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ANNEX 'C' TO

TENDER NO 06.06.0000.275.07.185.24

DATED: 08 DECEMBER 2024

**TENDER TERMS AND CONDITIONS FOR PROCUREMENT OF 17 X L/I SPARES FOR 02 X VSAT HUB MANPACK (DP-4)**

**Technical Terms and Conditions:**

1. Offers are invited from the competent/ prospective bidders for supply of 17 X Line items spares for 02 X VSAT Manpack for the extension of existing BAF satellite network. Details of the items are given in Appendix 1 of Annex-C.
2. Authorization certificate is to be included with the offer as per tech spec clause no-03.
3. Each item should be brand new, unused and latest product. Bidder should mention the year of production of the offered items and it should not be earlier than 2024. Offer of refurbished item will not be considered for further evaluation.
4. In the offer, price of each line item is to be quoted separately.
5. The bidder is to submit original brochure/catalog with the offer. All technical data provided with the quotation must be supported by the submitted brochure/catalog.
6. Appropriate software/necessary programming kits/license (mentioned in Appendix A) must have to be provided with the items. Prices of the software/programming kits/license are to be quoted separately, if the same is/ are not provided free of cost (FOC).
7. The bidder shall have at least 5 years working experience on satellite communication system, and supply, installation, commissioning and maintenance of at least one VSAT network including HUB station. Bidder's qualification must necessarily be satisfied by relevant documentation such as client list, VSAT service provider with HUB license from BTRC/ competent authority (for foreign bidder), at least 10 client list with name, address, telephone number, and email addresses.
8. Bidder shall have local presence and service support team for maintenance and operational support for 24/7 or as and when required by BAF. Bidder will provide certificate in this regard.
9. The supplier is to offer all the items as a package. Lowest bidder will be determined on the basis of overall price of all the offered items. Offer of partial L/I will not be considered for evaluation.
10. All items must be suitable and compatible with the existing equipment (iDirect and CISCO) of VSAT HUB and terminal station used in BAF.
11. BAF may disqualify the offer of a bidder/ supplier who has previous record of poor performance, such as abandoning the works, not properly completing the contract, excessive delay to supply the contracted items, litigation history or financial failures.
12. BAF may disqualify any offered equipment/ item which model of equipment/ item has previous record of dissatisfactory performance during operation/ functional check in BAF.
13. Delivery of the items is to be completed within 10 months from the date of signing the contract.
14. Warranty period of each item shall be minimum one (01) year from the date of acceptance of the item and Certificate Receive Voucher action done by BAF. Supplier is to provide the warranty certificate during supply of the items.
15. If any item is found unsatisfactory/ unserviceable during inspection/ functional check by BAF, must be replaced within 30 days by the supplier free of cost. If any item becomes unserviceable within the warranty period, supplier must repair or replace the item within 30 days. Both ways freight and insurance charges shall have to be borne by the supplier.

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16. If the supplier fails to repair/ replace any item under warranty claim within the stipulated days as given above, then the warranty period would be extended by the number of days of delay in repairing/ replacing the item under warranty.
17. The items will be accepted after prompt and compatibility satisfactory acceptance check and functional test by BAF.
18. Any item having dissimilar model or description is to be mentioned clearly in the offer. In this regard proper fitness certificate/ document and compatibility of the item must be enclosed with the offer. Any change in model or description must be settled before signing the contract. There will be no scope of changing the offered part number or description after signing the contract.
19. Physical inspection of the equipment will be carried out at 201 MU BAF. Functional check of the equipment will be carried out at BAF Communication Unit (VSAT HUB Station) in presence of supplier's representative. Any item found unserviceable/improper during inspection/ functional check is to be replaced with serviceable one by the supplier within 30 days.
20. The Bidder has to mention the full details of accessories in the submitted brochure.
21. Prior permission from BTRC to import the RT sets is to be done by the supplier. In this regard, BAF will provide end user certificate to the supplier (if required).
22. BAF reserves the right to increase/decrease the quantity of item depending on the cost and requirement.
23. Installation. The supplier is to install the VSAT Manpack with ancillary items at BAF premises (155 UASU BAF). However, the site may be changed as per Air Headquarters' decision. The equipment is to be handed over to BAF in serviceable and operational condition. Final acceptance will be given after two weeks satisfactory operation at installation site.
24. Local Training. The supplier is to arrange 05 days local training for 10 BAF personnel at VSAT HUB Station on operation, programming and maintenance of the items. Price of the training is to be quoted separately.
25. Offer must remain valid up to 30 June 2025. Within the validity, withdrawal of offer or un-willingness to sign the contract by the bidder will not be accepted and in such cases, actions would be taken against the supplier as per DGDP rules.
26. Payment Terms. 100% payment of the items will be released as under:
  - a. 90% payment will be released on satisfactory acceptance of 100% items by BAF on inspection/ functional test (as applicable) and on production of CRV from 201 MU BAF.
  - b. Rest 10% payment will be paid after expiry of warranty period.
27. In case of import of items from abroad, the same may be booked in the name of OC 201 MU BAF, Dhaka Cantonment, Dhaka-1206 and cleared from port by BAF as defense goods exempted of customs duties and taxes (as applicable). Keeping this in view, the bidder should quote reasonable price for the items accordingly. Port handling charges (if any) are to be paid by the supplier.
28. Compliance of tender terms and conditions should be mentioned in the quotation by the bidder as per sequence above.
29. Any other terms and conditions not covered here will be as per DGDP rules and regulations.

