

Amendment-IV

Ref.: Tender No. HSCC/SJH/Med.Eqpt./2016/24 dt. 18.1.2016.

Sub.: Procurement of Medical Equipment for New Emergency Block & Super-Specialty Block at Safdarjung Hospital, New Delhi.

It is informed that amendments have been received from Safdarjung Hospital (Copy Enclosed) in view of the pre –bid meeting queries submitted by the prospective bidders. These are for item no. 1,2, 6, and amendment to be uploaded on the website are as mentioned below. The bid submission date for item no. 1,2,3,4,5,6,7 is extended from 23.12.2016 to 29.12.2016 .item No. 8 is Deleted.

Technical Amendment:

Item No. 1**Item No.1 Amended specification based on Pre bid queries****SURGICAL OPERATING MICROSCOPE FOR****NEUROSURGERY****MICROSCOPE BODY****and OPTICS:-**

Should have Motorized zoom magnification system with apochromatic optics, zoom magnification factors to be around the range of 0.4x to 2.4x.

Amended as : All activation should be by handgrip, Stand mounted LCD control panel and foot control panel, with manual override. Total magnification range 2X- **16X** or higher. Internal motorized fine focusing system. All activation should be by handgrip, Stand Mounted LCD control panel and foot control panel, and with manual override. These should be continuously adjustable with working distance from about **225+25 mm to 475+25 mm** .Beam Splitter should preferably be integrated in the microscope body, without any external attachment with face to face attachment with rotatable dovetail mount for fatigue free surgeries.

BINOCULAR TUBE : 0-180 degree range tiltable binocular tube with focal length =170 mm or higher. Should

Graduated knob for continuous adjustment of interpupillary distance from 55 mm to 75 mm

Auto balance and Auto Drape – System should be capable of auto-balancing the microscope intraoperatively. Autobalance should be fully computerized and should not involve any manual rotation of knobs (automatic self balancing).

EYEPIECES : Pair of high eyepoint widefield push-in eyepieces 10x magnification with magnetic locks, with diopter setting range from -8D to +5D for spectacles wearers. The lenses should have rubberized cuffs for comfort and should preferably have antifogging coating.

Face to face attachment for spinal surgery. Stereo Co Observation attachment with two joints with side changer. Optics and eyepiece similar to main surgeon unit.

ILLUMINATION SYSTEM :Coaxial xenon illumination of about 180/300W with back up similar rating xenon with quick- action lamp changer in case of failure of main lamp should be integrated within the microscope stand. In case of electronic system failure the light should continue to work with manual

overdrive for optics adjustment.

Should have automated illumination Brightness control linked to working distance and magnification. Should have automatic zoom-synchronized illumination field diameter, with manual override and reset feature.

Amended as HANDGRIPS : Easily maneuverable handgrips with adjustable keys for zoom and focus, Illumination & Magnetic brakes. Programming for magnetic brake for control of stand & Microscope body brakes.

FLOOR STAND : Rollable floor stand on base with lockable castors, carrier and swivel arms with large reach of 1.30m or higher, Weight carrying capacity at least 18 Kg. Should have free float magnetic system with Multiple magnetic brakes for Microscope body & Stand with, release of magnetic brakes by handgrips with contrives stand.

Touch screen Liquid crystal display (LCD) with user prompts, quick set up of different parameters and their activation at press of a button such as automatic speed adjustment or automatic brightness setting depending on magnification.

System may preferably have overhead LCD display for showing important parameters to operating surgeon.

Amended as : Advanced digital 3CCD HD Video camera should be supply. Camera output should go to wall mounted 24" inch or more medical grade monitor. The other output for camera should go to computer based recording system while it is to be supplied with microscope .

USER PROGRAMMING : Programming for starting illumination, magnification working distance, Zoom speed & Focus speed for at least 8-9 different users.

Item No. 2 TECHNICAL SPECIFICATIONS OF HEART LUNG MACHINE

1. DESCRIPTION :

Heart Lung Machine is an apparatus through which blood is temporarily diverted, during heart surgery, to oxygenate it and pump it throughout the body, thus maintaining circulation until the heart and lungs are able to return to normal functioning.

2. Technical Specifications:

- a) The unit should have 5 pumps heads and can be used as arterial, two suction, vent and cardioplegia with separate power supply and control modules. Should have easy access connectors for interchanging the pump.
- b) The design of pump must be horse shoe or U shaped race way design and the pumps should have direct drive system and maintenance free. All the pumps should have pulsatile mode in built. Each module should work its own.
- c) Each head should be controlled individually and rotatable in different direction with master-slave control.
- d) Should have a spill proof base.

