

**Amendment No. 5****Date: 06/01/2016****Sub: Amendment to the Tender Enquiry Document**

**Ref: NIT No.: HLL/PCD/PMSSY-II/07/15-16 dated 28/10/2015**  
**Amendment No. 01 dated 26-11-2015**  
**Amendment No. 02 dated 21-12-2015**  
**Amendment No. 03 dated 22-12-2015**  
**Amendment No. 04 dated 04-01-2016**

The following changes have been incorporated in the referred NIT.

**NOTICE INVITING e-TENDERS (NIT)****(1)**

**The schedules for some of the items have been merged as below and three more items have added to the tender. The quantity and EMD for the merged items are also revised and schedule for opening and closing of these events are as follows:**

Sch no	Event Number	Name of Item	Qty.	EMD	Due date & time for submission of Tender fee and EMD in physical form	Due date & time for submission of online bids	Date and time of opening of online bids
6	3000000608	Operating Microscope	2	₹ 120,000.00	20-01-2016 1700 Hrs	21-01-2016 1800 Hrs	22-01-2016 1230 Hrs
8	3000000611	OT Light – LED with monitor, camera & recording system	10	₹ 300,000.00	20-01-2016 1700 Hrs	21-01-2016 1800 Hrs	22-01-2016 1230 Hrs
10	3000000613	Electric Cautery/Electro Surgical Unit	27	₹ 270,000.00	20-01-2016 1700 Hrs	21-01-2016 1800 Hrs	22-01-2016 1230 Hrs
11	3000000614	Ultrasonic cutting and Coagulation device	3	₹ 120,000.00	20-01-2016 1700 Hrs	21-01-2016 1800 Hrs	22-01-2016 1230 Hrs
12	3000000615	Operating Table –Electro hydraulic	25	₹ 1,000,000.00	20-01-2016 1700 Hrs	21-01-2016 1800 Hrs	22-01-2016 1230 Hrs
17	3000000620	128 SLICE MDCT WITH INDEPENDENT 64 OR MORE ROWS OF DETECTOR	1	₹ 1,200,000.00	20-01-2016 1700 Hrs	21-01-2016 1800 Hrs	22-01-2016 1230 Hrs
18	3000000621	Endoscope system of Neurosurgery	1	₹ 60,000.00	08-04-64	08-04-64	08-04-64
19	3000000622	E.N.T. OPERATING MICROSCOPE & Video Camera Unit	1	₹ 20,000.00	20-01-2016 1700 Hrs	21-01-2016 1800 Hrs	22-01-2016 1230 Hrs
20	3000000623	OT Light LED	<i>Merged with item at sch. no. 8</i>				
21	3000000624	Ultrasonic Cutting and Coagulation device	<i>Merged with item at sch. no. 11</i>				
22	3000000625	Operating table Electro Hydraulic	<i>Merged with item at sch. no. 12</i>				

Sch no	Event Number	Name of Item	Qty.	EMD	Due date & time for submission of Tender fee and EMD in physical form	Due date & time for submission of online bids	Date and time of opening of online bids
23	3000000626	Electric Cautery/Electro Surgical Unit with vessel Sealing	<i>Merged with item at sch. no. 10</i>				
24	3000000627	Electric Cautery/Electro Surgical Unit	<i>Merged with item at sch. no. 10</i>				
25	3000000628	Surgical Operating Microscope for neurosurgery	<i>Merged with item at sch. no. 6</i>				
31	3000000765	Ventilators High End	12	₹ 360,000.00	20-01-2016 1700 Hrs	21-01-2016 1800 Hrs	22-01-2016 1230 Hrs
32	3000000766	Patient Bed - I.C.U Beds (Advance)	108	₹ 540,000.00	20-01-2016 1700 Hrs	21-01-2016 1800 Hrs	22-01-2016 1230 Hrs

