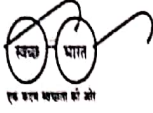


दीनदयाल पत्तन प्राधिकरण
DEENDAYAL PORT AUTHORITY



Office of the Executive Engineer (C-I),
Administrative Office Building
Room no. 302, Second floor
Post Box No. 50, Gandhidham-Kachchh
Email: dpt.oro@gmail.com
www.deendayalport.gov.in

No: CN/WK/1662/ 353

Date:24/05/2024

To,

Expression of Interest

Sub: - Request for EOI for "Replacing of existing old fenders with new fenders & Procurement of navigational buoys at Ghogha terminal" - Reg.

Sir,

Deendayal Port Authority intends to carry out the work for "Replacing of existing old fenders with new fenders & Procurement of navigational buoys at Ghogha terminal".

Kindly submit your Expression of Interest along with a budgetary – offer as per the prescribed format i.e. Annexure - I along with Annexure - II & III.

The rates quoted must be inclusive of all taxes, duties for performing the scope of work & exclusive of GST. The GST applicable shall be shown separately, which shall not be considered for evaluation purposes.

Your expression of interest along with a budgetary quotation for the above work should reach the following address on or before **31/05/2024 by 15:00 Hrs.**

Address: -

Office of the Executive Engineer (C-I),
Project Division, Administrative Office Building,
Room No. 302, Second floor, Annexe,
P.O. Box No. 50, Gandhidham – Kachchh.

