Amendment No. 2

08-03-2018

Sub: Amendment to the Bidding Document

Ref.: Notice Inviting Bid ref. HITES/PCD/NCI-AIIMS/10/17-18 dated 25.01.2018 read with its Amendment No 1 dated 24.02.2018

The following changes have been authorised and are being incorporated in the above referred Bidding Document.

SECTION -I

NOTICE INVITING BIDS (NIB)

Existing:

Sl. No.	Rfx no.	Short Description of goods	Quantity	Bid Security (BS) (Rs.)	Tender Processing Fee incl. GST (Rs.)
2	3000002582	256 Slice Dual Energy CT	1	20,00,000	5,900

Amended as:

Sl. no.	Rfx no.	Short Description of goods	Quantity	Bid Security (BS) (Rs.)	Tender Processing Fee incl. GST (Rs.)
2	3000002582	**256 Slice CT**	1	20,00,000	5,900

SECTION- VI

LIST OF REQUIREMENTS

Part I:

Existing:

Sl. no.	Rfx/ Event number	Short Description of goods	Quantity	Warranty Period	CAMC period after warranty
2	3000002582	256 Slice Dual Energy CT	1	05 years	05 years

Amended as:

Sl. no.	Rfx/ Event number	Short Description of goods	Quantity	Warranty Period	CAMC period after warranty
2	3000002582	**256 Slice CT**	1	05 years	05 years

SECTION - VII

TECHNICAL SPECIFICATION AND GENERAL POINTS

A. TECHNICAL SPECIFICATION:

Item No. 1 (Rfx/Event number 3000002581)

3.0 Tesla MR Scanner

Sl no.	Para No. of the specifications	Existing	Amended As
1	4 RF Transmitter, Receiver, Coils (Page No.46)	e) Coils (in addition to the in-built body coil) **Price to be separately for each coil , biopsy needle**	Coils (in addition to the in-built body coil)
2	4. c) RF Transmit technology (Page 46)	(i) Latest RF transmit system (like Multi-transmit/ Multi Drive transmit system **or its equivalent/** Trueshape multi-transmit, etc) with at least two independent output channels should be offered to improve RF uniformity and signal homogeneity and to reduce patient induced in-homogeneities	Latest RF transmit system (like Multi-Transmit/ Multi Drive/ Trueshape Parallel Transmit etc) with at least two independent output source/ Port should be offered to improve RF uniformity and signal homogeneity and to reduce patient induced in-homogeneities
3	4 RF Transmitter, Receiver, Coils (Page No.47)	(viii) Dedicated Shoulder array coil **(8** Channel or more); **If a dedicated coil is not available with the vendor, then the vendor has to quote equivalent coil (for eg, if Flex coil is offered, then the number should be in addition to the previously quoted coil)**	Dedicated Shoulder array coil (8 Channel or more)
4	4 RF Transmitter,Receiver, Coils. (Page No.47)	(viii) Suitable Wrist coil (8 Channel or more); **If a dedicated coil is not available with the vendor, then the vendor has to quote equivalent coil (for e.g., if Flex coil is offered, then the number should be in addition to the previously quoted coil).**	Dedicated Wrist coil (8 Channel or more)

Sl no.	Para No. of the specifications	Existing	Amended As
5	para 4 . RF Transmitter, Receiver, Coils (Page No.47)	(xv) Bilateral Breast Biopsy Coil (with Grid biopsy – Core) should be compatible with the Vacuum assisted Biopsy facility (that is being procured separately), with all necessary software and hardware for integration.; Price to be separately quoted for all consumables including biopsy needle; *refer Para 13. Other accessories, point vii.*	Bilateral Breast Biopsy Coil (with Grid biopsy – Core) should be compatible with the compatible **with BARD or EnCor** Vacuum assisted Biopsy facility (that is being procured separately), with all necessary software and hardware for integration.; Price to be separately quoted for all consumables including biopsy needle; *refer Para 13. Other accessories, point vii.*
6	5. Computer Control System b) Additional workstation . (Page 48)	(i) TWO Nos. workstation with colour TFT display (19" or more) with evaluation capabilities (as required for all applications in the tender, section 7).	**CLIENT-SERVER SYSTEM :** **(A Client - Server Architecture based solution, Minimum 20,000 concurrent slices , 1 no. floating /concurrent user license for all applications. DICOM 3.0 compatibility and interfacing with other modalities must be possible. The Client / Nodes shall have the resolution, software and all functionality of a stand-alone workstation.)** **CONFIGURATION :** **1 no. Server and 2 no.s Clients/Nodes.** **1 user license for each of the applications to be provided as standard .** **Licenses:** 2 nos Concurrent license here implies the capability to process all the loaded software to be accessible and usable on all the clents/ nodes simultaneously without any processing delay. The software should also include a reputed antivirus software of a perpetual type or renewed by the supplier. **Hardware: Client / Node:** CPU unit , minimum 32GB RAM , Medical grade monitor of 2MP resolution & size - 18" or more , mouse, keyboard. **Hardware Server:** The server (single/dual configuration) should have image storage capacity of at least 2.5 Tera