**Section – VI**  
**List of Requirements**

Sch no	Event Number	Name of Item	Department	Qty	Consignee
6	3000000608	Operating Microscope	Neurosurgery	1	Pt. BDS PGIMS Rohtak
				1	JNMC Aligarh
8	3000000611	OT Light – LED with monitor, camera & recording system	OBG & GYN	2	Pt. BDS PGIMS Rohtak
			OPD & Trauma	8	JNMC Aligarh
10	3000000613	Electric Cautery/Electro Surgical Unit	Anesthesia	10	Pt. BDS PGIMS Rohtak
			OBG & GYN	4	JNMC Aligarh
			OPD & Trauma	1	JNMC Aligarh
			OPD & Trauma	12	JNMC Aligarh
11	3000000614	Ultrasonic cutting and Coagulation device	Urology	1	Pt. BDS PGIMS Rohtak
			General Surgery	1	Pt. BDS PGIMS Rohtak
			OBG & GYN	1	JNMC Aligarh

Sch no	Event Number	Name of Item	Department	Qty	Consignee
12	3000000615	Operating Table – Electro hydraulic	Anesthesia	13	Pt. BDS PGIMS Rohtak
			OBG & GYN	2	JNMC Aligarh
			OPD & Trauma	10	JNMC Aligarh
17	3000000620	128 SLICE MDCT WITH INDEPENDENT 64 OR MORE ROWS OF DETECTOR	OPD & Trauma	1	JNMC Aligarh
18	3000000621	Endoscope system of Neurosurgery	OPD & Trauma	1	JNMC Aligarh
19	3000000622	E.N.T. OPERATING MICROSCOPE & Video Camera Unit	OPD & Trauma	1	JNMC Aligarh
31	3000000765	Ventilators High End	Trauma Care Centre	10	Pt. BDS PGIMS Rohtak
			Anesthesia	2	
32	3000000766	Patient Bed - I.C.U Beds (Advance)	Trauma Care Centre	90	Pt. BDS PGIMS Rohtak
			Urology	2	Pt. BDS PGIMS Rohtak
			OPD & Trauma	16	JNMC Aligarh

## Section – VII Technical Specification

### Schedule 6 Surgical Operating Microscope for Neurosurgery

#### Microscope:

1. The optics carrier should have latest technology of Horizontal optics Technology. The optics Carrier should be smaller and more compact than the usual Surgical operating Microscope.
2. Brilliant Optics WITH OPTICHROME/APOCHROMATIC Technology
3. Motorized 1:6 zoom activated through hand switch, footswitch and through control panel. Manually adjustable override
4. Magnification range: 1.5x-17.0x with 10x Eyepiece
5. Field of View diameter 12.5mm-143mm with 10x Eyepiece
6. Motorized focus via multifocal lens from 200mm to 500mm, activated through hand switch, footswitch and through control panel. Manually adjustable override

7. Wide range observation up to 3 observers can view simultaneously. Wide range of observation through integrated stereo bridge beam splitter & Stereo Co -observation should remain fixed while tilting the microscope head.
8. Optics with Stereo base 22mm or more for natural three-dimensional image
9. Completely intergraded configuration without any modular attachment possible for each application
10. Ideal for seated patient operation (e.g. Posterior fossa). **NO NEED TO CHANGE OVER THE ACCESSORIES ANDRE-BLANCING IS NECESSARY**
11. Signal user interface for control of data during surgical procedure. Should be touch controlled screen integrated within the stand.
12. The microscope should have signal touch auto balance for intraoperative balancing despite of any configuration of the microscope.
13. The speed of the zoom & focuses should adjustable via control panel.
14. Automated illumination brightness control is linked to working distance / Avoids accidental thermal injury by shorting working distance without lowering the height.
15. Built in automatic zoom:- Synchronized illumination field diameter, with manual override and reset feature I only exposes tissue to light, that need light scatter light from retractors is often eliminated.
16. Binocular tube: – Should be minimum 0-180 degree tilt able or more for comfortable fatigue free surgical postures for all microvascular surgeries like posterior fossa and other
17. **Dual Laser or Motorized** focusing device for fast, precise microscope position .

