



Bihar Medical Services & Infrastructure Corporation Limited 4th floor State Building Construction Corporation Limited. Hospital Road, Shastri Nagar, Patna 800023, Phone/Fax: +91612 2283287,+ 91612 2283288

Corrigendum-II

Bihar Medical Services and Infrastructure Corporation Limited (BMSICL) had invited E-Bids from the interested parties for the procurement, rate contract and the supply of medical equipment for different Govt. Medical Colleges and Hospitals of Bihar vide Notice Inviting Tender No.- BMSICL/2017-18/ME-094. A Pre-bid meeting was held on 12.09.2018 during and after which various suggestions were received from prospective bidders for amendment in technical specification and accordingly some amendments have been made as per the Annexure-I of this corrigendum. In order to facilitate maximum participation of bidders the tender schedule is being revised as follows:-

Tender Reference No.	BMSICL/2018-19/ME-094
Date and time for downloading of bid document	Up to 30th October 2018 till 17:00 Hrs.
Last date and time of submission of online bids	31st October 2018 till 17:00 Hrs.
Last date and time of submission of original documents of EMD, Tender Fee and Document.	2nd November 2018 till 14:00 Hrs.
Date, Time and Place of opening of Technical Bid	2nd November 2018 (at 15:00 Hrs.) on the website of www.eproc.bihar.gov.in in the office of BMSICL
Date and time of opening of financial Bids	To be announced later on www.eproc.bihar.gov.in

Note:- (1) Please refer to the Annexure- I (page-9) of this corrigendum before submission of bid
(2) **The tender invitation for only the equipment namely 800 mA X-ray Machine with IITV stands cancelled as a separate tender is being invited for this equipment.**

Sd/-
GM (Procurement)
BMSICL

Annexure-1

Name of Equipment- (SL .no-1) Computed Radiography

Sl no.	Technical Specification before amendments	Technical Specification after amendments
A	Image Recording System Cassettes & IP.	
	1. 35 cm X 43 cm or 14" X 17" -- 4 nos	35 cm X 43 cm or 14" X 17" -- 5 nos
	2. 24 cm X 30 cm or 10" X 12" -- 4 nos.	24 cm X 30 cm or 10" X 12" -- 5 nos.
	3 18 cm X 24 cm or 8" X 10" -- 2 nos.	18 cm X 24 cm or 8" X 10" -- 4 nos.
B	Image reader. Qty -1	
	Image reader suitable for Government Hospital which is capable to handle high workload is required.	Stand Alone Floor Model Image reader suitable for Government Hospital which is capable to handle high workload is required.
	CR reader must be able to handle phosphor image plates.	CR reader must be able to handle phosphor image plates. Needle/Rigid/Flexible Dual Side reading phosphor image plates.
	6. USFDA/ European CE approved model should be offered.	USFDA/ European (Issued by notified body) approved model should be offered.
	Dedicated advance workstation & Console.	
	The processing station must have 2GB RAM, at least 2x 500 GB 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.	The processing station must have 4GB RAM or higher, at least 2x 1TB 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.
E	Dry image laser (For Film printing)	
	3. It should have 3 online film sizes out of 8 X 10", 10 X 12", 11 X 14", 14 X 14", and 14 X 17".	It should have 3 online film sizes out of 8 X 10", 10 X 12" and 14 X 17"

	4. The imager should preferably come with standard film sorter at the output for sorting the films based on modality concerned	Deleted
	11. Scope of supply shall include free of cost supply of 10 nos each of Film size 8 X 10”, 10 X 12”, 11 X 14”, 14 X 14”, and 14 X 17”.	Scope of supply shall include free of cost supply of 10 packets. Each packet not less than 90 films for each size (8 X 10”, 10 X 12” and 14 X 17”). Expity of each film not less than 1 year
F	UPS- Suitable UPS back up must be provided for 30 minutes backup for the whole system	F. UPS- Suitable online UPS back up must be provided for 30 minutes backup for the whole system

