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25 January 2024

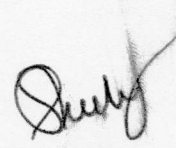
EVALUATION OF PROCUREMENT OF MECHANICAL MINE CLEARING SYSTEM (FLAIL TYPE)

Reference:

A. Army Headquarters, Engineer in Chief's Branch, Engineer Directorate letter number 23.01.901.055.02.192.02.23.01.24 Dated 23 January 2024 (Not to all).

1. Please be informed that Bangladesh Army is planning to procure Mechanical Mine Clearing System (Flail Type). Technical specification of the subject equipment has been vetted by Inspectorate of Vehicle & Engineering Equipment. Presently Group B & C countries also needs to be included with the General technical specification of Mechanical Mine Clearing System (Flail Type). In this regard, you are requested to provide offer, brochure, catalogue, technical/ training/ operational/ maintenance manuals and budgetary offers along with 100% updated original spare parts catalogue (Hard & Soft copy) etcetera (each in duplicate) for standardization of model of Mechanical Mine Clearing System (Flail Type). Offered models should be compatible with general technical specification attached herewith and to be submitted directly to Army Headquarters, Engineer in Chief's Branch, Engineer Directorate, Dhaka Cantonment by **31 January 2024** with intimation to this office. You are also requested to provide enlistment certificate of DGDP along with technical offer. Lack of any information will disqualify the offer.

2. Forwarded for your information and necessary action please.



SHEULY AKTER
Lieutenant Colonel
For Director General

Annexure:

A. Technical Specification of Mechanical Mine Clearing System (Flail Type) - 06 (Six) Pages only.

Distribution:

External:

Action:

(All Concerned Supplier/Firm)

Information:

Army Headquarters, General Staff Branch, Overseas Operations Directorate

Army Headquarters, General Staff Branch, Weapon Equipment and Statistic Directorate

Army Headquarters, Engineer in Chief's Branch, Engineer Directorate

Internal:

IT Section: Publish in web site.

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ANX A TO
 AHQ. E IN C'S BR, ENGR DTE
 LTR NO 23.01.901.055.02.192.23.01.24
 DT: 27 JAN 2024

TECH SPEC- MECHANICAL MINE CLEARING SYSTEM (FLAIL TYPE)

Ser	Description	Require Technical Specification	Remarks
Part-1 : General Specification			
1.	Name of the Equipment	Mechanical Mine Clearing System (Flail Type)	
2.	Name and Complete Address of the Local Agent	To be mentioned	
3.	Name and Complete Address of Manufacturer		
4.	Name and Complete Address of Principal		
Part-2 : Technical Specification			
5.	Make & Model	To be mentioned	
6.	Country of Origin	Group A, B & C Countries	
7.	Country of Assembly		
8.	Country of Manufacturer		
9.	Year of Production	Not before the year of contract/ Maximum one year before the contract	
10.	Mine Clearing Capability		
	a. Types of Mines to be Cleared	Anti-tank, Anti pers mines	
	b. Rate of Clearance		
	(1) Working speed for clay Soil	Minimum 1000 m ² /hr	
	(2) Working speed for Sand	Minimum 1500 m ² /hr	
	(3) Working speed for gravel	Minimum 1200 m ² /hr	
	c. Land Clearance Width	Minimum 2000 mm (Dimension of flail and tiller should be specified separately)	
	d. Clearance Depth in Varying Terrain	Minimum 20 cm in one pass for clay Minimum 30 cm is one pass for sand	
	e. Efficiency in Clearing	To be mentioned	
11.	Specification of Main Vehicle		
	a. Make and Model	To be mentioned	
	b. Country of Origin	Group A, B & C Countries	
	c. Country of Manufacturer		
	d. Country of Assembly		
	e. Type of Mine/IED Clearing Vehicle	Tracked	
12.	General Data of Main Vehicle		
	a. Dimension		
	(1) Overall Length with attachment	To be mentioned	
	(2) Overall Length without attachment	To be mentioned	
	(3) Overall Width with attachment	To be mentioned	
	(4) Overall Width without attachment	To be mentioned	
	(5) Overall Height	Maximum 3500 mm	
	b. Ground Clearance	Minimum 320 mm	
	c. Combat weight with attachment	Not more than 20 ton	
	d. Combat weight without attachment	To be mentioned	
	e. Ground bearing Pressure	Not more than 0.65 kg/cm ² (65 kPa)	
	f. Maximum forward speed	To be mentioned	