**Illumination:**

- i. Dual lamp illumination of 300 watt or more completely integrated within the microscope stand without any external modules. Should have quick semi-automatic lamp exchange facility.
- ii. Dual light Illumination system: Should have additional beam path to illuminated deeper cavities of shadow free surgical field.

**Accessories; (Price to be quoted separately)**

- i. **IGS-Facility (Price to be quoted separately)**  
Should be capable of image guided surgical procedures and should be a mandatory feature.
- ii. **Fluorescence guided surgeries for tumor resection and Vascular surgeries. (Price to be quoted separately)**  
Should be upgradable and without any additional hardware through modular attachments. Should remain completely integrated within the system.

**Mouth control of microscope:**

- i. Attachment system to enable Mouth control of microscope

**Stand system:**

- i. Floor stand:- Should be of contravis technology and six electromagnetic movements.

- ii. Base should be stable and robust.
- iii. Extremely light movement and control of the optics carrier by 6 electromagnetic brakes
- iv. XY movement:- true curvilinear movements for true XY movements for the Front to back inclination for the difficult posterior posa cases
- v. Once balanced the whole system should be able to move around with your two fingers on the hand switch.
- vi. Optics rotation: 540deg
- vii. Footswitch with 12 or more function
- viii. The system should be a true overhead positioning
- ix. Weight:- Approximately 310kgs fully loaded
- x. Inter-operative auto balance: – Can be balanced during the case without breaking sterility by touching a simple button in the single user interface screen.

#### **Must Accessories**

- i. Stereo co observation system for the cranial work:- should remain fixed while tilting the microscope head. Face to face attachment for the spine work.
- ii. **3CCD full HD (1080p) camera:-** Should have completely within the microscope head without any external attachment.

#### **Must Accessories Video/Photo:**

##### **High definition medical device system with LED built in monitor:**

- i. The recorder should be full HD only.
- ii. File storage on any of the external storage device viz. pen drive, USB storage device etc.
- iii. Dual monitor output.
- iv. Fire wire input/output
- v. More storage capacity
- vi. Slow motion mode
- vii. Should have DICOM compatibility
- viii. Vascular Fluorescence ready

#### **Miscellaneous**

- i. Asepsis for all controls and special objective protective glass
- ii. Laser adaptability

### **Sch. No. 08**

#### **OT Light – LED with monitor, camera & recording system**

##### **A. OT LIGHT**

- 1. 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, homogenous and shadow less light.

##### **Such Lighting System should have the following technical specifications:**

- 2. Number of Light heads : Two per suspension

3. Color Temperature: 4300 k -4700 ( $\pm 10\%$ ) (White LED)
4. Field Size Diameter: 19 to 28cm (+/- 10%)
5. Depth of Field: 750 to 1100mm (+/- 10%)
6. Illumination Level : 160000Lux Major Dome & 120000Lux Minor dome
7. Controls : Control Panel (wall and on dome)
8. Rotation : 360 -330degrees
9. Sterilizable Handle : Yes
10. Light head area : 5000 square cm (+/- 10%) for major dome
11. Mounting Type : Ceiling
12. Supply Voltage : 230 VAC 50 Hz
13. Bulb Type : White LED
14. Dimming Range : 30% - 80%
15. Operating/Storage Humidity : 10 – 95%
16. Life of Light Source : >30,000 Hrs
17. There should be a provision to mount the camera in one dome.
18. Cra & Ra both should be > 95% "
19. Surgical Light System Should be compliant with relevant European CE /US FDA standards

#### **B. HD Camera System – 1080p/i**

##### **Description:**

Integrated In-Light Camera System should be integrated at the centre of one of the domes of this lighting system/ third arm in order to capture images & video sequences of the open cases. Such a autofocus – Lockable camera should have the following specifications

1. Signal to Noise Ratio (S/N Ratio) : >50 dB
2. CCD : 1/3"
3. Optical Zoom : 10X
4. Digital Zoom : 12-15
5. Video Output : HD, S-Video & Composite Video
6. White Balance & Gain : Automatic/Manual

