

Notice Inviting e-Tender
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SUPPLY OF HIGH END DIAGNOSTIC EQUIPMENTS IN THE HOSPITALS OF THE GOVERNMENT OF WEST BENGAL.

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL /NIT-38/2016

Dated – 28.06.2016

Amendment - I

REVISED TECHNICAL SPECIFICATIONS for 16 Slice CT Scanner (SCHEDULE – II)

The specifications for 16 Slice CT Scanner and Site preparation including interiors and Air-conditioning have been revised in the tender document. The revised specifications are given below,

1. Operational requirements

The spiral CT scanner system for high resolution whole body scanning. The instrument must be capable of acquiring minimum 16 slices per 360° rotation.

2. Technical Specifications

a) Scan Time

The scan time for one gantry rotation of complete 360° rotation should be subsecond.

b) Scanning Capability

- i. Pediatric and infant base protocols shall be available based on the infant weight
- ii. Real time contrast monitoring acquisition with auto scan initiation protocol and with auto injector trigger.
- iii. High Contrast Resolution should be at least 15 lp/cm for axial and spiral scan at 0% MTF
- iv. Low contrast resolution should be at least 3 mm at 3%

c) Gantry

- i. Aperture of 70 cm or more
- ii. Auto Positioning Lights
- iii. Should have FOV of at least 40 cm or more

- iv. Tilt remote physical tilt of $\pm 30^\circ$ or more
- d) **Detectors**

Data acquisition system capable of acquiring 16 Slices or more per 360° rotation with 20 or more rows of detector.
- e) **Slice Thickness**

16 slice acquisition with minimum thickness of 0.75 mm or less
- f) **Pitch Factor (Volume Pitch)**

Should be variable between 0.5-2 or better and should be user selectable or automated. Specify all possible pitch selections.
- g) **Scan Time and length in Spiral/Helical Technique**

Should be at least 100sec continuous
- h) **X-Ray Generator**
 - i. High Frequency type
 - ii. Power output: 48 KW or higher
 - iii. Voltage Selection: 90-135KV or wider
 - iv. mA Range: 300 mA or more (with incremental steps ≤ 10 mA)
- i) **X-Ray Tube**
 - i. Anode Heat Storage Capacity- Minimum of 5 MHU
 - ii. Anode Heat Dissipation: Minimum of 800 KHU/minute or more with latest technology
 - iii. Specify Max. mA (for each KV)
- j) **Patient Table**
 - i. Carbon Fibre Table Top with Load carrying capacity 200 Kg with 1mm positioning accuracy.
 - ii. Horizontal Table speed preferably 100 mm/sec.
 - iii. Metal free scanable range of 150 cm or more
 - iv. Facility of positioning aid for horizontal Isocentric positioning of the patient.
- k) **Image Reconstruction**
 - i. Reconstruction Field of View Range: 5-50 cm
 - ii. Reconstruction Matrix: 512 X512
- l) **Image Display**

Image Area Matrix Dimension: 1024 X 1024
- m) **Image Reconstruction**

- i. Image reconstruction capability should be at least 16 images/sec.
 - ii. Image Storage Capacity 500 GB or more
- n) Operator Console & Workstation**
- i. It should have a large 18" or more high resolution LCD monitor.
 - ii. The system should be user friendly with all functions menu driven. It should be modern user interface.
 - iii. All functions including scanning image reconstruction, film documentation, archiving, transferring, MPR Angiography maximum intensity projection, 3D volume rendering, 3D SSD, CT Angio, CT Urography, vessel analysis, should be possible on operator console, with facility for brain and body perfusion, MIP, CT Angio software with quantitative vessel analysis.
- o) Computer System & Image Processor**
- i. 64 Bit/32 Bit main CPU with at least 2 GB RAM memory or better
 - ii. High speed CPU using Pentium IV or better running at 3.0 GHz or better
 - iii. Hard Disc of 500 GB or more
 - iv. Image storage of 250,000 or more of 512 matrix
 - v. CD archive with 600 or 700 MB capacity discs
 - vi. Image Processor: Operating system shall be windows based
 - vii. The image reconstruction time should be at least 16 images /sec or better for all types of acquisition modes including Cone Beam Correction, Neuro Imaging studies.
- p) Software**
- i. Should have DICOM 3.0 compatibility
 - ii. Volume rendering technique with axial cross reference imaging along with measurement tools on volume rendered image 3D, 3D small volume measurement package MIP slab viewer
- q) Patient Communication System**
- An integrated intercom and Automated Patient Instruction System (API) should be provided
- r) Others**
- i. System should have PACS interface ready without any new hardware or software.
 - ii. Fully DICOM 3.0 compliant including
 - DICOM Modality work list, with automatic procedure selection
 - Capability from HIS-RIS interface
 - A Barcode reader for entering patient data from HIS RIS must be possible.
 - iii. Dose saving protocols must be available
- s) Dry Imager Camera with**
- i. Resolution: 16 bits/ 500 dpi or more with minimum three ports.