Sl no.	Para No. of the specifications	Existing	Amended As
			bytes, minimum 20,000 concurrent slice processing power and at least 32GB RAM. 21" or more TFT/LCD monitor .
7	Optimized sequence Packages c) Neuro (Page No.51)	(vii) Synthetic MR imaging with offline provision to reconstruct with variable TR/TE .	**DELETED**
8	6 , b) Imaging Pulse sequences; Fast Sequences: (xi) (Page 50)	Multi-band EPI: Simultaneous Multi Slice Accelerate advance applications for clinical routine .	**DELETED**
9	6 , b) Imaging Pulse sequences (Page 50)	(i) All standard and special pulse sequences available at the time of quote/ delivery should be offered and quoted in the bid. If the vendor does not have any particular sequence/s but offers a work in progress (WIP) sequence/s, then it should be provided without any pre-condition like asking the Institute to sign any agreement for this purpose. This also applies to any post-processing software that is offered which is WIP.	**DELETED**
10	7. Special Application Packages : (k) (Page 54)	Smart Exam/ Smart Brain/ Ready Suite/Brain Dot Engine/ equivalent technique should be quoted in all available imaging packages.	Necessary composing s/w **for whole spine and whole body applications .** **Smart Brain / Ready Suite / Brain Dot Engine / equivalent technique should be quoted for Brain Imaging**
11	13. Other accessories: point vii. (Page 57)	(vii) Complete consumable package for prostate and breast biopsy. – 20 each per annum for 5 years. (price of individual kit to be quoted separately)	(vii) Complete consumable package, **ready-to-use kit** for prostate and breast biopsy. – **100 no.s (staggered supply:- 20 no.s to be supplied per annum for 5 years. Price of individual kit to be quoted separately)**
12	13. Other accessories : i) (Page No. 57)	i) Ten Revolving chairs (Godrej Make) with ergonomic support	**DELETED**

Sl no.	Para No. of the specifications	Existing	Amended As
13	17. SITE MODIFICATION WORK – 3 T MRI SYSTEM 9. Furniture: (Page 61)	Revolving chairs height adjustable, medium-back with hand-rest in the Control room, Radiologist room and viewing area. – 8 Nos.	Revolving chairs height adjustable, medium-back with hand-rest in the Control room, Radiologist room and viewing area. **10 Nos.**
14	17. SITE MODIFICATION WORK – 3 T MRI SYSTEM 4. Flooring: iii) (Page No.60)	5mm Hospital grade Vinyl Flooring of reputed brands (eg. Armstrong, Gerflor, Tarkett or equivalent) for MRI Examination-Gantry room	**Hospital grade Vinyl Flooring - 2mm or more thickness, reputed brand** (eg. Armstrong, Gerflor, Tarkett or equivalent) for MRI Examination-Gantry room.

Item No. 2 (Rfx/Event number 3000002582)

256 Slice CT

Sl no.	Para No. of the specifications	Existing	Amended As
1	Title (Page 63)	**Item No. 2 (Rfx/Event number 3000002582) 256 Slice Dual Energy CT**	**Item No. 2 (Rfx/Event number 3000002582) 256 Slice CT.**
2	3.4 Heat Loading capacity (Page 63)	The vendor certify that x-ray tube with the highest heat loading capacity and rating available at the time of shipment and the highest and available technology will be supplied (with a minimum of 5.5 MHU)`	**The heat loading capacity of the x-ray tube should be 8 MHU or more .**
3	5. SCANNING MODES. : 5.1.2, (Page 63)	5.1.2 : Scan time for full 360 degree rotation : ≤ 0.3 sec	5.1.2 : Scan time for full 360 degree rotation : **≤ 0.28 sec**
4	6. DUAL ENERGY	DUAL ENERGY :including para 6.1.1, 6.1.2 , 6.2.1 to 6.2.12:	**DUAL ENERGY : Paragraph including points 6.1.1 to 6.1.2 , 6.2.1 to 6.2.12: DELETED**
6	8. DATA ACQUISITION SYSTEM- LATEST DETECTOR CONFIGURATION:8.1.(Page 64)	8.1: z axis Detector coverage width 50 mm or more at 1:1 pitch	8.1: z axis Detector coverage width **38 mm or more at 1:1 pitch**

