



KHULNA SHIPYARD LIMITED

BANGLADESH NAVY

Labonchara, Khulna-9201, Bangladesh

Phone: 02-44110987, 02-477720003, Fax: 02-477720404

E-mail: plans@khulnashipyard.com, Web: www.khulnashipyard.com

Project-632/ 111

Date: 15 February 2024

REQUEST FOR PROPOSAL (RFP)/ REQUEST FOR QUOTATION (RFQ) - PROCUREMENT OF NAVIGATION AND COMMUNICATION ITEMS.

1. **Item Description.** Khulna Shipyard Limited (KSY) intends to procure Navigation and Communication items from reputed suppliers/manufacturers/ companies.
2. **Scope of Supply.** The scope of supply/technical specification is attached with the RFP/ RFQ as an Annex-A (Technical Specification of The Navigation and Communication Items - 3 X LCT).
3. **Schedule Collection and Offer Submission.** Interested supplier/ manufacturer/ companies are hereby requested to collect the RFP/ RFQ Schedule without RFP/ RFQ security money from KSY Website (www.khulnashipyard.com) and submit the Technical offer following address through e-mail:

General Manager
Design & Planning Department
Khulna Shipyard Ltd. Bangladesh Navy
Khulna-9201
Cell: +8801769-784605 (WhatsApp)
Email: plans@khulnashipyard.com

On the other hand, the financial offer is to be submitted to ksygmdnp@gmail.com.

4. **Bidder's Qualification Documents to be Submitted.**

- a. Valid Trade License.
- b. Business Registration Certificate/ Article of incorporation/ association.
- c. TIN/ equivalent Certificate.
- d. Bank Solvency Certificate.
- e. BIN/ equivalent Certificate.

5. **General Condition.**

- a. Article wise compliance statement fulfilling the requirement of the RFP/ RFQ is to be submitted for evaluation of the quotations. Stating mere 'Yes or No' will not suffice and detailed description/ information, brochures (as required) is to be given. An incomplete compliance statement in any part may attribute to cancellation of the offer. If any clause of this specification does not commensurate with the requirement, the deviation must be spelt out clearly.
- b. Financial offer should be quoted in USD/ EURO/ GBP/ BDT
- c. FOB price is to be clearly mentioned in the offer.
- d. CFR/ CPT price is to be clearly mentioned in the offer.



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6. **Evaluation.** Among the technically responsive bidder/ bidders, KSY will consider the technically responsive lowest bidder for evaluation. During evaluation phase, KSY will establish direct contact with the top management of manufacturers. In this respect Bidders should provide necessary **links/ contact details** to ensure the genuinity of the manufacturer.
7. **Manufacturer Details.** The intended Manufacturer should be International Association of Classification Societies (IACS) approved and related certificates are to be submitted along with mill name, full address, telephone number, WhatsApp number, e-mail address.
8. **Authorization Letter.** The concerned supplier must provide following original certificate (s)/ document (s) as applicable with the offer and during delivery of items as regard to the genuinity of source and items (s) in order to establish chain of links from the original source to supply:
 - a. One certificate / document - by the original equipment manufacturer (OEM) in favour of the supplier (in case of OEM as principal).
 - b. Two certificates/ documents - one by the OEM to the authorized agent/ dealer and other by the authorized agent/ dealer to the supplier (in case of authorized agent/ dealer as principal)
 - c. Three certificates/ documents - first one by the OEM to the authorized agent/ dealer, second one by the authorized agent/ dealer to the sub-agent and third one by the sub-agent to supplier/ local representative (in case of sub agent as principal). If the supplier is unable to obtain the first certificate (by OEM to the authorized agent/ dealer), then it has to produce relevant document to prove agency-ship of its claimed agent of the recognized manufacturer.
9. **Pre-shipment Inspection (PSI).** Pre-shipment inspection (PSI) will not be required for this item. But the supplier/ seller should intimate buyer at least 10 days prior to the readiness of the shipment. Based on taking clearance from KSY, supplier/ seller will ship the goods.
10. **Performance Guarantee (PG).** 10% Performance Guarantee (PG) of the total contract price (TCP) will have to be submitted within 15 days after issuance of NoA. After that contract will be signed with mutual understanding. Validity of the PG should be upto delivery of the goods and final acceptance by the buyer. Failure to furnish PG will be considered as non-responsive.
11. **Warranty.** Supplier shall undertake the full responsibility to rectify any defect of supplied machinery/ equipment free of charges under warranty period. To rectify/ replace any such defective item, provided that the defects are appeared / discovered during the period of 12 months after acceptance and delivery of each vessel by BN. Warranty repair/ replacement shall be accomplished within 3 months of notification of the relevant defect. Otherwise warranty will be extended by non-operational period of the equipment.



