Notice Inviting e-Tender

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Supply and Commissioning of 01(One) unit of C-Arm Machine for the Dept of Paediatric Surgery at NRS Medical College & Hospital

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-583/2026	Dated-24.06.2026

Amendment-I

Revised Technical Specification

C-ARM 6KW with Flat Panel Detector

Microprocessor controlled C-arm machine with FPD should provide the excellent image quality at low radiation, ideally suited for general surgeries in many application fields and special application such as orthopaedics, Urology, Gastroenterology, pain management, spine fixation, Neurology & Angiography procedures..

A) Flat Panel Detector:

- Receptor Type should be of Amorphous Silicon technology/CMOS/IGZO
- Conversion Screen should be of CsI
- FPD with 21cm x 21 cm size should be provided

- Image Matrix should e 1.5K x 1.5K or more
- Pixel pitch should be 155 µm or less.
- ADC conversion should be 16 bit or more.

B) Monitors:-

- 1 no. 32" inch medical grade monitor (LED/TFT) / 2 nos. 21″ medical grade monitor (LED/TFT) is provided on mobile trolley.

C) Monitor on C-carriage:-

- Touch screen (size- 13 inch or more) console mounted on C-carriage for the operator.

D) **C-ARM MOVEMENTS:** Fully counter balanced all movements

1. Rotation: ±180 Degrees
2. Motorized Up/down: 430mm or more
3. Horizontal Travel: 210mm or more
4. Arc Orbital Movement: 120 Degrees.
5. Wig Wag: ±12.5 Degrees.
6. Source to Image distance should be 970mm.
7. Depth of "C" should be at least 670mm
8. Free space should be 780mm or more

E) X-Ray Generator (Indigenous):

1. High Frequency (50KHz) or more.
2. Output power should be 6KW or more
3. Fluoro & Rad. Kv 40 to 110 KV
4. Digital SPOT: 120mA or less.
5. Pulse Fluoroscopic mA (peak):-

- Up to 5mA (Normal Mode)
- Up to 8mA (boost flouro mode)

F) X-Ray Tube:

- Monoblock tube head having dual focus Rotating anode X-ray tube of focal spot 0.3mm (small focus) & large focus (0.6mm) should be provided.
- Anode Heat Storage capacity should be 200 kHU or more and tube housing heat dissipation.
- Lead collimator Shutters with preview-Radiation free should be provided.

G) Control: Control should have the following:

Touch screen monitor mounted on C-arm carriage for Image & Exposure parameters control is provided with following function and indication:-

On GUI Screen

- Fluoro and Radio mode selection.

- Image rotation & Flip
- Fluoroscopy tuner (Five minute cumulative timer with buzzer that activates after the completion of 300 seconds of exposure to reinitiate the exposure reset switch is provided).
- Metal Compensated ABS (Automatic brightness stabilization) selection for hand free operation- also known as ADR
- KV and mAs increase and decrease switches.
- X-ray ON indicator
- Collimator open/close switches with selectable copper filter and Aluminium filter

Others

- Switches for up/down movement of "C" on both side of machine frame.
- Emergency OFF switches mounted on monitor.
- Machine ON/OFF Key switch
- Flouro, Cine & spot Switches on both side of panel
- Laser Centering Device.
- Virtual DAP meter.
- Removable Grid should be provided.

H) Memory System Should included the following:-

- Image processing software with real time image capturing, storage, and display in 1.5K X 1.5K format.
- Digital Radiography (SPOT) exposure mode is available

User selectable view on Single monitor with 1.5K Resolution

- User selectable image display for Live & Reference view

DSA:

- Up to 10 FPS image acquisition for DSA
- Re-Mask
- Land marking
- Pixel Shift

Roadmap:

- Real time path map
- Roadmap clear
- Peak Hold

Image Processing:

- Real time noise with reduction with Averaging up-to 16.
- Recursive filter for image smoothing, DRC, contrast, Brightness Sharpness
- Interactive digital Zoom and Pan
- Pre-programming for image setting for different operating Modes
- Image Inversion

- WW/WL level adjustments
- Dynamic Noise Filtration.
- Selectable dose level operation- 03 levels
- Image Flipping and Image Rotation Clockwise or Anti-Clockwise
- Live to Reference View on Single Monitor
- Cine Loop Play (Auto and Frame wise)
- Real time Image Flip (Horizontal / Vertical)

Collimator:

- Ultra fast Preview collimator

Dose display Module:

- Dose integrated in software and total summary for Fluoro /Cine Save.
- Software based Real Time Patient dose monitoring display with overdose warning message

MAG:

- Real Time Three step Digital MAG

DICOM Features

- Connectivity with DICOM workstation/PACS
- DICOM Send/Storage Commitment
- DICOM Print
- DICOM Worklist

Storage:

- Upto 780 GB Hard disk for storing images
- Fluoro saving as per user need
- LIH saving as per user need

Annotation:

- Line, Text

Measurement:

- Length Measurement

Power requirement:

- The unit should be operable on Single Phase 230 V± 10% AC, 50 Hz
- Inbuilt electronic voltage stabilizer should be provided.
- UPS for power backup of the software mounted in trolley.

Other Requirement:

- The company should be ISO & ICMED certified
- The unit should be approved by AERB

The bidder/ OEM should have valid CDSCO Certificate/Registration/License for both the manufacturer(s) and importer(s) as applicable.