Sl no.	Para No. of the specifications	Existing	Amended As
7	8.DATA ACQUISITION SYSTEM - LATEST DETECTOR CONFIGURATION : 8.3 (Page 65)	8.3: Number of physically independent rows of detector must be 190 or more, capable of acquiring 256 slices or more/rotation.	8.3. Number of detector rows or elements: Number of **physically independent rows of detector must be 128 or more** capable of acquiring **256 or more image slices** or more per rotation.
8	9.CT Fluoroscopy: 9.1 (Page 65)	9.1.: TFT Monitor : ≥ 18 inch in size, suspended from ceiling.	9.1. : TFT Monitor ≥ 18 inch in size
9	12. OPERATOR CONSOLE WITH TABLE : 12.5 (Page No.65)	12.5. Body perfusion Minimum **18 cm** of coverage	**12.5. : Body perfusion :** Minimum **14 cm** of coverage
10	14.: IMAGE POST PROCESSING : 14.1 (Page 66)	14.1 Architecture: A Client Server Architecture based solution from the CT OEM	14.1 Architecture:A Client Server Architecture based solution from the CT OEM or **independent Radiology Workstation from CT OEM** ; for applications as detailed in para 14.4 & 14.5.
11	14.: IMAGE POST PROCESSING : 14.1.1 (Page 66)	14.1.1.: Minimum number of slices/users for concurrent processing. : Minimum 24,000 slices/minimum 5 concurrent users working both on PACS in the department and on new workstations provided by vendor.	**14.1.1 : DELETED**
12	14.: IMAGE POST PROCESSING : 14.1.2 (Page 66)	14.1.2.: User licensing scheme : Concurrent or independent license for standalone workstations.	**14.1.2. : DELETED**
13	14.: IMAGE POST PROCESSING : 14.1.3 (Page 66)	14.1.3.: Integration : Imaging processing server/workstations must be integrated with RIS-PACS in the department.	14.1.3. : Imaging processing server/workstations must be integrated with RIS-PACS, **as and when made available .**
14	14.2. Server Hardware (Page No.66)	14.2.1. Hardware Dell/HP/IBM dual CPU; Window server 2008/2012, 64-bit OS, RAM-64 GB minimum; Data Disc: RAID level 5; Graphical processing unit: 2xNVIDIA GPU or equivalent; Image storage	14.2.1 **: DELETED**

Sl no.	Para No. of the specifications	Existing	Amended As
		minimum 4 TB.	
15	14.2. Server Hardware (Page No.66)	14.2.2. : In addition, a separate price quotation must be submitted by the vendor for one independent workstation with the above-mentioned configuration, as an optional item.	14.2.2. **: DELETED**
16	14.3 : Client hardware (3 units) as specified below. (Page No.66)	14.3 : Client hardware (3 units) as specified below. Unit Price of client station to be quoted separately. (For additional units if required.)	14.3 : **Client hardware (2 units) as specified below.**
17	14.3 : Client hardware (3 units) as specified below. (Page No.66)	14.3.1. Monitors Two, Minimum 3 Megapixel Medical Grade Monitor	14.3.1. **Minimum 2 Megapixel - Medical Grade Monitors : 2 no.s**
18	Server Software: 14.4.: Basic capabilities (Minimum 3 concurrent users for all Applications).(Page 66)	14.4. Basic capabilities (Minimum 3 concurrent users for all applications)	14.4 : **Basic Capabilities (All the Basic Capabilities mentioned in para from point 14.4.1 to 14.4.5 should be available independently on both the Clients.)**
19	14.5 : Advanced Applications as specified below. .(Page 67)	14.5 : Advanced Applications as specified below. (2 concurrent user licenses for each application to be provided as standard). Price of each additional concurrent user license to be quoted separately. (For additional users if required.)	14.5 : Advanced Applications as specified below. **(All the Advanced Applications mentioned in following paragraph - point 14.5.1 to 14.5.10 should be available, in addition to the Basic Capabilities on one of the Clients.)**
5	14.5 : Advanced Applications as specified below. .(Page 67)	added para : 14.5.11:	**14.5.11** : **Pulmonary Embolism : Automatic detection of filling defects and automatic lesion zoom view.**
20	15. IMAGE RECONSTRUCTION. : 15.2. (Page No.67)	15.2. Recons Field of View : At least 5 to 50 cm continuous for single energy and **at least 5 to 35 cm for dual energy applications.**	15.2. Recons Field of View **:** At least 5 to 50 cm (continuous).
21	16. IMAGE QUALITY : 16.1 .(Page 68)	16.1 High contrast Spatial Resolution for entire width of the detector:	16.1 **High contrast Spatial Resolution for entire width of the detector:** It should be not

