Amendment No. 7

30-01-2018

Sub: Amendment to the Bidding Document

Ref: Notice Inviting Bid ref. HITES/PCD/NCI-AIIMS/08/17-18 dated 11.12.2017 read with its Amendment nos. 1, 2, 3, 4, 5 & 6 dated 14.12.17, 04.01.18, 06.01.18, 10.01.18, 17.01.18 & 18.01.18 respectively.

The following changes have been authorised and are being incorporated in the above referred Bidding Document only for the tendered item **against RFx no. 3000002481 i.e. 'Integration and Data Management System for Modular OT with OT Light'.**

SECTION - VII
TECHNICAL SPECIFICATION AND GENERAL POINTS

A. TECHNICAL SPECIFICATION:

Item Sl. No. 02

Integration and Data Management System for Modular OT with OT Light

The existing specification is amended as under-

1. Installation Requirement & Scope –
  a) Bidder has to provide all required hardware & software to complete the work all in accordance with international standard & norms.
  b) Within **MOTs & Integration Server Room** communication between devices console etc. can be done using any technology compatible with 3D, HD, FHD, SD and 4K signals wherever applicable. However communication to any location outside **MOT/Integration Server Room** should be through Fiber Optic.
  c) All required cabling in MOTs and **up to Integration server room is** under bidder's scope. Institute will provide OFC (Fiber Optic Communication) from Integration server room to other locations like- doctor's lounges & auditorium, etc.
  d) Bidder should be responsible for all cut-outs, patch-panels, flushing of monitors, etc. and repairing & repainting of OTs thereafter (If required)
  e) Bidder has to provide all required tranches/ trays, conduits for fiber optic cables, electrical cables, data cables, etc. with all necessary cabling required for integration system. MOT vendor will provide necessary cutouts as per approved drawing provided by institute/consignee. MOT vendor will also provide dedicated MCBs/MCCBs minimum 2Nos for integration equipment in MOT Distribution Board(DB) rest cabling will be in the scope of integration vendor for integration equipment's. All the electrical components should be used as per industry standards and norms.

f) Bidder has to provide all required convertors/transducers**/ Scalars** to integrate signal from different sources/equipment. The integration system should be capable of sending & receiving of all kind of audio & video signals (VGA, RGB, **HD, 3D**, **4K,** HDMI, DVI, USB, S-Video, etc)

g) **Full MOT Integrations system offered should work without need of Internet within the Hospital/Institute i.e. over INTRANET or OPTICAL FIBER BACKBONE.**

2. Medical Grade Monitors -

a) 26 inch or more Full High Definition (1920X1080p) medical grade monitor should be mounted on OT Light 3rd arm.

b) 42 inch FHD (1920X1080p) medical grade color monitor should be flush mounted on OT wall with all necessary frames with glass should be provided by bidder.

c) Ceiling Boom Arm **(For MIS MOTs)** – Should be capable of holding 32inch monitors and all fixation related work for the same should be responsibility of bidder

d) All medical grade monitors offered should be European CE with 4digit notified body/US FDA certified

e) Bidder shall be responsible for Patch panel for power & signals to be laid down for Monitors at Wall/ Pendent/ booms/ OT Light 3rd arm

3. Audio Video Communication System

a) **All** the **AV signals of** MOT should be connected to Conference room/Other MOT/Doctors lounge/Etc. for video conferencing and live transmissions in the native form as per the requirement**.**

b) The Audio-Video system should have the minimum 12 x 12 Digital with open architecture **having compatibility of signals like SD, HD, FHD, 3D, 4K, etc.** The routing/Switch system should be able to integrate Full HD**/HD/SD/3D/4K**signal (e.g. Room Camera/OT Light Camera/ **Endoscopic Camera/ Recorded Videos**/Etc)

c) **Required** Number of Decoders and Encoder/converters**/ Scalars** should be supplied as per the institute requirement.

d) Audio – Visual system should receive the signal from different sources like Room camera, Endoscopy camera, Overhead camera, Archiving System, Auxiliary devices like C-Arm, Video Microscope, Mobile ultrasound, microphones, AUX-IN, 3.5mm(Audio) in & video conferencing.

e) The routing system should allow selection of multiple views for simultaneous transmission in QUAD or PIP format

f) **Bi-directional MOT to MOT video conferencing should be possible with exchange of any AV sources(as mentioned above) should be possible along with bi-directional VC.**

g) The System should be able to receive and transmit the PACS Data.

h) Patient and image data(Endoscopic or open procedure) should be able to call up and distributed to required monitors in the operating room. Cross conversion and scaling for SD and HD signals should be available as standard (Every SD/HD input can be routed to any output within MOT)

i) All the patch panel work required for Hardware of OT Integration system should be in the bidder's scope of work and also necessary co-ordination with consignee, MOT

Vendor, construction vendor and HLL/HITES will be the responsibility of the bidder for successful completion of the all associated works.

j) Audio-Video bidirectional Conferencing system should be offered and the system should be able to transfer high quality real time images and audio signals from multipoint at a minimum speed of 2Mbps. The system should able to transmit full HD signals (1080p) over the ISDN lines or IP Service.

