



**Bihar Medical Services & Infrastructure Corporation
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Sheikhpura, Adjacent to State Health Society, Patna-
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Corrigendum-I

Bihar Medical Services and Infrastructure Corporation Limited (BMSICL) had invited E-Bids from the interested parties for Procurement, Rate contract, Supply, Installation of Medical Equipment vide Tender No.-BMSICL/2023-24/ME-312. During Pre-bid meeting various suggestions were received from different prospective bidders regarding amendment in technical specification of equipment which were discussed and deliberated on by the experts. On the basis of their recommendations certain amendments in the technical specification of the equipment have been made which are annexed as **Annexure-I** of this corrigendum. Rest of the terms and conditions of the NIT shall remain unchanged. In order to facilitate maximum participation of bidders tender schedule is being revised as following:-

Tender Reference No.	BMSICL/2023-24/ME-312
Last date and time of submission of online bids	28th June 2023 till 17:00 Hrs.
Last date and time of submission of original documents of EMD, Tender Fee and Document.	30th June 2023 till 14:00 Hrs.
Date, Time and Place of opening of Technical Bid	30th June 2023 (at 15:00 Hrs.) on the website of https://eproc2.bihar.gov in the office of BMSICL
Date and time of opening of financial Bids	To be announced later on https://eproc2.bihar.gov

**SD/-
GM (Procurement)
BMSICL**

Annexure-I

Name of Equipment: - Ultrasound Machine (Portable)		
Sl. No	Technical Specification as per tender	Final Amendment
1	The Portable DICOM compatible Ultrasound machine is useful to observe structures within the body for diagnostic purposes. It is used for vascular, abdominal, obstetric and gynecological studies.	No Change
2	Should be able to operate both on AC and battery	No Change
3	It should have in built full alphanumeric keyboard and track ball / touch screen/touch pad	No Change
4	Latest technology all-digital portable Ultrasound System suitable for adult & paediatric ultrasound	No Change
5	Should have broad band frequency Transducer Technology with standard two active ports. The machine should have facility to attach three probes at a time through connector or active port.	No Change
6	Should have B mode, M-mode.	No Change
7	Should have inbuilt rechargeable Battery and the system should operate for at least 60 minutes on battery.	No Change
8	Should have integrated display screen size at least 10”.	Should have integrated display screen size at least 15”.
9	Should have standard calculation package.	No Change
10	Should have image storage facility for at least 1000 images.	No Change
11	Sorting of data base with patient name and date should be possible.	No Change
12	USB port connectivity to printer or computer.	No Change
13	Facility for storage on CDR/DVD/USB should be available. Data should be Transferable through the network to any other workstation.	No Change
14	Should have cineol memory. Power Doppler	No Change
15	Should be light weight system weighing less than 10 kg	No Change
16	Transducers: (1) Convex probe with 2-5 MHz +/- 1MHz (2) Linear probe with 5-12 MHz +/- 1MHz Optional- (i) Echocardiography probe 2-4 MHz +/- 1MHz (ii) Endocavitary probe with 3-10 MHz +/- 1MHz (iii) Microconvex probe 2-7 MHz +/-1MHz	No Change
17	System should also have the capability to be upgraded advance software	No Change

18	Imaging modes of Real time 2D, Color Doppler, Pulsed wave Doppler, Power (energy) Doppler & CW (Continuous Wave) should be available.	No Change
19	Should work on 220Vac +/- 10% 50Hz power supply.	No Change
20	Should supply online UPS of suitable capacity with 30 minutes' backup	No Change
21	US FDA / European CE (issued by a notified body) Approved model should be offered.	No Change
22	The machine should have be trolley/cart mounted.	The machine should have trolley/cart mounted. It Should be from OEM/Marketed by the same Company
23	The bidders have to quote, the unit price of Probe mentioned in specification for ultrasound machine (Portable), separately in the price bid. The L1 bidder will be decided on considering unit price of machine (which means unit price of the machine including the price of Convex Probe & Linear Probe) + unit Price of Probes (which means price of Convex Probe, Linear Probe, Echocardiography Probe, End cavitary Probe and Micro Convex Probe). The bidder has to supply the optional probe as well as CMC services of the machine as per requirement. The price of all above mentioned types of probes shall remain fixed for 10 years.	The bidders have to quote, the unit price of Probe mentioned in specification for ultrasound machine (Portable), separately in the price bid. The L1 bidder will be decided on considering unit price of machine (which means unit price of the machine including the price of Convex Probe & Linear Probe) + unit Price of Probes (which means price of Convex Probe, Linear Probe, Echocardiography Probe, End cavitary Probe and Micro Convex Probe). The bidder has to supply the optional probe as well as CMC services of the machine as per requirement. The price of all above mentioned types of probes shall remain fixed for 5 years.