Thanking you,

Yours faithfully,

Sd/-
Executive Engineer (C-I)
Deendayal Port Authority

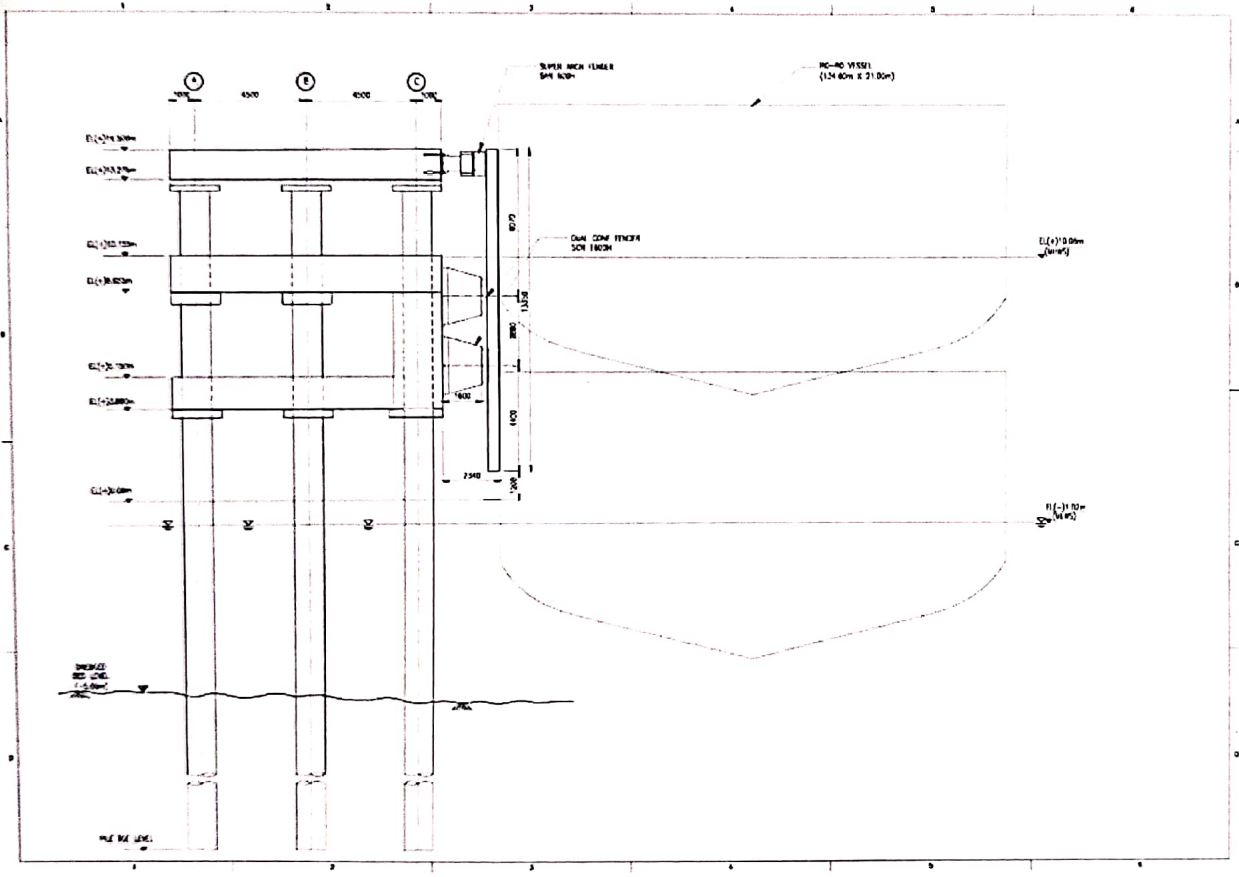
PROJECT DIVISION
BUDGETARY OFFER

Item No.	Description of Item	Unit	Qty.	Rate
1	Removal of fender: Removing the existing fender along with all attachments from its position by opening or cutting all the existing fixture arrangements and separating frontal frame and detaching all fenders from its position by opening or cutting S.S. nuts bolts with all labour and material complete. etc.	No.	1.00	
2	Providing and Fixing of Double 1600H CONE and 600H Arch Fenders with Frontal Frame with all accessories required, and as specified by manufactured specifications & drawing etc. complete. The work inclusive of all materials, Equipments, machineries, cranes, boats, cranes with barge, labours, tools and tackles, high tensile galvanized wrought iron chains, shackles, anchor bolts, U hook and other fixtures fixing with resin fastener RE500V4 or equivalent and painting etc, with all labour and material complete. etc. complete as directed by Engineer In Charge.	No.	1.00	
3	Removal of fender: Removing the existing fender along with all attachments from its position by opening or cutting all the existing fixture arrangements and separating frontal frame and detaching all fenders from its position by opening or cutting S.S. nuts bolts etc.	No.	1.00	
4	Providing and Fixing of New D Type Fender of size HDF 400H x 400 x 500, with necessarily nuts & bolts fixing with resin fastener RE500V4 or equivalent of required size and specification as specified by manufactured specifications & drawing with all labour and material complete. etc. complete as directed by Engineer In Charge.	No.	1.00	
5	Providing and Fixing of New UHMW PE Pad of size 1000mm x 1000 mm x 200 mm thickness, with fixtures of SS316 as per manufacturer drawing number, stud, nuts, washer & bolts per sq.m and fixing with resin fastener RE500V4 or equivalent of specification as specified by manufactured specifications & drawing with all labour and material complete. etc. complete as directed by Engineer In Charge.	No.	1.00	
6	Removal of fender: Removing the existing fender along with all attachments from its position by opening or cutting all the existing fixture arrangements and separating frontal frame and detaching all fenders from its position by opening or cutting S.S. nuts bolts with all labour and material complete. etc.	No.	1.00	