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12. **Guarantee for Warranty.** Supplier shall furnish to KSY a guarantee for warranty for an amount equivalent to 5% (five percent) of the total contract price from any scheduled bank situated in Bangladesh. The buyer shall have the right to forfeit the performance guarantee for failure of the supplier in fulfilling the terms and conditions of this contract partially or wholly, besides taking any other action against the supplier that may be warranted. It will be released after completion of warranty period
13. **Joint Inspection at KSY.** If any defective or 2nd hand item is found during the joint mustering of KSY & supplier at KSY premises the defective or 2nd hand item will not be acceptable. Supplier shall undertake the full responsibility to supply and replace the defective or 2nd hand item by new one.
14. **Payment Terms.** 100% Payment will be made through irrevocable Letter of Credit (LC) opened with scheduled bank in Bangladesh and negotiating bank recommended by the seller under following terms and conditions:
- a. 80% of the CFR value of the contract will be paid on production of the following documents to the Bank:
 - (1) Invoice.
 - (2) Packing Note.
 - (3) Manufacturer's/ Supplier's Inspection report/ Certificate.
 - (4) Shipping Documents including Non Negotiable Bill of Lading or Airway bill marked freight "prepaid".
 - (5) Warranty Certificate.
 - (6) Pre-shipment Inspection Report signed by both seller and buyer.
 - b. Rest 20% of CFR value will be released on presentation of acceptance certificate signed by both the seller and buyer on completion of installation, Joint inspection and clearance from KSY to the bank.
15. **Advance Payment.** If the principal/ OEM is required to get an advance against LC, principal has to provide an Advance Bank Guarantee of the same amount in same currency as per Bangladesh Bank Policy. For any reason if the principal is incapable/ reluctant to provide Advance BG local representative/ Supplier will furnish the BG to KSY.
16. **Shipment Time.** Shipment will be done within 80 days after opening LC. Early shipment will get priority.
17. **Port of Shipment.** To be mentioned.
18. **Validity.** Offer validity will be 30 days from the submission date of offer.
19. **Deadline of Offer Submission.** Interested bidders should submit their technical and financial offer by or before **29 February 2024 at 1200 hrs.**



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20. **Consignee Address.**

The Managing Director
Khulna Shipyard Ltd.
Bangladesh Navy, Khulna, Bangladesh.
Phone: 02-44110987, 02-477720003
E-mail: plans@khulnashipyard.com
Web: www.khulnashipyard.com

21. **KSY reserves the right to accept/ reject all or any part of the bidder's offer against this RFP/ RFQ without showing any reason.**

MD JULHASH UDDIN AHMED
General Manager (Design & Planning)
Captain BN
For Managing Director

Enclosure:

1. Annex-A (Technical Specification of The Navigation and Communication Items - 3 X LCT). - 11 (Eleven) Pages.

TECHNICAL SPECIFICATION OF THE NAVIGATION AND COMMUNICATION ITEMS - 3 X LCT

1. Name of Equipment : Navigation and Communication Items.
2. Purpose : To meet the Navigation and Communication services for LCT.
3. Quantity : As per scope of supply mentioned in serial – 10.
4. Country of Origin : As per scope of supply mentioned in serial – 10.
5. Manufacturing country : As per scope of supply mentioned in serial – 10.
6. Manufacturer : As per scope of supply mentioned in serial – 10.
7. Type : Supplied all equipment, fittings, fixtures, items, cables, wiring, systems etc. should comply with recognized marine standard.
8. Year of manufacturer : 2023 or later. The item should be brand new and original.
9. Ambient conditions and Other Standard are as follow :
 - a. Temperature : -0° C to 55° C.
 - b. Relative humidity : Up to 98%.
 - c. Location : Onboard Ship.
 - d. Insulation : Class F insulation unless otherwise stated. Insulation to be mentioned.
 - e. IP ratings : IP56 rating unless otherwise stated. IP rating to be mentioned.
 - f. Standardization : All systems, sensors, equipments and items should comply with Mil-Standard 1399, Mil-Standard 1310, Mil-Standard 461 and Mil-Standard 810.
 - g. Category : Recognized appropriate category of naval ship standard of "Procedure of Identification of Electrical Circuit in appropriate category of naval ship" will be followed.

