

E: rakesh.sinha@deendayalport.gov.in
 Mobile : 9879505124
 www.deendayalport.gov.in



Office of the
 Engineer-In-Charge
 Room No. 3 Marine Bhavan,
 New Kandla (Kutch),

CME/Tug/1734/BuoysBhimsen/2025

Date: 22/04/2025

To,

M/s. _____

Expression of Interest

Sub: "Comprehensive Annual Maintenance Contract for Channel Marking, Dumping and Mooring Buoys in the Kandla Channel along with Operation & Maintenance of Heave up Barge Bhimsen for a period of three years."

Sir,

Deendayal Port Authority intends to invite E-Tender for **"Comprehensive Annual Maintenance Contract for Channel Marking, Dumping and Mooring Buoys in the Kandla Channel along with Operation & Maintenance of Heave up Barge Bhimsen for a period of three years."**

Kindly submit your Expression of interest along with budgetary-offer for the subject work in the prescribed format at **Schedule-B** on the basis of technical specification, scope of work & list of store items to be supplied & maintained by contractor at **Annexure-II** & special condition of contract at **Annexure-I** enclosed herewith.

The rates quoted must be inclusive of all costs such as material, Spares, labour, transportation etc. and any other charges for successful completion of the work excluding GST. The GST applicable shall be shown separately, which shall not be considered for evaluation purposes.

Your Expression of interest along with budgetary offer for the above work should reach this office of undersigned on or **before – 05/05/2025, 1530 hrs.** via email at rakesh.sinha@deendayalport.gov.in by scanning or by post. Any query regarding the subject matter shall be entertained by undersigned on Mobile no. 9879505124.

Thanking you,

Yours faithfully,

EIC (Tugs)

Deendayal Port Authority

Copy to : Chief Manager (ICT), website@deendayalport.gov.in : for hoisting on DPA website.

Stamp, Date & Signature of Contractor

Annexure-ISPECIAL CONDITIONS OF CONTRACT(SCC)

(These special conditions will supersede the General Condition and ITB wherever applicable).

1. General:

- 1.01 Party shall arrange all consumables, tools and tackles, equipments & machines, transportation, materials and manpower required for successful execution of the work at his own cost.
- 1.02 Port Entry permit for the manpower, vehicles and materials shall be arranged by the contractor.
- 1.03 The Contractor will follow all labour laws, Marine safe working practice as per Govt. rules and guidelines.
- 1.04 The contractor shall not deposit any material at such a place that may cause inconvenience to the public or staff or nearby offices for proper functioning of DPA work/operation.
- 1.05 All the rules and regulations governing DPA will be applicable.
- 1.06 FORCE MAJEURE: This shall be restricted to acts of GOD only.
- 1.07 After completion of the work the contractor is required to clear the work sites on Dry-dock, SNA jetty and other working areas. Old steel scraps generated on account of the execution of all the work shall be the property of the DPA.
- 1.08 The contractor shall ensure not to cause any damage to the port properties during execution of work. If any damage occurs due to poor workmanship or handling of the contractor or their manpower, the contractor has to make good the loss/damage at his own cost.
- 1.09 The work shall be carried out in accordance with the best standard of workmanship and to the entire satisfaction of DPA.
- 1.10 No advance will be given for the repair work; the contractor has to plan his schedule of work in such a manner that no work should be held up on account of procurement of materials, labours etc. required for successful execution of work.
- 1.11 No materials/spares unless otherwise specified in the **schedule 'B'** and in Technical Conditions/specifications required for the work shall be supplied by the Port and the contractor has to make his own arrangements to procure all the materials unless otherwise specified.
- 1.12 The Port will not provide any workshop facilities, tools & tackles labours, supervisory staff, etc. to the contractor by way of any assistance.
- 1.13 Extension of completion period shall be granted without levy of L.D. on merit basis of the following reasons not attributable to the contractor:
 - (a) Due to sinking operations of dry dock extension without L.D. 01(One) day at each occasion.
 - (b) The work of welding, sandblasting and painting etc. cannot be carried out in a humid atmosphere or drizzling atmosphere, the orders recorded by Engineer-in-Charge or his representative shall be considered for granting extension.
 - (c) Bad weather, natural calamity & Act of GOD.

- 1.14 During execution of work, a qualified Engineer/Supervisor shall remain present for proper supervision/execution of work and for giving guidance to the workers and also for taking corrective measures to improve the quality of work to complete the work as directed by the Engineer-in-Charge at site.
 - 1.15 Staging, scaffolding required for the work to be carried out on the platform of the dry dock has to be arranged by contractor at his own cost. Cleaning of working area at DD during the entire execution.
 - 1.16 The successful bidder shall commence the contract within 10 days from the date of issue of work order.
 - 1.17 The Agreement shall be valid for a period of **THREE years** from the date of commencement of the contract. DPA may at its discretion extend the period of the agreement with mutual consent for any period up to **one year** and at the same rate, terms and conditions as DPA may deem fit and proper.
 - 1.18 Any loss or damage to Buoys/Barge Bhimsen and its associated accessories /equipment due to negligence of the contractor, shall be supplied and made good by the contractor at his own cost or DPA will deduct the actual expense from the contractor's bill or security deposit etc.
 - 1.19 In case of buoy damaged by Vessel, cost of accessories like chain assembly, sinker, D-Shackle, Swivel, Lantern, O ring, etc. deployed by contractor shall be reimbursed on basis of supporting documents after receipt of payment to DPA by insurance agency/vessel owner.
2. The Clause No. 4.2 (m) of Instructions to Bidders (ITB), Section-I is not applicable.
 3. The clause No. 6 of Instruction to Bidders (ITB), Section-I is not applicable.
 4. **Payment Terms:**

(The Clause No. 7 of Section-II is replaced as under)

All payments shall be made in Indian rupees unless specifically mentioned.

 - 4.01 DPA shall pay to the Contractor the lump sum charges on monthly basis for the serial No. **1,2 & 3 of Schedule-B**, as quoted in **Schedule-B**. The rates quoted will be firm and not subject to any form of escalation.
 - 4.02 For serial No. **4,5 & 6 of Schedule-B**, the payment shall be made on the basis of actual work carried out in the preceding month.
 - 4.03 The currencies in which payments shall be made to the Contractor under this Contract shall be Indian Rupees only.
 - 4.04 The contractor shall note that no interest be payable by the Employer for any Delayed Payments.
 - 4.05 If applicable, "the payment from 2nd bill to pre-final bill, shall be released, subject to the condition that the documentary evidence (copy of paid Challan in Govt. Treasury) of welfare cess @1% of work done or as amended by statutory authority from time to time, paid to concerned authority is submitted for the previous bill".

NOTE:

The payment shall be made through RTGS /NEFT and the Contractor shall furnish following details:

-

Bank Payment Agreement Form

- a. Name of Party
- b. Account No.
- c. Branch Name
- d. Branch Station
- e. IFSC code of the bank
- f. MICR code
- g. Accepted for :-NEFT payment or RTGS payment

Declaration by the party

I/We hereby declare that the above information furnished by me is correct and DPA is requested to pay my / our dues to this account for this work is concerned.

Signature of the party with the seal

Declaration by the bank

It is hereby informed that the details mentioned by the party is correct as per our records and any payment made by DPA to this account will be accepted either by RTGS/NEFT.

Signature of the bank manager with the seal.

5. Insurance:

(The Clause No. 8 of Section-II is replaced as under)

- 5.01 All manpower to be posted at Kandla shall be insured under the Workmen Compensation Act.
- 5.02 It will be entirely the contractor's responsibility to take required steps to adequately safeguard the personnel and to ensure that the work is carried out in such a manner that maximum safety to the personnel is assured. The contractor shall follow all precautions as required for safety of workman by ILO regulations, etc.
- 5.03 No claim/compensation of whatsoever nature shall be entertained by the DPA for any loss of property or injury or loss of life during the occurrence of any accident to the contractor's maintenance staff/officials. Contractor is required to get insurance for his staff and property at own cost.

6. Penalty Clause: (The Clause No. 11 of Section-II is replaced as under)
(The liquidated damage clause has been replaced with penalty clause)

- 6.01 The Contractor shall ensure that barge Bhimsen is always ready for operation on demand. Barge Bhimsen shall be allowed downtime as mentioned under clause No. 3.07 & 3.09 of Scope of Work for the planned/ preventive, major, dry dock maintenance. The barge should be available at a minimum 100% of total hour per month, deducting the period of maintenance as mentioned under clause 3.07 & 3.09 of Scope of Work.