Ser	Description	Require Technical Specification	Remarks
	g. Maximum reverse speed	To be mentioned	
	h. Armour protection	Minimum 08 mm HARDOX protection in the front part (Details to be mentioned)	
	<u>j. Obstacle Negotiation</u>		
	(1) Grade ability	30-45 deg	
	(2) Vertical obstacle to Climb	To be mentioned	
	(3) Fording depth	To be mentioned	
	(4) Trench width	To be mentioned	
	(5) Side slop	To be mentioned	
13.	<u>Mine Clearing System (Flails and Tiller Unit)</u>		
	a. Type	Remote Control with Flail and Tiller Unit	
	b. Country of Origin	Group A, B & C Countries	
	c. Operating Method	Remote Control	
	d. Time Require to Change over from Flail to Tiller unit and vice versa	To be mentioned	
	<u>e. Flail Unit</u>		
	(1) Overall length of flail unit	To be mentioned	
	(2) Overall width of flail unit	To be mentioned	
	(3) Overall clearance width	To be mentioned	
	(4) No of Chain	Not less than 35	
	(5) Length of Chain	Minimum 6000 mm	
	(6) Effective depth of ground clearance	(a) Minimum 200 mm for Clay (b) Minimum 300 mm for sand	
	(7) Diameter of flail while rotating	To be mentioned	
	(8) Rotation speed	Minimum 400 rpm	
	(9) Swing angle of flail unit upwards	To be mentioned	
	(10) Swing angle of flail unit downwards	To be mentioned	
	<u>f. Tiller Unit</u>		
	(1) Overall length of tiller unit	To be mentioned	
	(2) Overall width of tiller unit	To be mentioned	
	(3) Overall clearance width	To be mentioned	
	(4) No of tiller teeth	Minimum 50	
	(5) Protection for tiller teeth	To be mentioned	
	(6) Digging depth/depth of tiller bite	To be mentioned	
	(7) Diameter of tiller drum	To be mentioned	
	(8) Rotation speed of tiller drum	Minimum 400 rpm	
	(9) Swing angle of flail unit-upwards	To be mentioned	
	(10) Swing angle of flail unit -downwards	To be mentioned	
	g. <u>Mine Clearing Trawl</u>	To be mentioned	
14.	<u>Remote Control</u>		
	a. Type of transmitter	To be mentioned	
	b. Transmitting range	Minimum 1000m	
	c. Receiver	Firmly built in module, receives commands from the transmitter	
	d. Battery run time	Minimum 08 hrs	
	e. Protection against weather	Transmitter and receiver to be weather and dust proof	

Ser	Description	Require Technical Specification	Remarks
15.	<u>Engine of the Vehicle (Power Pack)</u>		
	a. Make & Model	To be mentioned	
	b. Type of the Engine	To be mentioned	
	c. Country of Origin	Group A, B & C Countries	
	d. Country of Assembly		
	e. Country of Manufacture		
	f. Year of production	Not before the year of contract	
	g. Rated Horse Power with RPM	Rated Horse Power with RPM to be mentioned	
	h. No of Cylinder	Minimum 06 Cylinder	
	j. Bore and Stroke	To be mentioned	
	k. Displacement	To be mentioned	
	l. Compression Ratio	To be mentioned	
	m. Torque with RPM	To be mentioned	
	n. Fuel Used	Diesel	
	p. Fuel Consumption	To be mentioned	
	q. Fuel tank Capacity	To be mentioned	
	r. Engine test bench report and certificate	Engine Test Bench Report which was prepared by manufacturer during production of engine at manufacturing factory must be produced and submitted to the PSI team for each model. Other engines (mentioning engine number) of the same model must be certified confirming the engine Test Bench Report by the manufacturer (duly signed and stamped)	
16.	Power to Weight Ratio	Minimum 15 Horse Power/ton	
17.	Cooling System	Liquid Cooled/ air and pressurized cooling system	
18.	Lubrication System	To be mentioned	
19.	Fuel Capacity	To be mentioned	
20.	Fuel Consumption	To be mentioned	
21.	Steering system	The following information must be submitted with the offer.	
22.	Details of Petrol, Oil and Lubricant (POL) information	To be mentioned	
	a. Detail maintenance schedule of vehicle and engine	To be mentioned (should be compatible with the diesel available in Bangladesh)	
	b. Grade of diesel used in vehicle	To be mentioned	
	c. Type of engine oil (equivalent grade) used in vehicle	To be mentioned	
	d. Type of gear oil (equivalent grade) used in vehicle	To be mentioned	
23.	<u>Power Transmission</u>	Substantial vehicle engine/ hydrostatic Transmission system.	
	a. Type		