Name of Equipment: - Ultrasound machine with colour Doppler		
SI. No	Technical Specification as per tender	Final Amendment
1	The system should be state-of-the-art model and all digital beam former for superior image quality with integrated Trolley/ Cart.	No Change
2	The system should have General Sonographic.	No Change
3	Should have 17" or more high resolution LED/LCD monitor with tilt and swivel facility and should be able to view in all angles and all light conditions.	Should have 19" or more high-resolution LED/LCD monitor with tilt and swivel facility and should be able to view in all angles and all light conditions

4	Should have three active ports, switchable electronically for Probe selection.	No Change
5	Should have an alpha-numeric keyboard with easy access scan controls and track ball.	No Change
6	Should have independently selectable gain control.	No Change
7	Should have 2D, M-Mode, Power Doppler, Pulsed Wave Doppler, Color Doppler and Continuous Wave (CW).	No Change
8	Triplex imaging display modes on all probes.	No Change
9	Should have Tissue Harmonic Imaging.	No Change
10	Should have colour flow imaging.	No Change
11	The system should have extensive calculation software package for General ultra sonographic imaging, and obstetrics and gynecology including NT measurement.	No Change
12	The system should have provision for measurement and calculation of distance, area, volume and circumferences on the image.	No Change
13	The system should have dedicated reporting pages for all the applications.	No Change
14	Should have patient reporting page with embedded images.	No Change
15	The system should have minimum 256 grey scales or more.	No Change
16	The system should have facility to store images in a hard disk of capacity at least 500GB.	No Change
17	Unit should function with 200-240V AC, 50 Hz input power supply.	No Change
18	Should provide internal DVD writer or USB port for data transfer.	No Change
19	Should be supplied with thermal printer and pack of thermal paper and the units should have an option to connect external printer. Extra 12 thermal rolls should be supplied.	No Change
20	DICOM output facility without additional Hardware or software.	No Change
21	Should supply pure sine online UPS of sufficient capacity with minimum 30 minutes backup to connect all the equipment's supplied.	No Change
22	US FDA / European CE (Issued by a notified body) approved Model should be offered.	No Change
23	Should have a convex probe of 2-5 MHz +/- 1MHz , linear probe of 5-12 MHz +/- 1MHzOptional:- (i) Endocavitary of 3-10 MHz +/- 1MHz Probe(ii) Echocardiography probe of 2-4 +/- 1MHz MHz .(iii) Micro Convex Probe of 2-7 +/- 1MHz	No Change

24	<p>The bidders have to quote, the unit price of Probes mentioned in specification, ultrasound machine with colour doppler, separately in the price bid. The L1 bidder will be decided on considering unit price of machine (which means unit price of the machine including the price of Convex Probe & Linear Probe) + unit Price of Probes (which means price of Convex Probe, Linear Probe, Echocardiography Probe, Endocavity Probe and Micro Convex Probe). The bidder has to supply the optional probe as well as CMC services of the machine as per requirement. The price of all above mentioned types of probes shall remain fixed for 10 years.</p>	<p>The bidders have to quote, the unit price of Probes mentioned in specification, ultrasound machine with colour doppler, separately in the price bid. The L1 bidder will be decided on considering unit price of machine (which means unit price of the machine including the price of Convex Probe & Linear Probe) + unit Price of Probes (which means price of Convex Probe, Linear Probe, Echocardiography Probe, Endocavity Probe and Micro Convex Probe). The bidder has to supply the optional probe as well as CMC services of the machine as per requirement. The price of all above mentioned types of probes shall remain fixed for 5 years.</p>
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Name of Equipment: - Computerized Radiography (CR System)		
Sl. No	Technical Specification as per tender	Final Amendment
	The fully Automated Multipurpose Computed Radiography system should have the following essential component & features: -	No Change
1	Image Recording System Cassettes & IP.	No Change
2	Image reader/digitizer,	No Change
3	Cassettes identification system.	No Change
4	Dedicated advance workstation & Console.	No Change
5	Dry image laser.	No Change
6	UPS.	No Change
A	Image Recording System Cassettes & IP.	No Change
	The following sizes of radiography cassettes along with image plates (Photostimulable phosphor	No Change