6.02 Availability calculation shall compute as under:

Let (A) = Number of possible Barge hours in a month.

B= Number of hours the Barge is available under planned/routine maintenance.

C= Net hours of Barge after planned /preventive, major, dry dock maintenance in a month.

D= Net availability of Barge.

E= Availability maintained or not, shortfall if any.

F= Penalty @ Rs: 1000/- per hour for the Barge.

The time required for taking approval for procurement of OEM spares through the contractor, lead time (delivery period) of OEM spares will be treated as delay from DPA side & will be considered on merit and no penalty will be imposed on the contractor for this period.

Penalty calculation for unavailability of Barge Bhimsen on monthly basis:

Period* (Monthl y)	Total hour in month	Allowed** Planned /preventive, major, dry dock Maintenance for each Launch	Actual Hour In a month (A-B)	Availabilit y of Launch in hours	Short fall hours if any i.e. (C-D)	Penalty shall be Rs. 1000/- per hr. E*1000
	A	B	C	D	E	F

6.03 SHORTFALL OF STAFF:

In the event the Contractor fails to employ at any time during the currency of the Agreement, the maintenance/operation/watch keeping/base staff confirming to the minimum scale indicated under **clause No. 10** of Scope of Work, DPA shall deduct a sum of **Rs. 1,000/-** plus applicable GST, per day or part thereof for short deployment of each maintenance/operation/watch keeping/base staff except site supervisor for which a sum of **Rs. 3,000/-** plus applicable GST, per day or part thereof shall be deducted. Such deductions may be claimed by DPA in addition to any damages or claims that DPA may have against the Contractor. In case of prolonged short deployment, DPA reserves the right to deploy the personnel from other workshops and deduct the entire cost from the contractor's bill. The decision of DPA in this respect is final and binding on the Contractor.

6.04 Contractor has to carry out replacement of buoys and its accessories within the stipulated time period as mentioned under **clause No. 2.08 & 2.09 of Scope of Work**. Any delay will invite a penalty for reduction of payment on a daily basis after the stipulated time till the defects are rectified by the contractor. The amount so deductible per day will be equal to the rate per day quoted by the contractor under **Serial No. 1 & 2 of the Schedule-B** in the tender on a pro-rata basis.

6.05 DELAY IN PROCUREMENT OF SPARES:

In case the contractor fails to procure the material (OEM items) within the time limit mentioned in the offer of the supplier as per clause no. **4.2 of Scope of Work**, penalty at ½% of the "Supply Order Value" per week and part thereof will be recovered till procurement of the same limited to maximum of 10% of the "Supply Order Value".

- 6.06 Penalty shall be imposed for any reason of delay attributable to the contractor. However, for reasons of delay attributable to DPA no penalty shall be imposed but reduced rate of payment shall be applicable as per the tender conditions.
- 6.07 Shortfall of Store Items:-In case, the contractor fails to maintain requisite quantity of store items as mention under clause 15 Annexure-B (a, b, c, d) of Section-V penalty at the rate of Rs. 200/- per item per day part thereof will be recovered from the payment of contractor R.A Bill the materials are deposited by the contractor.
- 6.08 Non-submission of reports/registers/files: - The contractor is required to submit monthly/quarterly/half yearly reports and registers/files as per clause No 3.15, 3.16 of section- V & 50 of section-I. If the contractor fails to submit the same within the stipulate time as per tender condition, a penalty of Rs. 200.00 for each reports/registers/files per day and part thereof will be levied.
- 7. Guarantee: (Clause No.14.1 of GCC, Section-II is replaced as under)**
All repair works including major works on barge Bhimsen and Buoys including equipment fitted on board shall be guaranteed for six months from the date of test and trial. However, painting works shall be guaranteed as below:
I. Below water level- 2 Years.
II. Above water level-1 Year.
- 8. Third Party Inspection:**
(The Clause No. 46 of Section-II is replaced as under)
DPA shall appoint the TPIA for monitoring the AMC work, if any observations/queries are made by Third Party Inspection Agency; the same shall be complied by Contractor before the next scheduled visit. The TPIA will check and certify the same. Payment for subsequent months may withhold if any quarries raised by TPIA are not complied by AMC Contractor (under the scope of AMC works). The charges incurred for Third Party Inspection Agency will be borne by DPA.
- 9.** The clause No. 47 of General Conditions of Contract(GCC), Section-II is not applicable.
- 10.** The clause No. 55 of General Conditions of Contract(GCC), Section-II is not applicable.
- 11.** The bidder shall execute Integrity Pact placed at Section-IV of the Tender Forms as **Form – 6**.

The Integrity Pact duly signed by authorized person/s with witness, are to be submitted by the bidders along with the Tender Documents.

Bidders are required to sign the Integrity Pact (as per the format given in the Tender Document), failing which their bid shall be liable for rejection. The “Principal” means “Deendayal Port Authority” and “Counterparty” means “Vendor / Supplier / Contractor”.

If a Counterparty commits a violation of its commitments and obligations under the Integrity Pact Programme during bidding process, their entire EMD would be forfeited and in addition, they may be blacklisted from the DPA business in future.

In case of violation of the Integrity Pact by Counterparty after award of the contract, DPA shall be entitled to terminate the contract. DPA would forfeit the Security Deposit/s; in-cash the Bank Guarantee/s and other payments to Counterparty in such cases.

- 12. Reduced Rates for non-availability of Barge due to delay in procurement of OEM spares/equipment/machinery or any other reason attributable to DPA:**
- 12.01** If the barge is withdrawn from operation owing to insufficient OEM spares/ equipment /machinery or any other reason attributable to DPA for more than 10 days, the payment @**20%** of the **serial No. 3 of Schedule-B**, towards the AMC of barge from 11th day to 90 days and 10% from 91st days or from the date of confirmation of delay, whichever is earlier till the barge is put into commission per day on pro rata basis. However, payment towards other serial No. of Schedule-B shall be paid as per terms of tender conditions. The payments towards a reduced rate of AMC @20 % or 10% shall be made for watch keeping & maintenance of barge Bhimsen by the contractor.
- 13.** In case any of the works under this contract are not performed by the Contractor, like repairs, maintenance, painting, dry docking etc., then DPA shall carry out the same at the risk and cost of the Contractor as applicable with 20% overheads.
- 14.** Contractor to note that DPA is bound by various guidelines/ rules/ regulations of public procurement, and hence, the Contractor has to follow the same while seeking approvals of DPA for spares procurement as advised by DPA.
- 15.** Contractor has to pay wages to labourers through their respective bank accounts only. The contractor has to submit the bills along with documentary proof for payment made to the labours through the bank. contractor has to comply with the statutory requirements for payment of wages, such as Minimum Wage Act and Payment of Wages Act etc.
- 16.** If applicable, the contractor shall be registered under the building and other constructions worker (Regulation of Employment and Conditions of Service) Act, 1996.

**Signature & Seal
of Contractor**

**Engineer In-charge (Tugs)
Deendayal Port Authority**

Annexure - II**Scope of Work & Technical Specifications****1. General:**

- 1.01 In the Kandla channel water of Deendayal Port Authority (DPA), presently 24 nos. of channel marking & Dumping buoys and 02 nos. of Mooring buoys are placed along with one no. of Heave up barge Bhimsen for SNA related works. However additional buoys are kept for standby use. The detailed specifications of these buoys and barge are enclosed at **Annexure-A**.
- 1.02 The job specifications given for the “**Comprehensive Annual Maintenance Contract for Channel Marking, Dumping and Mooring Buoys in the Kandla Channel along with operation & maintenance of Heave up Barge Bhimsen for a period of three years**” in the **Schedule-‘B’** describe broad requirements to which the contractor shall work. However, the fact that everything is not fully specified and there may be omission in the job specifications, shall not absolve the contractor from his responsibility to carry out the work in safe, apt and proper manner and acceptable in all respects as per marine practices.
- 1.03 The party shall carefully examine and study the site of work, local conditions and exact quantum of work involved against each item detailed in BOQ for “**Comprehensive Annual Maintenance Contract for Channel Marking, Dumping and Mooring Buoys in the Kandla Channel along with operation & maintenance of Heave up Barge Bhimsen for a period of three years**” before submitting the offer. If he has any doubt regarding site/local conditions, he should get it clarified before submitting the offer. No claim whatsoever will be entertained for any nature of work, arising out of local conditions or subsequent to undertaking each particular job listed in the BOQ.
- 1.04 The above scope of work may be increased or decreased as per the requirement of DPA in future. The additional scope of work shall be governed under the same terms and conditions. The charges as applicable will be increased or decreased proportionally as per rates provided in the contract.
- 1.05 Party shall arrange all tools and tackles, machines, consumables, transportation, material and manpower including victualling, insurance, PPE etc. for deployed manpower for successful execution of the work at his own cost.
- 1.06 The award of Work shall be considered on Turn-Key basis only. The split of work shall not be accepted.
- 1.07 The payment to the contractor, for the steel renewal work related to barge and buoys (plates, angles, brackets, fenders, bars, pipes, etc.) shall be made on the basis of weight of trimmed edged fitted steel and measured materials as per actual, no other claims whatsoever shall be entertained by the port. For steel plating works minimum area of 50x50 cm² and for pipes, fenders, angles, bars etc. minimum length of 50cm shall be considered for calculation purposes.
- 1.08 The quantity mentioned at Sr. Nos. 04, 05 & 06 of the Price Bid i.e. **Schedule -B** is purely tentative and the party shall carry out the work as per direction of EIC. However, payment will be made as per actual work carried out.

