

TENDER SPECIFICATION OF RESCUE BOAT CRANE (SAFE WORKING LOAD 3.5 TON)

1. **Name of the Equipment.** Rescue Boat Crane (Safe Working Load 3.5 Ton).
2. **Purpose.** The Rescue Boat Crane will be used to replace the existing crane of BNS ANUSHANDHAN. It will be installed on board the ship and will be used for lifting/shifting of the rescue boat of the ship at open sea (up to sea condition of sea state 4).
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 Agent | To be mentioned |

5. **Country of Origin.** USA, UK, EU Countries, Canada, Australia, Japan, South Korea and Turkey.
6. **Manufacturing Country.** USA, UK, EU Countries, Canada, Australia, Japan, South Korea and Turkey.
7. **Year of Manufacturer.** 2023 or later.
8. **Certificate/ Document of Authentication.** The supplier must provide following original certificate(s)/ document(s) with the offer/ quotation of items as regard to the gentility of source and item(s) in order to establish chain of l nks 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.

9. **Scope of Supply.** The scope of supply is to include the followings:

- a. Main items {(01 set of Rescue Boat Crane (Safe Working Load 3.5 Ton))} must have all items necessary for immediate operation without the requirement of any other items (attachments, accessories, consumables, etc) (as per paragraph 15, 18 and 19).
- b. Optional Items (as per paragraph 20).
- c. Tools and Special Tools (as per paragraph 21 and 22).
- d. Spare parts (as per paragraph 23).
- e. Documents (user manual, maintenance manual, spare parts catalogue, drawings etc; as applicable) and Certificates (as per paragraph 24 and 25).

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- f. Installation of the Crane (as per paragraph 26).
- g. Pre Shipment Inspection (PSI) and Factory Acceptance Test (FAT) (as per paragraph 27).
- h. Training (as per paragraph 29).
- j. Warranty services and Guarantee (as per paragraph 30 and 31).
- k. Any other items necessary for immediate operation.

10. **Ambient Condition.**

| | | |
|----|------------------------|----------------------------|
| a. | Air Temperature | +5°C to + 50°C |
| b. | Relative Humidity (RH) | Up to 95% (non-condensing) |
| c. | Location | At sea & coastal area |

11. **Proposed Arrangement Drawing.** The Bidder(s) is to submit preliminary installation drawings with the offer. After award of contract, final installation drawings will have to be submitted by the supplier well in advance for approval.

12. **Record of Sales.** Record of sales of the quoted (or similar) model of the Rescue Boat Crane for last 3 years, indicating year and buyers' name, is to be included with the quotation.

13. **Standards, Code, and Regulations.** The Rescue Boat Crane shall be designed, constructed/ built and equipped in conformity with internationally recognized standardisation organisation/ society/ equivalent standards, codes and regulations. The standards, code and regulations to which the quoted Rescue Boat crane conforms are to be mentioned in the offer.

14. **Strength and Stability Criteria.** The strength and stability criteria to which the crane conforms are to be clearly specified.

15. **Safety Rules and Devices.** The quoted crane is to conform to any internationally accepted safety rules. The safety rules to which the crane conforms are to be clearly specified. The Rescue Boat Crane shall be provided with mechanical and electrical safety devices to avoid damage to the crane and operators/ including (but not limited to) the followings:

| Ser no | Protecting/Safety Devices |
|--------|--------------------------------------|
| a. | Surge Protection mechanism |
| b. | Sudden fluctuate of Voltage |
| c. | Switch Board |
| d. | Static current earthlings protection |
| e. | Spark or siege minimum |

16. **Design and Material.** The Rescue Boat Crane and all other items should be of new construction, latest model and up-to-date design, conforming international regulation.