#### **C. HD LED FLAT PANEL MONITOR**

1. UPS of min 2KVA (Price to be quoted separately)
2. Should have 2 Nos of 32" Medical Grade High Definition Progressive Scan Flat-panel 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 – 1920X1200. 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. **(Unit price and Total Price to be quoted separately)**
3. Monitor should be European CE or USFDA approved

#### **D. Recording system (Price to be offered separately)**

1. Recording system should be full HD medical grade monitor grade monitor LCD 19” touch screen having the one TB storage space.
2. Should be European CE or USFDA approved

**Schedule: 10**  
**Electric Cautery/Electro Surgical Unit**

**1 Technical Specification:**

- 1.1 ESUs are used for surgical cutting and for controlling bleeding by causing coagulation (hemostasis) at the surgical site. They deliver high-frequency electrical current through an active electrode tip, causing desiccation, vaporization, or charring by resistive heating in the target tissue.

**2 Operational Requirements:**

- 2.1 Microprocessor/Microcontroller technology

**3 Technical Specifications:**

- 3.1 Integrated touch screen or touch button system with 300-400W output generator for monopolar cut, 100 -120Watt for monopolar coagulation, bipolar cut 90-150Watt and Bipolar coagulation 90-120Watt.
- 3.2 Should provide monopolar output for cut, coagulation (fulguration & spray) & blend in multiple levels
- 3.3 Should have bipolar cut and coagulation in multiple levels with automatic bipolar coagulation.
- 3.4 Activation by foot switch and hand switch for all the modes.
- 3.5 Activation of bipolar by foot switch
- 3.6 Deleted
- 3.7 Auto diagnosis on switching on and during working to continuously monitor all parameters
- 3.8 Automatic stoppage of output in case of malfunction with acoustic and visual signal with display of error code.
- 3.9 Output powers adjustable automatically or manually from the control panel.
- 3.10 Programmable memory for output settings
- 3.11 Should be usable with laparoscopic monopolar and bipolar instruments, for which programs must be available. **(Optional unit price for reusable laparoscopic monopolar and bipolar instruments to be quoted separately)**
- 3.12 System for neutral plate safety by continuous monitoring of contact quality and connection
- 3.13 System for monitoring and control of leakage current
- 3.14 Frequency Leakage on the patient should be less than 10 micro Amp.
- 4 System Configuration Accessories, spares and consumables:**
- 4.1 System as specified
- 4.2 The accessories should include:
  - (a) Indigenous trolley, qty 01

- (b) Mains cable with power plug for standard Indian sockets, qty 01
- (c) Foot switches for Monopolar and Bipolar, qty 01 as standard
- (d) Reusable neutral electrode for adults and children along, with cable for neutral electrode and fixation device wherever required, qty 03 each
- (e) Sterilizable re usable electrode handle with finger switch with cable for electrode handle, qty 05
- (f) Set of electrodes (4 different types) with electrode container with holder, qty 5 of each type
- (g) Tip cleaner, minimum 20 nos.
- (h) Bipolar forceps with cable, straight, and Bayonet - qty 02 of each type (Price to be quoted separately)
- 4.3 The codes and rates of all possible individual accessories should be quoted separately with clear mention of period of validity of rates
- 5 Environmental factors:**
- 5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
- 5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
- 6 Power Supply:**
- 6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
- 6.2 Suitable UPS on min 2 KVA (Price to be quoted separately)
- 7 Standards & Safety:**
- 7.1 Should be USFDA or European CE approved product
- 7.2 Manufacturer should have EN ISO certification for quality standards.
- 7.3 Complete system and all accessories mentioned should be from same make.
- 7.4 Bidder should submit IEC-60601-1-1-2; latest edition certificate for the quoted model.
- 8 Training:**
- 8.1 Comprehensive training for staff of user department and support services till familiarity with the system.
- 9 Service:**
- 9.1 Percentage of uptime guarantee of the equipment during warranty and CMC period for which commitment is to be given must be specified with acceptance of applicable penalty clauses in case of failure to do so.
- 9.2 After sales service must be provided in the city of installation. In situations requiring service/repair of the unit outside the city of installation, the expenditure on account of this will have to be borne by the supplier
- 10 Documentation:**
- 10.1 Product Literature in original along with that of accessories and indigenous components if any. Photocopies/computer generated copies are not acceptable
- 10.2 Statement of compliance with tender specifications with clear and unambiguous links to relevant portions of product literature/authentic document, which should be highlighted. Alternatives provided for noncompliant specifications with justification must be described in detail with supporting literature.
- 10.3 Certificate of compliance with standards and approvals stated above
- 10.4 Certificate of manufacturer/principal regarding authorization of service facility provided by the supplier.