- 1.09 Old materials, scrap etc. generated on account of the renewal of steel shall be property of the port and the same shall be returned to DPA main store Kandla at the cost of contractor.
- 1.10 All safety precautions during the entire contract period shall be taken by the contractor for their own and DPA. Risk assessment for hazards involved shall be carried out before start of any work and due care shall be taken. Contractor shall be solely responsible for any type of loss i.e. materials/manpower due to negligence or lapse of safety measures.
- 1.11 It shall be the responsibility of the Contractor to ensure that the persons engaged for the work are clear from a Security angle.
- 1.12 To execute the work with due diligence, efficiency and in conformity with sound engineering, administrative, Marine safe working practices and financial practices to protect the interest of the employer.
- 1.13 The port shall not provide any residential or official accommodation and transport facilities to the contractor or his employees during the execution of the entire work.
- 1.14 The AMC will be entered for 03 years initially from the date of commencement of contract. However, the same can be extended for any period, maximum up to 01 year at the same Rates, Terms & Condition with mutual consent.
- 1.15 The Contractor has to provide a suitable transport vehicle (Jeep/Van) at his own cost round the clock for mobilizing in time the Maintenance / Base /Operation staff to and from the Port and/or any other places and within port premises and material as required by DPA for smooth execution of the contract.
- 1.16 In the event a contractor finds any of their employees not conforming to the rules of discipline etc., he shall be free to take action against such an employee as deemed necessary by observing due process of legal requirements. DPA reserves the right to instruct the contractor for immediate replacement of their employees upon unsatisfactory performance and undisciplined behavior.
- 1.17 The Contractor shall be liable for all acts of omission and or commission of the staff deployed by the Contractor and also for all liabilities pertaining to their salaries, allowances, clothing, victuals, medical facilities, insurance and any other requirement pertaining to the staff at the cost of the contractor, including supply of stores, consumables, transport onshore / offshore, laundry etc. DPA shall not be responsible for any of the liabilities of contractor labours.
- 1.18 Contractor shall submit the documents in support of qualification and experience of each personnel proposed to be deployed by him to DPA at least one week in advance for verifying whether they meet the educational, experience and other criterias as per contract. Contractor will also maintain the profile of the staff personnel for posted staff during the entire AMC period.
- 1.19 All the staff/workers deputed by the contractor during AMC period shall wear uniform along with Identity card, Personal Protective Equipment (PPE's) and other safety gears as and when required as per the nature of job.

- 1.20 All the tools and tackles required to carry out the repair & maintenance under scope of work shall be the responsibility of the contractor, no extra cost shall be entertained in this regard by DPA.
 - 1.21 The contractor shall be responsible for carrying out all the repair and maintenance work by following safe marine workmanship such as using proper safety gear i.e. PPE, by using correct tools and tackle i.e. lifting gear etc.
 - 1.22 Thickness gauging for assessment of steel renewal for Barge and Buoy shall be carried out by the contractor at his own cost as and when required.
 - 1.23 Procedure of getting electricity connection for temporary period at jetty as well as at Dry Dock has to be obtained from DPA & Electricity Tariff has to be borne by the contractor as per applicable tariff. Necessary switch board, cables, other requirements, etc. shall be also arranged by the contractor at his own cost.
- 2. Details of works pertaining to AMC of buoys:**
- 2.01 Maintenance of Channel Marking, Dumping and Mooring Buoys into the Kandla Channel along with all its associated parts and accessories i.e. Chain Assemblies, Shackles, Sinkers, Solar LED Lanterns, Batteries, Electrical Items (PCB cards, Solar LED Lanterns, glasses, packing's, solar plate & panels etc.) which includes but not limited to sand blasting, painting, laying/installation, repositioning, withdrawal/collection, retrieval of drifted/damaged buoys along with regular monitoring and maintenance to keep the navigational channel updated and safe for navigation.
 - 2.02 All the buoys (mooring, dumping and channel marking) laying/installation/ repositioning operation whenever required shall be carried out into the Kandla Channel as per the charted position provided by Survey section of DPA. Instruments/Equipments required for proper positioning shall be in the scope of the contractor at his own cost. The Survey Section of DPA shall provide the charted position or may assist for the charted position during laying/repositioning of buoys.
 - 2.03 Within 18 month's period from the date of commencement of contract, the contractor shall carry out repair, sand blasting and painting of all the Channel Marking, Dumping and Mooring Buoys along with its accessories i.e chain assemblies, sinkers etc. after withdrawal from channel in the phased manner and laying back into the channel at the charted position as per instruction of Engineer in Charge subject to availability of Barge Bhimsen, Tugs and Crafts, thereafter, the sand blasting and painting of each buoy along with its accessories shall be carried out minimum once in 2 years. All Mooring Buoys (2 Nos.) shall be replaced by the standby mooring Buoys once during the tenure of the contract period otherwise penalty shall be imposed.
 - 2.04 04 Nos. Standby channel marking buoys, Dumping buoys and 02 Nos. mooring buoy shall also have to be kept ready for use after repair, sand blasting and painting as per scheme prescribed in the tender document. At the end of the contract, the party shall handover these standby buoys to DPA in ready condition.
 - 2.05 During currency of contract if new type of buoys or any new equipments are procured by DPA, the replacement of existing buoys with new ones or installation of new equipments on existing buoys

- has to be carried out by the contractor without any additional cost to DPA and same shall be maintained during the entire period of contract.
- 2.06 For repair of buoys, the party has to carry out steel renewal, fitment of new zinc anodes, sand blasting and painting of buoys and its accessories e.g. chain with assembly, sinker, frames, rubber & steel fenders, tower, shackles, etc. and repairing/replacement of Solar LED Lanterns, batteries & other electrical/electronic items as per requirement. **No additional cost for these works will be provided except for steel renewal and anodes as per BOQ (serial No. 4 & 6).**
- 2.07 Apart from the withdrawal, laying, repositioning and retrieval of buoys, the contractor has to carry out regular visits into the channel for regular inspection and to record the status of buoys at least once in every 15 days for which a craft shall be provided by DPA free of cost, however, an intimation for requirement of craft shall be given at least one day (24 hours) prior to avoid interruption of port operation. Apart from the above the party shall also carry out visits to meet normal day to day operational requirements e.g. battery change, collection and fitting of equipment on buoys, minor repair and painting of buoys in place.
- 2.08 **The channel marking & Dumping buoy's replacement/ repositioning shall be carried out within 48 hours as per tide schedule from the reporting time (may be reported by DPA or noticed by the contractor during routine inspection) and mooring buoy's replacement/repositioning /laying operation within 10 days' (240 hours) subject to availability of tug/craft provided by DPA except adverse weather conditions (when wind speed is more than 20 knots and swell is more than 1 meter) certified by DPA.** However, the retrieval of buoy in case of drifting of buoy, shall be attended immediately or as per instruction of EIC to clear the channel so that port operation shall not be interrupted due to blockage of channel owing to buoys.
- 2.09 **The small repairing work in position, or replacement of Solar LED Lanterns, battery, electrical/electronic component etc. shall be carried out within 24 hours of reporting/noticing subject to availability of tug/craft provided by DPA except adverse weather conditions (when wind speed is more than 20 knots and swell is more than 1 meter) certified by DPA.**
- 2.10 **To carry out the buoy operation i.e. laying/installation, repositioning, withdrawal/collection, retrieval of buoys, tug and craft shall be provided by DPA,** and all other lifting and securing tools and equipments e.g. **crane having sufficient capacity for the required operation (lifting of buoys, sinkers, chains etc. from jetty to sea and vice-versa) shall be arranged by the contractor at his own cost.** The Heave Up Barge Bhimsen shall be kept ready by the contractor under O&M and shall be used during operation as per requirement. Maintenance and operation of Bhimsen shall be the sole responsibility of the contractor. Apart from this if any other equipment/machinery required for the buoy operation, the same shall be arranged by the contractor at his own cost.
- 2.11 Repair and maintenance work of buoys i.e. steel renewal, sand blasting, painting, polyethylene buoy repair etc. shall be carried out at SNA Jetty area.
- 2.12 For repair of polyethylene buoys, the contractor may require support of a specialized workshop to fabricate the separate section of buoys, patch up work etc., cost for the same shall be borne by the contractor without any additional cost to DPA.