7	Providing and Fixing of New D Type Fender of size HDF 400H x 400 x 700, with necessarily nuts & bolts fixing with resin fastener RE500V4 or equivalent of required size and specification as specified by manufactured specifications & drawing with all labour and material complete. etc. complete as directed by Engineer In Charge.	No.	1.00	
8	Providing and Fixing of New UHMW PE Pad of size 1000mm x 367 mm x 200 mm thickness, with fixtures of SS316 as per manufacturer drawing number, stud, nuts, washer & bolts per sq.m and fixing with resin fastener RE500V4 or equivalent of specification as specified by manufactured specifications & drawing with all labour and material complete. etc. complete as directed by Engineer In Charge.	No.	1.00	
9	Providing and Fixing of New UHMW PE Pad of size 1000mm x 333.4 mm x 200 mm thickness, with fixtures of SS316 as per manufacturer drawing number, stud, nuts, washer & bolts per sq.m and fixing with resin fastener RE500V4 or equivalent of specification as specified by manufactured specifications & drawing with all labour and material complete. etc. complete as directed by Engineer In Charge.	No.	1.00	
10	Removal of fender: Removing the existing fender along with all attachments from its position by opening or cutting all the existing fixture arrangements and separating frontal frame and detaching all fenders from its position by opening or cutting S.S. nuts bolts with all labour and material complete. etc.	No.	1.00	
11	Providing and Fixing of New Arch Type Fender of size HXAT 1000 x 2300 Long Fender, with necessarily nuts & bolts fixing with resin fastener RE500V4 or equivalent of required size and specification as specified specifications & drawing with all labour and material complete. etc. complete as directed by Engineer In Charge.	No.	1.00	
12	Cost of Hammer chipping bit	No.	1.00	
13	Cost of Nitobond EP	Kg.	1.00	
14	Providing and fixing Galvanised mesh size 50 X 50 mm minimum 3mm of thick/or as directed for concreting work, including cutting, tying with binding wires and nailing 5 nos per Sq.m in position, labour, tools, plants, machinery, scaffolding etc. Complete as directed by the Engineer-In-Charge.	Sq. Mt.	1.00	
15	Adhesive Anchor RE 500V4	Foil	1.00	
16	Cost of Sacrificial anode	No.	1.00	
17	Cost of Renderoc RGS	Bag	1.00	
18	Cost of 12mm down graded Aggregate	Cu.m	1.00	
19	Cost of Anticorrosive Zinc primer	Kg.	1.00	
20	Cost of Renderoc SP 40 (25 Kg)	Kg.	1.00	
21	Cost of Concure AB	Ltr.	1.00	
22	Cost of Primer(acrylic)	Kg.	1.00	
23	Cost of 2-coat Deckguard S	Kg.	1.00	

