



Bihar Medical Services & Infrastructure Corporation Limited 2nd & 3rd Floor, Swasthya Bhawan, Behind IGIMS, Sheikhpura, Adjacent to State Health Society, Patna- 800014, Bihar, 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 Procurement, Rate contract, Supply, Installation of **Ultraportable Handheld Digital X-Ray Machine** vide Tender No.-BMSICL/2025-26/ME-440. 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. In order to facilitate maximum participation of bidders tender schedule is being revised as following:-

Tender Reference No.	BMSICL/2025-26/ME-440
Last date and time of submission of online bids	25th Sept. 2025 till 17:00 Hrs.
Last date and time of submission of original documents of EMD, Tender Fee and Document.	26th Sept. 2025 till 14:00 Hrs.
Date, Time and Place of opening of Technical Bid	26th Sept. 2025 (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:- Ultraportable Handheld Digital X-Ray Machine		
Sl. No	Technical Specification as per tender	Final Amendment
1	Ultraportable handheld digital X-ray machine must be composed of Handheld X-ray generator, X-ray generator stand, flat panel X-ray detector, X-ray detector stand and acquisition system.	No Change
2	The System should be capable of taking X-Rays of maximum human anatomies.	No Change
3	The radiation exposure time should be settable between 0.01 sec to 2.0 sec, with varying setting provision to allow imaging of any anatomy with minimal radiation exposure as per ALARA (as low as reasonably achievable) guidelines.	No Change
4	System should be able to acquire optimal CXR at 100 cm to 150 cm.	System should be able to acquire optimal CXR at 100 cm to 180 cm.
5	X- Ray should be AERB approved and CDSCO approved as mended under Medical Device Regulation rules 2017 and as updated as on date. The device should be manufactured at site compliant with the requirements of ISO 13485 Valid certificates to be provided in this regard and having ICMR clinically validated.	The equipment should be CDSCO and AERB approved and manufactured at site compliant with the requirements of ISO 13485. Valid certificates in this regards to be provided
6	Detector should be approved by CDSCO as mended under Medical Device Regulation Rules 2017 and as updated as on date. The valid certificates to be provided.	No Change
7	The system should be compatible with any CAD.	The system should be compatible with any CAD approved by CDSCO
8	The complete system must be offered with 03 years warranty and 07 years CMC	No Change
a	System will be at various locations in the country – Onsite warranty and service support to be provided.	No Change
b	Any Issue should be resolved between 3 to 5 working days from the date of issue reporting.	No Change
c	In case the device is not resolved within 5 days, standby unit should be provided against the non- functional device.	No Change

d	For Software related issue: Remote maintenance/intervention should be available within 1 working day.	No Change
e	For the warranty period, the desired uptime should be 98% of 365 days (24 hour basis). In case the down time exceed 2% limit, the extension of the warranty period will be twice the excess downtime period.	No Change
9	Free of cost upgradation of software/ system for the duration of warranty and CMC.	No Change
10	Storage and operating conditions:	No Change
a	Storage and operating condition: ambient temperature range up to +50 degree Celsius at a relative humidity up to 80%.	No Change
b	System should withstand varied and extreme climatic condition in India in terms of storage and operations.	No Change
11	The total weight of the complete kit should be less than 30 kg.	No Change
12	The charger with charging cables should be provided for device, detector & laptop.	No Change
X. - RAY GENERATOR SOURCE		
1	The unit must be capable of operating with rechargeable battery. X-ray source must have rechargeable battery which should be capable of doing at least 80+ x-rays in one recharge. Any spare batteries needed to achieve this should be supplied along with the system. AC/DC adapter for recharge of battery, Tri-pod stand must be part of the supply.	No Change
2	X-ray generator and x-ray tube must be integrated in one and must be microprocessor controlled, high frequency. It should have a digital display of mAs and kV and electronic timer.	No Change
a	kV Range - 50kV to 90kV. (+- 10 KV)	kV Range :- 40kV to 100kV.
b	mA range – 2 mA to 6 mA or higher	mA range :- 2 mA to 6 mA
c	Exposure time – 0.01 s (Minimum) to 2.0 s (Maximum).	No Change
d	mAs Range – 0.02 to 12 mAs	No Change
e	Weight – up to 5 Kg.	Weight :- up to 7 Kg.
f	X-ray Tube: must have a stationary/rotating anode. Focal spot should be 1.3mm or less.	No Change
g	Collimator must be attached to x-ray exposure device with inbuilt LED /LASER light source for positioning. Beam limiting device must have Pb lining.	Multi- leaf Collimator must be attached to x-ray exposure device with inbuilt LED /LASER light source for positioning. Beam