Sl no.	Para No. of the specifications	Existing	Amended As
		It should be not less than 21 lines pair per cm or better maximum at 0% MTF X-Y axis for FOV not less than 35cm.	**less than 16 lines pair per cm** or better maximum at 0% MTF X-Y axis for FOV not less than 35cm.
22	17. DOSE REDUCTION TECHNIQUES. : 17.3 , (Page No.68)	17.3. Advanced Iterative Reconstruction : Model-based Iterative reconstruction technology for all imaging protocols including brain (ADMIRE/VEO/FIRST/IMR)	17.3. Advanced **MODEL BASED Iterative reconstruction** technology for all imaging protocols including Brain. (ADMIRE or IMR or equivalent)
23	18. DOSE PERFORMANCE DATA (USING IEC STANDARD PHANTOMS) (Page No.68)	18. DOSE PERFORMANCE DATA (USING IEC STANDARD PHANTOMS) 18.1. Head Not more than 20 Gy/100 mAs. 18.2. Body Not more than 10 Gy/100 mAs.	**DELETED**
24	21 ACCESSORIES : 21.3 , (Page 69)	**21.3 UPS** : Online UPS with Maintenance free batteries capable of 15 minutes back up to run the entire CT, Computers, Dry chemistry camera, Work Stations etc.	**21.3 : UPS: Minimum 200 KVA** Online UPS with Maintenance free batteries capable of 15 minutes back up to run the entire CT, Computers, Dry chemistry camera, Server , client nodes etc.
25	21 ACCESSORIES : 21.4 , (Page 69)	**21.4 : PRESSURE INJECTOR** : Triple-Head Syringeless Pressure Injector of reputed make with 100 sets of Pump Hose & 500 sets of patient tubing. Specify the make of Injector. Provide original datasheet of the quoted model.	**21.4 : PRESSURE INJECTOR : Dual-Head Pressure Injector of reputed make with 100 syringe sets , 300 sets of patient tubing and 300 sets of filling tubing.** Specify the make of Injector. Provide original datasheet of the quoted model.
26	**24. INSTRUCTIONS** (Page 69)	**added para : 24.3**	**24.3: Quoted model should be USFDA approved & AERB TYPE APPROVAL or NOC certificate to be provided. Model which do not have AERB Approval may be supplied with the undertaking that the supplier shall be responsible for obtaining the AERB Type approval of the system within reasonable time, at no cost nor liabilty to the Institute.**

Item No. 3 (Rfx/Event number 3000002583)

Digital Subtraction Angiography

Sl no.	Para No. of the specifications	Existing	Amended As
1	opening para :	The system should be the state of the art model to be quoted with feature equivalent to the latest model launched.	The system should be the state of the art model to be quoted with feature equivalent to the latest model launched. **The DIGITAL SUBTRACTION ANGIOGRAPHY SYSTEM should be USFDA and AERB approved. Model which do not have AERB Approval may be supplied with the undertaking that the supplier shall be responsible for obtaining the AERB Type approval of the system within reasonable time, at no cost nor liabilty to the Institute.**
2	A Gantry: 1 ,(Page No.74)	1. The system should have two gantries: one floor mounted and one ceiling suspended providing full body coverage. The lateral plane should have motorized longitudinal C-arm movement.	**para A Gantry point 1:** The system should have two gantries: one floor mounted and one ceiling suspended providing full body coverage **without patient repositioning.** The lateral plane should have motorized longitudinal C-arm movement.
3	A Gantry: 2 (Page No.74)	2. It should be possible to pre-program the gantries for multiple examination positions.	**para A Gantry point 2.** : 2. It should be possible to pre-program the gantries **for least 30 examination positions.**
4	B. Patient Table:3, (Page 74)	Table with Trendelenburg tilt facility.	**DELETED**
5	F Biplane Digital System : 5 ; (Page No.75)	5. Size of lateral plane should be at least 40 cm diagonal	**5.** Size of lateral plane should be **at least 39 cm** diagonal
6	F Biplane Digital System : 6 ;(Page No.75)	6. Three monitors of at least 19" size TFT/LCD for each plane for display of live, reference and subtracted image with high resolution flicker free display should be provided. Monitors should have anti-glare provision.	**para F : Biplane Digital System: point 6.** Large Medical-Grade , Colour, flicker-free high resolution display of at least 56" size , having contrast resolution of at least 4000:1 should be provided for display of live, reference and subtracted image as well as hemodynamic data.