Name of Equipment- (SL .no-2) Digital Radiography

Sl no.	Technical Specification before amendments	Technical Specification after amendments
	I. Should be a digital Radiography system with two flat panel detectors, capable to take digital images in horizontal, vertical and oblique positions of all skeletal body including spine and chest	Should be a digital Radiography system with two flat panel detectors, capable to take digital images in horizontal, vertical and oblique positions of all skeletal body including spine and chest. Out of three major components (detector, X-ray tube and generator) at least 2 should be from same manufacturer of the main (complete) system.
II	Generator	
	3. The KV range from 40 to 150KV	The KV range from 40 to 150KV with 1KV step
	4. Should have 800mA or more at 100KV	KV /mA output specifications- 1000mA at 80 KV,800mA at 100KV
III	X-Ray tube and collimator	
	1. Should be a high speed rotating anode dual focus tube compatible with the generator	Should be a high speed rotating anode high speed (8000 rpm or more),dual focus tube compatible with the generator
	2. Should have focal spot sizes of 0.6mm (small) and 1.2mm (Large) or less	Should have focal spot sizes of 0.6mm (small) or less and 1.2mm (Large) or less. X ray tube loading should be atleast 30 KW for small focus & atleast 80 KW for large focus
	5. Should have an anode heat capacity of 350KHU or more	Should have an anode heat capacity of 600 KHU or more
IV	Ceiling suspended tube	

	6. Tube rotation at vertical axis and horizontal axis +/- 135 degree	Tube rotation at vertical axis and horizontal axis +/- 135 degree or more
	V. X-Ray Table with detector	
	1. Should be a carbon fibre/equivalent motorized fixed 6 way movement floating table having a weight carrying capacity of 200kgs.	Should be a carbon fibre/equivalent motorized up/down table, with four-way floating table top having a weight carrying capacity of minimum 200kgs.
	2. The detector for the table should be movable to the entire length of the table	The buky travel should be 400 mm or more
VI	Vertical detector stand	
	1. Should have an in-built detector capable to take digital images in horizontal, vertical and oblique positions with suitable movements for all skeletal body including spine and chest	Should have an in-built detector capable to take digital images in horizontal, vertical and oblique positions with suitable motorized movements for all skeletal body including spine and chest
	5. The detector should be capable of rotating on its axis across +90 to -15 degrees	The Vertical Bucky should be capable of rotating on its axis across +90 to -15 degrees
VII	Digital detector	
	2. The size of the detector should be 41cm x 41cm or more	The size of the detector should be 41cm x 41cm or more for both detectors
	5. The active matrix size should be 2.8k x2.8k or more	The active matrix size should be 2.8k x2.8k or more.Pixel size should be less than 150x150 um
VIII	Image acquisition, image processing	
	4. The system should have DICOM 3 (or newer) ready interface and networking capability with RIS/HIS/PACS.	The system should have DICOM 3(or newer) ready & compliaence(DICOM Worklist,DICOM Store,DICOM print,DICOM modelity performed procedure step etc)
		(Additional- Point No-5) Complete Long Length Imaging(LLI) hardware & software be aviliable on both v,vertical bucky & Table buckey with automatic stiriching software aviliable on the acquisition console.
IX	Accessories	

	1. On line UPS with 30 minutes back up for both work station and automatic servo stabilizer for suitable k VA for the main equipment to be supplied by bidder .	On line UPS with 30 minutes back up for both work station and Printer. Automatic servo voltage stabilizer for suitable k VA for the main equipment to be supplied by bidder .
	2. Light weight Radiation protection Apron of 0.5 mm lead equivalence, AERB approved – 5 nos	Light weight Radiation protection Apron of 0.5 mm lead equivalence, AERB approved – 5 nos, Thyroid Shield(AERB approved) -02, Lead Goggle(AERB approved)-01
	3. One viewing station (hardware) with necessary software and UPS	One additional workstation should be provided with UPS, CPU, 1 MP 19" monitor, workstation software,computer Table & 02 nos revolving chair
	4. Should be supplied with X-Ray view box (LED Type) Double – 1 No.	Should be supplied with X-Ray view box (LED Type) Double – 2 No.
	6. LED Door of required Thickness to be provided by bidder	Lead lining of 02 nos LEAD door(patient entry + Console room) as per AERB norms must be provided by vendor.
X	Quality Certificates	
	The system should have US FDA / European CE (Issued by a notified body) and AERB approval for the whole system on the date of closing of tender. Any other certification from any regulatory authority will be the responsibility of the supplier.	The system should have US FDA and European CE (Issued by a notified body) and AERB approval/ NOC for the whole system on the date of closing of tender. Any other certification from any regulatory authority will be the responsibility of the supplier.
		Additional- QA test of the machine as per AERB guidelines will be responsibility of supplier during warrernty & during CMC, cost is added in CMC cost of the machine.