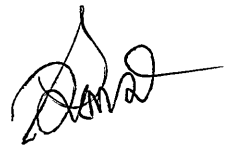
**Miscellaneous Terms and Conditions:**

30. The bidder must mention the full address including Telephone number, Fax number and e-mail address. The bidder should also mention the name and full address (including Telephone number, Fax number and e-mail address) of the local agent (if any) in the offer.
31. Item with changed/dissimilar part no/description (if any) is to be mentioned during submission of offer.
32. If any change is required in contract /LC due to fault of supplier, all expensive shall have to be borne by the supplier.



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33. Normally transshipment is not normally allowed but if the bidder needs transshipment then they are to mention in the offer about their requirement. In case of such requirement, the transshipment will only be allowed under single AWB/BL.
34. The bidder is to mention the country of origin, country of manufacture and port of shipment of the items in the offer.
35. Increase of price at any stage after submission of offer will not be accepted by BAF. The offered unit price and total price against each item must be correct. If the unit price or total price of any item is found incorrect, that unit price or total price will be taken into consideration which will be benefited to BAF.
36. The bidder is to quote FCA/ FOB cost and freight charges (by both air and sea) separately & clearly in financial offer. If freight is not quoted separately for each item, total freight will be distributed against each item based on its proportionate FCA/FOB cost of all items. Any price/cost quoted in the pages of quotation other than financial offer will not be considered.
37. For failure to supply the contracted goods in time, DGDP/BAF may cancel the contract with necessary punitive action.
38. Offer must remain valid up to 30 June 2025 from the date of opening the tender. Within the validity of the offer, withdrawal of offer or unwillingness to sign the contract by the bidder will not be accepted and in such cases action would be taken against the principal supplier and local agent as per DGDP rules.
39. Delivery schedule mentioned in the tender specifications may be changed by DGDP/BAF due to delay in concluding the contract. In this case, the contract would be signed within offer validity period. DGDP/BAF also reserves the right to get the offer validity extended with the consent of the supplier.
40. In case of import of items from abroad, the same may be booked in the name of OC 201 MU BAF, Dhaka Cantonment, Dhaka-1206 and cleared from port by BAF as defense goods exempted of customs duties and taxes (as applicable). Keeping this in view, the bidder should quote reasonable price for the items accordingly. Port handling charges (if any) are to be paid by the supplier.
41. Part shipment & Part payment : Not allowed.
42. **Payment Terms.** 100% payment of the items will be released as under:
- 90% payment will be released on satisfactory acceptance of 100% items by BAF on inspection/ functional test (as applicable) and on production of CRV from 201 MU BAF.
  - Rest 10% payment will be paid after expiry of warranty period.
  - 100% cost of training will be paid on completion of training and on production of training completion certificate by the competent authority of BAF.
43. AWB/ BL must be in the name of consignee.
44. Compliance of tender terms and conditions should be mentioned in the quotations by the bidders as per the above sequence.
45. Any other terms and conditions not covered here will be as per DGDP rules and regulations.