- 2.13 Rubber Fender repairing/replacement of buoys as in place shall be carried out by the contractor including the cost of material without any additional cost to DPA. The fender shall be fitted in such a way that it should protrude at least 6 inch outside the buoy surface or as per the instruction of EIC.
- 2.14 Sand blasting of all the steel components of buoys and painting as per the scheme mentioned under clause no.7 of SOW (Marine grade-epoxy) after proper cleaning and surface preparation as per SA 2 1/2: (Make- International/Jotun/Sigma).

Note: Colour Coding of buoys for above water line shall be as per standard IALA norms. For the below water line black bituminous/coal tar should be used as the final coat.

- 2.15 Record book of buoys to be maintained by the contractor wherein all the relevant details i.e. repair work, replacement of buoys detail, replacement of battery/Solar LED Lanterns/chain/sinker and all other accessories shall be recorded in chronological order and keep updated and a report of buoys status and work carried out shall be submitted every month by 7th day of the month for the previous month. This record book shall be prepared as per requirement of DPA within 15 days of commencement of contract.
- 2.16 Shifting and securing buoys (kept at jetty) in safer places in case of bad weather or other warnings issued/declared by DPA, thereafter placing them back to normal positions will be the responsibility of the contractor including the cost and manpower and other requirements involved in it. After the bad weather conditions, all drifted /detached buoys shall be repositioned/reinstalled/collected will be the responsibility of the contractor including the cost and manpower and other requirements involved in it.

3. Details of works pertaining to Operation & Maintenance of Heave Up Barge Bhimsen:

- 3.01 Repairing and Maintenance of Hull & Machineries of Heave up barge Bhimsen i.e. deck, hull, tanks, superstructure, pipe fender, machinery space, windlass system including diesel engines, generator sets, capstan with all attachments, gearbox, pumps, lightings, electric panels, lifting gears, rollers, lifting hooks, bollards, wire ropes, wire slings etc. This includes but is not limited to R&M of all equipment/hull/machineries, routine as well as breakdown down maintenance of Engines/equipment/machinery, including desludging, cleaning, chipping, painting of all hull and machineries. Removal and fabrication works for installation of new/replaced equipment on Barge Bhimsen e.g. foundations, pipelines, light panels, switches, etc.
- 3.02 Operation of Barge Bhimsen including its all machinery & equipment shall be carried by the contractor for buoys operations, dry docking of Barge Bhimsen, anchor handling of Dry Dock at Kandla etc.
- 3.03 Contractor has to ascertain and look after the seaworthiness of Barge Bhimsen. Operational activities of all equipment on board e.g. windlass, capstan, generators (DG set), pumps, lighting and mooring adjustment of barge at jetty etc. shall be looked after by the contractor.

- 3.04 For repair of barge Bhimsen, contractor has to carry out steel renewal, fitment of new zinc anodes, sand blasting and painting of barge and its equipment and machineries. **No additional cost for these works will be provided except for steel renewal and anodes as per BOQ (serial No. 5 & 6).**
- 3.05 Complete painting of the above water area of Hull, Deck, Machinery Space, tanks, Machineries etc. of Barge Bhimsen after complete cleaning and surface preparation shall be carried out minimum once in a year as per scheme mentioned under clause no. 9 of SOW.
Note: Colour Coding of barge shall be intimated at the time of painting as per requirement.
- 3.06 Complete painting of underwater Hull of Barge Bhimsen after sand blasting and surface preparation shall be carried out minimum once in two years as per scheme mentioned under Clause no. 9 of SOW.
Note: Colour Coding of barge shall be intimated at the time of painting as per requirement.
- 3.07 12 days downtime for repair and maintenance including dry dock maintenance (sand blasting, painting, steel renewal of hull etc.) shall be provided in each year and the same shall be credited at the start of the contract. If this downtime is not utilized by the party, the same will be lapsed at the end of completion of each year of O&M period and will not be carried forward to the next year.
- 3.08 The party shall keep the said barge maintained in proper manner and keep the same in ready condition at all time during the contract period for buoy operation as well as anchor handling of DPA Dry Dock which also to be carried out by the contractor without any additional cost to DPA and other requirements of DPA at Kandla.
- 3.09 If during the currency of contract, any of the machinery/equipment installed on board i.e. diesel engine (prime mover of windlass system), capstan, gearbox etc. becomes unrepairable due to obsolete model and unavailability of spare parts in the market, the compatible equipment/machinery of reputed make shall be installed on board in place of existing one after procurement by the **contractor without any additional cost to DPA except the procurement cost of equipment/machinery**, no other charges i.e. transportation, installation, commissioning etc. shall be paid. Only the cost of procurement shall be reimbursed on actual basis for which the approval of DPA shall be taken in advance and the documents i.e. OEM/Authorized dealer invoice to be submitted along with the bill as a proof that the equipment/machinery has been procured from the OEM/authorized dealer. The contractor shall submit the quotation of such compatible equipment/machinery of minimum three reputed make from their authorized dealer/OEM along with all technical details and justification for approval of DPA. A special period of maximum 10 days shall be provided exclusively for replacement of machinery and equipment in the whole contract period without levying any penalty/reduced rate and which shall be counted from the date of receipt of such equipment/ machinery.
- 3.10 The Contractor will maintain the Barge along with its appliances, deck side equipments i.e. deck Lights, superstructure Lights, machinery space Lights, search Lights, generator sets (DG set), pumps, capstan, wire ropes, mooring ropes, windlass including all associated parts of it in a good state of repair and in efficient operating condition during the term of the Agreement **including the**

cost of material except the OEM spares for windlass engine, generator engine (DG Set) and gearbox.

- 3.11 The Contractor shall be responsible for total maintenance including but not limited to routine maintenance, preventive maintenance, breakdown maintenance of all machinery on board the barge including the hull, deck, superstructure, tanks, Solar LED Lanterns, electrical items and equipments etc. i.e. top overhauling/ major overhauling, routine and preventive maintenance such as renewal of filters, cleaning of coolers/heat exchangers, cleaning of various strainers, renewal of lube oil, tappet adjustment, injectors pressure testing/ calibration, FIP calibration, turbocharger repair and maintenance, repair/maintenance/replacement of alternators and starters, replacement of zinc anodes wherever fitted on various heat exchangers of cooling systems of Engines, repair and maintenance of windlass system, capstan, cleaning of fuel tanks, repair and maintenance of gearbox, engine room blowers, repair/ renewal of exhaust trunking including high temperature protection by thermal protective materials/insulators, repair/renewal of air vents on deck, various pumps, repair/ rewinding/ maintenance of 415 volt alternator, various motors, switch gears, electric panels, supply & maintenance of batteries and complete technical management of the barge at his own cost **including the cost of all materials & consumables except the OEM spares for windlass engine, generator engine (DG set) and gearbox** either through contractor's maintenance team or through reputed workshop or through OEM/ authorized dealer as the case may be. No additional cost shall be payable to the Contractor for carrying out these maintenance work. Delays, if any by workshops, shall not be an excuse for not completing repairs and commissioning the barge in time.
- 3.12 The list of equipment / machinery installed on board barge is enclosed at **Annexure 'A'**. A routine maintenance schedule for each of these equipment/machinery has to be carried out as per the instruction of Manufactures. The Contractor is responsible for making a check list of routine maintenance schedules with respect to running hours/months of the equipment. This checklist shall be made as per the requirement of DPA and at the end of every month the compliance checklist shall be submitted to DPA along with the monthly bill.
- 3.13 The Contractor has to submit the complete plan of any unscheduled repair work indicating the time required for such repair. Work shall be started only after written consent of EIC. In case of any repair which is arising out of negligence / fault of the Contractor, the cost of spares required for such repairs will also be borne by the Contractor.
- 3.14 The Contractor shall ensure that the preventive maintenance of the barge's equipments/machineries is being carried out as recommended by the OEM and as suggested/required by DPA. The Contractor shall be responsible for the comprehensive maintenance of the barge offered to them under the agreement and to keep the barge always in proper and seaworthy condition in all respect for buoy operation of DPA.
- 3.15 The contractor shall submit on or before 7th day of every month the following reports/ documents pertaining to the barge for the previous month in the format required by DPA. The contractor will prepare the formats as per requirement of DPA within 15days of commencement of contract:
1. Lube oil consumption report.
 2. Fuel oil consumption report

3. Consumption of OEM spares for windlass engine, generator engine and gearbox.
4. Status report of all machinery and equipment on board.
5. Technical defect and remedial action report of all equipment and machinery on board.
6. Inventory report of all stores and chemicals.
7. Battery maintenance report.
8. Compliance checklist of routine maintenance.