	plate) should be supported by the unit. Quantity should be as under	
1	35 cm X 43 cm or 14" X 17" -- 3 nos.	35 cm X 43 cm or 14" X 17" -- 2 nos.
2	24 cm X 30 cm or 10" X 12" -- 3 nos.	24 cm X 30 cm or 10" X 12" -- 2 nos.
3	18 cm X 24 cm or 8" X 10" -- 2 nos.	Deleted
B.	Image reader. Qty -1	No Change
	Stand Alone Floor/ Table Top Model Image reader suitable for Government Hospital which is capable to handle high workload is required.	No Change
1	The CR reader should be able to process 60 image plates/hr or more of the largest size cassette.	No Change
2	CR reader must be able to handle phosphor image plates. Needle/Rigid/Flexible Dual Side reading phosphor image plates.	No Change
3	It should have a resolution of 5pixels/mm (minimum) for standard resolution cassettes & 10 pixel / mm (minimum) for high resolution cassette reading.	No Change
4	Reader must have a resolution of 20 pixel / mm (minimum) for screening mammography.	Deleted
5	Gray scale resolution: CR reader should have a minimum resolution of 12bits/ pixel for images sent to CR processing station.	Gray scale resolution: CR reader should have a minimum resolution of 12bits/ pixel or higher for images sent to CR processing station.
6	USFDA/ European Issue by notified body) approved Model should be offered.	No Change
7	Power Supply 220VAC +/- 10 %, 50Hz.	No Change
C.	Cassettes identification system – It should be Bar code / Automatic Cassette Identification type	No Change
D.	Dedicated advance workstation & Console.	No Change
1	The processing station must have 4GB RAM, or higher at least 2x ITB HDD in RAID configuration and 19 inch clinical grade monitor. The PC hardware and monitors must be from reputed brands like DELL, HP, and BARCO etc. The monitor should have a wide viewing angle and it should be clinical grade monitor with at least 1.3 MP resolution.	No Change
2	Processing server capable of identification of patient demographics to the acquired images will be preferred, else a separate identification station must be provided.	No Change

3	The server and /or ID station must be DMWL (DICOM modality worklist) compliant to access patient and study data from HIS or RIS.	No Change
4	It should provide display of acquired images with greater details of demographics viz. patient/ study listing for easy access.	No Change
5	The server must provide full amount of post processing features viz. geometric corrections, window level algorithms, annotation like markers, predefined text, drawing lines and geometrical shapes, multi-scale image processing, measuring distance and angles, shuttering, histograms, zoom, grey scale reversal, edge enhancement, noise reduction, indication of gray scale saturation level, latitude reduction etc.	No Change
6	It should facilitate full-fledged DICOM printing and should be able to print multiple formats of patient study.	No Change
7	Should be able to send DICOM images to DICOM workstation or PACS without loss of information.	No Change
8	Should be equipped with DICOM CD writer for transferring image on external device viz. CD or pen drive etc.	No Change
9	The system should have a facility to indicate over /under exposure in the preview screen. Kindly specify the image preview time.	No Change
10	The software must have dedicated pediatric and mammography image processing.	Deleted
E.	Dry image laser (For Film printing)	
1	The system should be supplied with dry image (Dry chemistry) with a spatial resolution of 500 PPi/ dpi or more.	No Change
2	It should have contract resolution of 12 bits / pixel or more.	No Change
3	It should have 3 online film sizes out of 8 X 10", 10 X 12", and 14 X 17".	It should have 3 online film sizes out of 8 X 10", 10 X 12"/A4 and 14 X 17"/A3.
4	It should have normal throughput of 70 films per hour or higher for the largest size	No Change
5	Access time for first film should be 90 seconds or less.	No Change
6	The imager should be DICOM ready for receive, send and print facility.	No Change