h. Power Supply

Ser	Description	Remarks
1	Ship's own power supply 415V, 50Hz, 3 Phase (Without conversion)	Necessary converter/ Power supply unit is to be provided (If needed)
2	At harbor on national power supply system of 400V±5%, 50Hz, 3 Phase	
3	Converted Power Supply: 220V, 115V and 24V	

10. Scope of Supply : The complete scope of supply is appended below:

Ser	Name of the Item/ Equipment	Qty (Set)	Capacity/Type/Rating/Brand	Required Feature
1.	X-band Integrated Navigational Radar	06	X-band Integrated navigational radar complete set Brand: FURUNO Model : FAR-1518 Country of origin and manufacturer: Japan	Each set comprising of: 1) X-band radar Keyboard. 2) X-band radar Processor unit. 3) X-band radar scanner unit. 4) X-band radar monitor 19". 5) X-band radar Radiator (length not less than 6.5 feet). 6) Interface HUB (for radar). 7) Min.30 meter X-Band radar control cable. 8) Dual input power supply. 9) Marine type screen Control cable (4x2x0.75) rm-100 mtr. 10) Marine type screen cable (3x2.5) rm - 50 mtr. 11) Standard accessories 12) Spare parts. 13) Standard Installations Materials. 14) Operation Manual, Catalogue, Brochure and Installation manual with the offer. Interfacing facilities have to ensure between Radar and Gyrocompass, WAIS, GPS, Speed log, BAS with standard accessories.
2.	Digital Gyro Compass	03	Digital Gyro Compass complete set Brand: Raytheon Anschutz Model: Standard 22 Country of Origin and manufacturer: Germany	Each set comprising of: 1) Gyrocompass main Unit. 2) Gyro operator unit. 3) Gyro Distribution box. 4) 2x Digital & 2x Bearing Repeaters with stand. 5) Azimuth circle (Master unit). 6) Dual input power supply with UPS. 7) Marine type screen Control cable (4x2x0.75) rm-200 mtr. 8) Marine type screen cable (3x2.5)rm -50 mtr. 9) Marine type screen cable (2 x1.5) rm - 100 mtr. 10) Standard accessories 11) Spare parts. 12) Standard Installations Materials. 13) Operation Manual, Catalogue, Brochure and Installation manual with the offer. Interfacing facilities have to ensure between Radar, AIS, WAIS, GPS, Speed log ,BAS with standard accessories.
3.	Echo Sounder	03	Echo Sounder complete set Brand: FURUNO Model: FE-800 Country of Origin and manufacturer: Japan	Each set comprising of: 1) Echo sounder Processor unit. 2) Echo sounder display (not less 8.4"). 3) Echo sounder transducer (50/200 KHz) with cable (min) 30 mtr. 4) Matching box. 5) Dual input power supply. 6) Appropriate transducer tank with water sealing material. 7) Complete Housing set. 8) Transducer cable -20 mtr (Additional). 9) Marine type screen cable (3x2.5) rm -50 mtr.

