

হাই-ড্রাগ্রাফি পরিদণ্ড-রর মতামত

26. **Hull Mounted Multi-Beam Echo Sounder.** One hull mounted Multi-Beam Echo Sounder (MBES) has to be provided. The offered MBES should fulfill following characteristics:

- a. **Brand/Model.** To be mentioned.
- b. **Country of Origin.** USA and European Countries.
- c. **Country of Manufacturer.** USA or European Countries (Manufacturer should be ISO or equivalent certified).
- d. **Date of Introduction in the Market.** To be mentioned.
- e. **Year of Manufacture.** 2017 or later.
- f. **Basic Composition.** The MBES should be comprised of the following main units:

- (1) Operator's station with real time data display window.
- (2) Helmsman display.
- (3) Transceiver Unit.
- (4) Transducer.
- (5) Positioning System.
- (6) Motion Sensor for position, attitude (roll, pitch and heading) and heave measurement.
- (7) Sound Velocity Profiler.
- (8) Data acquisition and processing software
- (9) Data processing work station
- (10) All accessories for installation.

g. **Technical Specifications.**

(1) **Performance Requirements.**

Ser	Description	Requirement
1	Transducer Dimension and Weight	Light weight and small dimension is preferred. Detail dimension to be mentioned.
2	Depth Range	1 - 50m or more.
3	Swath coverage in Degree	140° or more.
4	Transducer Frequency	To be mentioned.
5	Number of ping per sec	To be mentioned.
6	Maximum sounding per ping	To be mentioned.
7	Depth Accuracy	Should be capable of complying special order survey as mentioned in SP-44 (latest edition) of IHO. Detail to be mentioned.
8	Minimum Beam Width	a. Along track: 1.5° b. Across track: 1.5°
9	Beam pattern (Equiangular/Equidistant.)	To be mentioned. Both equiangular and equidistant option preferable.
10	Beam Stabilization	Beam to be stabilized. Detail to be mentioned.
11	Motion Sensor	
	a. Motion Compensation	Motion compensation should be done in real time. Brand, model and different components of the offered Motion Sensor is to be mentioned.
	b. Different component of the Motion Sensor should have following accuracy:	

	(i) Position	To be mentioned both for differential and normal mode.
	(ii) Roll and Pitch	At least 0.02°.
	(iii) Heading	At least 0.05°.
	(iv) Heave Accuracy	At least 5 cm.
12	Sound Velocity Profiler	To be offered along with all required accessories. Detail specification is to be mentioned in the offer.
13	Interfaces	Should be capable of interfacing standard DGPS Receivers (i.e. Hemisphere, Trimble brand, etc). Standard data acquisition and processing software like HYPACK, HYSWEEP, CARIS HIPS & SIPS should be compatible with the system. Detail to be mentioned in the offer.
14	Maximum sea state condition for operation	Should be at least 3 or more.

(2) **Positioning System.** The offered system should be compatible with shore based MF Reference Stations, SBAS, DGNSS etc.

(3) **Operational Requirements.**

i. The system performance will not be affected by deltaic condition of Bangladesh coast which is heavily laden with sediment. The performance should not also be affected by the turbulence of coastal water where there are melange of sea and fresh water.

ii. The MBES transducers shall be well protected against damage by floating/submerge fishing nets/sticks or drowned objects at sea.

iii. The system shall be insensitive to electromagnetic and electrostatic disturbances. If there is any disturbances then that should be reduced by appropriate method.

(4) **Environmental Conditions.** The system should be robust enough to sustain rough sea condition and operate without any performance degradation under the following environmental conditions:

i. Freshwater, muddy sea water and water-oil-emulsions.

ii. Water temperatures: Between 10°C and +55°C.

iii. Sound velocity between 1480 m/sec to 1600 m/sec.

iv. Higher humid condition.

h. **Software Packages.**

(1) **Data Acquisition Software.** Latest version of HYPACK and HYSWEEP data acquisition software is to be provided.

