AMENDMENT No – V Dated 26/11/2015

Sub.: Procurement of Medical Equipment for Kalpana Chawala Government Medical College, Karnal.

Ref: Tender Enquiry No.: HSCC/KCGMC/Medical Equipment/2015/02 dt. 06.10.2015

This is in continuation to Amendment No. I, II, III & IV wherein the Bid submission date is being extended from 26.11.2015 to 15.12.2015 for Equipments under Sr. No. 1 to 5, 13, 15, 17, 18, 20, 24, 26 to 29 & 31 to 47 & 50 on request from various bidders & Revised Schedule is as below:

Sl. No.	Description	Revised Schedule
i.	Closing date & time for receipt of tender	15.12.2015 at 02:30 P.M.
ii.	Time and date of Opening of Techno – Commercial Tenders	15.12.2015 at 03:00 P.M.

The amended Specifications for Item Nos. 36 to 45 & revised quantity and EMD for some items are attached below. All other terms and conditions of the tender enquiry document shall remain unchanged. Bidders are also advised to be guided by the EMD clause mentioned in the Tender Document & submit in the form of DD/ BG/Bankers Cheque & also to check whether the EMD (in case of EMD is in the form of Bank Guarantee) being submitted are valid for 165 days from the revised date of opening. Additional Sheet has been inserted in Price Schedule for submitting optional / essential etc items, if any, in the Tender Document.

Prospective bidders are advised to regularly visit HSCC website/ CPPP website for corrigendum /amendments etc. if any, as these will be notified on these portals only. No separate advertisement will published in the news papers in this regard.

CGM, HSCC India Limited
For and on behalf of DGMER, Panchkula

Amended Quantity & EMD for following items only:

Sl No.	Name of the Article	Initial Qty.	Revised Qty.	DEPARTMENT	Amended EMD (in IRs)
32	Cystoscope - Paediatrics (***Paed Surgery***)	2	**1**	SURGERY	80,000
33	Rigid Bronchoscope (sets) (***Paed Surgery - 1 Nos& TB Chest - 1 No***)	3	**2**	Various Departments	10,000
34	Oesophageal dilators (sets) (***Paed Surgery***)	2	**1**	SURGERY	1,000
35	Paediatrics Sigmoidoscope Video Flexible (***Paed Surgery***)	2	**1**	SURGERY	40,000
40	Ultrasound (Coloured) (***Radiology - 1 No, Surgery - 2 Nos, Medicine - 1 No &Obs/Gyn - 5 Nos***)	6	**9**	Various Departments	360,000

Item No. 36) 300 mA X-Ray Unit with Table & IITV HF X-ray Generator:		
Tender Specification		**Amended Specification**
1. The X-ray Generator should be high frequency inverter type of constant output.		No Changes
2. Output should be 30 KW or more.		No Changes
3. mA Range 40mA to 300mA or more at 100 KV.		No Changes
4. KV range 40 KV-125KV or more.		No Changes
5. Automatic mains compensation with LED lights of indication.		No Changes
6. Selection switches for radiography /fluoroscop y /bucky etc.		No Changes
7. Digital display of KV, mA, Sec & mAs		To be now read as "**Digital display of KV, mA & mAs**".
8. It should have 5" or more LCD display for mA, KV & mAs.		To be now read as "**It should have 5" or more LCD/LED display for mA, KV & mAs**".
9. It should have Multiple Anatomical programming radiography should be possible with user programmable settings.		No Changes
10. Exposure facility to be available both by hand switch and from control panel.		No Changes
11. Unit should be supplied with 2 Nos. rotating anode dual focus X-ray tube 1 tube should be provided with light beam collimator & cone attachment. Second tube should be provided for under couch operation for fluoroscopy. Focal spot of the X-ray tube should be 1mm small focus & 2mm large focus.		No Changes
12. 9" I.I.T.V. Chain should be provided with 17" Monitor and memory system for daylight fluoroscopy system.		No Changes
13. Spot Film Device (SFD) with capability to hold following sizes of Cassettes: 14"x14", 12"x10" & 10"x8" with sub-division in 1:3, 1:2 & 1:4.		No Changes
X-ray Tube Unit:		
1. The X-ray tube should be rotating anode compatible with the HF generator and must have dual focus. Focal spots of following sixes:		No Changes
i) Large Focus: not more than 2 mm or better.		No Changes
ii) Small Focus: not more than 1 mm or better.		No Changes
2. Collimator with auto shut provision for the light.		No Changes
3. The Tube Rating shall be 20/40 KW (Over Couch) & 20/40 KW (Over Couch) or better.		No Changes
X-ray Table:		
1. Horizontal X-ray Table with thin floating table top of Radio Translucent material.		No Changes
2. It should have transverse +/- 10cm or more and longitudinal movements +/- 30cm or more with electromagnetic brakes.		To be now read as "**It should have transverse +/- 8 cm or more and**