- 3.16 The contractor has to maintain the following records in the format as required by DPA:
1. Daily work done register for electrical & mechanical maintenance works.
 2. History book of Barge wherein all the relevant details i.e. work, spare consumed, movement record including timing, running hour of generator, windlass to be recorded regularly.
 3. Defect Register.
 4. Lubricating oil consumption register.
 5. Fuel oil consumption register.
 6. Inventory Books for stores & chemicals.
 7. Commission/ non- commission and dry dock record register.
 8. Battery maintenance register.
 9. Maintain the maintenance schedule as per running hours and OEM schedule in soft/hard copy for monitoring the maintenance of all machinery and equipment on board.
 10. Three monthly Megger Test Record of all electrical equipment on board and report has to be submitted to DPA along with other reports.
- Any other record which is required to maintain for smooth maintenance.
- 3.17 All Safety cut outs, limit switches, gauges i.e. thermometers, pressure gauges, tachometer, ampere meter etc. of engines/equipments shall be maintained in working condition all the time at the cost of contractor **including the cost of material (non-OEM items)**. If any defect is noticed, the same shall be repaired/ replaced at the cost of the contractor.
- 3.18 All hot spots shall be covered with insulating leggings. This shall be the responsibility of the contractor **including the cost of material**.
- 3.19 After each buoy operations, anchor handling operation of Dry Dock at Kandla etc. Bhimsen berge shall be cleaned with high with high pressure jet washing & Chipping and Painting of area where paint has been peeled off during the operation shall be carried by the contractor at his own cost. In addition to above weekly cleaning with high pressure washing of Deck & Superstructure shall be carried out.
- 4. Spares & Material:**
- 4.01 All materials and consumables of SNA (except OEM parts) shall be supplied by Contractor e.g. complete chains assembly including D Shackle, o ring, swivel etc, sinkers, navigational Solar LED Lanterns, batteries, PCB, solar panels, electrical/electronic components pertaining only channel marking buoys and D-shackle, Kenter Shackle, Joining shackle pertaining to mooring buoys and consumable items for all equipment and machinery of Barge Bhimsen i.e. the items included but not limited to filters, jute, rags, nut & bolts, packings & O-rings, washers, lamps & light fittings,

pump seals, glands, coolants, grease, welding rods, gases other day-to-day requirements etc. for maintenance of Barge Bhimsen, Channel Marking, Dumping and Mooring Buoys shall be supplied by the contractor at his own cost. However, OEM Spares (4.02 below), fuel and lube oil and fresh water for barge Bhimsen shall be supplied by DPA free of cost.

- 4.02 DPA will provide only OEM items pertaining to the diesel engine of windlass, generator engine and gearboxes of Barge Bhimsen required for maintenance of the same. The OEM spares if not available with DPA shall be procured by the Contractor on DPA's behalf except otherwise provided in the contract. The cost of the same shall be reimbursed by DPA on actual basis on submission of original invoice of OEM/Authorized dealers, however, the approval in advance shall be obtained from DPA by submitting **the quotation from OEM/authorized dealer, authorized dealership certificate, rate reasonability certificate and justification for procurement**. The items so procured shall be deposited to SNA store of DPA and shall be issued by the store as per requirement. Only procurement cost of OEM spares as per invoice shall be reimbursed, no transportation or other charges will be included in the reimbursement cost.
- 4.03 The cost of steel renewal work and anodes for Barge and Buoys shall be paid by DPA as per actual **as per BOQ (serial No. 4, 5 & 6)**.
- 4.04 The list of all consumable items shall be supplied & maintained as per **Annexure-B**. The list of inventory of all the items shall be maintained by the party and shall be submitted to DPA by 7th day of every month for verification.
- 4.05 All Chemicals, cleaning agents, coolant for machineries on board Bhimsen shall be supplied by the contractor at his own cost.
- 4.06 Servicing/repair/maintenance/replacement of all electrical installation i.e. main switch board, control panel, deck side equipments e.g. deck Solar LED Lanterns, superstructure Solar LED Lanterns, machinery space Solar LED Lanterns, search Solar LED Lanterns, etc. shall be carried out by the contractor at his own cost **including the cost of material**.
- 4.07 The contractor shall submit the list of OEM spares for Barge Bhimsen for windlass engine, generator engine and gearbox utilised during routine servicing as well as minimum critical spares as a safety stock to DPA for approval within 30 days of commencement of work.
- 4.08 The approval for the OEM spares of Barge Bhimsen required for top/major overhauling of windlass engine, generator engine or major repair of gearbox shall be taken well in advance to avoid uninterrupted service of the crafts. Non-availability of spare parts will not restrain the contractor from its any responsibility for out of commission of the crafts.

5. **Owner's Liability:**

Following shall be provided by DPA **free of cost**:

- 5.01 Provide safe docking/jetty space for the Barge Bhimsen during the contract period for maintenance and operational requirement. Provide safe berthing space for the Barge Bhimsen during non-operational period and space on jetty or SNA Section for maintenance of buoys.

- 5.02 Fire watch if required for hot work during repair and maintenance of buoys and barge shall be provided by DPA free of cost as and when required, however, prior written permission has to be taken well in advance from Fire section of DPA by the contractor.
- 5.03 Dry dock facility along with crane of dry dock for repair/removal of scrap of Barge Bhimsen. However, cranes and other requirements outside the Dry-Dock area shall be arranged by contractor at his own cost.
- 5.04 Fuel, lube oil and fresh water for Barge Bhimsen only for operational and maintenance purposes.
- 5.05 Endeavour to make available drawings, manuals and literature of the barge and buoys to the Contractor as and when required for carrying out his obligations hereunder. However, if any specific drawing/manual pertaining to any machinery/equipment is not available with DPA, the contractor has to arrange the same at his own cost. No request in this regard shall be entertained.
- 5.06 Assist, without any commitment, the Contractor in obtaining clearances from Government agencies to import spares on DPA's behalf only up to the extent of issuing letter of request to the different agencies/authorities.

6. Renewal of Steel Plate for Barge and Buoys:

- i. The steel used for the subject work shall be confirming to IS 2062. IS grade shall be certified by Govt. approved Lab/Marine Class societies, test certificate shall be submitted to DPA. IS Grade should also be easily visible on steels supplied to DPA. The make of MS plates & angle shall be TATA, Jindal & Sail only.
- ii. All the materials and consumables will be supplied by the contractor required for successful execution of work, this includes but not limited to steel plates, angles, round bars, pipes, Gases with cutting tools, welding electrodes safety devices, PPEs etc.
- iii. The welding electrodes to be used shall be of ship building quality like Advani Orelikan, ESAB, L&T or equivalent make and approved by Marine Class Societies. Quality of welding shall fulfill the Marine requirements of water tight integrity and structural integrity.
- iv. Old plates to be cropped off & renewed by trimmed edged plates, cleaning the areas, removal and refitting of all associated fittings, e.g. insulating materials, supports, manhole doors, port holes, electrical wiring & fittings, etc. required for renewal of steel plates/hull shall be done by the contractor.
- v. While execution of work, if it is required for safety to support the Sections or part of hull/Machinery/equipments/any structure of Barge Bhimsen or buoy, same shall be done by the contractor at their cost. No additional charge shall be paid by DPA for this type of works as preventive measures during repair work.

- vi. For welding work, the contractor shall employ only qualified and experienced welders approved by the Marine Classification society. Certificate shall be submitted to DPA for confirmation.
- vii. The work of renewal of steel shall be carried out with the best workman ship and quality with a guarantee period of six months. The contractor will be responsible to rectify the defects without any extra cost during the guarantee period.
- viii Contractor is required to crop up old fender and renew it with 8" diameter M.S. pipe as per schedule 40 with center longitudinal stiffener of 10mm thickness. The weight of the steel pipe used shall be calculated as per actual fitted quantity of steel by weight.