(2) **Multibeam Data Processing Software.** Latest Version of CARIS HIPS and SIPS software is to be provided for Multibeam data processing.

(3) **Seabed Classification Software.** Necessary software for seabed classification is to be provided with the offer. Name and specification of the software is to be submitted.

j. **Data Backup Facilities.** Two portable hard drives with a capacity of minimum 5 Tera Bite (TB) each are to be provided. Brand and model is to be mentioned in the offer.

k. **Hardware.** All necessary hardware for satisfactory installation and performance of the MBES system are to be provided. Details description of the hardware such as computers, SV profiler, Motion Sensors, Positioning System etc are to be mentioned in the offer.

l. **Installation and Setting-to-Work.**

(1) **Installation Materials.** The installation material should be non-corrosive. All installation materials (underwater and above water) including special underwater paint, silicone gel, cable, socket, plugs etc should be provided by the supplier. Adequate length of the cable is to be supplied with the equipment so that the acquisition console can be fitted at ship's bridge. Detail is to be mentioned in the offer.

(2) **System Installation.** The transducer has to be installed in such a way that it is well protected against impact from fishing nets, floating objects, submerged obstacles, trawling gears etc. Therefore, suitable proven design of the arrangement is to be provided with the offer.

(3) **Other Requirements.**

i. Sensor alignment will be carried out by manufacturer's technical expert with their appropriate tools and appropriate method.

ii. After installation, the MBES system should be calibrated for roll, pitch, latency and heading offsets by the manufacturer's technical expert using proven method.

iii. All other installation including electronic components and system hardware should be protected against shocks and vibrations.

m. **Power Supply.** Necessary power supply should be arranged from the boat. Continuous supply should be made through UPS. The detail description of continuous power supply solution is to be provided with the offer.

n. **Optional Items.** List of optional items which are nice to have is to be provided with the offer. However, the 100% performance of MBES should be achieved without those optional items. Prices of optional items which are nice to have are to be quoted separately.

p. **Tools.** Tools required for servicing and maintenance are to be supplied with the MBES. List of such tools to be mentioned in the offer.

q. **Standard Accessories.** Standard accessories must include every item and accessories, which are essential to install and operate the MBES with it's full capacity, whether those are mentioned in this specification or not.

r. **Documents.** The documents to be submitted with the offer shall include:

- (1) Two sets of original Catalogue/Brochure in English.
- (2) List of Standard Accessories.
- (3) List of Optional Accessories.
- (4) List of Installation Materials.
- (5) List of spares parts for 5 years.
- (6) Manufacturer's authenticity certificate
- (7) Certificate of assurance for minimum 10 years supply of spares.
- (8) List of tools required for servicing and maintenance.

s. **Manuals/Drawings.** Following manuals are to be supplied with each of the equipment:

- (1) Two sets operating and technical manual in English.
- (2) Parts Catalogue.
- (3) Detailed installation Diagrams.

t. **Condition of MBES while Supplying.** The offered MBES must be brand new and in operational condition.

u. **Training.** Six BN personnel for 05 working days would be trained by the manufacturer engineer or by a person certified by the manufacturer to be adequately qualified and experienced on the system for troubleshooting and maintenance in Bangladesh. The training should cover the following:

- (1) Rigging techniques and function of all individual components.
- (2) Periodical maintenance, fault findings and its rectification.
- (3) Theoretical and practical training on calibration and data acquisition.
- (4) In-depth training on data processing, transferring and archiving.
- (5) Any other topics as deemed necessary.

Note: The supplier should provide two copies of supporting manuals for the above mentioned topics in English. Training should be conducted by experienced trainer(s) having in-depth knowledge on data acquisition, processing and maintenance. The name and detail profile of the trainer is to be submitted with the offer.