**Schedule: 11**  
**Ultrasonic Cutting and Coagulation device**



**1 Description of Function:**

- 1.1 Ultrasound is the basis for an efficient surgical instrument: the cuts and coagulates by using lower temperatures than those used by electrosurgery or lasers. Controls bleeding by coaptive coagulation at low temperatures ranging from 50°C to 100°C: vessels are coapted (tamponaded) and sealed by a protein coagulum. It should have vessel sealing capacity up to 7mm or more.

**2 Operational Requirements:**

- 2.1 The system should be used for Laparoscopic & open Procedures which should operate at the same frequency. The system should have open and laparoscopic probes for both ultrasonic & vessel sealing system.

**3 Technical Specifications:**

- 3.1 Ultrasonic generator generating ultrasound frequency in between 35-70 KHz
- 3.2 Hand-piece with transducer & silicon cable
- 3.3 Capability of being operated by hand control or foot switch.
- 3.4 Single/Dual foot-switch attachment
- 3.5 Stand-by mode for better safety
- 3.6 System diagnostics and troubleshooting guide
- 3.7 Warning system for malfunctioning cable, probe etc (Audible/ Visual)
- 3.8 It should not interfere with other electromagnetic devices
- 3.9 It should have a horizontal/torsional vibration
- 3.10 Should be capable of sealing vessels at least up to 7mm diameter
- 3.11 Should have different audible tone settings for different modes

**4 System Configuration Accessories, spares and consumables:**

- 4.1. Accessories:
  1. Foot-switch with cable.
  2. Cart to house the generator and accessories
  3. Ultrasonic Hand piece- 4 Nos. (2 for Open hand Instruments and 2 for Lap hand Instruments). (Unit price and Total Price to be quoted separately for each unit)
  4. Disposable coagulation shears for open surgery – 9-25cm long- 4 nos. (Unit price and Total Price to be quoted separately)
  5. Disposable coagulation shears for laparoscopic surgery – 5mm dia 30-45cm long- 2 Nos Curved and 2 nos. Straight. Unit price and Total Price to be quoted separately)
  6. Any Other compatible Accessories has to be offered if any

**5 Environmental factors:**

- 5.1 Shall meet IEC-60601-1-2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility or should comply with 89/366/EEC; EMC-directive.
- 5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
- 5.3 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

**6 Power Supply:**

- 6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
- 6.2 Online UPS of 2KVA should be supplied as standard.

**7 Standards, Safety and Training:**

- 7.1 Deleted
- 7.2 Should be USFDA or European CE approved Model
- 7.3 Manufacturer should have ISO certification for quality standards
- 7.4 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
- 7.5 Instrument should be upgradeable in case of any technology advancement free of cost. Hand piece should be warranted for 95 to 100 usages.

**8 Documentation:**

- 8.1 User/Technical/Maintenance manuals to be supplied in English
- 8.2 Certificate of calibration and inspection.
- 8.3 List of Equipment available for providing calibration and routine Preventive Maintenance support. As per manufacturer documentation in service/technical manual
- 8.4 List of important spare parts and accessories with their part number and costing
- 8.5 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered. The equipment should be available for demonstration in case required
- 8.6 Bidder has to give demonstration of the equipment if required.
- 8.7 The equipment should have 95% uptime. If downtime exceeds 5 % in a calendar Year, Warranty will exceed for double the number of days.
- 8.8 Price to be quoted for each of the accessories & it should be valid for the entire warranty period.