Sl no.	Para No. of the specifications	Existing	Amended As
7	F Biplane Digital System: 7 ; (Page No.75)	7. Similarly 4 monitors, two for each plane (live & reference image) with high resolution display in the control room should be provided.	**F . Biplane Digital System:** Similarly **2 monitors, one for each plane** (live) with high resolution display in the control room should be provided."
8	F Biplane Digital System: 7 ; (Page No.75)	7. Console Monitor for patient registration.	**para F : Biplane Digital System:** **point 7. Patient registration facility should be provided in the Console.**
9	F Biplane Digital System: 7 ; (Page No.75)	Physiology monitor in examination room and in console with the requisite computer system for NIBP, IBP, SpO2 measurement, ETCO 2 display and analysis.	**para F : Biplane Digital System:** **point 7. DELETED**
10	G Digital Imaging System and essential software:(Page No.75)	8. Digital subtraction angiography software of automatic pixel shift enhancement for iodine and CO2 contrast should be possible.	**para G . Digital Imaging System and essential software:** **8. :** Digital subtraction angiography software of pixel shift enhancement for iodine and CO2 contrast should be possible.
11	G Digital Imaging System and essential software:(Page No.76)	13. An additional workstation for processing of the DSA images and their documentation should be provided in addition to 3D workstation. This workstation should have the facility to reconstruct the long leg view for peripheral images.	**para G . Digital Imaging System and essential software:** **point 13: DELETED**
12	G Digital Imaging System and essential software:(Page No.76)	11. The digital system should have software for vascular analysis and quantification including stenosis %. All measurement should be possible from the patient table side.	**para G . Digital Imaging System and essential software:** **11.** : The digital system should have software for vascular analysis and quantification including stenosis %. All measurement should be possible from the patient table side. **The system should have facility to reconstruct the long leg view for peripheral images."**

Sl no.	Para No. of the specifications	Existing	Amended As
13	G Digital Imaging System and essential software:(Page No.76)	12. Archiving on a CD/DVD recorder should be provided. **RAID (4TB) should be supplied with the unit**	**para G Digital Imaging System and essential software: point 12.** Archiving on a CD/DVD recorder should be provided.
14	G Digital Imaging System and essential software: 17 , (Page No.76)	17. Specify the time limit for minimum 30 seconds for uninterrupted acquisition of on-line subtracted images at 1024 x 1024 matrix with maximum frame rate.	**para G Digital Imaging System and essential software: point 17. DELETED**
15	H Essential Accessories: 9 (Page No.76)	9. A 6-channel monitor for ECG, Blood pressure, respiration, SPO2, ET co2 and NIBP pulse-oximeter (Adult & Paediatric B.P cuffs).	**H . Essential Accessories point 9. :** A 6-channel monitor for ECG, Blood pressure, respiration, SPO2,pulse-oximeter , ET co2 and 2no.s NIBP (Adult & Paediatric B.P cuffs) in gantry room with display **on the main 56" display monitor & a slave display in the console room."**
16	I. Installation : 1 (Page no 76)	1. The unit will be installed on site modification basis.... It should also include Lead lined door with lead glass peeping window, radiation warning indicators and signage, Aluminium false ceiling, GVT floor tiles and full height wall tiles. All turnkey work should comply with specified standards of the hospital.	**para I. Installation. point 1 :** The unit will be installed on site modification basis.... It should also include Lead lined door with lead glass peeping window, radiation warning indicators and signage, Aluminium false ceiling, GVT floor tiles and full height wall tiles **for the examination room**. All turnkey work should comply with specified standards of the hospital.
17	I. Installation : 3 (Page no 77)	Power and Air-conditioning requirement must be mentioned. AC of adequate capacity should be provided. **Power supply by the institute will be terminated at existing point.** All electrical provisions including earthing etc. will be vendor's responsibility.	Power and Air-conditioning requirement must be mentioned. AC of adequate capacity should be provided. All electrical provisions including earthing etc. will be vendor's responsibility.
18	K. SITE MODIFICATION WORKS: 1 ; (Page no 77)	The SCOPE OF WORK for SITE MODIFICATION OF DSA system shall consist of the following rooms:	The SCOPE OF WORK for SITE MODIFICATION OF DSA system shall consist of the following rooms:

Sl no.	Para No. of the specifications	Existing	Amended As
19		**added para : d :**	**d. Change room**
20		**added para : e :**	**e. Scrub area**
21		**added para : f :**	**f. Preparation room**
22		**added para : g :**	**g. Ante room**
23	K. SITE MODIFICATION WORKS: II. Flooring : 2 ; (Page no 78)	5mm-Vinyl flooring in DSA equipment / UPS room.	2mm-Vinyl flooring in DSA equipment / UPS room.