27. **Hull Mounted Single Beam Echo Sounder.** One hull mounted precision Single Beam Echo Sounder (SBES) has to be offered for each of the boat. The offered SBES should fulfill following characteristics:

- a. **Brand/Model:** To be mentioned.
- b. **Name and address of the Manufacturer:** To be mentioned (address, telephone, facsimile number, email addresses are to be mentioned).
- c. **Country of Origin:** USA/Canada/European Countries.
- d. **Date of Introduction in the Market:** To be mentioned.
- e. **Year of manufacturing:** 2017 or later.
- f. **Basic Composition:** The Echo sounder should be comprised of the following main units:
 - (1) Hull mounted transducer assembly.
 - (2) Digital display unit, recording unit and other accessories.
- g. **General Features:** The Echo Sounder will contain the following features:
 - (1) Robust in design and construction.
 - (2) Provision for interfacing with GPS & DGPS.
 - (3) Provision for interfacing with heave compensator unit.
 - (4) Recording of digital data.
 - (5) Event mark with position, date, time, & depth.
 - (6) Self check functions.
 - (7) Automatic Gain Control.
 - (8) Both Auto and Manual phasing.
 - (9) Annotation functions with built-in Clock and Calendar.
 - (10) Digital Display.
 - (11) Audio alarm when exceeding/falling short of pre-set depth.
 - (12) Provision for sea bottom layer classification.
- h. **Hull mounted Transducers:** Hull mounted transducer assembly to be provided:

<ol style="list-style-type: none"> (1) <u>Size</u> (2) <u>Weight</u> (3) <u>Associated Fittings</u> (4) <u>Transducer Cable</u> 	<p>: Height, Width & Depth to be mentioned.</p> <p>: To be mentioned.</p> <p>: Associated fittings for hull mounted installation of transducer to be provided along with detail list.</p> <p>: As required from survey operation room to transducer.</p>
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- j. **Technical Parameter**

- (1) **Frequency.** Dual channel, high and low frequency, which can be used simultaneously and capable of sea bottom layer classification.
- (2) **Measuring range:** 0.5-100m or more in Northern Bay of Bengal area.
- (3) **Measuring Accuracy:** At least 0.01m \pm 0.1% of the depth. IHO Specification (S-44, 5th Edition) to be complied.
- (4) **Recording.** Digital data recording system.
- (5) **Minimum Detection Range :** At least 0.5 meter (To be mentioned).
- (6) **Bottom tracking algorithms:** To be mentioned.
- (7) **Interfacing:** Echo Sounder will be interfaced with Hydrographic data acquisition systems HYPACK. Necessary accessories & driver/software for interface to be provided. Such accessories with Name, Model number, Pattern number, Manufacturer address etc. to be listed.
- (8) **Beam Angle:** The echo sounder must have a variable beam angle options both in high and low frequencies.
- (9) **Output Power.** Minimum 350 watt.
- (10) **Data Input:** The echo sounder must have heave, pitch, roll and position data input capacity.
- (11) **Real Time Data Display:** Colour display, enable to show depth, along the track, slope and layer detection in both high and low frequencies with in built data logger preferably a laptop with IP 56. Brand and model of the laptop has to be mentioned.
- (12) **Data Output Option:** Raw data and heave, pitch and roll corrected data.
- (13) **Data Input/Output Format:** NMEA.
- (14) **Data Storage:** All necessary devices like Hard disk, DVD or other accessories to be provided for data backup.
- (15) **Multiple Functions:** Provisions of supporting “*multi pulse function*” for better accuracy.
- (16) **Correction Capability:** The echo sounder must have the capacity to correct heave, pitch and roll corrections.

k. **Power Requirement.**

- (1) **Supply voltage:** Provision for 220 V AC, 50- 60 Hz, Single Phase & 24 V DC power supply.
- (2) **Average Power Consumption:** To be mentioned.

l. **Environmental Conditions:** The echo sounder will be used in and around Bangladesh coastal area where sea water is muddy and tropical environment persists.