**LIST OF 17 X LINE ITEMS SPARE FOR 02 X VSAT MANPACK**

<b>1. VSAT MANPACK</b>	
a. General Description	(1). Total 02 x VSAT Manpack in different location of Bangladesh Air Force. (2). All the VSAT Manpack Terminal Stations must be capable to communicate with the existing Hub station of Bangladesh Air Force.
b. Capability of the System	Each unit should be capable of handling following features: (1). IP Telephone Connectivity (2). Data Connectivity (3). Video Conferencing (4). FAX Transmission
<b>2. Technical Parameters / specification</b>	
a. Carrier parameter:	Carrier parameter will be: (1). Bangabandhu Satellite-1(Position: 119° E (119.1°), Cospar number: 2018-044A, Orbit: GEO) Coverage area and ITU Satellite Region 3. (2). Frequency: Lower Ku band frequency of Bangabandhu Satellite-1 is to be used. (a) Data transmission and reception: (b) For Terminal Station: Each terminal station must be capable of handling minimum 50 Mbps downlink and 5 Mbps uplink data.
b. Operating Band	Must Support the Following: (1). Bangabandhu Satellite-1 Lower Ku Band Frequency. (2). Lower Ku Frequency (frequency: Transmit from 12.75 GHz to 13.25 GHz and Receive from 10.7 GHz to 11.45 GHz).
c. Modulation	Forward Carrier: up to 256 APSK in DVB-S2x Mode. Return Carrier: up to 16APSK/16QAM or higher in TDMA mode.
d. Encryption	All equipment must be designed as such that, it provides end to end encryption, AES 256 or better during transmission. Details of encryption type to be mentioned by the bidder.
e. Topology	The network should be of Star Topology.
f. Year of Manufacture (All Item)	Not earlier than one calendar year of the contract
g. Environmental Requirement:	(1). Environment: VSAT should be operable under extreme weather conditions like heavy rain/ winds/ temperature. (2). Wind Loading Operational Survival: To be mentioned. (3). Rain and wind (Operational): To be mentioned. (4). Temperature (Operational): Terminal Station: 0° to 50°C.



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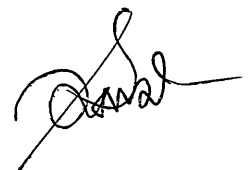
3. VSAT Manpack: The offer system must be compatible with BAF existing iDirect Hub system. Authorization Certificate by the manufacturer (Cisco, iDirect and other devices) needs to be submitted. Every kind of license should be perpetual.

**GENERAL SPECIFICATION**

a. Nomenclature	Manpack VSAT Terminal
b. Brand Name	Bidder is to mention
c. Make	Bidder is to mention
d. Model	Bidder is to mention
e. Country of Origin	USA/UK/EU/Canada/Japan/Australia
f. Country of Manufacture & Assembly	Bidder is to mention
g. Year of Manufacture	Not earlier than one calendar year of the contract
h. Name of Manufacturer with complete address (Office address, Telephone, Fax, Email and Web address)	Bidder is to mention
i. Name of Principal/ Assembler/ Supplier with complete address (Office address, Telephone, Fax, Email and Web address)	Bidder is to mention
j. Name of Local Agent with complete address (Office address, Telephone, Fax, Email and Web address)	Bidder is to mention
k. System Requirements	<p>a. Lower Ku Band Manpack VSAT Antenna with Baseband and Network Equipment to be installed and mounted on Manpack structure with necessary main and backup power supply system</p> <p>b. The antenna size should be within 0.8 to 1.2 meter</p> <p>c. The system must have auto tracking feature to be linked with Lower Ku Band transponder of Bangabandhu Satellite-1 (BS-1)</p> <p>d. The system must work with BAF existing/ Lower Ku Band VSAT Hub system</p> <p>e. The Antenna system should be fitted and transferrable in portable and Soft/hard transit cases</p>
l. Capability of the System	<p>Each unit should be capable of handling following features:</p> <p>a. IP Phone connectivity</p> <p>b. IP Trunking Connectivity</p> <p>c. Ethernet Data connectivity</p> <p>d. Video conferencing connectivity</p>
m. Power System	<p>Details to be mentioned on following:</p> <p>(1). Portable Power Station (Lithium ion) with at least 06 hours backup should be included with each terminal as standard. The Portable Power Station must support total power consumption of the complete system.</p>