- ii. Support Multiple Film Sizes: one of which must be 17"x14"
- iii. Throughput of 90 films or more per hour.
- iv. DICOM 3.0 Compatible

t) LASER Colour Printer

- i. DICOM 3.0 Compliant
- ii. Resolution- at least 1200x1200 dpi.

u) Accessories

- i. Lead Glass of size 100 X 150 cm
- ii. Pressure Injector (300psi) with 100 syringes
- iii. Patient Trolley
- iv. UPS from reputed manufacturer having at least 30 minute back up with appropriate KVA
- v. The equipment should be new and unused. The manufacturing date should not be more than 180 days when it would reach the consignee address.
- vi. All patient positioning accessories including head rest
- vii. Full composite Anaesthesia facility for paediatrics and adults is a must.

Standard & Safety

Should be of US FDA & CE ("Conformité Européene"), AERB approved

Warranty & CMC will include the following:

- (a) The equipment including all other accessories and ancillaries as given in the specifications of the equipment including, UPS, UPS Battery, X-Tube of CT Scanner, etc.
- (b) All the accessories and ancillaries including Air conditioning machine required for the site preparation and interiors

REVISED TECHNICAL SPECIFICATIONS for Site preparation including interiors and Air-conditioning

The interior work and lighting at the Gantry room, equipment room, console room, patient waiting area should be of good quality and standard. Selected bidder will be handed over covered space of carpet area around 750 sq feet.

1. **Area to be prepared including interiors:** Carpet area of 750 sq. feet approx. The area should have properly lead shielded wherever required as per BARC norms.
2. **Height of the room (up to false ceiling):** 3.0 m and above
3. **General**

- a) **Floor:** Floor should be of premier quality double charged joint less vitrified mirror polished tiles.
- b) **Ceiling:** Ceiling should be of Mineral fiber board with aluminum grid. 2/3 coats of distemper on true ceiling.
- c) **Wall:** Walls should be of premier quality double charged joint less vitrified mirror polished tiles up to false ceiling. Wall specification should be as per BARC norms

Door for CT Room: Door: First quality seasoned shagoon wooden door of minimum 40 mm thick double leaf of width 1500 mm with 150 mm X 150 mm vision panel, plastic kicking plate fixed with headless screw, high gloss wax polish. The door should be fitted with proper locking arrangement, door closure, handle and stopper. Wooden frame from 125 mm x 100 mm of good quality Shal / Shagoon wooden block. The door(s) should be lead shielded as per AERB norms.

- d) **Paint:** 2 coats synthetic enamel paints over 2 coats primer over wall putty (if required)
- e) **Viewing Window:** Size of the Lead window should be at least 2" (H) X 4" (W)

4. **Air-conditioning machine:**

The total carpet area mentioned (i.e 750 cu ft. for one tone) has to be properly air-conditioned. Split / Ductable Split type AC machines having appropriate rating to bring down and maintain room temperature to be $20^{\circ} \pm 2^{\circ}$ celsius. There should be sufficient number of the AC machines to run the service round the clock (i.e 100 % backup). The service should be uninterrupted in case of breakdown of any of the AC machine(s).

A/C ducting to be prepare, if required. Humidifier and Dehumidifier should be provided to maintain the humidity level at 40-60 % at Gantry room and in other area(s), if technically required.

5. High quality room lighting (LED up to 400 LUX of illuminance)
6. Medical Gas Pipeline system [O_2 , N_2O , Air (4 Bar) and Suction] with imported outlet points along with matching adapter etc. should be provided. Inside pipeline in the Gantry room to be completed in all respect and the entry points of the pipelines should be terminated at a suitable place outside the Gantry room with medical grade isolation valves.
7. The bidders to submit drawing layout plan of the interior. At least 15 -20 patient holding positions has to be mentioned in the drawing layout plan. Sufficient furniture to be supplied for the console room.

8. **Wiring System:**

- a) Light, Fan, 5 Amp Plug: 3 X 1.5 sq. mm copper conductor FRLS wire should be provided.

b) Power Plug (15 Amp): 2 X 2.5 + 1 X 1.5 sq. mm copper conductor FRLS wire should be provided.

c) Split/ Ductable AC wiring: 2 X 4 + 1 X 2.5 sq. mm / suitable gauge copper conductor FRLS wire should be provided.

Earthing: Two nos. Copper plate earthing as per PWD schedule

Note: The items mentioned above are indicative in nature