- (1) **Operating Temperature** : To be mentioned (suitable for sub-tropical region).
- (2) **Operating Humidity** : To be mentioned (suitable for sub-tropical region).

m. **Operating Condition of Echo Sounder while Supplying:** The offered set must be brand new and in operational condition.

n. **Tools:** Tools required for servicing and maintenance are to be supplied with each Echo Sounder. List to be provided.

p. **Catalogue/Brochure:** Two sets of original Catalogue/Brochure in English to be supplied with the offer.

q. **Standard Accessories:** Standard accessories must include every item and accessories, which are essential to install and operate the Echo Sounder, whether those are mentioned in the specification or not.

r. **Manuals/drawings:** Following manuals are to be supplied with each of the equipment:

- (1) Two sets operating and technical manual in English.
- (2) Parts Catalogue.
- (3) Installation Diagrams.

s. **Installation Materials:** All installation materials like cables, Junction box, Transducer plug kit, Transducer cable, Power cable, socket & all related items are to be provided.

t. **Documents.** Following documents are to be submitted with the offer:

- (1) Original Catalogue.
- (2) List of Standard Accessories.
- (3) List of Optional Accessories.
- (4) User list.
- (5) Manufacturer's authenticity certificate.

28. **DGPS Receiver.** One DGPS Receiver is to be provided for each of the boats. The offered DGPS should fulfill following characteristics

a. **Model/Brand.** To be mentioned. The offered brand/model should be used by various national hydrographic offices around the world. List of such national hydrographic offices and other user's is to be provided with the offer.

b. **Country of Origin.** USA/Japan/Canada / European Countries (name of the country to be mentioned).

c. **Country of Manufacture.** To be mentioned.

d. **Name of the Manufacturer.** The manufacturer is to be ISO or equivalent certified. Name and full address of the manufacturer is to be mentioned.

e. **Year of Manufacturing.** 2017 or later.

f. **Scope of Supply.** The DGPS Receiver will be supplied along with all accessories as per the specification mentioned in this document.

g. **Basic Composition.** The DGPS Receiver should comprise following main units:

- (1) Receiver unit / data display unit.
- (2) Antenna and antenna cable.
- (3) Data communication cable.

h. **Technical Specification.** The equipment should have following specification:

(1) **General Specification.**

Ser	Description	Requirement
(1)	Name	DGPS Receiver.
(2)	Size and weight	To be mentioned.
(3)	Display type and size	Should have built in display and keyboard. Display type and size to be mentioned.
(4)	Number of channel	12 or more channels. Higher channel is preferable.
(5)	Receiver Type	a. GNSS Multi frequency Receiver. b. GLONASS and Galileo signal reception capability (optional).
(6)	Differential correction	a. <u>Differential Correction.</u> Should be capable of receiving DGPS correction message from the following sources:

Ser	Description	Requirement
		(i) IALA Beacon Station (283.5 kHz to 325 kHz). (ii) SBAS (WAAS, EGNOS etc). b. <u>RTK Signal Reception</u> . BN is using Trimble SPS 855 and Leica Viva 10 RTK sets. The offered receiver should be capable of receiving RTK signals of those equipment.
(7)	Accuracy	<u>DGPS Positioning</u> a. At least sub-meter differential accuracy. <u>RTK Positioning</u> a. Horizontal: at least 10cm. b. Vertical: at least 15 cm vertical.
(8)	Time to first fix	To be mentioned.
(9)	Position update	To be mentioned.
(10)	Casing of the DGPS	Should be robust, dust proof, waterproof and shock resistant.
(11)	Datum	WGS-84. It should have the option of selecting other different datum's manually.
(12)	Length of the antenna cable	At least 25 meter.
(13)	Antenna type and dimension	Antenna type, quantity, dimension etc. to be mentioned clearly in the offer.
(14)	Operating temperature	-10°C to +50°C.
(15)	Humidity tolerance	At least 95%.
(16)	Ingress Protection	IP66 or more.

