitted with the quotation indicating item wise price. That price will be added with total price while evaluating the comparative price of the suppliers.
24. **Documents.** 02 (Two) sets of following documents in English language are to be supplied with Mobile Hydraulic Crane (free of cost):
- Instruction manual including technical specification, installation, operation and maintenance.
 - Spare parts catalogue and its components.
 - Factory test certificate/performance certificate.
25. **Certificates.** The manufacturer must give a certificate, which will form a part of the contract that all the mechanical, electrical and electronic components of the crane and its control system are currently in production. Following certificates should be provided with the crane as per ISO/DIN standard:
- Load certificates.
 - Rope certificates.
 - Safety certificate.
 - Certificates for hook's load.
 - Certificate for the jib.
 - Others as per standard practice and classification rules.
26. **Inspection, Test, Trial and Acceptance.**
- The manufacturer shall carryout inspection and test of the relevant components as per ISO/DIN rules before shipment and provide certificate to that effect.
 - The supplier's representative will carryout test and trial of the cranes at the purchaser's premises in SHER-E-BANGLA at PATUAKHALI in presence of the buyer's representative and handover the Mobile Hydraulic Crane in fully operational condition to the buyer. After satisfactory test, trial and commissioning of the Mobile Hydraulic Crane, it will be handed over to BN in fully operational condition. A test/ trial report, in this regard, will be signed jointly by the representative of supplier and the representative of buyer and to be forwarded to CINS office.
 - The cost of airfare, boarding, lodging, man-hour cost etc, for the manufacturer's engineer during his stay in Bangladesh, is to be borne by the manufacturer/supplier.
27. **Record of sales.** Record of sales of the quoted model of the Mobile Hydraulic Crane indicating year and buyer with full address is to be submitted with the quotation.



28. **Training.** The supplier's/maker's installation engineer will provide operation and maintenance training in Bangladesh to the Mobile Hydraulic Crane operators for 05 days after test, trial and commissioning of the Mobile Hydraulic Crane. Bidder is to quote the cost of training separately in their financial offer. Cost of air ticket, internal transportation, accommodation, food, medical support etc are to be borne by the supplier.
29. **Warranty.** Warranty for trouble free operation is to be given by the principal/maker for a period at least 01 year from the date of acceptance by the buyer. During the warranty period, if the Mobile Hydraulic Crane remains non-operational for any action pending by supplier, the warranty period will be extended for the same period. The warranty covers all parts and labor (including service engineer's cost) throughout the warranty period.
30. **Guarantee.** The manufacturer will guarantee to supply the spare parts for at least 05 (Five) years at reasonable price. Yearly increase of price of spares should not be more than 5% of the price list for spares provided with the quotation.
31. **Shipment.**
- The supplier will arrange shipment of all items by sea to Chattogram port, Bangladesh.
 - All items are to be delivered in sea-worthy packing to ensure safe transportation by sea.
 - All packages are to have packing notes showing their contents in details and all packages shall be marked with the name and address of the consignee and gross weight.
 - The supplier will arrange transportation of all supplied items from Chattogram port to the NSD Chattogram.
 - Port of Shipment.** Any port of the manufacturing country. In case of shipment through any port of manufacturer authorized dealer, relevant manufacturer certificate is to be provided as a proof of genuineness of the offered item.
32. **Delivery.**
- The items are to be delivered within **09 (nine) months** from the date of signing the contract to the following consignee:

The Commanding Officer
Naval Stores Depot Chattogram
New Mooring, Chattogram, Bangladesh
 - Place of delivery.** NSD Chattogram.
 - In case of CFR, the supplier will carry the items from Chattogram sea port to NSD Chattogram at the cost and risk of supplier.
33. **Terms of Payment.** Letter of credit (LC) for full purchase amount will be opened in favour of the principal supplier under the following payment terms:
- 80% of total CFR value will be paid on delivery of the items described under the scope of supply and on production of necessary shipping documents.
 - Remaining 20% of CFR value will be paid on producing 'Acceptance Certificate' after satisfactory test and trial jointly carried out by the buyer's and supplier's representatives.
34. **Validity of offer.** The offer should remain valid till **180 days** from the date of tender opening.



35. **Currency.** Foreign Currency.

36. **Condition for Acceptance of Quotation.** Quotation has to have supporting documents (booklets, leaflet, catalogue, brochure etc) having detailed particulars of the Mobile Hydraulic Crane. If detailed information regarding specifications, maker's books and catalogue about the same model of the Mobile Hydraulic Crane quoted, spare parts accessories, scope of supply, etc are not provided; the quotation will not be accepted.

37. **Compliance Statement.** A compliance statement fulfilling all the requirement of the tender is to be submitted for evaluation of the quotations. Stating mere 'Yes' or 'No' will not suffice and detailed description/information as required is to be given. An incomplete compliance statement may attribute to cancellation of the offer. If any clause of this specification does not commensurate the with offered Mobile Hydraulic Crane, the deviation has to be spelt out clearly.