**Schedule: 12**  
**Operating Table –Electro hydraulic**

**A. General operating table features:**

Table should be able to use for surgery, OBG, Neuro, Ortho and Endoscopy

- 1. Full-length radio-translucent top.
- 2. 4 or 5 sections tabletop, which should be made of a special scratch resistant, hardwearing and easy to clean material. Base column cover to be made of 100% stainless steel alloy and stainless steel
- 3. Removable head and leg sections to suit different applications.
- 4. 100% Kidney Bridge position should be obtained without moving the patient, through remote Control or by manual function.
- 5. Battery powered, with facility for connection to mains electricity for immediate use. Battery exhaustion protection and low battery warning via an audible “beep”/display indicator should be available.
- 6. Table should not have a thread/sharp edge for ensuring proper cleaning and user safety.
- 7. Mattress should be of high quality that spans tabletop break for improved patient support. Its depth should be 50mm. Mattress must be Latex free.

8. The robust handset should offer 8 controls namely Trend. /Reverse Trend, Lateral Tilt, Flexion/Extension and Height functions.
9. Brakes, 4nos Wheels
10. Table should have offset slim-line column, with S.S. Inverted telescopic covers, for superior imaging and access.
11. It should have a stable construction with 4nos Wheels of the base with large castors for easy motion and maneuvering (base braking by locking the castors at the head end via a central foot pedal/ Hand control)
12. The table top should not be fitted with transverse members casting shadows on the X-ray images except for the release brackets for adjustment on either side.
13. The Table should be operated by the following operating elements: corded hand control, Manual /electric override facility.

**B. Electrical specification:**

1. Special-design, maintenance-free rechargeable batteries with capacity for about a week's use in the operating room.
2. Recharging of the batteries and supply of the operating table by means of a mains cord
3. Nominal mains voltage (selectable) 220/230-240V AC via mains cord with inbuilt stabilizer

**C. Technical Data:**

1. Length : 2000-2100 mm
2. Width : 540 mm or more
3. Minimum height (without mattress): 650± 50 mm
4. Maximum height (without mattress): Minimum of 1050 mm
5. Maximum lateral tilt: 20-30 deg. (either side)
6. Trendelenburg: at least 25deg
7. Reverse Trendelenburg : at least 25deg
8. Head section adjustment: ±40-45 deg.
9. Leg section adjustment: +10 deg; to -90 deg
10. Break (extension) position : 200-220 deg
11. Break (flexion) position : 110-130 deg
12. Cranial & caudal traversing: 200-300 mm
13. Back section adjustment: 40-80 deg
14. Maximum patient weight : 250 kg or more

**D. Technical Specification-**

## Accessories:

1. Arm board – 2
2. Lithotomic leg holders “Geopel type” (adult and pediatric)-1set each
3. Body strap- 3
4. Anesthesia screen with clamps- 2
5. Side supports with clamps – 2
6. Knee crutches with clamps - 2
7. Clamp, rotary- 4 pc
8. Clamp, circular - 4 pc
9. Accessories stand, mobile on castors- 1 pc
10. Arm support, perplex -2 pc
11. Clamp for locking X Ray cassette -1

12. Extended Lithotomic Leg Holder- 1
13. Accessories for operating in prone position

- E.** The table should be US-FDA or European CE approved product
- F.** For Electrical IEC 60101-1, medical/electrical equipment for safety, IEC 60601-2-46 for safety of OT tables and IEC 60601-1-2 for Electromagnetic compatibility
- G. Unit Prices and Total Price for following OT Table accessories to be offered separately:**
- 1. Accessories for 4 Nos. Neurosurgery OT Tables**
    - i. Mayfield or Doro Skull clamp with horse shoe
    - ii. Cervical attachment for sitting position
    - iii. Accessories stand (Arm stand)
  - 2. Accessories for 7 Nos. Orthopedic OT Tables**
    - i. Radiolucent pelvis plate with orthopedic extension
    - ii. Radiolucent attachment for hand surgery