	(2). The system should run from 220V AC and should comply with all existing power features of Bangladesh.
<b>4. TECHNICAL SPECIFICATION</b>	
a. Carrier Parameter	Carrier parameter will be: a. ITU Satellite Region 3 b. Frequency: Lower Ku band frequency of BS-1 (Rx: 10700-10950 & 11200-11450 MHz and Tx: 12750 -13250 MHz) c. Each terminal station must be capable of handling minimum 50 Mbps downlink and 5 Mbps uplink data upgradable without additional hardware /software/ license requirement
b. Frequency Band	Lower Ku Band Frequency of BS-1
c. Polarization	Linear Cross Pol. Details to be mentioned by bidder.
d. Power output with auto power control	Details to be mentioned by bidder
e. Modulation	16 APSK or higher (DVB-S2, DVB-S2X to be operable with ACM in Forward Link and MF-TDMA or MX-DMA in Return Link)
f. Encryption	End to end minimum AES 256 or above encryption during transmission. Communication to be secured between all Stations. Details to be mentioned.
g. Compression	System must provide IP header compression and payload compression technique. Details about the compression technique to be provided
h. Topology	The system shall support Star Network Topology. Link budget/Data sheet for transmission and reception to be submitted.
j. Portable Power Station	Details to be mentioned by bidder
<b>5. ANTENNA PARAMETERS</b>	
a. Antenna System	Lower Ku Band Man pack Antenna with built in antenna tuning system/unit, GPS, compass, motorized auto accusation/ auto tracking system and other units/elements/components as required for the full range system operation. All to be mounted on Man pack structure.
b. Antenna Size	The antenna size should be within 1.0 to 1.2 meter. Details to be mentioned
c. Antenna Feed Type	Linear, must be field replaceable
d. Antenna Feed TX/RX Frequency	Details to be mentioned by bidder
e. Polarization	Linear X-Pole Details to be mentioned
f. Cross-pol Isolation	Minimum 35 dB, details to be mentioned
g. VSWR	1:1.3 or better is preferable
h. Antenna Gain/ Mid-band Gain	Details to be mentioned by bidder
i. Reflector Material	Carbon/ Aluminum /Glass Fiber Reinforced
j. No of Antenna Petals	Details to be mentioned by bidder
k. Satellite Acquisition	Auto acquisition

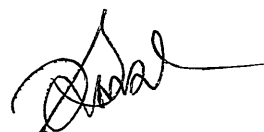


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l. Satellite Acquisition Time	Initial acquisition should be less than 2 minutes. Details to be mentioned by bidder.
m. Antenna XPD (on axis)	Details to be mentioned by bidder
n. Antenna Controller	Types and other details to be mentioned by bidder
p. Antenna Elevation Range	Details to be mentioned by bidder
q. Azimuth Range	Details to be mentioned by bidder
6. List of 17 X Line Items Spare for 02 X VSAT Manpack	

Ser No	Items Name	Item Description	Qty	Remarks
a.	VSAT Bundle with 1.2m Manpack Antenna System	Manpack auto tracking VSAT antenna with standard accessories and provisioning. Manufacturer: To be mentioned (a). 1.2 meter auto tracking Manpack VSAT antenna with full systems and accessories (b) 01 x VSAT Modem (iQ-Desktop+, iDirect) (c). 01 x License AES Encryption (d). 01 x 05 mbps iDirect pool license. (e). 01 x 4 Watt BUC (NJRC, NJT8316L or upgraded) (f). PLL LNB (Brand: NJRC, Model: NJR2842A1 or upgraded) (g). All required connectors, cable and accessories for VSAT Manpack are to be provided as per BAF requirement.	02 Ea	
b.	Laptop	Laptop Computer with ethernet port (Brand: HP/ Dell, core i7, 8GB RAM, 512 GB SSD) or upgraded	02 Ea	
c.	Switch	Cisco 24 port manageable PoE Switch (CBS350-24P-4G-EU or upgraded).	02 Ea	
d.	Wi-Fi	Mikrotik hAP ac <sup>3</sup> 5 GbE Port Dual-Band WiFi Router or upgraded	02 Ea	
e.	Cisco ATA	Gateway for 02 POTS type analogue CID Phone and Fax (ATA191-K9 or upgraded model supported with existing VSAT Hub Sta CUCM system) with 04 x Latest CUCM Enhanced perpetual license.	04 Ea	
f.	IP Phone	SIP type display Phone set (CP-3905 or upgraded) with Latest CUCM Enhanced perpetual license.	08 Ea	
g.	Media Converter	Fiber Optic Media Converter	08 Pr	
h.	UTP Cable	CAT-6 UTP Alston Cable	03 Box	
j.	RJ45 Connector	Micronet RJ45 CAT-6 Connector	100 Pc	
k.	Fiber Patch Cord (SC to SC)	5 meter Optical Fiber Patch Cord (SC to SC)	20 Ea	
m.	Fiber Patch Cord (SC to LC)	5 meter Optical Fiber Patch Cord (SC to LC)	20 Ea	

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n.	Ethernet Patch Cord	5 Meter CAT-6 Ethernet Patch Cord	30 Ea	
p.	Tools Box	Tools Box for VSAT installation (RS PRO or better).	02 Box	
q.	CID Phone	POTS type Analogue CID Phone, Brand: Panasonic	04 Ea	
r.	Fax Machine	Panasonic Analogue Fax Machine (Thermal paper supported FAX)	02 Ea	
s.	Portable power Station	700Wh capacity and 650W output or above Portable Power Station.	02 Ea	
t.	Industrial Multiplug	3 Core, 4 m 30 meter cable length with at least 05 Socket	02 Ea	



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