7	The system should allow at least 3 sizes from 5 sizes to be loaded at any time.	No Change
8	USFDA/ European CE approved Model should be offered.	No Change
9	Power Supply 220VAC +/- 10 %, 50Hz.	No Change
10	Scope of supply shall include free of cost supply of 10 packet. Each packet not less than 90 films for each size (8 X 10", 10 X 12", and 14 X 17". Expiry of each film not less than 1 year.	Scope of supply shall include free of cost supply of 10 packet. Each packet not less than 90 films for each size (8 X 10", 10 X 12"/A4 and 14 X 17"/A3. Expiry of each film not less than 1 year.
F.	UPS- Suitable online UPS back up must be provided for 30 minutes backup for the whole system.	No Change
G.	The bidders should submit Price of All operational consumable items for the equipment along with the financial bid.	No Change
H.	The bidder shall quote, units price of cassettes and films of all 3 sizes separately in the price bid. The L1 bidder will be decided by summing of the unit price of machine (which means machine with all required accessories including cassettes of sizes 14" X 17"--3 nos, 10" X 12" --3 nos, 8" X 10" --2 nos, films -01 packet of each size) + unit prices of cassette, size 14" X 17" + unit prices of cassette, size 10" X 12"+ unit prices of cassette, size 08" X 10" + cost of 10000 films of sizes 14" X 17" + cost of 10000 films of sizes 10" X 12" + cost of 10000 films of sizes 08" X 10"	The bidder shall quote, units price of cassettes and films of all 3 sizes separately in the price bid. The L1 bidder will be decided by summing of the unit price of machine (which means machine with all required accessories including cassettes of sizes 14" X 17"--2 nos, 10" X 12" --2 nos, films -01 packet of each size) + unit prices of cassette, size 14" X 17" + unit prices of cassette, size 10" X 12"+ cost of 10000 films of sizes 14" X 17" A3+ cost of 10000 films of sizes 10" X 12"A4 + cost of 10000 films of sizes 08" X 10"
I.	Price of cassettes and films will be freezed for 10 years.	Price of cassettes and films will be freezed for 5 years.

Name of Equipment: - 800 mA X-Ray with Flat Panel Detector			
SI. No.	SI. No	Technical Specification as per tender	Amendment
		800 mA X-Ray with Flat Panel Detector	No Change
1	A. The system should comprise of:		
	1	80 KW high frequency generator	No Change
	2	Remote controlled R/F Table	No Change
	3	FPD should have -	No Change

		Receptor type: Amorphous Silicon	No Change
		Scintillator: Cesium iodide (CsI)	No Change
		Size of detector: 43 x 43cm or more	No Change
		Image matrix size: 3K x 3K or more	Image matrix size: 2.8K x 2.8K or more
		A/D conversion: 16bits	No Change
		Pixel size:140µm or less.	Pixel size:150µm or less
		Detector resolution should be more than 3.3 lp/mm.	No Change
		DQE: 65% or more at 0 lp/mm	DQE: 65% or more at 0.05 lp/mm
		Additional point	Frame rate - Up to 30 frame/Sec
	4	Multi Leaf collimator with auto collimation from Remote table	No Change
	5	Vertical Bucky Unit	Deleted
	6	High capacity X-ray tube and tube assembly.	No Change
	7	All controls of RF Table should be from console room as well as from examination room.	No Change
2	B. X-Ray Generator		
	1	80 KW or more microprocessor-controlled generator with high frequency inverter technology	No Change
	2	Maximum output: 80 kW(800ma @100 kV)	Maximum output: 80 kW(800mA @80kV)
	3	Radiographic kV range: 40 -150 kV at 1 kV step	No Change
	4	Radiographic mA range :50-800 Ma	Radiographic mA range :50-800 mA or more
	5	Radiographic mAs range: 0.5-800 mAs	No Change
	6	Anatomical program memory –user programmable – 50 programs or more	No Change
	7	Digital Display of Radiography kV & mAs and Fluoro kV & mA and Cine kV & mA Spot kV and mAs.Integrated touch panel TFT display for various X-Ray function and indications.	No Change
	8	Microprocessor controlled with automatic exposure control	No Change
	9	Automatic setting of optimal digital radiography parameters from fluoroscopy parameters (kV, mAs)	No Change
	10	Pulsed fluoroscopy should be possible	No Change