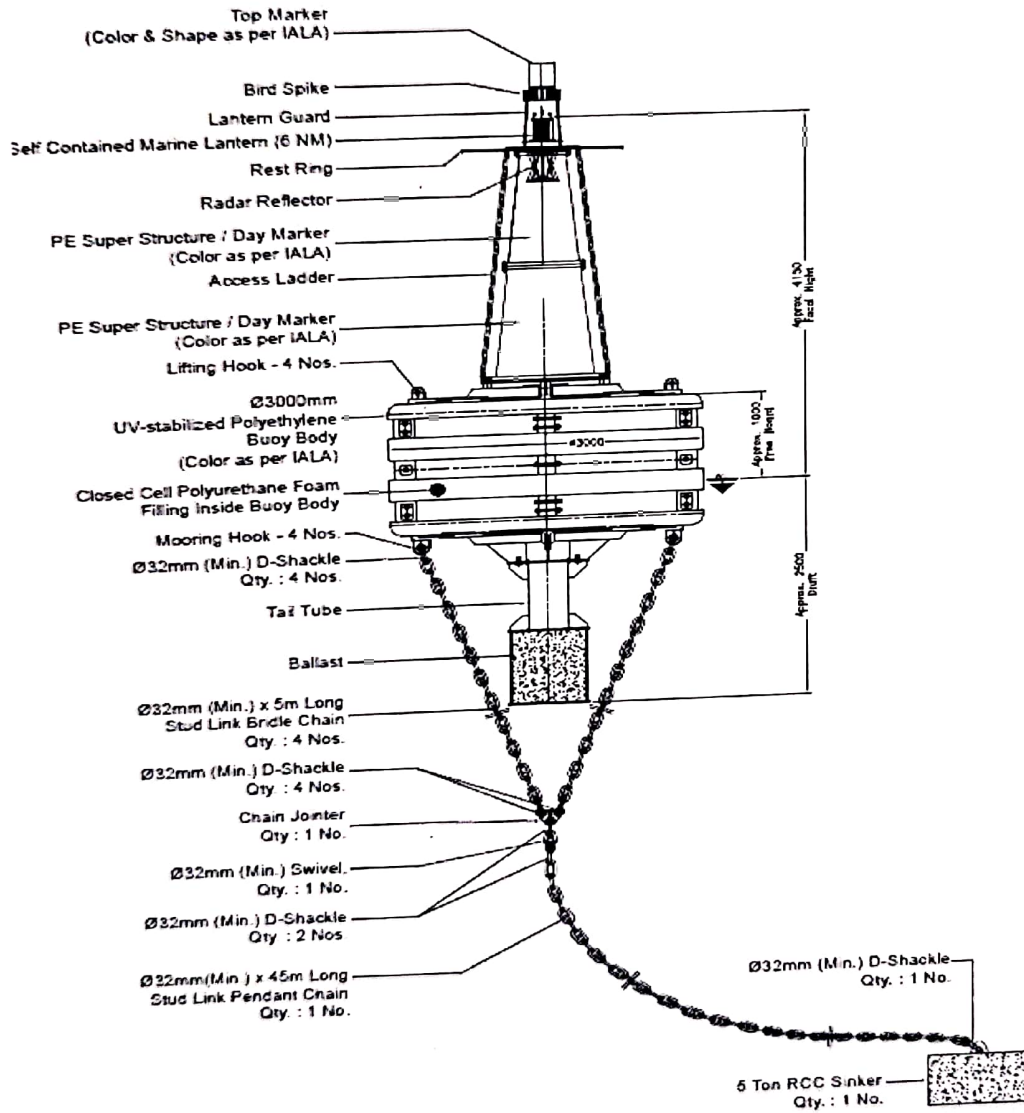
24	Steel work in galvanized M S steel sections having 150 microns for including cutting, hoisting, fixing in position by welds or bolts & to the entire galvanized steel work complete as directed for Nosing Angle, Connecting strip and Connecting Flat provided on the berthing face of fender columns & Deck Slab as per the drawings and as instructed by the Engineer-In-Charge.	Kg.	1.00	
25	EPKOTE ET140	Kg.	1.00	
26	Procurement of new 03 Nos. Poly Ethylene Buoys along with its accessories for Gogha Ro-Pax terminal (Gujarat) and its fully assembly & Testing at site for 03 nos. from issuing work order as per the tender conditions and completed within 01-month period and also all equipment set will be approved by IRS (Indian Register of Shipping) and having technical drawing and which is enclosed at ANNEXURE – II.	No.	1.00	
27	Taking away dismantled and damaged unserviceable scrap materials which includes MS Channels, plates, bars, angles, fender & fender parts, based on "AS IT IS WHERE IT IS BASIS" etc. including loading, unloading & transportation etc. complete as directed by engineer in charge.	Kg.	1.00	

Arrangement of Fendering System



“Procurement of new 03 Nos. Poly Ethylene Buoys along with its accessories for Ghogha Ro-Pax terminal (Gujarat)” having technical drawing and which is enclosed here:

PE Buoy Body Assembly



Signature of the Contractor

1. Technical Specifications for Fender system

1.1 Fixing

Rubber fenders shall be fixed on Muff well and frontal frame by SS bolts as shown in the drawing. Frontal frame covered with synthetic resin pad shall also be fixed by means of high tensile galvanized MS chains and shackles of the size as shown in drawings (Manufactured by ABC Rubber, Trelloborg, IRM, Hi-Tech, Lion Rubber, Brahmans or equivalent supplier). All chains, shackles, bolts, nuts, eyes, anchor bolts etc. fixing with resin fastener RE 500V4 or equivalent as may be required for securely fixing the rubber fender in the work shall be provided with the approval of Engineer-In-Charge. The Frontal frame shall be coated with one coat of primer of Red Oxide and two coats of anticorrosive paints of approved shade.