17. **Available Power Supply for Crane Operation:**

| | | |
|----|--|---|
| a. | Power Supply | 440V, 60Hz, 3Phase. The motor should have the tolerance of $\pm 10\%$ voltage fluctuation |
| b. | All electrical equipment including transformer, rectifier or converter/ stabilising equipments (if necessary) which are essential for crane operation are to be supplied and clearly mentioned in the offer. | |



18. **Technical Specification:**

a. **Crane.** Followings are the crane's technical specification:

| | | |
|------|------------------------------|--|
| (1) | Type | Rescue Boat Crane |
| (2) | Model | To be mentioned |
| (3) | Maker | To be mentioned |
| (4) | Safe Working Load (SWL) | Not less than 3.5 tonnes |
| (5) | Running Test Load | Minimum 1.5 times of SWL |
| (6) | Static Test Load | Minimum 2.2 times of SWL |
| (7) | Working Radius | 2.9m to 5.3m or more |
| (8) | Hoist Speed | Minimum 18 m/min |
| (9) | Weight | Not exceeding 7.5 tons |
| (10) | Slewing Operating Arc | Approximately 210 ^o |
| (11) | Movement Axis | Both upward/downward and side wise movement |
| (12) | Average Running Hour | Not less than 5 hours/day |
| (13) | Slewing Speed | To be mentioned |
| (14) | Slew Drive & Gearing | As Required |
| (15) | Jib & Frame Luffing Cylinder | Time to fully luff frame up or down is not more than 15 sec |
| (16) | Powerpack Main Pump Output | To be mentioned |
| (17) | Boost Pump Output (if any) | To be mentioned |
| (18) | Working winch & wire rope | As required (Wire rope length not less than 30 m) |
| (19) | Location | Crane will be at Deck No-1 between frame no 60-64 and Hydraulic unit on Deck-3 (sea art 28 also) |

b. **Rescue Boat Crane Functional Detail.**

(1) Intended Rescue Boat Crane will be used for boat handling (launch, recovery and lowering etc.).

(2) Rescue Boat Crane will be designed, constructed and manufactured considering the above mentioned parameter. Certificate of compliance in this regard will be provided by the supplier that the crane is suitable to be used in sea-going vessels.

(3) The Rescue Boat Crane will be installed in existing ship's base plate. However, minor modification of the base may be accepted. The bidder is to provide drawing of base during submission of the quotation. The crane should be capable of operating at sea state - 4.

c. **Hydraulic Unit.** Integrated hydraulic power unit along with pump and other accessories should be installed within the dimension of (960 mm X 560 mm X 1740 mm). Hydraulic Unit should be placed on Deck no-3 (Beside MCR; Frame no: 49-50). The total pipeline and system arrangement should be provided for 31 mtr (approximate) or as required.

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- d. **Control System.** Suitable electric or electro hydraulic control system is to be installed and configured with new supplied crane. Required local and remote control console are to be installed. Remote control console is to be preferably installed on deck 1 in existing location.
- e. **Basement.** Basement should be provided with the dimensions not more than 2m x 2.5m.
- f. **Cabling and Hydraulic Piping.** Required piping for hydraulic system and cable arrangement is to be provided and installed by the supplier (see also 18 C).
- g. **Motor.** Following are the crane's motor specification:

| | | |
|-----|--|---|
| (1) | Type | To be mentioned. |
| (2) | Motor Power (kW) | To be mentioned. |
| (3) | Power Supply | 440V, 60Hz, 3 Phases. The motor should have the tolerance of 10% voltage fluctuation. |
| (4) | Motor RPM | To be mentioned. |
| (5) | Ingress Protection | IP 55 or better |
| (6) | Electrical Attachments | All necessary electrical accessories are to be provided. |
| (7) | Motor Protection/ safety devices from dry running, overload, overheating and over/ under voltage | Details to be mentioned. |

19. **Standard Accessories.** Standard accessories must include all items and accessories, which are essential to operate the Rescue Boat 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 the Rescue Boat 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. **Tools.** One (1) set of standard tools for maintenance of the Rescue Boat Crane is to be provided indicating item wise price. Quantity and size of the tools are to be mentioned in details in the quotation. That price will be added with total price while evaluating the comparative price of the suppliers

22. **Special Tools.** A recommended list of special tools required for carrying out operation of Rescue Boat Crane is to be provided indicating item wise price. That price will be added with total price while evaluating the comparative price of the suppliers.

23. **Spare Parts.** A recommended list of spare parts required for 05 years satisfactory operation of the Rescue Boat 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.