7. Fixing up Zinc Anodes to underwater areas of Barge and Buoys:

The old / wasted anodes have to be removed and renewed by new anodes supplied by the contractor as per BOQ **Serial No. 6** at appropriate locations. The weight of the anodes shall be 3.5 kg. Anode shall be preserved before painting works of the underwater area. Zinc anodes shall be supplied with purity higher than 99% and certified by Govt. approved Lab/Marine Class societies. A certificate for the same needs to be submitted to DPA for records and acceptance.

8. Surface Preparation and Painting for Barge and Buoys:

- 8.01 Work of painting should be carried out with the best workmanship and quality, surface preparation and application shall be as per paint manufacturer. The contractor will be responsible to rectify the defect without any extra cost during the guarantee period. If any portion of area of barge/buoys found rusted or paint peeled off during the guarantee period, the contractor has to again re-paint the same with surface preparation as per paint manufacturer.
- 8.02 Contractor is required to remove all the marine growth by manual scrapping / high pressure water washing for cleaning. The surface after sand/grit blasting, shall be cleaned with wire brush or blown off by compressed air. The compressed air used for nozzle blasting shall be free from water and oil. Blast cleaning operation shall be done in such a manner that no damage is done to partially or entirely completed portion of the completed work.
- 8.03 Dry sand blasting operation shall be carried out with Godhara sand/grit and shall be conducted on dry surface only. Painting shall not be carried out on wet surfaces or surfaces not properly prepared as per guidelines of paint manufacturer. The Godhara sand/grit used for ballasting shall be backed by royalty challan/ invoice. A copy of royalty challan and un-priced invoice should be submitted to the Engineer-in-charge for necessary verification and records.
- 8.04 No sharp scratches or cuts shall be made on the steel surfaces during blasting/chipping/cleaning operations.
- 8.05 Sand blasting shall be carried out as described in Swedish Standard SIS-05-5900-1967, dry sand blasting to SA 2 1/2. The prepared surface shall then correspond in appearance to the prints designated as SA 2 1/2. In case of any discrepancy raised during execution on the issue of surface

preparation to the required standard (i.e. base metal surface grey), the contractor has to furnish the authentic prints designated as SA 2 1/2 for comparison/checking.

- 8.06 Application of primer and paint shall be done by airless spray after prescribed surface preparation as recommended by the manufacturer only.
- 8.07 Intervals between surface preparation and application of the first coat of primer shall be as short as possible and in no case more than four (04) hours. In case of delay, re-blasting may be required for surface preparation.
- 8.08 Preparation of paint mixture, time gap between successive coatings, period between paint mixing and application of paint should be strictly as per recommendation of paint manufacturer.
- 8.09 Painting shall be done according to the painting scheme prescribed by the Manufacturer. The primers, M.I.O., finish paints and thinner used for painting work shall be of the same brand only.
- 8.10 If the required micron thickness of paints specified by the manufacturer of paints is not arrived by applying the minimum number of coats specified, the same shall have to be arrived by applying more number of coats at no extra costs to the Port. The requirement of both minimum number of coats and microns thickness specified in any case will have to be satisfied.
- 8.11 Each container of paint, preferably in 20-liter size, should provide the following information.
- Batch Number.
 - Date of manufacture (Shall not be more than six months old at the time of application of paint).
 - Mixing ratio.
- If any one of the above is not to the satisfaction of the Engineer-in-charge, the container shall be rejected for use.
- 8.12 The instruments such as Elcometer etc. will be made available by the contractor, whenever required at the site, at his own cost for verification and satisfaction of DPA.
- 8.13 Any addition of thinner shall be allowed only as per manufacturer's data sheet and it should be done under the supervision of the Engineer-in-charge.
- 8.14 The paint shall not be applied under the conditions, when relative humidity is greater than 90%, rain, fog, mist or weather not advisable by the paint manufacturer.
- 8.15 Colour shades in the painting system will be as follows or as per instruction of EIC.
- For Barge (tentative colors)
- Top Deck Plates – Green
 - Deck Machinery – Dark Grey
 - Underwater Hull - Red
 - Above Water Hull - Blue
 - Super Structure – White

Rolling Shutter – Yellow

Inside of all Tanks & void spaces –Grey

For Buoys- Red/Green/Yellow/Black as per standard marine norms/requirements.

8.16 Paint manufacturer's instructions shall be followed at all times and particular attention shall be paid at the following conditions:

- I. Proper storage to avoid exposure to extremes of temperature.
- II. Mixing and thinning.
- III. Pot life.
- IV. Time limit intervals between each coats.

8.17 The underwater, above water, deck, machinery space, tanks etc. of barge and buoys shall be painted with epoxy type paint. The party is required to only use the following Make / Brand of the Paints for painting work.

1.Jotun 2. International 3. Sigma

8.18 Party is required to strictly follow the painting scheme of paint manufacturer for respective brand of paint. A Standard Painting Scheme place at **clause-9 of SOW** for the reference and party is required to maintain the minimum DFT mentioned for respective type of paints. However, before application of the paint the EIC shall approve the painting scheme. Anti-fouling paint applied shall be TBT free.

The painting work shall be guaranteed as below:

- I. Painting to under water Hull – 2 year
- II. Painting to area other than mentioned above – 1 year

9. Painting Scheme:

Sr .	Location / Paint Area	Application (Coat)	Jotun	DFT	Sigma	DFT	International	DFT
1.	Underwater (For Buoys and Barge)	1st	Penguard Primer	50	Sigma Cover 280	50	Intertuf262	175
		2nd	Jotamastic 80, Aluminum	150	Sigma Cover 300	150	Interguard 263	100
		3rd	Safeguard universal	75	Sigma Cover 510	75	Interspeed 6200	160
		4th	Seaforce-80	160	Sigma Eco Fleet 290	160	--	---
2.	Above Water for Barge and Buoys (Deck, side hull, tanks, machinery spaces, superstructure, Buoys etc.)	1st	Penguard Primer	50	Sigma Cover 280	50	Intertuf262	175
		2nd	Jota mastic 80, Aluminum	150	Sigma Cover 620	150	Interguard 740	75
		3rd	Penguard TC	50	Sigma Cover 456	50	---	---

10. Minimum Manning:

The following minimum manpower shall be deployed by the contractor to carry out effective maintenance of buoys and barge.

- 10.01 For repair/maintenance of buoys and barge and operation of Barge Bhimsen, the contractor needs to deploy the staff as tabulated below on a daily basis to carry out necessary repair/maintenance of buoys and barge Bhimsen as well as operational work of Barge Bhimsen.

Sr. No.	Designation	Nos.	Minimum Qualification & Experience
1	Site Supervisor	01	He should possess SSC/12 th standard certificate and minimum 1 years' experience in buoys operation i.e. withdrawal/laying of buoys in river or sea navigation channel. He shall be responsible for entire base operations (Including operations, repairs /maintenance etc.)
2	Welder cum fitter	02	He should possess I.T.I. in concerned trade and certification from marine classification society being a member of IACS. He shall have a minimum two years experience in shore based/ Marine Workshop/Ship repair.
3	Electrician/Lighthouse Mechanic / Instrument Mechanic	01	He should possess I.T.I. in concerned trade. He shall have a minimum two years experience in shore based/ Marine Workshop/ship repair.
4	Helper	02	shall have minimum two years experience in shore based/ Marine Workshop/ship repair.
5	Watch keeper (for round the clock watch in three shifts, one in each shift)	03	He should have minimum 1 year experience of watchkeeping on board craft/ships/ barge/vessel.

- 10.02 The above table shows the minimum requirement to be posted for repair/maintenance work, however, the contractor may deploy additional staff to fulfil the obligation as per scope of work at his own cost.

- 10.03 The clock on all days. The working hours for Site Supervisor shall be from 9 a.m. to 5 p.m. on six working days from Monday to Saturday except port holidays. However, he shall attend the work as and when required even in non-working hours during urgent requirements.

- 10.04 The working hours of other maintenance staff/watch keepers in normal condition shall be as follows:

One team consisting of two Welder, one electrician, two helpers shall be deputed from 0900 hrs. to 1700 hrs. and shall be responsible for all repair and maintenance work of buoys and barge Bhimsen. Watch keepers shall be deployed on Bhimsen round the clock in all three shifts of 8 hours (one in each shift) i.e 0700 to 1500 hrs, 1500 to 2300 & 2300 to 0700 for watch keeping, operations, routine maintenance & mooring of barge Bhimsen. However, in case of breakdown or major repair work the contractor can reshuffle the staff as per requirement to complete the work as early as possible. The deployment of watch keepers shall be made on weekly off and holidays also as stated above. However, maintenance staff may work on six working days from Monday to Saturday except port holidays. However, they shall attend the work as and when required even in non-working hours during urgent requirements.