		limiting device must have Pb lining.
3	The source should have a digital display to allow different exposure settings and also show critical parameters like battery charge, tube voltage etc.	No Change
4	Heat storage capacity of the anode must be at least 6000 to 10,000 HU (preferably higher).	No Change
5	It should have automatic exposure control.	Deleted
	FLAT PANEL X-RAY DETECTOR SYSTEM (WIRED & WIRELESS)	
1	It should be wireless & wired (must be capable of working as wireless & wired) robust flat panel digital detector with instantaneous image transfer as well as storage capabilities. Wireless Flat Panel Detector system (FPD) of Size 14"x17" or more should be offered.	No Change
2	The Scintillator material of the detectors should be made up of Cesium Iodide and sensor with Thin Film Transistor (TFT) and Amorphous Silicon technology or better technology.	No Change
3	The detector should be protected from dust and liquid. The IP rating should be IP 55 or better.	The detector should be protected from dust and liquid. The IP rating should be IP or better.
4	The detectors should be capable of doing out of bucky radiography and Lateral supine Radiography must be possible.	No Change
5	The detectors should have a spatial resolution not less than 3 lp /mm or more.	The detectors should have a minimum spatial resolution of 3.5 lp /mm or more.
6	Detector array Size: Should be a minimum of 2.3K x 2.8K pixels or higher.	No Change
7	Pixel Pitch: 150 microns or less.	No Change
8	A/D Conversion - 16 bits.	No Change
9	Detector Quantum Efficiency (DQE) - above 70% at 0.5 lp/mm	Detector Quantum Efficiency (DQE) - above 70%
10	The detector should have MTF at 0.5 lp/mm at 80% or should have MTF 1 lp/mm or at 1 cyc at 80%.	The detector should have MTF at 0.5 lp/mm at 90%
11	The battery must be of latest Lithium-Ion type. Batteries charger should be provided.	The battery must be of latest Lithium-Ion/Lithium polymer type. Batteries charger should be provided.
12	The detectors should have Automatic Exposure Detection as standard feature.	No Change
13	The detector system should not require frequent calibrations on daily start-up.	No Change

14	Detector should work on Dual band Antennas (wifi) with minimum 2 antennas and 802.11 n/ac standard ensuring more stable and faster wireless transmission. Detector should work on both wired and wireless communication.	Detector should work on Dual band Antennas (wifi) with minimum 2 antennas and 802.11 n/ac standard ensuring more stable and faster wireless transmission.
15	Transmission power: 5Gz 18dbm or better in wireless mode.	No Change
16	The detector should be capable of placement either in a bucky or directly under the patient if needed and must have load bearing capabilities of at least 200Kg at any single patient if needed and must have load bearing capabilities of at least 200Kg at any single point.	The detector should be capable of placement either in a bucky or directly under the patient if needed and must have load bearing capabilities of at least 200Kg at any single point.
17	The detector must be robust, solid, sealed, water resistant, dust resistant and with appropriate certifications for these parameters.	No Change
18	The detector and/or protective case should withstand drop from 1 m. The drop resistance certificate for the quoted model from the manufacturer of the detector or international certification (IEC – International Electrical Commission Certificate) should be provided.	No Change
	ACQUISITION SYSTEM	No Change
1	Operating Console/Modality Workstation should have the facility to enter patient demographics such as patient ID, Name, age, etc. Acquisition console software should have different settings for patient type (adult/ paediatric/ obese) & anatomy (anterior, posterior, oblique, lateral).	No Change
2	The system should have advanced image-processing algorithm that can show maximum diagnostic details. It should be intelligent to provide best image quality independent of body part.	No Change
3	Operating Console/Modality Workstation must be LAPTOP (Wireless), 11 Gen or newer processor, with min 14” HD display, Window 11 OS, 64GB RAM, 1 TB SDD for CAD alignment	No Change
4	Operating Console/Modality Workstation should be DICOM 3.0 ready and should support minimum the following service classes	No Change
	Send	No Change
	Print	No Change