Ser	Name of the Item/ Equipment	Qty (Set)	Capacity/Type/Rating/Brand	Required Feature
				10) Standard accessories 11) Spare parts. 12) Standard Installations Materials. 13) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
4.	Speed Log	03	Speed log complete set Brand: JRC Model: JLN-205MK2 Country of Origin and manufacturer: Japan	Each set comprising of: 1) Log signal processor unit. 2) Log signal distributor unit. 3) Speed log main display(Not less 4.5"). 4) Speed log transducer with cable min.30 mtr. 5) Matching box. 6) Dual input power supply. 7) Appropriate transducer tank with Gate valve. 8) Complete Housing set. 9) Standard accessories 10) Spare parts. 11) Standard Installations Materials. 12) Operation Manual, Catalogue, Brochure and Installation manual with the offer. Interfacing facilities have to ensure between Speed log and Gyrocompass ,2x Radar WAIS,BAS with standard accessories.
5.	GPS	03	GPS complete set Brand: FURUNO Model: GP-170 Country of Origin and manufacturer: Japan	Each set comprising of: 1) GPS sensor (Antenna). 2) GPS display with mob button panel and MOB alarm. 3) GPS Repeater. 4) Dual input power supply. 5) Main unit display in bridge. 6) Remote unit display in captain cabin. 7) GPS NMEA distributor output (NMEA buffer). 8) Marine type screen Control cable (4x2x0.75) rm-50 mtr. 9) Marine type screen (3x2.5) rm -20 mtr. 10) Standard accessories 11) Spare parts. 12) Standard Installations Materials. 13) Operation Manual, Catalogue, Brochure and Installation manual with the offer. Interfacing facilities have to ensure between GPS and 2 x VHF, Gyrocompass, 2x Radar AIS, BAS with standard accessories.
6.	Digital Anemometer	09	Digital Anemometer complete set Brand: Graigar Model: AZ8916 Country of Origin: Western origin Manufacturer: To be mentioned	Each set comprising of: 1) Standard accessories 2) Spare parts. 3) Standard Installations Materials. 4) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
7.	HF Tx/Rx (100-150 WATT,1.6 – 30 MHz)	06	HF Tx/Rx (100-150 WATT,1.6 – 30 MHz) complete set Brand: CODAN Model : NGT MR Country of Origin and Manufacturer: Bangladesh Navy (BN) Standard	Each set comprising of: 1) 9m flexible marine whip HF antenna. 2) HF automatic antenna tuner (ATU). 3) HF transceiver with voice encryption option. 4) High speed Data modem. 5) Hand set /Remote controller standard.

Ser	Name of the Item/ Equipment	Qty (Set)	Capacity/Type/Rating/Brand	Required Feature
				<p>6) Voice, Morse and Data (with high Speed Data modem and Laptop PC) communication facilities in USB and LSB modes.</p> <p>7) Data message terminal PC (laptop).</p> <p>8) Dual input power supply.</p> <p>9) Marine type screen cable (3x2.5) mm -50 mtr.</p> <p>10) Standard accessories for rack & cabinet mount.</p> <p>11) Spare parts.</p> <p>12) Standard Installations Materials.</p> <p>13) Operation Manual, Catalogue, Brochure and Installation manual with the offer.</p> <p>Military standard facilities must be ensured so that the user can interact with sets of same and other brands.</p>
8.	VHF/UHF Tx/Rx (AM 50 W FM 100W, Wide Band)	03	VHF/UHF Tx/Rx (AM 50 W FM 100W, Wide Band) complete set Brand: R&S Model : M3SR sires 4400 Country of Origin and Manufacturer: Germany	<p>Each set comprising of:</p> <p>1) Line of sight tactical Voice (AM/FM) Data communication as per BN standard.</p> <p>2) VHF/UHF super wide band Discone Antenna.</p> <p>3) VHF/UHF remote control unit.</p> <p>4) Audio unit.</p> <p>5) VHF/UHF communication rack/ cabinet mount:</p> <p>a) 2x VHF/UHF diplexer.</p> <p>b) VHF/UHF Filter.</p> <p>c) Modem.</p> <p>d) Control panel built- in VHF/UHF transceiver unit.</p> <p>e) Distribution power supply.</p> <p>6) GPS Antenna for Communication system.</p> <p>7) Ethernet Switch.</p> <p>8) Dual input power supply.</p> <p>9) Programming kit.</p> <p>10) Appropriate Networking cable with Standard accessories for rack & cabinet mount.</p> <p>11) Spare parts.</p> <p>12) Standard Installations Materials.</p> <p>13) Operation Manual, Catalogue, Brochure and Installation manual with the offer.</p> <p>Military standard facilities must be ensured so that the user can interact with sets of same and other brands.</p>
9.	VHF/UHF Tx/Rx (50 W, Narrow band, VHF 118-174 MHz & UHF 400-470 MHz)	03	VHF/UHF Tx/Rx (50 W, Narrow band, VHF 118-174 MHz & UHF 400-470 MHz) complete set include, Brand: R&S Model : M3SR sires 4400 Country of Origin and Manufacturer: Germany	<p>Each set comprising of:</p> <p>1) Line of sight tactical Voice (AM/FM) and data communication facilities have to be ensured as per Military standard so that the user can interact with sets of same and other brands.</p> <p>2) VHF/UHF super wideband discone antenna.</p> <p>3) VHF/UHF remote control unit.</p> <p>4) Audio unit.</p> <p>5) VHF/UHF communication rack/cabinet mount:</p> <p>a. 2x VHF/UHF diplexer.</p> <p>b. VHF/UHF Filter.</p> <p>c. Modem.</p>