- 10.05 For the Marine Work at sea i.e. installation/withdrawing/repositioning /retrieval of buoys and mooring gear etc. i.e. chain and sinker, contractor needs to deploy staff as per requirement of work and equipped with adequate qualification and necessary marine skills as per statutory requirements i.e. classification society/IALA etc. It is the contractor's obligation to assure qualification and skill of the staff deployed.
- 10.06 It will be the contractor's responsibility to keep the necessary and mandatory records regarding the details and attendance of staff for all types of works engaged by the contractor.

11. INSPECTION:

- 11.01 DPA is entitled to inspect / survey the buoys and barge at any time. The inspection / survey shall be conducted by DPA's representative in the presence of the Contractor's representative. The comments of DPA's representative shall be recorded in the Site Order Book to be maintained by the Contractor at site. If any defect or deficiency is identified during the inspection, the same shall be recorded in the book and signed by both DPA's and the Contractor's representatives. The Contractor shall immediately thereafter rectify such defect/deficiency.
- 11.02 The EIC or his authorized representative will have full power and authority to inspect any work related to the contract at any time. The contractor is to provide necessary instruments at all times during the progress of any work related to the contract for inspection and measurement and to provide proper means of access and the necessary attendance to move and adopt as directed for inspection and measurement of work by the EIC or his authorized representative.
- 11.03 All workmanship so far as repair and maintenance of the buoys and barge are concerned will be of the quality specified in the contract or as per relevant Indian Standard if the same is not specified, to the entire satisfaction of the EIC or his authorized representative. The repair and maintenance works shall be subjected to such tests at contractor's cost as EIC or his authorized representative may direct at the place of work / at site or at any such places connected with the work. The contractor shall provide assistance, instruments, labours and materials as are normally required for examining, measuring and testing the workmanship as may be selected and required by the EIC.

12. EXECUTION OF WORK:

All the work shall be executed in strict conformity to the provision of the contract and instructions as may be given from time to time by EIC or his representative. The contractor shall be responsible for ensuring that the works throughout the contract period are executed in proper workmanlike manner with the quality and Marine Workmanship in strict accordance with the specification and to the entire satisfaction of EIC or his representative.

13. DEFECTS IN WORK DONE:

If at any time, EIC or his authorized representative decides that any work done by the contractor is defective or not in accordance with contract, or that the work or portion thereof are defective or do not fulfil the requirement of contract, as soon as reasonably applicable, gives to the contractor notice in writing of the said decision, specifying particulars of the defects alleged to exist or to have occurred, the contractor shall at his own expenses and with all speed make good the defects. If the contractor fails to make good such defects with reasonable speed, DPA shall arrange to carry out repairs to such defects/damages by itself / through another party and the expenses incurred by DPA shall be recovered from the contractor.

**Signature & Seal
of Contractor**

**Engineer In-charge (Tugs)
Deendayal Port Authority**

Annexure-A

14 Technical Specification:

14.01 Note: The details given here are not exhaustive. The bidders are advised to inspect the Barge, Buoys etc. prior to bidding for detailed scope of work.

14.02 Technical Details of Barge Bhimsen :

1	Main Particulars		
	a	Length	30.00 M
	b	Beam Moulded	10.00 M
	c	Depth Moulded	2.00 M
	d	Draft	0.5 M
2	25 Ton Capacity Diesel Driven Mooring Winch		
	a	Engine	
		Make	Ruston
		Rating	95 HP @ 1800 RPM
		No. of cylinders	6 Cylinders
	b	Gear Box	Oil Bath Type, Forward & Reverse Gear Box with Slipping Clutch.
	c	Worm-Worm Wheel Reduction Gear Unit	Oil Bath Type.
	d	Wire Drum	900 Dia. X 800 mm Length to accommodate wire of 50 mm Dia. X 50 Mtrs. Long in 2 Layers, Max. Pull – 25 Ton @ Speed 9 M/Min. with lever operated claw clutch and band brake
	e	Gypsy Drum (Port Side)	To accommodate 65 mm Chain, Max. Pull 18 Ton, Max. Speed – 7 M/Min. with lever operated claw clutch and band brake.
	f	Gypsy Drum (Stbd Side)	To accommodate 80 mm Chain, Max. Pull 25 Ton, Max. Speed – 9 M/Min. with lever operated claw clutch and band brake.
	g	Warping Head-1	500mm Dia. to suit Rope Dia. 32 mm, Max.Pull 7.5 Ton, Warping Speed – 30 M/Min.
	h	Warping Head-2	600mm Dia. to suit Rope Dia. 35 mm, Max.Pull 10 Ton, Warping Speed – 5 M/Min.
	i	Capstan	Mechanical Type Hand Operated, approx. capacity-2 Tons
3	35 KVA Silent DG set (Cummins)		
	a	Engine make	Cummins
	b	Rating	35 KVA/ 28Kw
	c	Model family no.	CP35D5P/F72

14.03 **Technical Details of Buoys:**

(A) Channel Marking & Dumping Buoys : (Steel Type,25 nos.)			
Dimensions			
a	Total Height	8.45 M	
b	Diameter	2.50 M	
c	Chain (For Buoy)	42 mm Dia. X 12 M	
d	Chain (For Sinker)	42 mm Dia. X 27.5 M	
e	Joining D-Shackle	55 mm Dia. X 2 Nos.	
f	Forelock Shackle	50 mm Dia. X 2 Nos.	
g	Concrete Sinker	2.5 Tons (Approx.) X 1No.	
h	Fenders	Rubber Fender	

(B) Channel Marking Buoys : (Polyethylene Type, 3 nos.)			
Dimensions			
a	Total Height	7.40 M	
b	Diameter	3.00 M	
c	Chain (For Buoy)	42 mm Dia. X 12 M	
d	Chain (For Sinker)	42 mm Dia. X 27.5 M	
e	Joining D-Shackle	55 mm Dia. X 2 Nos.	
f	Forelock Shackle	50 mm Dia. X 2 Nos.	
g	Concrete Sinker	5 Tons (Approx.) X 1 No.	

(C) Admiralty Pattern Mooring Buoys : (Steel Type, 03 Nos.)			
Dimensions			
a	Total Length	4.01 M	
b	Diameter	2.29 M	
c	Chain (For Buoy)	62 mm Dia. X 6 M X 1 No.	
d	Chain (For Anchor)	62 mm Dia. X 27.5 M X 4 Nos.	
e	Joining D-Shackle	90 mm Dia. X 5 Nos.	
f	Bow Shackle	120 mm Dia. (Approx.)	
g	Swivel	140 mm Dia. (Approx.)	
h	Anchor	7 Tons (Approx.) X 2 Nos.	
		3 Tons (Approx.) X 2 Nos.	
i	Fenders	Timber Fender	

Annexure-B

15. List of Store Items To Be Supplied & Maintained By Contractor

15.01 List of minimum items to be supplied & maintained by contractor under stores, as per **clause 4.04** of Scope of work is given hereunder:

a. **Buoy and Barge Accessories**

Sr. No.	Description	Qty.
1	Stud Link Chain Grade-2, Size 42 mm dia. length-27.5 Mtrs. one enlarge link and one open link at each end and swivel adaptor at one end and Forelock Shackles of corresponding size at each end having certification from marine class society and conforming to relevant I.S.	Initially 08 Sets, thereafter 06 sets through the contract
2	Stud Link Chain Grade-2, Size 42 mm dia. length-13.75 one enlarge link and one open link at each end and swivel adaptor at one end and Forelock Shackles of corresponding size at each end having certification from marine class society and conforming to relevant I.S	Initially 08 Sets, thereafter 06 sets through the contract
3	RCC Sinker having weight-4 to 5 tons and as per existing design and dimension.	Initially 08 Nos., thereafter 06 Nos. through the contract
4	Navigation Light Assembly suitable for channel marking & Dumping buoys having visibility of minimum 3 NM along with IALA certification	06Nos. -Red 06Nos.-Green 04Nos. -White
5	Lead Acid Battery, 12 Volt, 7AH and 12 V, 180 AH Make-EXIDE/AMARON/TATA GREEN	7AH-12 Nos. 180AH-2Nos.
6	Battery Charger-suitable for charging the buoys batteries, Gen set batteries and Windlass engine batteries.	01
7	Polypropylene Ropes of 3" dia and 220 meter	01 roll
8	Rubber/Wooden Fender for Buoy and Barge Bhimsen	As per site requirement
9	Radar Reflector	As per site requirement