	DICOM Modality Work list.	No Change
5	Sending images to multiple destinations should be possible. It should be DICOM ready and should be able to send images through PACS system using Bluetooth, Wi-Fi, internet/online, email etc.	No Change
6	Previews of images should be available in about 10 second or less.	No Change
7	It should offer capability of local image storage.	No Change
8	Acquisition software should be compatible with PACS/DICOM servers and DICOM X- ray film printers and provide high-quality jpg / png images, easily transmissible over platforms like WhatsApp / Emails directly from the acquisition station.	No Change
9	After image acquisition, the software system should have provision/function for image adjustment-clip, contrast, brightness, window adjustment, zoom, magnifier, invert, rotate, flip, annotations, measurements, digital collimation, etc.), image view, detail enhancement and noise suppression, tissue equalization)	No Change
	ADDITIONAL REQUIREMENTS	No Change
1	The system should be supplied with solid (hard) travel case for all components which should be suitable for easy and safe transportation of complete system including source, detector, acquisition console, stands for both source and detector by one person / operator.	No Change
2	Specification for hard travel case:	No Change
i	Material should be indestructible resin propylene, light weight, provides high quality toughness, resistance and withstand harsh environmental condition	No Change
ii	Standard quality latching system (such as power claw)	No Change
iii	Reinforced metal padlock holes,	No Change
iv	Wheels made of Polyurethane to withstand rough surfaces	No Change
v	. Stackable	No Change
vi	Waterproof resistance and certified to IP 67 rating	No Change
vii	2-Stage Retractable Handle	No Change
viii	Side mounted spring- loaded handles	No Change
ix	Integrated Lid Stay	No Change

x	Removable Lid	No Change
xi	Top and Bottom Panel Mount	No Change
xii	100% Stainless Steel Hardware	No Change
xiii	Must have automatic pressure release valve system	No Change
xiv	Multi layered set of customizable inserts made of high-quality polyurethane foam should be provided to store the core and non-core components.	No Change
3	Stand for x-ray device: Suitable portable light weight tripod stand with vertical movement range (50-150cm) and rotation of 90 degree around vertical axis.	No Change
4	Stand with detector frame: Suitable portable light weight tripod stand with vertical movement range (50-150cm).	No Change
5	The safety accessories at least 2 each 'light-weight lead apron' with at least 0.2mm Pb equivalent and thyroid shield should be provided.	No Change
6	External charging system: the external power system (power bank) shall be able to charge all electric components (generator, detector and laptop etc.) of the portable digital HH X-ray system with one output AC port.(Specification for power bank-Approx. 85,000-90,000 mAh, 150-Watt, Lithium-Ion, Input 15V/2A, Output AC 220V ~ 50HZ) (Unit- 1 number in each system)	No Change
7	Radiation hazard stickers and pregnancy warning stickers per device as per AERB guidelines (Pack of 2 each)	No Change
	Added:-	Quality certification for X-ray Generator & Flat Panel Detector:- USFDA/European CE issued by notified body