Ser	Name of the Item/ Equipment	Qty (Set)	Capacity/Type/Rating/Brand	Required Feature
				d. Control panel built-in VHF/UHF transceiver unit. e. Distribution power supply. 6) Ethernet Switch. 7) Dual input power supply. 8) Programming kit & EXP version. 9) Appropriate Networking cable with Standard accessories for rack & cabinet mount. 10) Spare parts. 11) Standard Installations Materials. 12) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
10.	Marine VHF Transceiver	06	Marine VHF Transceiver (25-50W) complete set Brand: ICOM Model : IC-M605 Country of Origin and Manufacturer: Japan	Each set comprising of: 1) Line of sight tactical Voice (FM) and DSC-ITU class D, Communicate Merchant vessel & port authority. 2) VHF DSC Radiotelephone. 3) Handset. 4) TX/RX DSC VHF antenna. 5) VHF DC Converter. 6) Dual input power supply. 7) Standard accessories 8) Spare parts. 9) Standard Installations Materials. 10) Operation Manual, Catalogue, Brochure and Installation manual with the offer. Military standard facilities must be ensured so that the user can interact with sets of same and other brands.
11.	VHF Walkie-Talkie set	18	VHF Walkie-Talkie complete set (Marine Type, 5W) with standard accessories Brand: ICOM Model : IC-1100DS Country of Origin and Manufacturer: Japan	Each set comprising of: 1) One extra battery & antenna for each set with including Programming kit & related driver software. 2) Operation Manual, Catalogue, Brochure and standard Installation manual with the offer. Military standard facilities must be ensured so that the user can interact with sets of same and other brands.
12.	EPIRB	03	EPIRB complete set Brand: SAMYUNG Model : SEP-500 Country of Origin and Manufacturer: Korea	Each set comprising of all standard accessories. Registration activities have to be done according to BN standard.
13.	SART	03	SART complete set Brand: SAMYUNG Model : SAR-9, Country of Origin and Manufacturer: Korea	Each set comprising of all standard accessories. Registration activities have to be done according to BN standard.
14.	Internal Communication System	03	Internal Communication System complete set Brand: Newmar Model : PI-10 Country of Origin and Manufacturer: USA	Each set comprising of: a. Comprising of engine room intercom : All intercom amplifier with rack are to be identical so that there interchangeable ,One spare amplifier will be provided in the intercom rack, various intercom follows: 1) 7 x Engine room telephone. 2) 1x Junction box.

Ser	Name of the Item/ Equipment	Qty (Set)	Capacity/Type/Rating/Brand	Required Feature
				<p>3) Marine type screen cable (7x2x0.75) rm-300 mtr.</p> <p>4) Marine type screen cable (2x1.5) rm-50 mtr.</p> <p>5) Standard accessories</p> <p>6) Spare parts.</p> <p>7) Standard Installations Materials.</p> <p>8) Operation Manual, Catalogue, Brochure and Installation manual with the offer.</p> <p>b. Comprising of conning intercom :</p> <p>All intercom amplifier with rack are to be identical so that there interchangeable ,One spare amplifier will be provided in the intercom rack, various intercom follows:</p> <p>1) 7 x Engine room telephone.</p> <p>2) 1x Junction box.</p> <p>3) Marine type screen cable (7x2x0.75)-50 mtr.</p> <p>4) Marine type screen cable (2x1.5) rm-300 mtr.</p> <p>5) Standard accessories</p> <p>6) Spare parts.</p> <p>7) Standard Installations Materials.</p> <p>8) Operation Manual, Catalogue, Brochure and Installation manual with the offer.</p>
15.	Sound Power Telephone System:	03	Sound Power Telephone System (SPT) complete set: A SPT System with two way communication will be installed. Brand: Newmar Model : PI-10 Country of Origin and Manufacturer: USA	<p>Each set comprising of:</p> <p>1) 4 x Sound power telephone (01 master telephone).</p> <p>2) 3 x Sound power telephone with noisy place plug in head set and microphone.</p> <p>3) Sound And Flash Signaler 24VDC (IP56, IP44).</p> <p>4) 1x junction box.</p> <p>5) 1x connection box.</p> <p>6) The following circuits will be installed:</p> <p>a. Bridge, MCR, engine room, Steering compartment circuits.</p> <p>b. Loading / docking circuit.</p> <p>c. Damage and stability control.</p> <p>7) Marine type screen (7x2x0.75)- 400 mtr.</p> <p>8) Standard accessories</p> <p>9) Spare parts.</p> <p>10) Standard Installations Materials.</p> <p>11) Operation Manual, Catalogue, Brochure and Installation manual with the offer.</p>