1.2 Specification of Materials of Double Cone with Arch Fendering System (1600H)

Fenders shall be manufactured from single piece by Compression Moulding process.

- SPECIFICATION OF VARIOUS PARTS OF CELL FENDERING SYSTEM

i) Specification for rubber for fender.

Property	Test Standards	Condition	Requirement
Tensile Strength	ASTM D-412	Before Aging	160 Kg/Sq cm (Min.)
	ASTM D-573	After Aging	Not less than 80% of original value
Elongation at Break	ASTM D-412	Before Aging	350% (Min)
	ASTM D-573	After Aging	Not less than 80% of original value
Hardness	ASTM D-2240	Before Aging	77 (Max) Shore A
	ASTM D- 2240	After Aging	Original Value + 8% (Max)
Compression Test	ASTM D 395	Aged for 20 hours at 70 Deg Cent	30% (Max)
Outdoor Ageing Resistance	ASTM D 1171		85% (Min)
Compression load	D 575	Method A	200 to 380 psi
Sea water Resistance	ASTM D 471	70 hrs. at 100 Deg.	Vol. Change Max 10%
Heat Resistance	ASTM D 471	24 hrs. 25 Deg.	Vol. Change Max. Pass +/- 20%
Water Absorption	ASTM D 471	70 hrs. 40 Deg.	Vol change Max 10% at 40 Deg.

- ii) UHMW PE Synthetic Resin Anti-Friction & Anti-Sparking Pads (Fender Front/Facia Pads) shall be fixed on fender frontal steel frame shall have the following Characteristics

Fender front shall be made from very high abrasion resistant and very low friction coefficient Ultra High-Density Synthetic Resin material. It's function is to protect surface of the Berthing Vessel and decrease the longitudinal force between the fender and vessel's hull during berthing and to eliminate SPARKING due to Metal to Metal contact to avoid FIRE HAZARDS.

Special Characteristics of Facia Pads

- High abrasion resistance & Anti-Sparking Properties.
- Ability to withstand Sub-Zero temperature
- Excellent impact strength.
- Slippery surface.
- Self-lubricating.
- Antistick properties.
- Good chemical resistance.
- No water absorption.
- Non-Toxic.
- Good Machinability.

Physical Properties of Pads.

Physical Property	Unit	Test Method	Value
Density	g/cm ³	DIN 53749	0.93 +/- 0.03
Coefficient of friction	Max	---	0.20 (Max.)
Melt Index MFI 190/15	g/10 min	DIN 53735	NIL or 0.001
MECHANICAL PROPERTIES			
Yield stress	N/mm ²	ISO 527	40 (Min.)
Elongation at Yield	%	Testing rate	<20
Elongation at Break	%	--	350 +/- 3
Tensile modules	N / mm ²	DIN 534457	720 (Min.)
Ball indentation Hardness (30 sec. Value)	N/mm ²	DIN ISO 53456	38
Shore hardness D scale	---	DIN 53506	68 deg. + /- 5
Notched Impact Strength (IZODIC)	MJ/mm ²	DIN 53453 ISO 180 - 03	No failure
Wear by the sand-slurry method (based on HOECHST)	Mg	Internal test method (24hr at 1200 RPM quartz sand of particle size 0.2-1.0mm)	100 (max.)

- iii) Material of bolts with washers for fixing the resin pads on frame shall be SS-304. Material of bolts for fixing each rubber fender with frame shall be SS-304. All bolts and washers shall be suitably painted with anti-corrosive paint. Material of wedge bolts for fixing each rubber fender with dock will be SS-304 with resin fastener RE 500V4 or equivalent.