(2) **Communication Specification**. Following communication criteria should be available:

Ser	Description	Requirement
(1)	Antenna connector	Both GPS and DGPS antenna connectors.
(2)	Serial Ports	At least two RS-232/RS-422 serial ports.
(3)	Baud Rates	To be mentioned.
(4)	Correction input/output protocol	RTCM SC-104.
(5)	Data input/output protocol	NMEA 0183 (Latest version).
(6)	Raw data	RINEX format availability in addition to proprietary format preferred.
(7)	Data Cable	Standard length of cable to be provided. The offered length to be mentioned.
(8)	Auxiliary port	To be mentioned.

j. **Power supply**. To be powered by 8 to 36 V DC. If AC power supply option is available then that is to be mentioned and one converter (AC to DC) should be included in the offer.

k. **Interfaces**. The offered DGPS Receiver should be capable of interfacing with HYPACK hydrographic data acquisition software used by BN.

l. **Manuals/Drawing**. Following manuals are to be supplied with the equipment:

- (1) Operating manual in English.
- (2) Technical manual in English (If any).
- (3) Parts catalogue.
- (4) Installation diagram.

m. **Catalogue/Brochure**. Original catalogue/brochure in English is to be supplied with the offer.

n. **Tools**. Tools required for servicing and maintenance are to be supplied for each DGPS Receiver. List of such tools to be provided in the offer. Price of tools to be quoted separately.

- p. **Standard Accessories/Essential Items.** Standard accessories must include every item and accessories which are essential to install and operate the DGPS Receiver, whether those are mentioned in the specification or not. A list of such essential items with item wise price must be included in the quotation.
- q. **Installation Materials.** Installation is to be done by the supplier. All installation materials like cables, junction box, power cable, socket etc are to be included in the offer.
- r. **Optional Item.** Optional items (if any) are to be quoted separately, indicating item wise price.
- s. **Operational condition of set while Supplying.** The offered set must be brand new and in operational condition.

29. **Sound Velocity Profiler.** One Sound Velocity Profiler of the following description is to be provided for each of the Boat:

- a. **Brand/Model.** To be mentioned.
- b. **Country of Origin.** USA/European countries (Name of the county to be mentioned).
- c. **Year of Manufacturing.** 2017 or later.
- d. **Measuring Sensors.** The equipment should have at least sound velocity, temperature, salinity and pressure measurement sensors with following specifications:

(1) **Sound Velocity.**

Ser	Description	Requirement
1.	Range	1450-1600 m/sec
2.	Accuracy	+ 0.05m/sec or better.
3.	Resolution	To be mentioned.
4.	Type of Sensor	To be mentioned.

(2) **Temperature.**

Ser	Description	Requirement
1.	Range	-2°C to + 32°C.
2.	Accuracy	+ 0.05°C or better.
3.	Resolution	To be mentioned.
4.	Sampling Rate	To be mentioned.
5.	Type of Sensor	To be mentioned.

(3) **Pressure.**

Ser	Description	Requirement
1.	Range	0-100m.
2.	Accuracy	+ 0.1% of full scale or better.
3.	Resolution	To be mentioned.
4.	Sampling Rate	To be mentioned.
5.	Type of Sensor	To be mentioned.

(4) **Conductivity.**

Ser	Description	Requirement
1.	Range	0-70mS/cm.
2.	Accuracy	+ 0.02mS/cm or better
3.	Resolution	To be mentioned.
4.	Sampling Rate	To be mentioned.
5.	Type of Sensor	To be mentioned.

- e. **Data Recording.**

(1) **Memory.** Total number of data points that can be stored in the memory is to be mentioned in the offer. More memory capacity will be preferred.

(2) **Sampling Mode.** The equipment should have following sampling mode of operation:

- (1) Continuous.
- (2) Profile (with change of pressure/depth).
- (3) Conditional.

If other sampling modes available apart from those stated above then those are to be mentioned in the offer.