		longitudinal movements +/- 30cm or more".
3. Multiposition motorized table from -12 to +90 degrees movements with high speed bucky with moving grid of 10:1 and 100 lines or more.		No Changes
4. Floor to ceiling type fully counter balanced tube column stand.		No Changes
5. It should have bucky which can hold all standard size of cassettes up to 14"x17" including 14"x14".		No Changes
6. Bucky should have a grid ratio 8:1 or more with 100 lines or better & the Vertical Chest Bucky System should be provided as standard.		No Changes
Tube Column Stand:		
1. Floor to ceiling support column/ceiling free stand with easy up/down movement of tube arm with facility for electromagnetic lock in all movement.		No Changes
2. It should be counter balanced & have locking System for all movements.		No Changes
3. It should have +/- 90 degrees rotation of the base for various positions.		No Changes
4. Tube should have rotation of +/- 90 degrees for angulated exposures.		No Changes
Other Accessories:		
1. Floor Mounted Full Length Chest Stand.		No Changes
2. Abdomen Binder.		No Changes
3. Hand Support.		No Changes
NOTE:		
Unless other mentioned elsewhere in the Technical Specifications, the bidder has to comply with the following:		
1. The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments (AERB NOC will not be accepted). The Equipments should have European CE/ US FDA certification. Manufacturing firm should be ISO approved. Vendors shall assist the Consignee in getting AERB Site Plan approval prior to installation, wherever applicable.		**No Changes**
2. The Bidders are advised to visit the Site to assess the site condition of Equipment placement and installation before quoting & obtain all necessary details as no representation shall be entertained on later date / after submission of quotation onwards.		No Changes
3. The Bidder is required to carry out minor modification in terms of Civil (including trenches, railing etc, if required), Mechanical (including HVAC, if required) & Electrical to meet the AERB requirements for satisfactory working of the equipment.		No Changes
4. The company shall construct the protection chamber with 100 cm x 120 cm Lead Glass Window of 2mm thick lead equivalent or provide Stand Alone Radiation Protection Shield for all Radiological Equipments, wherever applicable/ needed.		No Changes
5. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirements for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. The Firm is required to provide / quote for both breakup cost &		No Changes

Total Lump sum cost towards the Turnkey works.		
6. The Department shall provide only three phase power supply along with Air-conditioning Ducting outlets with de-humidifying system at a suitable position in the concerned installation area. The rest of the work will be done by the firm on "**Turnkey Basis**" including rails for floor to ceiling column stand etc., if required etc. Earthing to be provided by the employer as per the requirement of the firm & this should be mentioned in the bid. Minimum necessary furniture and fire extinguisher system need to be part of Turnkey.		No Changes
7. "Special Compliance Note" at the end of the Technical Specifications may please be read in continuation with the above into while quoting.		No Changes

Sr. No. 37) 500 mA X-Ray Fluoroscopy Unit with Table & IITV		
		Amended Specifications
A. Generator:		
Generator should be high frequency type for constant output & Microprocessor controlled.		No Changes
Output 50 KW or more.		No Changes
KV range 40 KV – 125 KV or more.		No Changes
Output at 100 KV should be 500 mAs or more.		No Changes
It should have digital display of KV & mAs.		No Changes
It should have over loading protection.		No Changes
I.I.T.V. 9" Chain should be provided with 17" Monitor and memory system for daylight fluoroscopy system.		No Changes
Spot Film Device (SFD) with capability to hold following sizes of Cassettes: 14"x14", 12"x10" & 10"x8" with subdivision in 1:3, 1:2 & 1:4.		No Changes
B. X – Ray Tube, Collimator & Column Stand:		
The x-ray tube should be rotating anode high speed, compatible with the generator and must have dual focus		No Changes
Focal spots of following sizes:		No Changes
Large Focus: 1.2/2.0 mm or better.		No Changes
Small Focus: 0.6/1.0 mm or better.		No Changes
Tube with anode heat storage capacity 300 KHU or more.		No Changes
Tube rating for both over & under couch should be 30 / 50 KW.		No Changes
Motorized collimator having additional filters (for Dose Reduction), auto shut provision for the light**.**		No Changes
Counterbalanced floor/floor to ceiling stand with rotation of both tube as well as column with electromagnetic locking system for smooth positioning.		No Changes

