Technical Specification for Equipment

EQUIPMENT: STATIONARY DIGITAL RADIOGRAPHY SYSTEM

OPERATIONAL REQUIREMENTS

A fully Integrated single console controlled Digital Radiography System with High Frequency X-Ray Generator for General Radiography with Dual flat panel detector along with table bucky and vertical bucky capable of taking the complete range of radiographic examinations with the following Specifications & Configuration

A. PATIENT TABLE

1. Tabletop height shall be adjustable from 60cm to 90cm approximately.
2. Tabletop radiation absorption <0.75 mm AL.
3. Maximum patient weight >200 kgs
4. scatter radiation grid should be available
5. Floating tabletop

B. FLAT PANEL DETECTOR

1. No less than 35 x 43 cm digital flat panel detector
2. Image matrix size of 3000 pixels x 3000 pixels with pixel size 125 µm or better
3. The detector must be capable of working on both wired as well as wireless mode and switch over must be less than 2 sec.
4. Detector must have good battery backup and two battery must be provided with charging dock.

C. VERTICAL DETECTOR STAND

1. Motorized movement from 35 to 170 cm above the floor
2. Scatter radiation grid

3. No less than 35 x 43 cm digital flat panel detector 3.Image matrix size of 3000 pixels x 3000 pixels with pixel size 125 µm or better
4. Should support AEC
5. -15º /+90º tilt able detector tray in 15 º increments
6. Side support handles should be provided

D. COLUMN STAND

1. Horizontal travel range: 138 cm (54.3”), movement arrested by electromagnetic brakes
2. Vertical travel range: 150 cm (59.13”) approx, movement arrested by electromagnetic brakes
3. Central beam height: 35cm (13.8”) to 185 cm (72.8”) approx
4. Rotation of tube around vertical axis of floor mounted tube stand: Up to 270°; stops at every 90°
5. X-ray tube rotation around the horizontal axis: ±120°; stop positions: 0°, ±90°
6. Manual or motorized collimator with ±45º rotation

E. X-RAY GENERATOR

1. High frequency generator with 50 kW output power
2. Voltage range: 40-150KV with 1 KV steps.
3. Shortest exposure time: 1 m sec.
4. mAs range: 0.5 to >500 Ma
5. Automatic exposure control as well as anatomic programs.

F. X-RAY TUBE

1. Rotating anode type

2. Tube overload protection should be available

G. WORKSTATION

1. It shall be based on a high-end computer with capacity hard disc drive capable of storing at least 20000 images (1 TB)
2. RAM: 16GB at least
3. CD/DVD-RW drive
4. 19” minimum high-resolution LCD medical grade monitor.
5. Operating software to include following
    6.1 Patient study management

6.2 Automatic exposure controls and post processing functions
6.3 pre-defined and customizable anatomically specific programs.
6.4 Image documentation and archiving
6.5 All standard software packages shall be listed with the offer
6.6 All optional software packages shall be listed and quoted separately.

H. WARRANTY AND MAINTENANCE

1. Warranty period of minimum 24 months should be given starting from the date of installation. (All components in Generator, X-ray Unit, console and detector should be covered in warranty. If any part is excluded, should mention in quotation)

2. Advanced maintenance tasks required must be documented and carried out FOC during the warranty period

3. The equipment should have spare parts available for more than 5 years after the purchase dates

I. DOCUMENTATION

1. User, technical and maintenance manual must be supplied in English language.

2. List to be provided of equipment and procedure required for local calibration and routine maintenance

3. List to be provided of important spares and accessories with their part numbers.

4. Contact details of both local supplier and manufacture for service and maintenance and sales must be provided

J. TRAINING

1. Application training must be given to the hospital radiographers/users within 2 months after installation

2. Manufacturer standard technical training on basic service and maintenance must be given to the biomedical engineers/ technicians within 2 months after installation.

K. OTHER REQUIREMENTS

1. The system must be FDA approved and CE marked

2. It shall be fully DICOM compliant with all standard DICOM specification with interface to the hospital RIS/PACS network/system

3. Bidder may inspect installation site prior to bidding their offers. Radiation warning lights shall be interlocked with system's power-on. Warning signs shall be installed by the supplier in accordance with international and local regulations. Equipment and computer cabinets and control console desk with operator chair shall all be included with the system.

4. Radiation leakage must be tested during the installation by the supplier

L. INSTALLATION& COMMISIONING

1. The equipment should be installed & commissioned by the supplier in presence of URH Biomedical team & installation report, warranty details should be submitted.