- iv) Tension chains shall be High Tensile Studlink Chains with suitable Cushion Link. All chains shall be Hot Dipped Galvanized with suitable D-shackles at one end and Adjustable shackle at the other end.
- v) All shear chains shall be High Tensile Studlink Chains with suitable Cushion Link. All chains shall be Hot Dipped Galvanized with suitable D-shackles at both end.
- vi) All suspension chains shall be high tensile studlink chains and shall be Hot Dipped Galvanised with suitable D-Shackle at both ends.

1.3 The rubber fenders shall be subject to inspection by Indian Register of Shipping or Lloyds Register of Industrial services, RITES, M/s. BVIS (Bureau Veritas Industrial Services) or any other agency approved by Deendayal Port Authority at the cost of Contractor. The Contractor has to arrange at his own cost all such arrangements for testing and re-testing as required by the Engineer. Those fenders which are finally found satisfactory in all respect shall be accepted and used in the work.

1.4 Contractor has furnish detailed calculations justifying the proposed fendering system as per the supplier approved and selected for the project. Further, such supplier should visit the site & familiarise themselves with the duty conditions prevailing at the port. This would comprise of but not limited to the following:

- i. Existing Site/ surface of fender block Condition
- ii. Fixing and Line and level arrangement of adjacent Mooring Facilities
- iii. Tidal variations
- iv. Type of vessel calling,
- v. Berthing velocity,
- vi. Angle of approach etc.

Approved supplier should further, supervise the installation at random and certify them as correct at the time of completion of installation but before handing over the port to the user by the contractor. The Contractor has to arrange at his own cost all such arrangements as required by the Engineer.

2. Technical Specifications for Navigational Buoys: -

(A) MS Tail Tube & it' s Ballast: -

- MS Tail Tube & it' s Ballast Size: -
 Ø770 od x 12mm Thick MS Plate for bottom fitting
 10mm Thick stiffener for bottom plate (cutting as per requirement)
 Ø406 OD x Ø 392 ID 772mm Long Centre Pipe
 Qq Ø750 OD x Ø 730 ID 830mm Long Centre Pipe
 RCC Ballast – 500 Kg
- The MS Tail Tube & its ballast will be supplied, if required during entire year.
- The MS Tail Tube & its ballast should be supply as old one
- Measurement will be taken and paid per No's basis for actual tail tube & its ballast supplied.

(B) Super Structure: -

- Item includes supply of buoys super structure as old one green or red as required.

- The superstructure shall be high elasticity and light weight is manufactured with closed-cell polyethylene solid foam sheet (no water absorption) and projected with a layer of colored polyurethane elastomer.
- The superstructure of the buoy should be designed to have suitable ladder with step and ring for the safety of the person attending in any weather condition at sea.
- The super structure should be conforming to IALA
- Thickness – 10 mm
- Measurement will be taken and paid per Nos. basis for actual super structure supplied.

(C) Top Marker

- Item includes supply of buoys GRP TOP Marker as old one as per IALA system red or green as required.
- Measurement will be taken and paid per Nos basis for actual top marker supplied.

(D) Marine Lantern

- Item includes supply of buoys Marine Lantern as old one as per IALA system red or green as required
- Specification of Marine Lanterns: -
 - Range: 5 NM
 - Voltage: DC 9 to 30
 - Visibility: - 360 °Horizon
 - Lens Type: Single Piece molded polycarbonate
 - Lens Dia: - 140 mm Min
 - Vertical Divergence: - 7 ° Min
 - Flasher: inbuilt selectable 256 codes conforming to IALA
 - Monitoring & Control: - Capable for remote monitoring
 - Lantern Housing: - Suitable for Marine Environment IP 65
 - Weight: - < 5 Kg
 - Relative Humidity: 100 % Condensing
 - Wind: - Designed to withstand speeds in excess of 75 kmph
 - Light intensity automatically adjusts with flash character
 - Battery will continue to charge between -40°C and +65°C
- Battery technology and advanced charging algorithm
 - Excellent battery life in hot climates
 - Excellent battery capacity in cold climates
 - Excellent battery tolerance to becoming flat
- Large solar cell capacity 8W or 16W
- Make: - VLB 5x SS as old one
- The guaranty for the marine lantern is 01 year from the date of installation.
- Measurement will be taken and paid per No's basis for actual marine lantern supplied.