b. **Mechanical Consumables Items**

1.	Gas (DA)	1 Cylinder
2.	Gas (Oxygen).	2 Cylinder
3.	MS Welding Electrodes	10 kgs
4.	Cleaning Solvent.	10 ltrs.
5.	Contact Cleaner Spray.	2Tin (500 ml)
6.	Rust Cleaner Spray.	2Tin (500 ml)
7.	High Tensile, MS & SS Nuts & Bolts of Various Sizes.	As per requirement
8.	Cleaning Cloth	50 kg.
9.	Metal Putty.	1/2 kg.
10.	Epoxy Paints Marine Grade (Jotun/International/Sigma).	8 Drums (20 ltrs.)
11.	Epoxy Metal Redoxide (Jotun/International/Sigma).	8 Drums (20 ltrs.)
12.	Rubber Hoses.	As per site requirement
13	Thinner	20 Ltrs
14.	All Type Of Cleaning Brushes (Soft Hair/Coir/Nylon Bristles).	As per site requirement
15	Ball Bearing/Mechanical Seals/V-Belts	As per site requirement
16	Anabond	2 pkts (100 gms)
17	Silicon Sealant	02 pkts(500 gms)
18	M-Seal	1/2 kg
19	O-Ring Kit	01 set
20	Copper Washer Kit	01 set
21	Steam Gasket/Gp Gasket /Rubber Gasket	As per site requirement
22	Felt Filter	As per site requirement
23	Lagging Rope	As per site requirement
24	Emery Paper	As per site requirement
25	Grinding Paste	One set of course, medium and fine.
26	Crack Detection Test Kit	One set
27	Flanges/Valves	As per site requirement
28	Copper Sheet 10 Mm Thick	1x1 m ²
29	Clamps & Jublee Clips	As per site requirement
30	Cooling Water Testing Kit	One set
31	Distilled Water For Batteries	50 ltrs.
32	Engine Coolant	20 ltrs.

c. **Electrical Consumable Items**

Sr. No.	Description	Qty.
1	Electrical Fuses/Indication Lamp/Kwh Meter/Voltmeter/Ampere Meter/Required Relays	As per site requirement
2	Deck Light/Super Structure Light/Led Light/Search Light /Flood Light	2 piece of each category
3	Petroleum Jelly	1 kg
4	Battery Lugs/Battery Terminal/Charging Clips	12 pieces of each
5	Battery Cable	20 meter
6	Single/Double/Three Core Electrical Wire	As per site requirement
7	Single/Double/Three Pole MCB & MCCB	As per site requirement
8	Pvc Self Adhesive Tape (Rybn).	10 Nos.
9	Electrical/Electronic Card Cleaner.	2 Tin (250 ml.)
10	Cable Junction Boxes.	As per site requirement
11	Wall Mounting Fan 18"/450mm, 230v, 50hz.	2 Nos.
12	Portable Electrical Board with 2 Nos. Sockets & 40mtrs. Cable.	2 Nos.
13	Hand Lamp with 20 Mtrs. cable	2 Nos.

d. **Tools & Tackles**

Sr. No.	Description	Qty.
1.	D-shackles of various size conforming to relevant IS Standard.	4 piece of each of required size
2	Electric Buffing/grinding/cutting/drilling machine with 4nos. of spare wheels for each type of machine and one set of drill bits	One set for each type
3	Scraper	06 Nos.
4	Chipping hammer	06 Nos.
5	Wire Sling with safety certificate of various size	02 piece of each of required size
6	Pipe wrench-medium size	01 No.
7	Chain Blocks-5/2 tons with safety certificate	One of each capacity
8	Grease Gun	01 No.
9	Welding Machine of Heavy Duty(3ph) with 60 meter welding cable and holder	01 No.
10	Gas cutting torch with 60 meter rubber tube along with flash back arrestor, regulator and safety gloves & face shield.	01 set
11	Chisels	One set

12	Spanners	02 sets
13	Hammer Spanner	01 set
14	Hammers of various wt. and size	04 Nos.
15	Sludge Hammer	01 No.
16	Allen Key Sets (Metric & Imperial)	01 Set Each
17	Megger/Clamp meter/Multi meter	01 No. each
18	High pressure pump for cleaning Specification: 3HP with 30mtr. Hose (New Requirement)	01 set

- 15.02 The contractor will have to supply and maintain any other items in addition to items mentioned above as may be required / directed by DPA for the smooth operation and upkeep of the buoy and barge.
- 15.03 The above list of various store items and tools is tentative and minimum requirement which shall be maintained by the contractor in the store and shall be procured and maintained within 30 days of commencement of the contract, however, for these 30 days the requirement of store items shall be met as per actual requirement basis. The replenishment of store items shall be carried out within 15 days from the date of consumption except items mentioned under clause 15.01 (a) serial No. 1 to 7,10& 11 which shall be replenished within 30 days from the date of consumption to maintain the minimum store items as mentioned above. The store inventory shall be verified at the 10th day of every month or as directed by EIC and the inventory report of the store shall be submitted by the 7th day of every month.
- 15.04 A list showing items which are required to be provided under each store is enclosed at Annexure – ‘B’. **At the time of commencement of contract, available store items from the previous AMC will be handed over to contractor by DPA free of cost.** However, all the store items listed in ‘Annexure-B’ shall be returned back to DPA at the completion of contract as minimum. During the entire contract period the contractor has to maintain the minimum inventory of items as mentioned under Annexure - ‘B’. All the store items to be procured to be of good standard and through reputed manufacturers / suppliers. If at any time DPA feels insufficiency regarding quality and quantity of stores, he will inform the Contractor which they have to rectify at the earliest.

Seal & Signature of
contractor

Engineer In-charge (Tugs)
Deendayal Port Authority

Bill of Quantities**Schedule-B**

Sub: Comprehensive Annual Maintenance Contract for Channel Marking, Dumping and Mooring Buoys in the Kandla Channel along with Operation & Maintenance of Heave up Barge Bhimsen for a period of three years.

Sr. No.	Item Description	Unit	Qty.	Unit Rate (Rs.)	Amount (Rs.)
1	2	3	4	5	6
1	Comprehensive Maintenance of 24 Nos. Channel Marking & Dumping buoys into the Kandla Channel along with all its associated parts and accessories i.e. Chain Assembly, Shackles, Sinkers, Fenders, Solar LED Lanterns, Batteries, Electrical Items which includes but not limited to sand blasting, painting, laying/installation, repositioning, withdrawal/collection, retrieval of buoys.	Months	36		
2	Comprehensive Maintenance of 02 Nos. Mooring buoys into the Kandla Channel along with all its associated parts and accessories i.e. Chain Assembly, Shackles, Anchors, fenders which includes but not limited to sand blasting, painting, laying/installation, repositioning, withdrawal/collection, retrieval of buoys	Months	36		
3	Operation & Maintenance of Heave Up Barge Bhimsen which includes but is not limited to operation, complete maintenance of barge and its machinery i.e. windlass, capstan with attachments, gear box, windlass diesel engine, lifting device/roller etc.	Months	36		
4	Renewal of steel plates/angles/frames /brackets/stiffeners/Manhole door sets /round bars, etc. major plates of 6/8/10/12 mm thickness and bars of 32/60/100 mm dia. as per requirement in place for mooring, dumping and channel marking buoys including cost of material. (Note: All Steel must be sandblasted and painted with single coat of primer on both side before fitting and shall be painted as per the scheme mentioned in the tender document). (JINDAL/TATA/SAIL)	Tons	12		

5	Renewal of steel plates/angles/frames /brackets/stiffeners/Manhole door sets /round bars, etc. major plates of 6/8/10/12 mm thickness and bars of 32/60/100 mm dia. as per requirement in place on Barge Bhimsen including cost of material. (JINDAL/TATA/SAIL) (Note: All Steel must be sandblasted and painted with a single coat of primer on both sides before fitting and shall be painted as per the scheme mentioned in the tender document).	Tons	05		
6	Supply and Fittings of Zinc Anodes on underwater area of buoys & barge Bhimsen having approx. weight of 3.5 kg. Note: Zinc anodes with purity higher than 99% and certified by Govt. approved Lab/Marine Class societies.	Nos.	400		
Total Amount In Figure					

The above rates are exclusive of GST.

Total Amount In Words-

(Rupees _____)

**Seal & Signature of
contractor**

**Engineer In-charge (Tugs)
Deendayal Port Authority**