Ser	Name of the Item/ Equipment	Qty (Set)	Capacity/Type/Rating/Brand	Required Feature
16.	General Broadcast And Entertainment System	03	General Broadcast and entertainment system (Power: 240 W; Operating voltage: 220V AC & 24V DC) complete set Brand: Zenitel Model: Vingtor SPA series. Country of Origin and Manufacturer: To be mentioned.	Each set comprising of: 1) FM/AM radio, Bluetooth & USB facility have to be available. 2) 2 x Megaphone. 3) 1 x Portable public address system. 4) 2 x General broadcast and entertainment system-(IP44). 5) 1 x PA control panel in box (IP56). 6) 3 x PA control panel (IP20) with PTT microphone. 7) 3 x Wall loudspeaker(IP 20). 8) 1 x Horn loudspeaker Ex(Ex IP56). 9) 13xHorn loudspeaker (IP 56). 10) 7xHorn loudspeaker (IP 55). 11) 17 x Horn loudspeaker (IP 44). 12) 1xHorn loudspeaker Ex(Ex IP 44). 13) 54 x Ceiling loudspeaker (IP20). 14) Marine type screen cable (1x3x0.75) rm, - 1000 mtr. 15) Marine type screen cable-(3x2.5) rm - 100 mtr. 16) Marine type screen cable(2x10) rm -50 mtr. 17) Marine type screen Control cable(4x2x0.75) rm - 400 mtr. 18) Standard accessories 19) Spare parts. 20) Standard Installations Materials. 21) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
17.	General Alarm	03	General Alarm (Operating Voltage: 24V DC) complete set Brand: Aqualarm Model : To be mentioned Country of Origin and Manufacturer: USA	Each set comprising of: 1) 3 x Bell with light (Min. IP 44). 2) 15 x Bell (6xIP56, 1xMin IP44, 8xIP20). 3) 2 x GA push button (for bridge console) (1x IP56,1x IP20). 4) Marine type screen cable (2x2.5) rm - 400 mtr. 5) Standard accessories 6) Spare parts. 7) Standard Installations Materials. 8) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
18.	Fire And Flood Detection And Monitoring System	03	Fire and Flood Detection and Monitoring System complete set Brand: Johnson Controls Model : To be mentioned Country of Origin and Manufacturer: USA	Each set comprising of: Various type sensor, call point, fire alarm control panel & fire detection control central 1) 4 x Zone Barrier (IP22). 2) 5 x Flame Detector for wet space Ex (IP44). 3) 5 x Smoke & Heat Detector For wet space (IP44). 4) 1x heat detector for galley(IP44). 5) 41 x Smoke & Heat detector for wet space(IP44). 6) 47 x Smoke & Heat detector for Dry spaceIP2X(IP22). 7) 23 x Manual call point for wet space(IP44). 8) 4 x Manual call point for dry space(IP22). 9) 7 x Fire Alarm control panel(IP22). 10) 1 x Fire detection central(230V).