(E) Radar Reflector

- Item includes supply of buoys Radar Reflector as old one as per IALA system red or green as required
- Radar Reflector is made in in 6 segment for batter & accurate reflection.
- The material used in non-corrosive aluminum sheeting with appropriate paint system.
- Color: - White

- Height: - 10-12 Kg
- Measurement will be taken and paid per Nos basis for actual radar reflector supplied.

(F) Chain Jointer (As per Drawing) IRS/IACS approved

- Item includes supply of buoys Chain Jointer as old one as per IALA system.
- The Chain Jointer will be IRS/IACS approved.
Measurement will be taken and paid per No's basis for Chain Jointer supplied as old one.

(G) D' Shackle 32mm Size IRS/IACS Approved

- Item includes supply of buoys Bolt Shackles as old one as per IALA system.
- The D Shackles will be IRS/IACS approved.
- Features: Longer service life, Rugged in construction, High resistance to corrosion
- The shackle material must be an alloyed or un-alloyed special steel in accordance with Indian Standard whose technical requirements are:
Tensile strength $R_m \geq 850$ MPa
Break elongation $A_5 \geq 12\%$
Reduction of area $Z \geq 40\%$
Impact toughness $K_v = 58$ J (0°C)
Brinell hardness $HB \geq 280$
- The chemical composition of the steel must be such that the above technical requirements are met after handling.
The following alloying elements shall not be exceeded:
C $\leq 0,45\%$
Si $\leq 0,45\%$
P $\leq 0,04\%$
S $\leq 0,04\%$
- Mn $\leq 1,90\%$
- A certificate of the composition of the material must be provided.
- Measurement will be taken and paid per No's basis for Shackle supplied.

(H) Swivel 32 mm Size (IRS/IACS approved)

- Item includes supply of buoys Bolt Shackles as old one as per IALA system.
- The Swivel will be IRS/IACS approved.
- Measurement will be taken and paid per No's basis for Swivel supplied as old one.

(I) Mooring Chain 32mm Size (IRS Approved)

- Item includes supply of buoys Bolt Shackles as old one as per IALA system.
- The D Shackles will be IRS/IACS approved.
- Features: Longer service life, Rugged in construction, High resistance to corrosion
- The chain material must be alloyed or unalloyed tempered steel in accordance with IRS Register of Shipping quality class/IACS.
Tensile strength $R_m \geq 640$ MPa
Break elongation $A_5 \geq 15\%$
Reduction of area $Z \geq 40\%$
Impact toughness $K_v = 58$ J (0°C)
 $K_v = 49$ J (0°C), at weld
Brinell hardness $HB \geq 220$

- The chemical composition of the steel must be such that the above technical requirements are met after tempering and that the composition is suitable for the welding method to be used.

The following alloying elements shall not be exceeded:

C ≤ 0,33%

Si = 0,20...0,35%

P ≤ 0,04%

S ≤ 0,04%

Mn ≤ 1,90%

(J) Solar Battery Vega Make Model No-VLB-67 LED

- The Item Includes supply of Solar Batter Vega Make Model No. VLB 67 LED as old one.
- Battery technology and advanced charging algorithm.
- Excellent battery life in hot climates.
- Excellent battery capacity in cold climates.
- Excellent battery tolerance to becoming flat.
- The guaranty for the said battery is 01 Year from the date of installation.
- The measurement will be taken & paid per nos. basis.

(K) Supply/Mfg. SS material like Nut, bolt & washer etc.

- The Contractor has to Manufacture/supply good quality SS nut bolt as per size required.
- The Payment will be done on Kg basis of actual nut bolt supplied.

Signature of the Contractor