	11	Safety timer for fluoro cut off should be available.	No Change
3	C. R/F Tables		
	1	Remote controlled operation of table movement	No Change
	2	Motorized Tilt: Vertical +90° to -20° or more Trendelenburg	No Change
	3	Table has automatic stop at Horizontal & Vertical position during tilt movement	No Change
	4	Motorized Transverse movement of tabletop: 20cm or more	No Change
	5	Table with height adjustment facility	No Change
	6	Motorized Longitudinal movements of imaging unit i.e Tube column – detector movement: 100cm or more	No Change
	7	Tube Oblique movement	No Change
	8	Integrated bucky for flat panel detector for general radiography and fluoroscopy.	No Change
	9	Remotely operated compression device	No Change
	10	Foot switch for releasing fluoroscopy and acquisition.	No Change
	11	Patient weight carrying capacity: 200 kg	No Change
	12	01No. Suitable grid.	No Change
	13	Table side controls for controlling the table movements	No Change
	14	Intercom system to communicate with the patients. Table accessories: 1No. Each Handgrip, compression band, footrest.	No Change
	15	X-ray tube 180 degree swing out should be provided for chest X ray.	Deleted
	16	Same Tube should be able to take Chest X-Rays	Deleted
4	D. FPD should have -		
	1	Input field: 12” Dual or more field	Flat panel detector. Input field: 17” x 17” or more
	2	Receptor type: Amorphous Silicon	No Change
		Scintillator: Cesium iodide (CsI)	No Change
		Size of detector: 43 x 43cm or more	No Change
		Image matrix size: 3K x 3K or more	Image matrix size: 2.8K x 2.8K or more
		A/D conversion: 16bits	No Change
		Pixel size: 140µm or less.	Pixel size: 150µm or less. DQE: 65% or more at 0.05lp/mm

		Detector resolution should be more than 3.3 lp/mm.DQE:65% or more at 0 lp/mm	Detector resolution should be more than 3.3
	3	Contrast ratio: Not less than 30:1	Deleted
	4	CCD camera 400 K or more with Last Image hold	Deleted
	5	27" or more Medical Grade Monitors- 2 nos	No Change
	6	Trolley for mounting monitor	No Change
5	E. X-ray Tube		
	1	High Speed Rotating anode tube of 9000 rpm or better	No Change
	2	Anode heat capacity - 400 kHU	Anode heat capacity - 300 kHU or more
	3	Focal spot size –Small focus –not more than 0.6mm	No Change
		Large focus – not more than 1.2mm	No Change
	4	Short term rating – 36 kW/80kW	Short term rating – 33 kW/80kW or higher
6	F. Vertical Bucky Stand (Single X-Ray Tube)		Deleted
	1	Fully counterbalanced Bucky stand for cassettes size up to 14"x17" with high ratio grid min 10:1 or more	Deleted
	2	It should have lock for up-down movement	Deleted
	3	It should be possible to take chest x-ray without grid.	Deleted
7	G. Digital Image Management system		
		System must be supplied with Digital Image Processing Workstation with following Features	No Change
	1	DICOM Image Storage system with 27" monitor	No Change
	2	DICOM print capability in different formats	No Change
	3	CD/DVD writer to Store Images on CD for giving it to patients in PC formats.	No Change
	4	Image Sharpening (Real-time or Stored Images)	No Change
	5	Dynamic contrast control (Gray Level Stretch with WW & WL)	No Change
	6	Exposure Mode---- RF (For Fluoro, Cine and Spot) DX (For Radiography)	No Change
	7	Image Size/ Frame Rate RF:	No Change
		●1024×1024 (1K×1K Image resolution)	No Change
		●Up-to 15 FPS Pulsed X-Ray DX:	No Change

		●3072×3072 (3K×3K Image resolution) Up-to 2 FPS Pulsed X-Ray	●2840×2874 (2.8K×2.8K Image resolution) at Frame rate up to 2 FPS Continuous fluoro:
	8	ON Screen Measurements	No Change
	9	Area of Interest Marker	No Change
	10	Text annotations and provision of removal of all text from the image	No Change
	11	Frame by Frame review	No Change
	12	Frame by Frame review	No Change
8	H. Accessories		
	1	Lead Glass viewing window 100 cm x120 cm	No Change
	2	Suitable Capacity Voltage Stabilizer (Servo Controlled) for entire 800 mA X-ray with FPD to be provided	No Change
	3	Three light weight lead aprons.	No Change
		Two thyroid shields,	No Change
		Two gonadal shields	No Change
9		J. Complete installation of the X-Ray 800mA with FPD machine including, cable ducting, earthing, lead lining on the doors, and all other works required for the installation of the X-Ray 800mA with FPD machine need to be done by the supplier.	No Change
10		K. Post installation QA (Quality assurance) test should be done.	No Change
11		L. European CE (Issued by a Notified Body) & AERB Type approval model Should be offered.	1. USFDA/ European CE (Issued by Notified body) Approved Model. 2. AERB type Approved Model.