C. X – Ray Table:		
Motorised Examination Table:		No Changes
1. The table should move from -12 degree Trendlenburg position to vertical with Automatic stop at Horizontal, Vertical & Trendlenburg position.		No Changes
2. Automatic Spot Film Device capable of doing all routine Spot Filming (4 on 1, 2 on 1, 1 on 1) for use with 8" x 10", 10" x 12", 14" x 14" cassettes should be provided.		To be now read as "**Fully Automatic Spot Film Device capable of doing all routine Spot Filming (4 on 1, 2 on 1, 1 on 1) for use with 8"x10", 10"x12", 14"x14" cassettes should be provided**".
3. Grid Size 15" x 15" & of Ratio 6:1, 60 lines per inch should be provided.		No Changes
4. Lead Glass and Fluroscopic Screen of Size 14" x 14" should be provided.		To be now read as "**Lead Glass of Size 14"x14" should be provided**".
5. Motorised Bucky should consist of a Grid of size $17_{1/4}$" x $18_{7/8}$" & of Ratio 8:1, 85 Lines/inch. Grid movements (oscillations) should be motorised and CAM operated.		**No Changes**
6. Table accessories: Stray radiation Lead Rubber Flaps, Stainless Steel Cassette Tray, Compression Band, Hand Grips and Foot Rest, Foot Steps to be provided.		No Changes
D. Vertical Bucky Stand:		
Vertical Bucky Stand with option of Chest Radiography without grid. It should be able to take up cassettes of different sizes up to 14"x17".		No Changes
E. CR SYSTEM:		
a. CR Reader with below mentioned sizes of cassettes (2 Nos. each) to be provided along with Single-plate Reader (which can retrieve images in about 60 sec for each plates) & Dry Laser Printer of Table Top Model with 500 or more DPI, 2 or more online.		To be now read as "**CR Reader with below mentioned sizes of cassettes (2 Nos. each) to be provided along with Single-plate Reader (which can retrieve images in about 60 sec for each plates) & Dry Laser Printer with 500 or more DPI, 3 or more online**".
b. CR System should be DICOM enabled.		
c. Through put should be 65 plates/ hr or better for 14" x 17".		To be read as "**Through put should be 70 plates/ hr or better for 14" x 17**".
d. Following Cassette Sizes to be provided with the system:		No Changes
i) 8" x 10' – 2 Nos.		No Changes
ii) 10" X 12" – 2 Nos.		No Changes
iii) 14" x 17" – 2 Nos.		No Changes
e. Manufacturer should be US FDA & European CE Certified/Approved.		To be read as "Manufacturer should be US FDA or European CE Certified/Approved".
f. Warrantte for 2 years with 3 years CMC should also be quoted. The cost of above mentioned cassetes shall be forzen for 3 years & should also be quoted separately so that the end user may purchase the same at a later date as per their requirement.		No Changes
g. Warrantee Certification/confirmation must also be given by the Principal Manufacturer.		No Changes
NOTE:		