k) Suitable HD camera with 10x Optical Zoom, Freely PAN/TILT for view setting & controls (2Nos- One for VC & Onefor Room View), Speakers & wireless mic., etc. should be provided in each MOT along with a patch panel which is capable to path any Standalone VC System, AUX in & AUX out and USB(AUX & USB for music only)

l) **The video conferencing system should be controlled via the touch screen of the integration system and it should capable of sending and receiving of any VC call through IP. Vendor may offer central solution for the same but all MOTs should be capable of dialing VC calls and receiving VC calls and simultaneously minimum 08 parties can join the VC in FHD. Parties can be any three MOTs simultaneously of NCI Jajjhar MOTs and any other five parties who having IP based VC anywhere in the world.**

m) Suitable Number / Sets of Transmitters, Receivers and Cables, connectors and accessories should be offered as per the requirement.

4. Control System cum Digital Documentation -

a) Full High Definition 19" or more Medical grade touch screen LED/LCD control monitor should be wall mounted or mounted on extended arm on surgical Pendant for the display& routing of live transmission of images and video sequences from the Operating Room (eg. images from C arm, endoscope, OR light camera and Microscope)

b) Should have provision to record the images and video sequences in OT.

c) The Full High-Definition Medical Grade Digital Documentation System should be a high-end computer system based on Windows 7/8 or better embedded platform (for security purposes) designed specifically for recording, managing, and archiving surgical images and video in native full HD resolution. The captured full high-definition images & videos can be accessed from the hard drive for printing or saving onto USB Flash Drive & Hospital network.

d) Integration of equipment/Signals/Sources with the Central Control System in such a way that the central control system is capable to route any running SD/HD/FHD/3D/4ksourcesto any destination display device in an operating room without changing infrastructure and without pre configuration.

e) It should have at least 500 GB or more internal Hard Disk Drive (HDD) for in-system archiving. Also able to automatically transfer the data to storageserver present in Integration server room for optimum useof storage. It should be able to preview and simultaneously record views from two video sources parallel and archive as single patient file.

f) Patient and image data should be able to call up and distributed to required monitors in the operating room.

g) All cabling including audio, video, communication, power, etc in the scope of bidder and it is responsibility of the bidder to provide all necessary connectors/convertors to integrate the external OT equipment to integration system.

h) The control system rack should be flush mounted into the MOT wall or mounted on rack at dirty corridor, all the suitable flushing/mounting rack &accessories should be provided by the bidder and it should be accessible for servicing purpose.

i) System should able to document patient data and user configurable options for different procedure. The integration system offered should be connected with PACS & HIS. It should be DICOM and HL7 compliant.

5. Monitoring and Integration Server Room requirement –

a) A dedicated wall mounted monitoring screen of minimum 42 inches should be provided for viewing **live MOTs procedures of all 08 MOTs in octa view through live streaming or via cabling. Selection of the source to be displayed will be assigned by respective MOTs.**

b) It should have dedicated server with 30 TB of local online storage/ NAS **connected with documentation system of all MOTs and with Hospital server.**

c) Suitable Live Streaming Server (if not dedicated for each OTs) can be placed in this room with all necessary cablings & accessories.

d) Bidder has to provide VC Patch to this room and doctors lounge/Lecture room present on same OT area.

6. Live Video Streaming –

The integration System should be supplied with minimum 30 User License to simultaneously remotely view of video sources of MOTs with following features –

i) Full HD live streams of at least three user selectable any Video sources of each integrated MOT should be provided with suitable encoders & decoders. The sources for the video streaming is freely selectable and the surgeon should be able to put the OT in Private Mode/off, if streaming of Audio-Video is not required to a particular user or to all the users

ii) The Live Streaming of VC should be possible as one of the AV sources out of three for each MOT as described above.

iii) All Licensed user should simultaneously login through browser based application, based on user privileges defined, to remotely view all streamed audio-video sources and logged-user should be able to select any video from all the Video Signals streaming from all the Integrated MOTs simultaneously. Any user should be able to see all streamed AV sources like - Endo Cam, In light Cam, Room Cam, C-Arm, etc. of any of the MOT at any given point of time.

7. Trolley Based VC System –

i) The VC system should be equipped with all hardware, software & licenses to enable the bi-directional Video Conferencing like – FHD Camera with 10x Optical Zoom, Freely PAN/TILT for view setting with all controls, Dedicated wireless Mic, Speaker, min. 26" LED monitor, etc. and suitable system for dialing & receiving the IP calls.

ii) Should be ready to connect with Patch Panels & Hospital Network, suitable accessories should be provided.