Ser	Description	Require Technical Specification	Remarks
	b. Model and displacement of Pump	To be mentioned	
	c. Model and displacement of Motor	To be mentioned	
	d. Power train to tracks and flail	Independent drives for propulsion and flail operation	
	e. Country of Origin	Group A, B & C Countries	
	f. Country of Manufacturer		
	g. Country of Assembly		
24.	<u>Electric System</u>		
	a. Voltage of each Battery	12 Volt	
	b. No of batteries and AH	2x 12 Volt and AH to be mentioned	
	c. Starter	Volt & kw, to be mentioned	
	d. Alternator	Volt & Amp, to be mentioned	
25.	<u>Tech Specification of Track</u>		
	a. Track gauge	To be mentioned	
	b. Length of Track on ground	To be mentioned	
	c. Width of Track	To be mentioned	
	d. Type of Track block used	To be mentioned	
	e. Track propelling system	To be mentioned	
	f. Total no of Track block	To be mentioned	
	g. Track Shoe	Minimum 500 mm	
	h. Master clutch Control machine	Hydraulically Assisted	
26.	<u>Operators/drivers Cabin</u>		
	a. Armoed for mine protection	To be mentioned	
	b. Seat belt safety feature	To be mentioned	
	c. Number of doors and windows	To be mentioned	
	d. Air Condition System	To be mentioned	
27.	<u>Light System</u>	All normal lights including search/working light, black out light etc to be provided and details to be mentioned	
28.	<u>Transportation Method of whole system</u>	Details to be mentioned	
29.	<u>Recovery Winch</u>		
	a. Make and model	To be mentioned	
	b. Country of origin, manufacturer and assembly	Group A, B & C Countries	
	c. Rope length and diameter	To be mentioned	
	d. Capacity of winch	To be mentioned	
30.	<u>Auto fire extinguisher</u>		
	a. No of extinguisher and location	To be mentioned	
	b. Mode of operation	To be mentioned	
31.	<u>GPS System</u>	Details to be mentioned	
32.	<u>Colour</u>	As per tender requirement	
33.	<u>Operational Temperature</u>	-5° C to +55° C	
34.	<u>Maintenance</u>	Details to be mentioned	
35.	<u>ISO Certificate or equivalent</u>	Certificate to be provided by the manufacturer	
36.	<u>Part-3 : Training Requirements</u>		
	a. User training	To be provided as per requirement of Engineer Directorate	

Ser	Description	Require Technical Specification	Remarks
	b. Operation, repair and maintenance training	To be provided as per requirement of Electrical and Mechanical Engineers Directorate	
	c. Equipment Management Training	To be provided as per requirement of Ordnance Directorate	
37.	<u>Part-4 : Repair and maintenance requirement:</u>		
38.	<u>Book & Publications.</u> a. Owners/operators manual in English (book type) including CD/DVD. b. Workshop/repair manual in English (book type) including CD/DVD. c. 100% updated master spare parts catalogue in English (book type) including CD/DVD. d. Complete and updated master spare parts price catalogue/list in English (book type) including CD/DVD.	To be provided as per requirement of Electrical and Mechanical Engineers Directorate	
39.	<u>Part-5. List of fast and slow moving spares parts</u>	Original part catalogues (Soft Copy) must be provided along with the offers Spare parts to be provided as per list prepared from Original part catalogues by Electrical and Mechanical Engineers Directorate	
40.	<u>Part-6. Tools list for different level of maintenance:</u> a. Analyzer, measuring & testing/fault finding and diagnostic set b. Special Service Tools (SST) c. Special Service Materials (SSM)	List of required analyzer, Special service Tools(SST) and Special Service Materials (SSM) for this specific model has to be provided with the offer. Analyzer, SST,SSM to be provided as per list prepared by Electrical and Mechanical Engineers Directorate	
41.	Location of Stage Inspection/Pre-shipment Inspection	SI/PSI to be conducted in the yard of manufacturing plant/ assembly area. Detailed address of the manufacturing plant/assembly area in respect to major components to be mentioned.	
42.	Certificate on Spare Parts available in Bangladesh	Certificate to be submitted from manufacturer	
43.	List and certificate on usage of the equipment by other organizations or agencies in Bangladesh	List and certificate to be submitted from manufacturer (if used/being used in Bangladesh)	
44.	List and certificate of local after-sales-service workshop in Bangladesh who can provide spares of the equipment readily	To be confirmed by the manufacturer as the technical requirement	
45.	Detailed address of after-sale-service workshop in Bangladesh	Details address to be mentioned	
46.	Authorization certificate (Original) in favour of principal by the original equipment manufacturer	To be submitted along with offer	
47.	Authorization certificate (Original) in favour of local agent by the principal	To be submitted along with offer	

Ser	Description	Require Technical Specification	Remarks
Part-7.	<u>Financial Specification</u>		
48.	List of Standard Accessories for full range of operation/use	List to be provided	
49.	List of Standard Tools & Spares for full range operation/use	List to be provided	
50.	List of optional item (if available)	List to be provided	
51.	Note: Following information's/ documents to be supplied along with the offer:		
	a. Details of working principle.	Details to be mentioned	
	b. Functional/users training in country to be provided by foreign/Local expert.	To be mentioned	
	c. Provision of supply of major spares for minimum 10 years.	Certificate to be provided by the manufacturer	
	d. Provision of supply fast and slow moving spares for minimum 10 years.	Certificate to be provided by the manufacturer	
	e. Model validity in years (minimum 10 years)	Certificate to be provided by the manufacturer	
	f. List of spares, Special Service Tools (SST)/Special Service Material (SSM)	List to be provided by the manufacturer	
	g. Certification of armorer protection effectiveness	To be mentioned	
	h. Certification of mine clearing effectiveness	To be mentioned	
	j. Certificate for export and shipment of equipment from country of manufacturer	No objection certificate to be provided by the manufacturer during submission of offer	
	k. Any other relevant technical information may also be enclosed.	To be mentioned	
	l. Authorization certificate in favour of principal by manufacturer	To be submitted	
	m. Authorization certificate in favour of local agent by principal	To be submitted	