Ser	Name of the Item/ Equipment	Qty (Set)	Capacity/Type/Rating/Brand	Required Feature
				11) Marine type screen cable (1x2x1.5) rm – 500 mtr. 12) Fire proof marine type screen cable (2x2x0.75) rm – 700 mtr. 13) Standard accessories 14) Spare parts. 15) Standard Installations Materials. 16) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
19.	Man Overboard Alarm	03	Man Overboard Alarm complete set Brand: Emerald Marine Model: ALERT2 Country of Origin and Manufacturer: USA	Each set comprising of: 1) Marine type screen cable (2x2.5) rm – 50 mtr. 2) Standard accessories 3) Spare parts. 4) Standard Installations Materials. 5) Operation Manual, Catalogue, Brochure and Installation manual with the offer. Control from Forecastle and After deck area with Required standard accessories.
20.	Magnetic Compass	03	Magnetic Compass complete set Brand: Lilley & Gillie Model: SR4 and MK2000 Country of Origin and Manufacturer: UK	Each set comprising of: 1) Magnetic Compass Dimmer. 2) Standard accessories 3) Spare parts. 4) Standard Installations Materials. 5) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
21.	Digital Hygrometer	03	Digital Hygrometer complete set Brand: PCE Model: PCE-THB40, Country of Origin and Manufacturer: UK	Each set comprising of: 1) Required standard accessories. 2) Operation Manual, Catalogue, Brochure and standard Installation manual with the offer.
22.	Laser Range Finder	03	Laser range finder complete set Brand: To be mentioned Model: To be mentioned Country of Origin: Japan Country of Manufacturer: To be mentioned	Each set comprising of: 1) Required standard accessories. 2) Operation Manual, Catalogue, Brochure and standard Installation manual with the offer.
23.	Hand Held GPS	03	Hand held GPS complete set Brand: To be mentioned Model: To be mentioned Country of Origin: Japan Country of Manufacturer: To be mentioned	Each set comprising of all required accessories.
24.	Electro Optical Surveillance	03	Electro optical surveillance complete set Brand: To be mentioned Model: To be mentioned Country of origin: Japan Manufacturer: To be mentioned	Each set comprising of: 1) EO surveillance Display. 2) EO joystick control unit. 3) Dual input power supply(220V AC&24V DC). 4) Standard accessories 5) Spare parts. 6) Standard Installations Materials. 7) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
25.	Hd Binoculars	06	HD Binoculars complete set (Day/ Night. Binoculars should be waterproof, rubber coated and military standard) Brand: Boshile Model: Boshile Country of origin: Boshile Manufacturer: To be mentioned	Each set comprising of all required accessories.

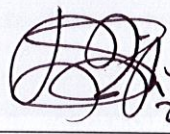
Ser	Name of the Item/ Equipment	Qty (Set)	Capacity/Type/Rating/Brand	Required Feature
26.	Marine Foghorn	03	Marine Foghorn complete set Brand : To be mentioned Model : To be mentioned Country of origin: Japan Country of Manufacturer: To be mentioned This will be used for navigational purpose to produce a clear, sharp tone of unvarying intensity under all weather conditions regardless of time between blasts as per Convention on the International Regulations for Preventing Collisions at Sea (COLREGs), 1972 and appropriate control device for producing desired sound signals will be incorporated.	Each set comprising of: 1) Standard accessories 2) Spare parts. 3) Standard Installations Materials. 4) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
27.	Aneroid Barometer	03	Aneroid Barometer complete set Brand : To be mentioned Model : To be mentioned Country of origin: Japan Country of Manufacturer: To be mentioned	Each set comprising of all required accessories.
28.	Marine Chronometer	03	Marine Chronometer complete set Brand : To be mentioned Model : To be mentioned Country of origin: Japan Country of Manufacturer: To be mentioned	Each set comprising of: 1) Standard accessories 2) Spare parts. 3) Standard Installations Materials. 4) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
29.	Deck Watch	03	Deck watch complete set Brand : To be mentioned Model : To be mentioned Country of origin: Japan Country of Manufacturer: To be mentioned	Each set comprising of all required accessories.
30.	Clinometer	06	Clinometer complete set Brand : To be mentioned Model : 911 Country of origin: Germany Country of Manufacturer: BARIGO	Each set comprising of all required accessories.
31.	Wet And Dry Thermometer	06	Wet and Dry Thermometer complete set Brand : To be mentioned Model : To be mentioned Country of origin: Japan Country of Manufacturer: To be mentioned	Each set comprising of all required accessories.
32.	Max- Min Thermometer	06	Max- Min Thermometer complete set Brand : To be mentioned Model : To be mentioned Country of origin: Japan Country of Manufacturer: To be mentioned	Each set comprising of all required accessories.
33.	Portable Boat Compass	03	Portable Boat Compass complete set Brand : To be mentioned Model : To be mentioned Country of origin: Japan Country of Manufacturer: To be mentioned	Each set comprising of: 1) Standard accessories 2) Spare parts. 3) Standard Installations Materials. 4) Operation Manual, Catalogue, Brochure and Installation manual with the offer.