Unless other mentioned elsewhere in the Technical Specifications, the bidder has to comply with the following:		No Changes
1. The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments (AERB NOC will not be accepted). The Equipments should have European CE/US FDA certification. Manufacturing firm should be ISO approved. Vendors shall assist the Consignee in getting AERB Site Plan approval prior to installation, wherever applicable.		To be now read as "**The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments (AERB NOC will not be accepted). The Equipments should have European CE / US FDA certification. Vendors shall assist the Consignee in getting AERB Site Plan approval prior to installation, wherever applicable**".
2. The Bidders are advised to visit the Site to assess the site condition of Equipment placement and installation before quoting & obtain all necessary details as no representation shall be entertained on later date / after submission of quotation onwards.		No Changes
3. The Bidder is required to carry out minor modification in terms of Civil (including trenches, railing etc, if required), Mechanical (including HVAC, if required) & Electrical to meet the AERB requirements for satisfactory working of the equipment.		No Changes
4. The company shall construct the protection chamber with 100 cm x 120 cm Lead Glass Window of 2mm thick lead equivalent or provide Stand Alone Radiation Protection Shield for all Radiological Equipments, wherever applicable/needed.		No Changes
5. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirements for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. The Firm is required to provide / quote for both breakup cost & Total Lump sum cost towards the Turnkey works.		No Changes
6. The Department shall provide only three phase power supply along with Air-conditioning Ducting outlets with de-humidifying system at a suitable position in the concerned installation area. The rest of the work will be done by the firm on "**Turnkey Basis**" including rails for floor to ceiling column stand etc., if required etc. Earthing to be provided by the employer as per the requirement of the firm & this should be mentioned in the bid. Minimum necessary furniture and fire extinguisher system need to be part of Turnkey.		No Changes
7. "Special Compliance Note" at the end of the Technical Specifications may please be read in continuation with the above into while quoting		No Changes

Sr. No. 38) 1000 mA X-Ray Fluoroscopy Unit with Table & IITV				
				Amended Specifications
The unit should be completely integrated system (integrated X ray generator and image acquisition control console) having the following specifications:-				No Changes
1. Generator				
1000 MA unit with microprocessor controlled high frequency X-Ray generator with power output of 80 KW.				No Changes
Specify KV and mA range.				No Changes
Specify exposure time range.				No Changes
KV range 40 KV – 150 KV or more.				No Changes
Output should be 1000 mA or more at 80 KV & 800 mA or more at 100 KV.				To be read as "**Output should be 1000 mA or more at 79m KV & 800 mA or more at 100 KV**".
It should have digital display of KV & mAs.				No Changes
It should have over loading protection.				No Changes
For trauma patients, the generator should have minimum exposure time of 1 ms.				No Changes
There should be provision for automatic exposure control.				No Changes
2. X-Ray Tube				
Dual focus Rotating Anode X-Ray tube having focal spot of 0.6 & 1.2 mm. or better capable of delivering 80kW output.				No Changes
Anode rotation speed should 9000RPM minimum.				No Changes
Anode heat storage capacity of tube should be 300KHU or more.				**No Changes**
One No. Motorized Collimators with IRIS and soft shutters should be provided.				No Changes
3. Table:				
Remote controlled tilting table should have 2 separate control panels by which it can be operated from inside as well as outside of intervention room.				No Changes
R/F table should comprising following features:				No Changes
- Motorized Height Adjustment				**No Changes**
- Remote controlled R/F (Radio/Fluoro) Table should have soft start and stop.				No Changes
- It should have remotely operated compression device with safety feature.				No Changes
- Foot rest with multiple position on both ends.				No Changes

- Electromagnetic locks should be available for safety.				No Changes
- Patient weight carrying capacity is 200Kg.				No Changes
- Table should have below movements:				No Changes
- Motorized Table tilt should be from +90°/-15°.				**No Changes**
- Motorized Transversal tabletop movement should be 220mm				No Changes
- Motorized movement of imaging unit in longitudinal axis should be 7400mm.				To be now read as "**Motorized movement of imaging unit in longitudinal axis should be 740mm or more**".
- Auto stop in Horizontal axis is available.				
- Motorized SID 1000mm to1500mm.				To be now read as "**Motorized SID 1150 mm to1500mm**".
4. IITV SYSTEM:				
- 12" Triple field image intensifier should be in the housing suitable for front mounting and placed inside the RF				No Changes
Table. - CCD Camera should be with a progressive scan sensor of 2/3" of 1K x1K Medical Grade with Motorized IRIS & ND Filter. Integrated optical system. Resolution to use the full dynamic range of CCD Camera. - 2 Nos. 19" LCD medical grade monitors along with a trolley.				No Changes
5. Operating Station				
Should have a high resolution monitor minimum **19" size (TFT/LCD)** with minimum 1024x1024 or more display matrix and antireflective front screen.				No Changes
Operating console should have facility for patient identity entry, viewing and processing images, documentation.				No Changes
Specify time for the image to appear on screen after exposure - Next exposure should be possible while processing is in progress on the operating station.				No Changes
6. Image Viewing and Reporting Station and Documentation				
Should have high resolution, minimum 19"size (TFT/LCD) monitor.				No Changes
Image acquisition matrix should be of minimum 3K x 3K.				To be now read as "**Image acquisition matrix should be of minimum 1K x 1K**".
Image display matrix should be of high resolution, minimum of 1.5 K x 1.5 K.				To be now read as "**Image display matrix should be of high resolution of 1Kx1K or more**".
High luminescence display for diagnostic image viewing.				No Changes
Post acquisition image processing, viewing, reprocessing, hard copy documentation and onward transmission should be possible.				No Changes