Item No. 4 (Rfx/Event number 3000002584)

Full Field Digital Mammography Unit

Sl no.	Para No. of the specifications	Existing	Amended As
1	Opening Para on Page No. 81	State of art, USFDA approved, Full Field Digital Mammography Unit with Digital Breast Tomosynthesis and Stereotactic Biopsy Facility.	State of art, USFDA approved, Full Field Digital Mammography Unit with Digital Breast Tomosynthesis and Stereotactic Biopsy Facility. **The USFDA certificate submitted must be on the name of the quoted model**
2	11. Standard accessories.: c.) Page 82	(c) Motorized or Hydraulic mobile biopsy chair cum couch of reputed brand suitable for stereotactic biopsy in sitting and lateral decubitus position. Complete digital mammography QA kit including kV meter and ACR approved phantom. The supplier shall provide regular calibration and QA during the warranty and CMC period.	**c. : Motorized** mobile biopsy chair cum couch of reputed brand suitable for stereotactic biopsy in sitting and lateral decubitus position. Complete digital mammography QA kit including kV meter and ACR approved phantom. The supplier shall provide regular calibration and QA during the warranty and CMC period.
3	12: Other features: a ; Page No. 83	a. : The unit should have AERB type approval for use in India.	**a.** : The unit should have AERB type approval for use in India. **Model which do not have AERB Approval may be supplied with the undertaking that the supplier shall be responsible for obtaining the AERB Type approval of the system within reasonable time, at no cost nor liabilty to the Institute.**

Item No. 5 (Rfx/Event number 3000002585)

Digital Mobile X-Ray Unit

Sl no.	Para No. of the specifications	Existing	Amended As
1	1.c	c) Max. Current: 400mA or more.	**para 1. The X-ray Generator: c. :** Max. Current: 300mA at 100kV or more.
2	2. X-Ray Tube: Point No. b. Page No. 87	It must have a rotating anode with at least 8000 rpm.	**para 2. X-Ray Tube: Point No. b** : It must have a rotating anode with **at least 3000 rpm.**
3	2. X-Ray Tube:Point No. c. Page No. 87	Dual focus x-ray tube with focal spot size 1.2 mm or less.	**para 2. X-Ray Tube: Point No. c. : Single /** Dual focus x-ray tube with focal spot size 1.2 mm or less.
4	2. X-Ray Tube: Point No. d. Page No. 87	Heat storage capacity of the anode should be 140 KHU or more	**para 2. X-Ray Tube: Point No. d** : Heat storage capacity of the anode should be **120 KHU or more**
5	4. Battery: Point No. c. Page No. 87	The battery should be able to be charged from a normal 15A, 220 V single phase socket in less than 6 hours.	**para. 4. Battery: Point No. c. :** The battery should be able to be charged **at least 80%** from a normal 15A, 220 V single phase socket in less than 6 hours"
6	6. Other Features: Point No. c , Page No. 88	Facility for exposures with remote/detachable exposure switch should be possible. Detachable exposure release switch should be supplied.	**para 6. Other Features: Point No. c:** Facility for exposures with remote/**wireless** exposure switch should be possible.**Wireless** exposure release switch should be supplied.
7	6. Other Features: Point No. d , Page No. 88	A grid of 8:1 ratio with size at least 13"xl3" should be supplied.	**para 6. Other Features: Point No. d** : A grid of **minimum 5:1 ratio** with size at least 13"xl3" should be supplied.
8	3. Flat Panel Detector:Point No. f , Page 87	3. Flat Panel Detector: f) Weight of the detector should not be more than 3 Kg.	**para 3. Flat Panel Detector: f)** Weight of the detector should not be more **than 4.5 Kg** including the battery.
9	9. Terms and Conditions:Point No.e. Page no. 88	e) There should be at least three installations of quoted unit in India. Satisfactory performance report from the existing users should be provided	**para 9. Terms and Conditions: e) :**There should be at least three installations of quoted unit **Globally**. Satisfactory performance report from the existing users should be provided.

Item No. 6 (Rfx/Event number 3000002586)