(3) **Synchronization** : Should have the true synchronous sampling for all three sensors.

f. **Communication.** The equipment should have user configurable communication setting option. Sufficient length of data cable is to be offered with the equipment. Length and specification of the data cable is to be mentioned in the offer.

g. **Interfaces.** The recorded data of the Sound Velocity Profiler should be compatible with "Hydrographic Data Acquisition System" like HYPACK etc. Necessary interfacing facilities to be provided. The output data would be used for the MBES of the boat. As such the sound velocity profiler data should be compatible and effectively able to be fed into the offered MBES system.

h. **Software.** Software for data acquisition and processing is to be included with the offer. The software should be Window based and should allow configuration for data sampling. It should also allow visualization of extracted data in graphical and tabular form. The detail description of the software is to be provided with the offer.

j. **Power supply.** The equipment should have integrated power supply option. The battery should be replaceable. It should be common in nature and readily available in Bangladesh local market.

k. **Mechanical Details.** To be mentioned. The physical specifications like size, dimension, weight, construction material etc. of the equipment is to be provided in details in the offer.

l. **Tools.** Tools required for servicing and maintenance are to be supplied with the equipment at the time of delivery.

m. **Catalogue/Brochure.** Two sets original Catalogue/Brochure in English to be supplied with the offer.

n. **Manuals.** Following Manuals in English are to be supplied with the equipment at the time of delivery:

- a. Two sets Operating Manual.
- b. Two sets Technical Manual.
- c. Parts Catalogue.

p. **Rigging Materials.** All rigging materials such as instrument suspension bar/weight, lowering flexible rope etc are to be included in the offer.

q. **Operational Condition of set while Supplying.** The offered set must be brand new and in operational condition.

r. **Standard Accessories.** Standard Accessories must include every item and accessories, which are essential to install and operate the Sound Velocity Profiler, whether those are mentioned in the specification or not. A list of such essential accessories must be included in the quotation.

-নী অপা-রশন্স পরিদপ্ত-রর মতামত

- ক। **Article 21 (c)(3)**। বোটদ্ব-য় DGPS স্থাপিত হ-ব বিধায় GPS এর পরিব-র্ত DGPS লিপিবদ্ধ করা যে-ত পা-র।
- খ। **Article 18 (c)**। saloons শব্দটি পরিবর্তন ক-র Dining Space দ্বারা প্রতিস্থাপন করা যে-ত পা-র।
- গ। **Article 15 (h)**। bouncy শব্দদ্বয় buoyancy দ্বারা প্রতিস্থাপ-নর মাধ্য-ম সং-শোধন করা যে-ত পা-র।
- ঘ। **Article 20 (c)**। 'Therefore, adequate the material quality is maintained as such' বাক্যটি বোধগম্যতা-ব সং-শোধন করা যে-ত পা-র।
- ঙ। **Article 16 (l)**। 'paint to be very much good looking' এর পরিব-র্ত 'paint to be as per approved paint scheme' -লখা যে-ত পা-র।

