

Amendment No. 1

Date: 30/01/2016

Sub: Amendment to the Tender Enquiry Document

Ref: NIT No.: HLL/PCD/PMSSY-II/NAGPUR/15/15-16 dated 29.01.2016

Section – VII Technical Specifications Schedule No. 1

SPECIFICATION FOR X-RAY UNIT WITH DIGITAL FLAT PANEL DETECTOR

High powered X-Ray Unit for general radiography with digital flat panel technology. The unit should be completely integrated with the following specifications. Any two components out of three (X-Ray tube, X-ray Generator and Flat panel detector) should be from the same principle manufacturer of the main (Complete) system

1 The unit should comprise of the following:

- I One Flat Panel Detector (for Bucky Table)
- II Generator
- III X-Ray Tube and Collimator
- IV Floor Stand
- V Patient Table

2 Flat Panel Detector:

- I Flat Panel Detector size of at least 35x40 cm or more
- II Detector Panel should be made of amorphous Silicon with CsI or Gadox.
- III Image matrix size at least 2000 x 2000 or more
- IV Minimum pixel should be 200 micron or less
- V Grey scale of 12 bit.
- VI A/D of 14 bit or better.
- VII Image processing time should not be more than 9 sec.
- VIII DQE at 0lp/mm should be at least 65% or more.

3 Generator

- I X-ray generator should be of microprocessor controlled high frequency (mention the frequency) type with latest technology having constant output with low ripple frequency.
- II Output 50 KW or more.
- III KVP range 40 kV - 125 kV with 1 kV steps.
- IV Output 500mA or more at 100 KV
- VI Minimum exposure time, should be 1 ms or less.
- VII It should have automatic exposure control (AEC) device
- VIII It should have digital display of KVP and mAs.
- IX Anatomical programming radiography should be possible
- X It should have over loading protection

4 X-Ray Tube

- I The X-Ray Tube should be rotating anode high speed compatible with the generator and must have dual focus.
- II Focal spots of the following sizes:
 - a Large Focus: 1.2mm or less
 - b Small Focus: 0.6mm or less
- III Please mention tube loading for small focus and large focus, should be atleast 27KW or more for small focus and at least 50KW for large focus
- IV Tube with Anode heat storage capacity of 150kHU or more
- V Tube protection against overload

- VIII Please specify tube rotation angle at vertical axis and horizontal axis.
- 5 Floor Stand**
- I Movement in all direction should be easily possible
- IV Monitoring of all the position data on color touch screen for system control (kV, mAs, SID, tube angle, column angle)
- 6 X-Ray Table**
- I Free floating Carbon fiber or equivalent table top table with low attenuation.
- II Anti collision control system.
- III Table should support patient weight of 150 kg or more.
- IV The grid supplied with the table should be of minimum grid ratio 10:1
- 7 Operating (Acquisition) Station**
- I Should have a high resolution TFT / LCD Monitor of minimum 18 inch size or more fully flat with minimum 1024 x 1024 or more display matrix and anti reflective front screen
- II Please specify Image matrix size.
- III Operating console should have a facility for patient identity entry, viewing and processing images, documentation etc.
- IV System should have auto protocol select
- 8 Image storage and Transmission**
- I Hard disk storage capacity should be of 10000 or more images of 1024 x1024 matrix
- II The system should support storage of images on compact discs/DVD
- III The system should be DICOM 3.0 (or higher version) ready (like send, receive, print, record on CD/ DVD, acknowledge etc) for connectivity to any network computer/PC-etc in DICOM format.
- IV Easy integration and networking should be possible with any other existing future networking including other modalities HIS, RIS & PACS at no extra cost.
- 9 DAP: The facility to measure the radiation should be available.**
- 10 Accessories**
- I Laser Camera should have minimum 500 DPI or more and should print at least 3 sizes of films on line out of 10x12, 10x14, 11x14, 8x10 and 14x17 inches.
- II Online UPS alongwith batteries of appropriate rating to give 30min. back up to operate the complete system including X-Ray machine.
- III Zero lead aprons-4 Nos.
- IV Stand for lead aprons-1
- 11 Approvals**
- The bidder should provide USFDA or European CE approved and AERB approved certificate for machine. Please enclose any other certificate required for installation of the machine. NOC will not be accepted. Vendor should have eLORA registration for the quote model & provide copy of the same.
- 12 Any minor site modifications required for successful completion of Installation & Commissioning shall be the responsibility of the vendor
- 13 Warranty/After Sale Service**
- Five year comprehensive onsite warranty of entire system (Spares and labour) including X-ray tube, civil, electrical and air conditioning works and all accessories (including dry chemistry camera, UPS etc.). This will be followed by 5 years comprehensive AMC.
- 14 **Training:** Minimum of 1 week of onsite training at the Hospital should be provide to radiographers and radiologists.
- 15 List of installation.
The bidder should have installed the same model in India. The bidder to provide the satisfactory installation of the same model in India.

- 16 Spares: Manufacturer/principal to give undertaking to provide spares for next 10 years of their quoted model.
- 17 Principal manufacturer to give undertaking that they will maintain and service the equipment in case Indian agent/ supplier fails to provide the service.
- 18 Product Data Sheet
All specification to be provided with original product data sheet. All technical specification should be supported with original data sheet highlighting the page number in the compliance sheet. Photocopy/computer print will not be acceptable.