Should be connected to a Dry chemistry Laser Camera of at least 600 DPI for documentation.				No Changes
The camera should accept all size films up to 14”x17” size.				No Changes
Long term storage facility.				No Changes
7. Image storage and Transmission				
Hard disc storage capacity should be minimum of 3000 images.				No Changes
The systems should support storage of images on compact discs/DVD.				No Changes
The system should be **DICOM 3.0 (or higher version) enabled / ready** (like send, receive, print, record on CD/DVD, acknowledge etc.) for connectivity to any network, computer/PC etc. in DICOM format.				No Changes
Easy integration and networking should be possible with any other existing/future networking including other modalities, HIS and RIS and PACS.				No Changes
8. PRINTER:				
Suitable Printer should be supplied with the system.				To be now read as "**Dry Printer minimum 500 dpi with 2 trays online**".
9. Accessories				
. UPS for the computer with 30 minute backup.				**No Changes**
Image viewing and reporting station – 3 Nos. with capability to store image data for 100000 images.				To be now read as "**Image viewing and reporting station – 2 Nos. with capability to store image data for 100000 images**".
a. Image composition accessory should be available to allow acquisition of whole spine & extremity images.				No Changes
b. Any other accessory useful for trauma work should be mentioned.				No Changes
c. The Generator & Tube should be from the same Vendor / Manufacturer.				To be deleted & now read as "**The Generator & Tube should be from reputed vendor / manufacturer with full integration. Output of X-Ray Generator should match with X-Ray Tube output / Power**".
NOTE:				
Unless other mentioned elsewhere in the Technical Specifications, the bidder has to comply with the following:				No Changes

1. The quoted Equipment should be **DICOM 3.0 (or higher version) enabled / ready** (like send, receive, print, record on CD/DVD, acknowledge etc.) for connectivity to any network, computer/PC etc. in DICOM format and capable of being interfaced with HIS/RIS/PACS.				No Changes
2. The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments (AERB NOC will not be accepted). The Equipments should have European CE or US FDA certification. Manufacturing firm should be ISO approved. Vendors shall assist the Consignee in getting AERB Site Plan approval prior to installation, wherever applicable.				No Changes
3. The Bidders are advised to visit the Site to assess the site condition of Equipment placement and installation before quoting & obtain all necessary details as no representation shall be entertained on later date / after submission of quotation onwards.				No Changes
4. The Bidder is required to carry out minor modification in terms of Civil (including trenches, railing etc, if required), Mechanical (including HVAC, if required) & Electrical to meet the AERB requirements for satisfactory working of the equipment.				No Changes
5. The company shall construct the protection chamber with 100 cm x 120 cm Lead Glass Window of 2mm thick lead equivalent or provide Stand Alone Radiation Protection Shield for all Radiological Equipments, wherever applicable/needed.				No Changes
6. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirements for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. The Firm is required to provide / quote for both breakup cost & Total Lump sum cost towards the Turnkey works.				No Changes
7. The Department shall provide only three phase power supply along with Air-conditioning Ducting outlets with de-humidifying system at a suitable position in the concerned installation area. The rest of the work will be done by the firm on "**Turnkey Basis**" including rails for floor to ceiling column stand etc., if required etc. Earthing to be provided by the employer as per the requirement of the firm & this should be mentioned in the bid. Minimum necessary furniture and fire extinguisher system need to be part of Turnkey.				No changes
8. "Special Compliance Note" at the end of the Technical Specifications may please be read in continuation with the above into while quoting.				To be now read as "**US FDA or European CE Certification**".

Sr. No. 39) 100 mA Mobile X-Ray Unit

No Change in Technical Specifications applies.