-নী প্র-কৌশল পরিদপ্ত-রর মতামত

সকল বিষয় উপ-যোগী ব-ল মতামত পোষন।

বা-জট পরিদপ্ত-রর মতামত

- ক। স্থানীয় ইয়া-র্ড তৈরি করা হ-ল স্থানীয় মুদ্রায় এবং বিদেশে ইয়ার্ডে তৈরি করা হলে বৈদেশিক মুদ্রায় দরপত্র দাখিল করা হ-ব। এ-ত দু ধর-নর মুদ্রায় (বৈ-দেশিক মুদ্রা নিয়ত পরিবর্তনশীল বিধায়) আর্থিক মূল্যায়ন জটিল হ-ব।
- খ। উ-ল্লখ্য যে, বি-দেশী Shipbuilder থেকে বোটদ্বয় ক্রয়/নির্মাণ করা হলে এবং বৈদেশিক মুদ্রায় এলসির মাধ্যমে ব্যয়ভার বহন করা হলে জরিপ বোট দুইটি ক্রয়/নির্মাণের ব্যয়ভার LC এর মাধ্য-ম এক অর্থ বছ-র পরি-শোধ কর-ত হ-ব।
অপর দি-ক, দেশীয় Shipbuilder এর মাধ্যমে বোটদ্বয় ক্রয়/নির্মাণ করা হলে এবং বোটদ্বয়ের ব্যয়ভার দেশীয় মুদ্রায় পরি-শোধ করা হ-ল দুই অর্থ বছ-রর প্র-য়োজন হ-ব। এ ক্ষেত্রে , একাধিক অর্থ বছর হওয়াতে সশস্ত্র বাহিনী ক্রয় নীতিমালা অনুসা-র অর্থ মন্ত্রণাল-য়র পর্বানুমতি/সম্মতি গ্রহণ কর-ত হ-ব যা সময় সা-পক্ষ হ-ব।
- ২। তাছাড়া, Tender Specification এর Terms of Payment নিম্নলিখিত পরিবর্তন/সং-শোধন করা হ-ল কার্যক্রমের সাথে বিল পরিশোধ সুবিধাজনক হবেঃ
- ক। Para 37, Terms of Payment এর Terms and Condition এ -কান প্রকার Advance ও part Payment ব্যতিরে-ক সরাসরি ৮০% মূল্য -বাটদ্বয়ের Delivery প্রদান সা-পক্ষ পরি-শোধ করা যে-ত পা-র।
- খ। অবশিষ্ট ২০% মূল্য বোটদ্ব-য়র স-ন্তোষজনক Test/Trial ও Acceptance এর পর প্রদান করা যে-ত পা-র।

সিগন্যাল পরিদপ্ত-রর মতামত

- (ক) অনু-চ্ছদ-২১(c7) 01xVHF with hand set. এর স্থ-ল 01 x Complete Marine VHF Transceiver (Commercial) অন্তর্ভুক্ত করণ।
- (খ) 02 x VHF Walkie Talkie Set with Spare Battery অন্তর্ভুক্ত করতে হবে।

নৌ অস্ত্র ও বিদ্যুৎ প্র-কৌশল পরিদপ্ত-রর মতামত

- (ক) Year of Manufacture 2016 এর স্থ-ল Year of Manufacture 2017 অন্তর্ভুক্ত করণ।

-টেকনিক্যাল ষ্টোরস পরিদণ্ড-র মতামত

(ক) জরিপ বোট ব্যবহৃত বিভিন্ন মেজর ইকুইপমেন্ট ক্রয়ের পরবর্তী ১০ বছর প্রয়োজনীয় খুচরা যন্ত্রাংশ সরবরাহ এবং প্রতি বছর ৫% (অনধিক ১০%) এর অধিক হার মূল্য বৃদ্ধি করা যা-ব না ম-র্ম সরবরাহকারীর সা-থ চলতিদ-রর একটি শর্ত অন্তর্ভুক্ত করা যেতে পারে।

(খ) জরিপ বোট ব্যবহৃত ইকুইপ-মেন্টর খুচরা যন্ত্রাংশ-র পার্ট নম্বর অবশ্যই আন্তর্জাতিকতা-ব স্বীকৃত হ-ত হ-ব যা-ত ক-র ভবিষ্য-ত একাধিক দরপত্রের মাধ্যমে প্রতিযোগিতা মূল্যে যন্ত্রাংশ ক্রয় করা সম্ভব হয়। এছাড়াও, জরিপ বোট ক্রয়ের ক্ষেত্রে সকল পন্যের মূল্য আলাদাভাবে প্রদান করার বিধান রাখা প্রয়োজন যাতে করে ভবিষ্যতে আইটেম ক্রয়ের ক্ষেত্রে তা রেফা-রেন্স হিসা-ব বি-বচনা করা যায়।

(গ) জরিপ বোটে ব্যবহৃত ইঞ্জিন ও জেনা-রটর Fuel Efficient কিনা তা নিশ্চিত করা প্র-য়োজন।