**Schedule: 31**  
**VENTILATORS HIGH END**

- 1 Should be touch screen.
- 2 Screen should be minimum of 12" inch or more and integrated.
- 3 Compressed air / oxygen driven.
- 4 Should have the following modes.
  - a. Volume and Pressure Controlled modes
  - b. SIMV (Pressure controlled and volume controlled) with pressure support
  - c. Spontaneous modes like CPAP / PEEP
  - d. Inverse Ratio ventilation
  - e. Advanced mode like Pressure Regulated volume control mode and volume support mode.
  - f. Airway Pressure Release ventilation
  - g. Non-invasive ventilation.
- 5 Should have the facility for following settings:
  - a. Tidal Volume: Minimum 20ml and maximum of 1500 ml or more in Volume control
  - b. PEEP upto 30 cmH<sub>2</sub>O or more
  - c. Pressure support upto 35 cmH<sub>2</sub>O
  - d. Flow Pattern: Square, Decelerating
  - e. Respiratory Rate upto 80 bpm or more
  - f. Inspiratory Plaetau upto 60% of Insporatory time
  - g. SIMV Rate upto 60 cycles/min
  - h. FIO<sub>2</sub>: 21% - 100%
  - i. Inspiratory and Expiratory flow and pressure Trigger Sensitivity
  - j. Manual Cycle, Inspiratory Pause, Expiratory Pause .
- 6 Should be able to monitor and measure the following parameters  
Tidal Volume

- Plaetau  
 Mean Airway Pressure  
 Peak Airway Pressure  
 Intrinsic PEEP  
 RSBI (Rapid Shallow Breathing Index)  
 Resistance and Compliance  
 7 In-line Nebuliser with capability of producing < 3 micron drug particle.  
 8 Should have the facility to find (Lower inflection point) and UIP (Upper Inflection Point)  
 9 Compiled trend analysis at least for 24 hours for all measured parameters.  
 10 Should have the facility to record multiple loops for comparison  
 11 Should have facility to measure:  
     i. Pressure / Volume loops  
     ii. Flow/ volume loops  
 12 Should display minimum 2 curves/graphs /loops simultaneously on the screen and  
 Should have audio-visual alarms for the following parameters:  
     a. Peak inspiratory pressure – High & Low  
     b. FiO<sub>2</sub> – high & low  
     c. Respiratory rate – high & low  
     d. Tidal volume – high & low  
     e. Minute volume – high & low  
     f. Apnea  
     g. Gas supply failure  
 13 Should have the facility for ETCO<sub>2</sub> measurement  
 14 Should have battery backup of at least for 1 hour.  
 15 Event log: 1000 Alarm History.  
 16 Spares should be available for 10 years.  
 17 Should be supplied with 2 nos Reusable Silicon adult the 1 no Pediatrics tubing“s and  
 imported humidifier servo control and 2 nos ultrasonic nebulizers chambers  
 18 Should be European CE or US F.D.A. approved  
 19 Ventilator should have external compressor, from the same manufacturer (Optional -  
 price to be quoted separately).  
 20 Expiratory valve/cassette should be autoclavable and supply 2 nos.  
 21 Oxygen sensor should be Paramagnetic/Ultrasonic/Galvanic and covered under warranty.  
 22 Should provide ET-tube leak compensation.  
 23 Compressor should be US-FDA or European CE approved.  
 24 Compressor, hinged arm and ventilator trolley should be from the same manufacturer.

**Schedule: 32**  
**PATIENT BED-I.C.U BEDS (ADVANCE)**

**1 Description of Function**

- 1.1 ICU Beds are required in the Intensive Care for comfort & safety of the patient and to facilitate comfortable transfer to and fro emergency/OT/Wards etc. It is also required to carry out point of care procedures including radiological procedures at the bedside.