Ser	Name of the Item/ Equipment	Qty (Set)	Capacity/Type/Rating/Brand	Required Feature
34.	Flashing Light Signaling Arrangements (Omni Directional)	06	Flashing light signaling arrangements (Omni directional) complete set Brand : To be mentioned Model : To be mentioned Country of origin: To be mentioned Country of Manufacturer: To be mentioned	Each set comprising of: 1) Standard accessories 2) Spare parts. 3) Standard Installations Materials. 4) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
35.	Signal Projector/ Search Light	09	Signal projector/ Search light (Marine military version, 500W, 12 Inches) complete set Brand : To be mentioned Model To be mentioned Country of origin: Netherlands Country of Manufacturer: Den Han, Netherlands	Each set comprising of: 1) Standard accessories 2) Spare parts. 3) Standard Installations Materials. 4) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
36.	Morse Signal Light	03	Morse Signal Light complete set (as per international maritime regulation and appropriate category of naval ship standard. All said lights will be connected to the signal light control panel installed in the Bridge.) Brand : To be mentioned Model To be mentioned Country of origin: To be mentioned Country of Manufacturer: To be mentioned	Each set comprising of: 1) Standard accessories 2) Spare parts. 3) Standard Installations Materials. 4) Operation Manual, Catalogue, Brochure and Installation manual with the offer.
37.	Signal Light	06	Signal Light complete set (as per international maritime regulation and appropriate category of naval ship standard. All said lights will be connected to the signal light control panel installed in the Bridge.) Brand : To be mentioned Model To be mentioned Country of origin: To be mentioned Country of Manufacturer: To be mentioned	Each set comprising of: 1) Standard accessories 2) Spare parts. 3) Standard Installations Materials. 4) Operation Manual, Catalogue, Brochure and Installation manual with the offer.

11. Standard necessary accessories, Standard installation materials, Spare parts, Software, Kit, Wiring diagram, Connection drawing, System diagram, Certificate, Design-drawings, Documentation etc : The class notations of the ships are as follows: X100A1 NS3 Landing Craft, SA3 [X] LMC. Any items not specified in this technical specification but essential to operate the supplied equipment's/ items as per Bangladesh Navy and/ or class requirement are also under the scope of supply of the Supplier without adding any cost.

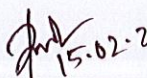
12. Documents : a. 01 (one) set of Operation and maintenance manual, Maintenance management system documents, Workshop level repair manual, Parts catalogue and Colored PIL, Electric-electronic and system circuit diagrams including fault finding flow charts, Installation drawing etc will be provided with the offer.
b. The supplier will provide 09 (Nine) sets of Operation and maintenance manual, Maintenance management system documents, Workshop level repair manual, Parts catalogue and Colored PIL, Electric-electronic and system circuit diagrams including fault finding flow charts, Installation drawing etc of above mentioned item in English during delivery of item.

13. Certificate : a. Type Approval certification issued by a Recognized Body (other Classification Society, Flag administration or Certification Body) is to be provided with item during delivery.
- b. Supplier will also provide Maker's Certificate of Conformity in accordance with Marine Equipment Directive (MED) Certification.
14. Installation Supervision : Supplier will provide all necessary support by Email/ WhatsApp/ Zoom/ Phone Call during installation of the item. Physical presence during installation of the system is not required. But before test-trial and commissioning, supplier/ supplier nominated engineer will check the installation work and subsequently will complete the test, trial and commissioning for 03 vessel.
15. Test-Trial and Commissioning : Local agent/supplier nominated engineer will be fully responsible for satisfactory test, trial and commissioning for 03 vessel.
16. Training : 02 (Two) days onboard training of item is to be provided per ship by supplier/ supplier nominated Engineers.



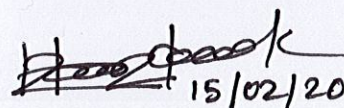
23/02/2028

SUBRATA KUMAR MAJHI
Executive Engineer
Project Officer (LCT)



15.02.2024

DEBABRATA MONDAL
Deputy Chief Naval Architect
OIC (R&D)



15/02/2024

MD. HASANUZZAMAN TAREK
Deputy Chief Engineer
OIC (Military Products)

DEPUTY GENERAL MANAGER
Design & Planning Dept.



capt 15 Feb 24

MD JULHASH UDDIN AHMED
Captain BN
General Manager (D & P)