

## DETAILS REQUIRED FOR SUBMISSION OF TECHNICAL BID FOR CT SCAN

The CT Scan machines will be installed at various medical colleges where apart from the usual range of cases seen in a tertiary referral hospital, there will be significant burden of trauma and emergency cases. Accordingly, the technical bid submitted by the OEM should mention the following data, and meet the minimum requirements (where specified). The model/make should be a recently launched model, likely to be continued in the market for the next 10 years.

### PATIENT TABLE:

- Enumerate vertical range, vertical scannable range and elevation speed (mm/sec).
- Mention Horizontal range, Horizontal scannable range (cms.) for metal free axial, helical & scout.
- Specify horizontal speed (mm/sec) and **table load capacity (kg.) (Minimum 200kg)**
- Specify positional accuracy (+ / \_ mm) / reproducibility of table positioning and extender for 'feet' first.
- Specify the width and length of the table.

### SCANNER GANTRY:

- **Aperture: 70 cm or more**
- Tilt range (degree): + 300
- Scan field of view: specify
- The Scan field of view (FOV) in acquisition mode: Specify min & max FOV with increment values.
- Specify focus to isocentre distance (mm) and focus to detector distance (mm).

### X-RAY GENERATOR:

- High frequency inverter based generator with a power rating (kW): **Minimum 70 kW or above**
- KV range: Specify & enumerate KV & mA (with increment values)
- Specify the maximum mA allowed at 100kV

### X-RAY TUBE:

- The anode heat storage capacity should be **minimum 6.3 MHU or more**
- Please specify Anode heat dissipation rate (peak)- MHU/KHU/min
- Focal spots: specify the focal spot Size in mm
- Mention the details of the cooling systems of the tube.
- Provide radiation leakage compliance report.
- Beam collimation to fan angle (degrees)
- It should have high load capacity and minimum tube cooling cycle. Specify all parameters related with tube assembly and provide tube-rating charts on single helical for mA / time etc.

### DETECTOR SYSTEM:

- **Number of physically independent desired rows of detectors = 64**

- **Maximum number of simultaneously acquired slice/rotation = 64 or more**
- Detector type: Solid-state detector.
- Specify the material / compound and process of calibration.
- Specify the Total number of elements in a row, row arrangement, thickness, No. of channels and Z – axis coverage
- Specify the Cone beam correction scope
- Mention minimum slice thickness in Axial and Helical mode

#### SCANNED PROJECTION AND SCAN PARAMETERS:

- Specify power on to warm up time from fully off (in mins).
- Total time from fully off to scanning in an emergency (in mins).
- Specify Maximum continuous helical scan time(s)
- Specify maximum scanned projection radiography length
- Real time image
- Accuracy of slice prescription from the scanogram in mm

#### HELICAL AND AXIAL SCANNING:

- The minimum scans time for (axial and helical) full 360° rotations should be quoted
- **Full 360 rotation in helical mode must be 0.4 sec or less (give incremental details). The preference will be given for minimum scan time with maximum volume coverage.**
  - It should have multiple acquisition facility with no interscan delay
  - Specify helical acquisition width (number of channel x width in mm)

#### MAIN CONSOLE: HIGH RESOLUTION COLOR MONITOR

- Monitors LCD (TFT): 19" diagonal or more
- **Two** Monitors at console site one for image acquisition and other for both reviewing/filming and processing.
- Reconstruction matrix: 512 x 512
- Reconstruction rate: 16 images / sec or more on a 512 x 512 matrix
- Please specify the Range of CT number displayed and its accuracy.

#### IMAGE RECONSTRUCTION ON MAIN CONSOLE:

- Reconstructed FOV (cm): Please specify range
- Reconstructed matrix: Please specify range
- Reconstructed time: reconstruction of images should be simultaneous
- Archive data transfer rate (images /sec)

#### IMAGE STORAGE:

- Mention max storage capacity of the hard disks (for images of 512X 512 matrix size, uncompressed) proposed to be provided