**2 Operational Requirements**

- 2.1 The system should be electrically operatable by control panel and adjustable for heights, trendelenburg etc. It should also be having radiotranslucent top for carrying out X-Ray at the bedside.

### **3 Technical Specifications**

- 3.1 Should have four section mattress base
- 3.2 Should have X-Ray translucent back section made up of high pressure laminate.
- 3.3 Should have X-Ray cassette holder underneath the back section & should allow insertion of X-Ray cassette from either side of the bed or from Head end.
- 3.4 Base frame & support frame should be made up of Epoxy powder coated MS or CRCA tubes for long life & prevention from rusting.
- 3.5 Should have stepless electrical adjustment for the following :-
  - a. Height: 450-840 mm +/-10%
  - b. Back section: 0- 50 degrees or more
  - c. Leg Section: 0-25 degrees or more
- 3.6 Should have step-less pneumatic / electric adjustments for Trendlenburg (12 deg or more.); anti-trendlenburg (12 deg or more)
- 3.7 Should have a manual quick release mechanism for back section adjustment during emergency situation
- 3.8 Should be equipped with four articulated half-length tuck away side rails with lock facility
- 3.9 Should be equipped with large castors (diameter atleast 125 mm) with central braking and steering facility.
- 3.10 Mattress of the Bed should be made up of high density foam with Anti-Microbial agent incorporated into all components that assists in Prohibiting growth of bacteria & fungi and easy to clean.
- 3.11 Mattress should be fully Radiolucent for ease in performing portable X-Rays.
- 3.12 Should have bumpers at all four corners and place for fixing accessories
- 3.13 Dimensions of bed:
  - Length: 2100 -2290 mm
  - Width: 850 -1020mm
  - Mattress Size: appropriate as per bed size

### **4 System Configuration Accessories, spares and consumables**

- 4.1 I.C.U Bed Mainframe perforated heavy gauge sheet
- 4.2 Heavy Gauge & total weight of Bed
- 4.3 Bed Ends, detachable: 01 pair
- 4.4 Articulated half-length tuck away side rails : 04 Nos.
- 4.5 IV Rods: 01 No.
- 4.6 Mattress 12 cm Thick: 01 No.

### **5 Environmental factors**

- 5.1 Shall meet IEC-60601-1-2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility
- 5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -500 C and relative humidity of 15-90%
- 5.3 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

### **6 Power Supply**

- 6.1 Power input to be 180-270 V AC, 50-60 Hz as appropriate fitted with Indian plug with rechargeable battery backup of at least one hour.
- 6.2 Resettable over current breaker shall be fitted for protection

### **7 Standards, Safety and Training**

- 7.1 Electrical safety conforms to standards for electrical safety IEC-60601 /IS-13450
- 7.2 Should be USFDA or European CE approved product.

- 7.3 Manufacturer should have ISO certification for quality standards.
  - 7.4 Electric Shock Protection level-Class-B
  - 7.5 Electric current Protection- Class -1
  - 7.6 Certified to be compliant with IEC 60601-2-38 Medical Electrical Equipment part 2-38 Particular requirements for safety of electrically Operated Hospital Beds
  - 7.7 Should have local service facility. The service provider should have the necessary equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.
  - 7.8 Comprehensive warranty for 2 years and provision of CMC for next 5 years.
- 8 Documentation**
- 8.1 Certificate of Calibration and inspection from the factory
  - 8.2 List of Equipment available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
  - 8.3 List of important spare parts and accessories with their part number and costing
  - 8.4 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.  
The job description of the hospital technician and company service engineer should be clearly spelt out
  - 8.5 Service manual in English
  - 8.6 User manual in English
  - 8.7 Must submit user list and performance report within last 5 years from major hospitals.

**The amended technical specification for items at sl. no. 17 & 18 has been published vide Amendment No. 03 dated 21-12-2015.**

**All other contents of the tender enquiry including terms & conditions remain unaltered.**

**Note: Prospective Bidders are also advised to check the website regularly prior to the closing date and time of online submission of bids**