- e) The quoted model should be of latest generation.
- f) The unit should be supplied with a battery back up of minimum of 90 minutes for all the pumps. Switch over from main power to battery backup should be automatic and immediate. The battery unit should be built in to the pump base and it should be recharged automatic and immediate.
- g) Should have unidirectional /bidirectional hand crank facility as a critical safety feature hand crank loading should be from top for faster access.
- h) Accuracy: pump head raceway accuracy should be 0.03mm, occlusion accuracy should be 0.03mm, occlusion rollers accuracy should be 0.015mm & maximum flow up to 10 LPM should be there.
- i) Occlusion: should have Thump wheel locking Mechanism. Or any other mechanism .
- j) Amended as:-Monitors: Pressure monitor (2), Timers (3), Temperature Monitor (4) and all the monitors should be touch screen or manual.
- k) Pressure Sensor should have 2 modes – Stop Mode & Control Mode.
- l) Cardioplegia module should have both Manual as well as Automatic operation.
- m) Should be provided with mechanical gas blender.
- n) Should be provided with Level Sensor and air Bubble sensor.
- o) Bubble Sensor should have different bubble detection thresholds and should also have micro-bubble detection function.
- p) Level sensor should be with 2 modes – Normal & Control Mode.
- q) Must have Master UPS – shows all the details like Battery time, Load time & Remaining time.
- r) The machine should start within 5 seconds.
- s) Should be provided with venous line clamp and it should be of light weight design and can be placed near venous reservoir without any support.
- t) Pumps should run on medically Safe voltage (24 V DC)

2.1) Roller pump should have a self diagnostic circuit with provision to detect and display the following alarm conditions:-

- A) OVERSPEED
- b) PUMP JAM
- C) BELT SLIP

D) OVER OCCLUSION

E) PUMP DRIVE SYSTEM WITH DOUBLE V-GROOVED BELT SYSTEM

F) Point Deleted

G) FLOW RATE DISPLAY SHOULD BE CALCULATED ON THE BASIS OF PUMP SHAFT SPEED.

2.2) Should have a flexible lamp to monitor the level of blood in oxygenator/reservoir.

3. HEATER COOLER MACHINE

- a) The unit shall be capable of operating continuously in ambient temperature of 2 - 40.5 degree Celsius.
- b) The unit should have 2/3 independent tanks and 2/3 separate circuits and these circuits should be able to control patients' temperature and also heating and cooling of cardioplegia and should work simultaneously.
- c) The accuracy should be 0.1-3 C. Settings should be adjustable to 0.1-3C.
- d) The heater cooler unit should also be compatible to get integrated into the heart lung machine and can be controlled from heart lung machine apart from remote control.

Both the heart lung machine & heater cooler machine should be supplied by same principal company.

Both the heart lung machine & heater cooler machine should be US FDA & European CE approved.

Item No. 6

Mobile C-arm System with IITV

ISOCENTRIC mobile C Arm with following specifications :

IITV SYSTEM

1. 9" triple field Image Intensifier with zoom function should be provided. CCD Camera with motorized facility rotation and 1K X 1K matrix .
2. Fluoro / Radiography and play upto 25 frames/sec.
3. **Amended as** : Dual Medical 19" (48 cm) LCD anti glare panel.

C-ARM : It must have ISOCENTRIC movements. Following movements should be available:

- Vertical, RAO, LAO and Cranio caudal movements must be motorized and also remote controlled
- Rotation : 180 Degrees
- Motorized Up/Down : At least 350mm
- Horizontal Travel : At least 100 mm
- Arc orbital Movement : At least 85 deg +25 deg
- Amended as**: Free space should be at least 30.7" (78 cm)
- Amended as** : Source to image distance should be 39.4"(100 cm)
- Integrated laser light positioning.

X-RAY GENERATOR: High Frequency x-ray generator with single tank converter frequency

of minimum

40 KHz or more with power output of min. 20 KW or more should be provided. Unit should have following parameters

- a. KV range : 40 to 110KV (Rad. / Fluoro)
- b. Max mA : 250mA OR more.

X-RAY TUBE

1. Dual focus rotating anode X-Ray Tube of dual focal spot size (e.g. 0.3 and 0.6mm) to be provided.
2. Anode heat storage capacity should be 300KHU or better.
3. Anode coiling capacity should be 70kHU/min. or higher. The tube housing heat capacity should be a minimum of 1600000 HU
4. X Ray tube must be from same manufacturer OR from same country where main machine is manufactured. Attach documentary evidence.

CONTROL : Control panel should have : Pulse Fluoro, Radiography .

Physician controlled advanced multifunctional double foot switch, hand switch. Remote control (wired) for motorized movement control of C arm .

DIGITAL IMAGE ACOUISITION & PROCESSING SYSTEM

- Cine loop acquire up to 25 frame/second
- Pulsed fluoroscopy
- A m e n d e d a s** : Auto image storage in hard disc drive up to 1,00,000
- Image zoom and multiple image display, Windows and level, Electronic collimator
- Image flipping and rotation, Image measurement

Image Management features

- Integrated DICOM interface
- Image storage to disk during fluoroscopy, pulsed fluoroscopy, digital radiography, digital serial radiography.
- Archiving should be digital with facility to make CD/DVD and others.

- Provision of Large capacity disk for storage .
- All DICOM class must be available.

Essential Accessories:

- Thermal Printer with 100 paper rolls.**
- Multifunction fluoroscopy footswitch.
- Radiography hand switch .
- Dosimeter (DAP)
- Light weight Lead apron including thyroid shield – 6 nos.
- Voltage stabiliser for full unit with spike suppressor.
- UPS for digital section/ monitors with 30 minute back up.

- Grid with 8:1, 100 lines per inch.

Certification USFDA/ European
CE approved.

Warranty : Should be supplied with 5 years warranty including all supplied accessories, X ray tube, image intensifier, stabilizer, UPS, batteries, table etc. and CMC price for next five years should be quoted separately.

All other conditions remain unchanged

Amendment to be issued will be uploaded on website [www.tenderwizard .com/HSCC](http://www.tenderwizard.com/HSCC) &
WWW.hsccltd.com

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