Name of Equipment - (Sl. No.-4) 600 mA X-Ray Machine

Sl no.	Technical Specification before amendments	Technical Specifications after amendment
1	High frequency generator:	
	b. Output 50 kW or more.	Not less than 50 KW
	c. kVp range 40 kV - 150 kV	KV range 40 KV - 125 KV, In 1KV increments.
2	X-ray tube:	

	<p>a. Ceiling suspended 3D column stand for x-ray tube with facility of automatic positioning and synchronization.</p>	<p>Floor mount column stand for x-ray tube with facility of:- Floor Mounted tube stand with approx 10ft. Long tracks and approx 98" (249cm) of longitudinal travel. Multi- function finger trip controls. Trunnion rings provides a tilt king of the movement to the tube to allow some lateral cros examinations to the transverse tube. Auto-stop sensor for horizontal/ vertical adjustments. FAIL -SAFE electromagnetic braking sytem. Column Rotation (+/-90degree), Transverse (10" travel). Vertical Travel of 60.5" (154cm) with minimum floor to focus distance of 13.75" (35cm) Tube Angulations of +/-135" with detents 0 degree,+/- 90"</p>
	<p>c. Focal spots of the following sizes: Large Focus: 1 mm or less</p>	<p>Focal spots of the following sizes: Large Focus: 1.2 mm or less</p>
	<p>e. Anode heat storage capacity should be at least 200 kHU or more. Mention heat dissipation rate.</p>	<p>Anode heat storage capacity should be at least 300 kHU or more. Mention heat dissipation rate.</p>
	<p>h. Please specify tube rotation at vertical axis and horizontal axis. Should preferably be atleast 120° in either axis.</p>	<p>Tube rotation +_90 degree</p>
	<p>i. Mention range of tube movements in vertical, longitudinal and lateral planes. Movement of the tube in either of these planes should preferably be 150 cm or more.</p>	<p>Deleted</p>
	<p>j. It should preferably have latest technology of flat electron emission for optimized focal spot intensity distribution and grid-controlled micro focus mode for improved resolution.</p>	<p>Deleted</p>
	<p>k. Automatic centring and/or positioning devices and focus to detector distance readout device should preferably be present.</p>	<p>Deleted</p>
	<p>l. Variable source to image distance (SID)—150 cm or more in vertical position and 180 cm or more in horizontal position. Motorized adjustments of SID should be available.</p>	<p>Deleted</p>

	n. Field size programming should be possible. Automatic multileaf collimator having halogen lamp/bright light source, with auto shut off provision of the light, should be available.	Field size programming should be possible. Multileaf collimator having halogen lamp/bright light source, with auto shut off provision of the light, should be available.
3	Radiographic table (horizontal Bucky table):	
	a. Compact floor mounted Bucky table with adjustable height and floating top.	Compact floor mounted Bucky table with adjustable height (motorized) and floating top.
	d. System should have motor driven longitudinal, vertical and horizontal table top movements. Table should have provision for lateral imaging, without patient movement. Please specify the range of movements.	Deleted
	e. Table should have angulations from longitudinal to head down positions (vertical +90 degrees to Trendelenburg -20 degrees).	Deleted
	g. Foot switches for adjusting height, longitudinal/side to side movements, locking, and light adjustment.	Foot switches for adjusting height
	h. Grid movement and facility of removable grid should be available. Should have a grid ratio of 12:1 or more.	Grid movement facility should be available. Should have a grid ratio of 12:1 or more.
	j. Anti-collision and safety devices should preferably be present.	Anti-collision and safety devices should be present.
	k. Automatic cassette sensing and collimation is preferable.	Deleted
	Chest Stand	
4	Vertical Bucky:	
	a. Counterbalanced, adjustable height, wall and floor mounted, vertical Bucky.	Deleted
	b. The system should preferably have automatic tube tracking and positioning.	Deleted
	c. SID must be 1000 mm to 1800 mm to cover full range of radiographic application including chest radiography.	Deleted