8. OT LIGHT WITH CAMERA

A. OT Light – LED

Operating Room Surgical Lighting System should provide an ideal combination of brightness, maneuverability, and shadow resolution without sacrificing color accuracy through a consistent LED technology. Such Lighting System should have the following technical specifications:

i. Number of Light heads : Two per suspension
ii. Colour Temperature range: 3800 k -5000 (±10 %) - Variable colour temperature.
iii. Field Size Diameter: 20 to 28 cm (+/- 10%)
iv. Working Range: 750 to 1100 mm (+/- 10%) or better
v. Illumination Level : 160000 Lux (Major Dome & Minor dome)
vi. Controls : Control Panel (wall and on dome)
vii. Rotation : 360 degrees full range
viii. Sterilizable Handle: 02 Nos.
ix. Mounting Type : Ceiling
x. Supply Voltage : 230 VAC 50 Hz
xi. Bulb Type : LED
xii. Dimming Range : 30% - 100%
xiii. Life of Light Source : >40,000 Hrs
xiv. Should be supplied with 3rd arm for Monitor(32 inch)
xv. Surgical Light System Should be European CE with 4 digit notified body/US FDA certified/ Self declaration of conformity of Eu CE with ISO 13485 issued by 4 digit notified body and certificate should be submitted for offered model

B. HD Camera System – 1080 p/i

Integrated In-Light Camera System should be in one of the domes of this lighting system.
Such an autofocus – camera should have the following specifications

i. Signal to Noise Ratio (S/N Ratio) : >50 dB
ii. CCD/CMOS : 1/3" or 1/2.8" **or 1/2.5"**
iii. Optical Zoom : 10X
iv. Digital Zoom : 12-15X
v. Video Output: HD and S-Video / Composite Video (Integrated / through Convertor)
vi. White Balance & Gain: Automatic/Manual
vii. Light and Integrated Camera should have a control through Touch Panel of the control equipment placed inside the operating room

C. HD LED Flat Panel Medical Grade Monitor (for Non Integrated MOTs- to be offered separately)
Should be 26inch or more High Definition Progressive Scan Flat-panel Medical Grade Monitors with ceiling mounted spring arm suspension to support high definition/HDTV

progressive Scan images and should be able to support and display DVI/HDTV, RGBHV, S-Video, Composite video signals. Aspect ratio 16:9/16:10. Resolution – 1920X1080 or more.

The flat Panel suspension should be ready with the cables for integration of High Definition Digital (DVI/HDTV), RGBHV (High Resolution), SVHS (S-Video), Composite video signals to travel from the various sources of video like endoscopic camera, room camera, in light camera, high definition flat panel monitors, while assuring native resolution / signal.

D. Medical Grade Recording System (for Non Integrated MOTs- to be offered separately)

Recording system should be full HD monitor LCD 7" touch screen or more and having the minimum 500 GB storage space. USB port should be available for archiving the procedures. **It should be supplied with dedicated trolley or mounting /wall flushing accessories to mount / flush the recorder within MOT. Data cable for communication from both pendants and monitors should be laid down upto outside of Non-integrated MOT in a patch port for future expansion for all MOT's.**

	Amended BOQ for Integration for NCI AIIMS				
S.N	**NAME OF THE ITEMS** (Item description as per specification)	**UNIT**	**Qty for Each MOT**	**Total Qty for 8 MOTs**	**MAF- Ex/ NON-Ex/ NR**
1	**Scope of Bidders** (As per tender specs) All works including cabling, patch panels, scalars, transduces, etc hardware & software for meeting the tender requirements	**LS**	1	1	NR
2	**Monitors:** (As per tender specs)				
A	Digital Medical Grade monitor (26inch or more)	Nos.	1	8	NR
B	42 inch Medical Grade Monitor (flushed in MOT Wall with frame)	Nos.	1	8	NR
C	Ceiling boom arm to mount 26/32" monitor (Only for MIS OTs)	Nos.	1	**2**	NR
3	**Audio Video Communication System** - as per tender Specification	Ls	1	8	**Ex**
4	**Control System cum Digital Documentation System** - as per tender specification	Nos.	1	8	**Ex**

5	**Monitoring and Integration Server Room Requirement** (As per tender specification)				
A	42 inch Monitor	Nos.	1	1	NR
B	30 TB Online Storage	Nos.	1	1	NR
6	**Live Video Streaming**	Ls	1	1	NR
7	**Trolley Based VC System**	1	1	1	NR
8	**(A+B)** OT Light With Camera	Nos.	9	9	**Ex**
C	HD LED Flat Panel Medical Grade Monitor	Nos.	1	1	NR
D	Medical Grade Recording System	Nos.	1	1	NR

Note: Evaluation will be done on the tendered BOQ, Institute may vary the quantities of BOQ items as per the institute requirement and final payment will be done as per actual consumption

Abbreviations:

MAF : Manufacturer Authorisation Form as per Bidding Document

Ex : Exclusive (i.e. One OEM can authorise only one agent for its product in a specific tender).

Non-Ex: Non Exclusive.(i.e. One OEM can authorise multiple agents for its product in a specific tender).

NR : Not Required.

SECTION – X

Please refer the new version of Price bid format on HLL e-bid portal for RFx / Event number 3000002481. The same need to be downloaded for submission of price offer.

All other contents of the Bidding Document including terms & conditions remain unaltered.