24. **Documents.** 02 (Two) sets of following documents in English are to be provided with the Rescue Boat Crane (free of cost):

- a. **Instruction Manual.** It should contain the followings:

- (1) Detailed particulars and specifications of the crane and its components.
- (2) Operation and safety instructions.
- (3) Maintenance instructions including maintenance schedule for the crane and its accessories.



- (4) Instructions regarding periodical tests and trials.
- b. Workshop level repair manual for the crane and its components.
- c. Spare parts catalogue for the crane and its components.
- d. All drawings of the crane and its accessories.
- e. Hydraulic and electric circuit diagrams, fault finding flow chart, etc of the crane.
- f. Installation instructions, drawings and wiring diagrams.

25. **Quality Assurance Certificate.** Quality assurance certificate in respect of the associated equipment in regards to its manufacturing and performance is to be provided at the time of delivery of the items.

26. **Installation, Test, Trail and Acceptance.**

- a. Supplier's representative will carry out installation of the crane and its hydraulic, electrical and control system and carry out test and trial of the items in presence of BN representative and handover the items in fully operational condition. Necessary foundation/ base will be prepared/ made / installed by the purchaser. The supplier has to provide drawing for base/ foundation. All hot works related to installation will be carried out by BN DOCKYARD and material required for hot work will be supplied by purchaser.
- b. Technical documents in the form of installation drawings, installation instructions, specifications, etc are to be supplied by the manufacturer with the equipment.
- c. The manufacturer/supplier is to send at least one installation engineer for required duration to supervise the installation work and participate in test/trial. Cost of hotel accommodation, food and transportation from hotel to work site will be borne by the manufacturer/supplier.
- d. The manufacturer's/supplier's engineer is to supervise the installation works and ensure that the test and trials are carried out satisfactory in accordance with the instruction provided by the manufacturer. He is to ensure the proper functioning of the items and fulfilment of the contract requirements.
- e. After satisfactory test and trial, an acceptance certificate will be signed jointly between the supplier's representative and the representative of buyer.

27. **Pre Shipment Inspection (PSI) and Factory Acceptance Test (FAT).**

- a. Pre Shipment Inspection (PSI) and Factory Acceptance Test (FAT) will be carried out by two (02) BN Officers for a duration of total three (03) days excluding journey period, at the buyer's expenses. The bidder should inform the buyer about the date and schedule of PSI and FAT at least 08 (eight) weeks prior to the date of commencement of the said PSI and FAT. After inspection a joint inspection report will be prepared and signed by both the seller and buyer's representatives.
- b. On return from the country of supplier, the BN officers will submit a report to NHQ concerned directorate. NHQ concerned directorate will, in turn, forward final decision along with PSI and FAT report within one (01) week, basing on which DGDP will render clearance for shipment of stores to the bidder concerned. The bidder will not make shipment of any item of the contract without clearance from the DGDP.
- c. All types of movement/ transportation (air, sea, road, rail) of the BN officers within the manufacturer/ bidder's country, reception and arrangement for entry into country/ concerned area for the PSI and FAT are to be arranged by the bidder without any extra cost.

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- d. Following test/ trial are to be carried out during FAT:
- (1) Visual inspection and dimensional check up.
 - (2) Load test.
 - (3) Speed test (various).
 - (4) Different movement test.
 - (5) Limit test.
 - (6) Safety check/test.
 - (7) Overload safety test.
 - (8) Emergency stop test.
 - (9) Hydraulic, electrical and control system test (if possible).

28. **Site Visit.**

- a. **Onboard Inspection/ Study.** The prospective bidder(s), after procurement of tender schedule from DGDP and on a prior written request (with submission of proof of purchase of tender schedule, and allowing at least 2 weeks to process the request), will be allowed to visit the ship (at Chattogram, Bangladesh) to carry out studies about existing Rescue Boat Crane and relevant technical matters.
- b. **Security Clearance.** Necessary permission/security clearance will be arranged by BN upon request by bidders. Request should be given two weeks prior to such visit in order to enable BN to process necessary permission/security clearance.
- c. **Location.** The Rescue Boat Crane is intended to be installed on board the BN ship at Chattogram (may change to Mongla due to operational requirement).