Ultrasound Machine- High End

Sl no.	Para No. of the specifications	Existing	Amended As
1	opening para	A State-of-the-Art high end Medical Ultrasound unit to be supplied. Quoted unit should be capable of performing all Abdominal and Pelvic Imaging in Adults and Paediatric age group, Imaging of Small Parts, endocavitary and musculoskeletal Imaging. Systems should have the capability of Shear Wave Ultrasound Elastography and Contrast Imaging facility.	A State-of-the-Art , high end , **USFDA CERTIFIED** Medical Ultrasound unit to be supplied. Quoted unit should be capable of performing all Abdominal and Pelvic Imaging in Adults and Paediatric age group, Imaging of Small Parts, endocavitary and musculoskeletal Imaging. Systems should have the capability of Shear Wave Ultrasound Elastography and Contrast Imaging facility.
2	A. 1	The system should incorporate facility for High Resolution B mode, M Mode, PW, **CW**, Colour Doppler, Power Doppler, Angio, Duplex and Triplex Imaging modes.	**para A. point 1.:** The system should incorporate facility for High Resolution B mode, M Mode, PW, Colour Doppler, Power Doppler, Angio, Duplex and Triplex Imaging modes.
3	A. 2	Shear Wave Ultrasound Elastography Imaging should be provided to evaluate Relative Tissue Stiffness for breast, liver, prostate and other small part applications on convex, linear and endocavitary transducers.	**para A. point 2.:** Shear Wave Ultrasound Elastography Imaging should be provided to evaluate Relative Tissue Stiffness for breast, liver, prostate and other small part applications **on atleast one convex and one linear transducers, as asked.**
4	A.7	Dynamic range should be 180 dB or more	**para A. point 7 :** Dynamic range should be 200 dB or more
5	A.9	The system should have a Frame Rate 1000 Frames per second or more.	**para A. point 9 :** The system should have a Frame rate 1500 Frames per second or more.
10	A. 17	The system should have fusion imaging, capable of review of CT, MRI, **PET** images alongside real time ultrasound imaging and also to be able to use this multimodality data to assist ultrasound guided nterventions in real time.	**para A. point 17 .:** The system should have fusion imaging, capable of review of CT, MRI images alongside real time ultrasound imaging and also to be able to use this multimodality data to assist ultrasound guided nterventions in real time.

Sl no.	Para No. of the specifications	Existing	Amended As
6	A. 23 (a)	a. Convex Array Transducer 2-5 MHz or higher range and should be compatible for contrast enhanced imaging	**para A. point 23 (a).**: Convex Array Transducer **2-5 MHz (± 1 MHz)** or higher range and should be compatible for contrast enhanced imaging
7	A.23 c	Linear transducer of 5-10 MHz or higher range and should be compatible for contrast enhanced imaging. if not compatible for CE imaging, then separate linear probe should be quoted	**para A. point 23 (c).:** Linear transducer of **5-10 MHz (± 2 MHz)** or higher range and should be compatible for contrast enhanced imaging. if not compatible for CE imaging, then separate linear probe should be quoted
8	A.23 (d)	Small foot print transducer with reusable biopsy guide	**para A. point 23 (d).:** Small foot print **micro-convex (footprint max. 18mm**) transducer with reusable biopsy guide
9	A. 23 (e)	Broad band Endocavitary Probe with frequency range 5 - 12 MHz or higher range with reusable biopsy guide	**para A. point 23 (e).:** Broad band Endocavitary Probe with frequency range **5 - 12 MHz (± 2 MHz)** or higher range with reusable biopsy guide

Item No. 7 (Rfx/Event number 3000002587)

Ultrasound Machine - Mid Range

Sl no.	Para No. of the specifications	Existing	Amended As
1	16 (c)	Small footprint sector transducer 2-5 MHz with reusable biopsy guide.	**Para A. point 16.d.:** Small footprint sector transducer **2-5 MHz (± 2 MHz)** with reusable biopsy guide.

Item No. 8 (Rfx/Event number 3000002588)

Ultrasound Unit – Portable

Sl no.	Para No. of the specifications	Existing	Amended As
1	15	The system should have an easy to use backlit keyboard and control panel with facility to disinfect the control panel and keyboard using liquid disinfectant solutions so as to avoid infections in wards and ICUs	**para A, point 15. :** The system should have an easy to use **backlit/Touch keyboard** and control panel with facility to disinfect the control panel and keyboard using liquid disinfectant solutions so as to avoid infections in wards and ICUs.

Sl no.	Para No. of the specifications	Existing	Amended As
			Provide the list of liquid disinfectants that can be used on keyboard and transducers.
2	17 (i)	Convex Array Transducer with frequency range of 3-5 MHz or wider range.	**para A point 17 (i) :** Convex Array Transducer with frequency range of **3-5 MHz (+/- 1 Mhz.)** or wider range
3	17 (ii)	Linear Array Transducer with frequency range of 6-13 MHz or wider range.	**para A point 17 (ii) :** Linear Array Transducer with frequency range of **6-13 MHz (+/- 1 Mhz) or wider range.**
4	17 (iii)	CW 2.5 MHz probe with basic cardiology package	**para A point 17 (iii) :** CW probe with **frequency range of 2-4 MHz** with basic cardiology package
3	21	The unit and transducers should be sturdy enough to withstand accidental hit or fall in normal working conditions and hand held transportation. A separate certificate in this from principles is required.	**para A point 21: DELETED**

Item No. 9 (Rfx/Event number 3000002589)

Radio-Frequency Ablation System

Existing tender specification for this item is amended and superseded by the following:

S.No.	
A.	System should include US FDA approved Radio Frequency ablation with following required specifications and accessories.
B.	The quoted model should be certified by Government of India for import into the country (FORM 10 - License to Import, issued by Central Drug Standard Control Organisation (CDSCO), DGHS, MoHFW, Medical Device and Diagnostic Division).
C.	The bidder/manufacturer should be registered with Government of India for import of the quoted model (FORM 41 -Registration Certificate for import of devices into India, issued by Central Drug Standard Control Organisation (CDSCO), DGHS, MoHFW, Medical Device and Diagnostic Division).
1.	System should include a Radio Frequency generator for tumour ablation systems with required Accessories.
1.1.	The system should be usable for ablation in liver, lung, bone, kidney etc.
1.2.	The system should be capable of generating power of at least 200 W.
1.3.	The system (if temperature –based) should be capable of generating temperature of at least 95 deg C.

S.No.	
1.4.	The system should be able to support electrode of variable lengths (i.e., 10 cm, 15 cm, and 20 cm).
1.5.	The ablation size (ex-vivo) should be at least 3 cm.
1.6.	The system should have needle track ablation facility.
1.7.	The system should be compatible to use with Ultrasound, CT and open surgery.
1.8.	The system should have facility for real-time temperature or impedance monitoring.
1.9.	Probe cooling system should be provided, if required.
1.10.	If pump is required for the proper functioning of the RFA system, it should be provided with all necessary accessories like coolant reservoir, tubing etc, at no extra cost.
1.11.	There should be display of target temperature or impedance, power setting, timer, delivered power, time that RF is delivered, efficiency for all devices.
1.12.	The system should be supplied with total quantity of 20 electrodes sets in staggered manner.(electrode set means Probe with all essential consumables) of following sizes.
1.12.1.	Electrode set of 2cm active-electrode length - 10 nos.
1.12.2.	Electrode set of 3cm active-electrode length - 10 nos.
1.13.	System should have self –Test facility.
2.	Safety Features
2.1.	System should have Probe Test system with ability able to check integrity of probe Intra-operatively.
2.2.	System should have safety mechanism to limit excessive high temperature/power delivery.
2.3.	The system should have ability to display all alert conditions and error messages.
3.	Trolley (OEM) for mounting of RF unit to be provided.
4.	Warranty/After Sale Service
4.1.	Five-year comprehensive onsite warranty of entire system (Spares and labour) including all accessories and items supplied along with maintenance. If vendor is not a direct subsidiary of OEM (principles), then such warranty must be vetted by OEM.
4.2.	This will be followed by 5 years comprehensive AMC covering everything as warranty.
4.3.	A free software upgrade guarantee (compatible with the supplied platform) from OEM for 10 years.
4.4.	95% uptime guarantee should be given (365 days on 24x7 basis). In case down time exceeds 5%, penalty in the form of extended warrantee, double the number of days for which the equipment goes out of service, will be applied.
4.5.	Supplier must ensure the availability of 'expertise service' and maintenance in New Delhi. Spare parts and repair for the next 10 years must be ensured by OEM.
4.6.	Future modifications in probes/ technology should be made compatible with the offered system.
5.	Instructions
5.1.	The system should be state of art and latest model.
5.2.	There should be at least three global installations of the quoted model. Satisfactory performance certificate by users on their letterhead must be attached.

S.No.	
5.3.	All information asked for must be provided in the compliance statement under the headings given above.
5.4.	All information in the tender document must be supported by original product data sheets or should be certified by the principals. Computer generated data sheets, photocopies or email printouts shall not be accepted.
5.5.	If the unit is being quoted by Indian agency which is not a direct subsidiary of the principals; an undertaking from the principals must be provided that in case of discontinuation or change of the agency, merger, acquisition or any corporate rearrangement, the principal will arrange for onsite maintenance of the unit and abide by all terms and conditions of the tender.
5.6.	Training at functional site to be provided to doctors.
5.7.	The quoted price should include RF machine, essential accessories with and 20 no.s of electrodes sets.
5.8.	Unit Price of necessary consumables namely: electrode sets, tubing, grounding pad, cables etc. to be quoted separately and the price shall be applicable for 5 years.
6.	Warranty
6.1.	The tenderers must quote for five years comprehensive warranty (including all spares and labour) from the date of completion of the satisfactory installation.
6.2.	The warranty charges shall not be quoted separately otherwise the offer shall be summarily rejected.
6.3.	The bidders must submit their quote also (rates) for subsequent five years comprehensive AMC (including all spares and labour) in their price bid, failure to comply this condition will entail the rejection of the bids.
6.4.	All the hardware & software upgradation will be provided free of cost up to 5 years.

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