	d. Automatic exposure control.	Deleted
	e. Patient display.	Deleted
		Additional:- Chest Stand-Good quality, wall mounted, fixed chest stand, vertical movement up to 6 feet.
5	Accessories:	
	a. Online UPS with atleast 30 minutes backup for the computer workstation should be provided.	Deleted
	b. Voltage stabilizer servo controlled 150 kVA or as required.	Suitable rating , Voltage stabilizer , servo controlled should be supplied.
	d. Light weight 'zero lead' radiation protection aprons (two).	0.5 mm lead equivalent, radiation protection aprons of good quality- (two).
	h. Footsteps for the table.	Deleted
	i. Lateral cassette holder.	Deleted
6	Approvals:	
	a. The system should have US FDA and European CE (Issued by a notified body) and AERB approval for the whole system on the date of closing of tender. Any other certification from any regulatory authority will be the responsibility of the supplier.	a. The system should have US FDA /European CE (Issued by a notified body) and AERB approval for the whole system on the date of closing of tender. Any other certification from any regulatory authority will be the responsibility of the supplier.
	b. Approval of site plan and registration of the installation from AERB shall be the responsibility of the successful bidder.	Deleted
	C. The equipment must have typed approval of the model quoted on the date of opening of the tender.	Deleted
		Additional- QA test of the machine as per AERB guidelines will be responsibility of supplier during warrernty & during CMC, cost is added in CMC cost of the machine.
Name of Equipment- (SL .no-5) X-Ray Machine 300 mA		
Sl no.	Technical Specification before amendments	Technical Specification after Amendment
1	X-Ray Generator:	

	E. mA range – 125 to 300 mA	mA range – 125 to 300 mA or more
	G. mAs range – 2 to 200 mAs	mAs range – 2 to 200 mAs or more
4	Bucky:	
	A. Grid 10:1, 60 lines / cm, focused at 115 cm	A. Grid 10:1, 60 lines / cm, focused at 115 cm
6	STANDARD ACCESSORIES	
	C. CR Compatible cassettes with high speed screen 14 x 17 – 3 nos, 12x10 – 3 nos, 10x8 – 3 nos.	Optional- Radiography cassettes with high speed screen (reputed make)-pl mention make,seprate for each cassette to be mentioned ,14 x 17 – 3 nos, 12x10 – 3 nos, 10x8 – 3 nos.
10	4 WAY TABLE:	
	A. The table should be horizontal 4 way movements	Deleted
	B. Motorised Bucky with immense flexibility and ease in positioning	Deleted
	C. Foot switch control	Deleted
	D. Table Height – 75 cm ($\pm 5\%$)	Deleted
	E. Table top – 218 x 80 cm ($\pm 10\%$)	Deleted
	F. Table top should be made up of low radiation absorption, water proof material, stain free	Deleted
		Additional (Point no-12) Supplier is responsible to comply AERB guideline for installation. Lead of Patient entry door, Exposure Lamp & Radiation signage is responsibility of supplier
		Additional (Point no-13) QA test of the machine as per AERB guidelines will be responsibility of supplier during warranty & during CMC, cost is added in CMC cost of the machine.
Name of Equipment - (Sl. No.-6) 100 mA X-Ray Machine		
Sl no.	Technical Specification before amendments	Technical Specifications after amendment
	1) High Frequency generator of 40KHz or more compatible with conventional and computerized radiography. The generator should have microprocessor/micro-controller based electric overload system.	1) High Frequency generator of 40KHz or more for general radiography. Generator rating-4KW or more KV Range-40-100 KV mA-100 mA or more. The generator should have microprocessor/micro-controller based electric overload system.

	5) kV range at least 40kV to 125kV, digitally displayed mAs range at least 0.5to 200 mAs or more.	X- Ray Tube- Rotating dual focus anode. KV range- 40 to 100 or more , mA range - 0.5to 200 mAs or more
	8) Tube power rating at least 20 kW.	Tube power rating at least 6 kW or more
	12) The generator should have microprocessor/micro-controller basedelectric overload system.	Deleted
		Additional - QA test of the machine as per AERB guidelines will be responsibility of supplier during warrernty & during CMC, cost is added in CMC cost of the machine.
Name of Equipment- (SL .no-7) X-Ray Machine 60 mA		
Sl no.	Technical Specification before amendments	Technical Specification after amendment
5	Foot switch/ Hand switch should be available for trigger X-rays.	Hand switch should be available for trigger X-rays.
10	X-Ray Tube: Stationary or Rotating Anode with focus spot 1.2 -1.6 mm	X-Ray Tube: Stationary or Rotating Anode with focus spot 2.00 mm or less
		Additional - (Point no-15) Should be AERB Approval. QA test of the machine as per AERB guidelines will be responsibility of supplier during warrernty & during CMC,cost is added in CMC cost of the machine.