29. **Training.** The Supplier will intimate their intended date for the start of the training at least four weeks before the due date. The supplier will also intimate the number of instructors (for training) to BN in due time. The manufacturer's/ supplier's installation engineer will provide operation and maintenance (both mechanical and electrical) training in Bangladesh to **10 BN personnel** for **03 (Three) days** after test, trial and commissioning of the Rescue Boat Crane. Cost of air fare accommodation and food of the manufacturer's/ supplier's engineer are to be borne by the manufacturer/supplier.

30. **Warranty.**

- a. Warranty for trouble free operation will be provided by the principal/ manufacturer for all the supplied items for a period of at least 12 months from the date of acceptance by the buyer.
- b. During the warranty period, if the Rescue Boat Cranes remain non-operational for any action pending by the supplier the warranty period will be automatically extended by the same period.
- c. The warranty should cover all parts and labour (including service engineer's cost) throughout the warranty period.



d. For warranty repair/ replacement, the supplier will collect the defective items from NSD Chittagong and re-supply the same to the collecting place after warranty repair/ replacement.

31. **Guarantee.** The manufacturer will give guarantee to supply spare parts of all the components for a period of at least 10 (Ten) years from the date of acceptance. Yearly increase of price of spares should not be more than 5% of the price list for spares to be supplied with the quotation.

32. **Shipment.**

a. The supplier will arrange shipment of all items by sea to Chattogram port.

b. All items are to be delivered in sea/air worthy packing to ensure safe transit by sea.

c. All packages are to have packing notes showing their contents in detail and all packages shall be marked with the name and address of the consignee and gross weight.

d. The supplier will arrange transportation of all supplied items from any sea port to the site of installation.

e. **Port of Shipment.** Any port of the manufacturing country. If port of shipment is other than manufacturing country due to some unavoidable reason, then a certificate from OEM is to be provided to prove genuinity of the equipments.

33. **Delivery.**

a. 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 Chittagong
New Mooring, Chittagong, Bangladesh

b. **Place of delivery.** NSD Chattogram.

34. **Validity of Offer.** The offer will remain valid **06 months** from the opening date of the tender.

35. **Terms of Payment.** L/C for full purchase amount will be opened in favour of the principal supplier under the following payment terms:

a. 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.

b. 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.

36. **Currency.** Foreign Currency.

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

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38. **Compliance Statement.** A compliance statement fulfilling all the requirement of the tender is to be submitted for evaluation of 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 with offered Rescue Boat Crane practically, the deviation has to be spelt out clearly.

Enclosures:


1. Particulars of Existing Rescue Boat Crane.
2. Deck Layout for Crane and Hydraulic Power Pack.


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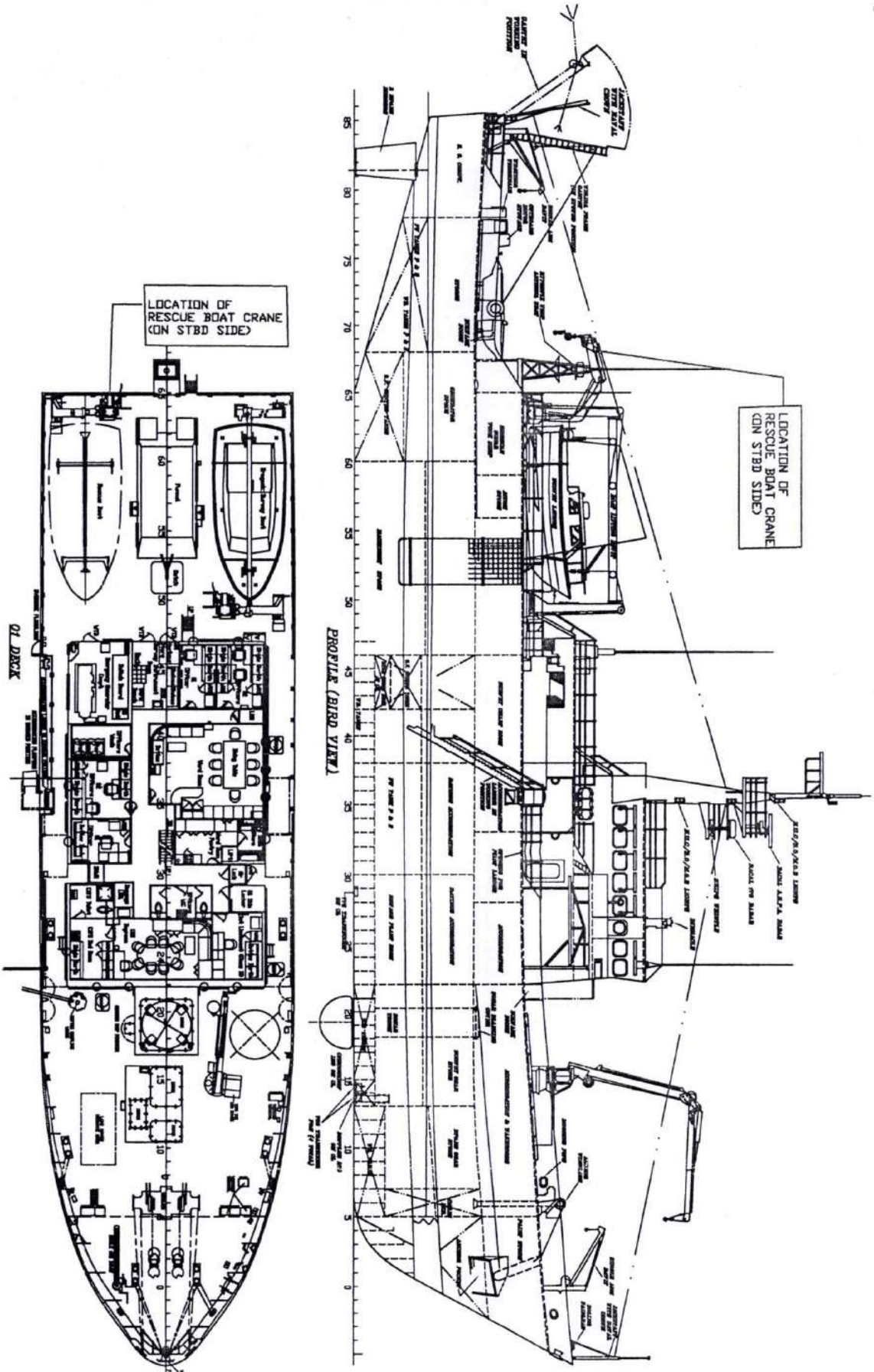
PARTICULARS OF EXISTING RESCUE BOAT CRANE

| Ser | Characteristics/Parameter | Description/Value |
|-----|------------------------------|---|
| a. | Type | Rescue boat crane (automatic rising/ lowering & side- wise movement) |
| b. | Safe working load (SWL) | 3.5 ton |
| c. | Running test load | 1.5 times of SWL |
| d. | Static test load | 2.2 times of SWL |
| e. | Working radius | 2.9 m-5.3 m |
| f. | Hoist speed | 30 m/min |
| g. | Weight | 7.5 tonners |
| h. | Ships main supply | 440 volts, 3Phase, 60Hz |
| j. | Slewing operating ARC | 210 ⁰ |
| k. | Expected lifetime | Minimum 20 years |
| l. | Slewing speed | 1 RPM |
| m. | Jib & frame luffing cylinder | Time to fully luff frame up or down is 15 sec |
| n. | Power pack main pump output | 280 bar |
| p. | Boost pump output (if any) | 30 bar |
| q. | Classification regulations | Lloyd's class approved or similar |
| r. | Location | Deck No-01, Frame No: 60-64 |
| s. | Basement | Not more than 2 m x 2.5m |
| t. | Movement axis | Upward and side wise movement |

 2/4/24
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DECK LAYOUT FOR CRANE AND HYDRAULIC POWER PACK - BNS ANUSHANDHAN



| | |
|------------------|----------|
| LENGTH B. P. | 57.00 M |
| LENGTH O. A. | 64.00 M |
| BREADTH M.L.D. | 13.00 M |
| BREADTH EXT. | 13.018 M |
| DEPTH LOWER DECK | 3.50 M |
| DEPTH MAIN DECK | 6.10 M |
| FRAME SPACING | 700 MM |

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