Item no. :- 40 ULTRASONOGRAPHY EQUIPMENT – COLOURED							
Tender Technical Specifications:							**Amended Specifications**
A. Ultrasound:							
The System should have the state of art technology so as to apply to a variety of diagnostic needs in general imaging, obstetrics, gynecology, urology, musculoskeletal, small parts, breast, neonatal and pediatrics applications etc. with following specifications:							No Changes
1. The system should have B mode, M mode, PW Doppler, High Pulse Repetition Frequency (HPRF), Color Flow Doppler, Power Doppler with bidirectional, current technique Tissue Harmonic Imaging (THI).							No Changes
2. It should be able to display combined modes like B/Spectral Doppler, B/M-mode, B/Power Doppler, B/Color Doppler and Bidirectional Doppler and B/4 D mode.							No Changes
3. The system should have fully digital technology with minimum 20000 digital processing channels per image frame for simultaneous formation, acquisition and display processing of multiple ultrasound beams and support dynamic focal length tuning.							**No Changes**
4. It should have minimum three active port plus one parking port.							To be now read as "**It should have minimum three active ports**".
5. A display of 17" high resolution TFT/LCD Flat Panel Screen with swivel and tilt facility. It should also have a touch panel on the console for ease of operation of minimum 7".							To be now read as "**A display of 17" or more high resolution LED/LCD Flat Panel/High Resolution Screen with swivel and tilt facility. It should also have a touch panel on the console for ease of operation of minimum size 7**".
6. Inbuilt image storage facility with not less than 320 GB HDD and DVD Writer facility. The image management must enable to rework on the volume files that are stored in the HDD.							**No Changes**
7. Integrated DICOM interface, peripheral bay for B&W, Color and S-VHS.							No Changes
8. The system should have dynamic range not less than 200 Db or better.							**No Changes**
9. Intelligent Automatic Image Optimization function in B mode and Doppler.							No Changes
10. Transmission focus must be freely selectable in 1 to 5 focal zones and adjustable in minimum 6 different positions.							**No Changes**
11. Maximum zoom (read + write) upto 10 times.							No Changes
12. Extended Field of view (Panaromic Imaging) with distance measurements on actual imaging.							No Changes

13. The system should have cine loop in the single/dual and quad formats upto 4000 or better frames in B-mode and atleast 50 seconds of flopper and M mode data.							To be now read as "**The system should have cine loop in the single/dual and quad formats upto 2500 or more frames in B-mode and at least 50 seconds of flopper and M mode data**".
14. The system pulsed wave doppler should have Pulse Repetition Frequency (PRF) minimum 0.5 to 12 khz transmission frequency from 2 to 15 Mhz with automatic doppler tracing and measurements.							Point No 14 stands **DELETED**.
15. Real time spatial compounding with transmit compounding without decrease in frame rate volume.							No Changes
16. Image visualization and delineations of pathology with optimized contrast resolution with real time speckle management techniques even in color, the same should be applicable able to combine seamlessly with other applicational features in the system. Should be available with all the probes and should ensure that the frame rate is maintained high.							No Changes
17. The system should be capable of the best 3D/4D imaging with newer techniques based on volume acquisition for better and optimized solutions in different diagnostic situations, apart from the basic multiplannar plane imaging with measurements in MPR possible, with other basic 3D features like 3D based volume calculations etc.							**No Changes**
18. The system should have a very good volume acquisition speed and should have the realtime 4D cineloop capable.							**No Changes**
19. Unit should have capability of displaying upto 4 fetal growth charts.							**No Changes**
20. All probes should have broad bandwidth with optimized application presets for better diagnostic results and have atleast 180 elements in the array.							To be now read as "**All probes should have broad bandwidth & High Density Probe with optimized application presets for better diagnostic results and have 128 or more elements in the array. All probes should preferably also have Tissue Harmonics".**
21. System should have advanced features of 3D Static & 4 D Real time with single view facility.							To be now read as "**System should have advanced features of 3D Static & 4 D Real time with single view facility with Auto Doppler calculations".**
22. On board archive including Preview & Pre Selection is mandatory.							To be now read as "T**he system should have a Battery backup of at least 90 minutes for uninterrupted continuous scanning".**
23. Demo of the system must.							No Changes
24. **The system must be supplied with following minimum probes:**							
a) One transvaginal probe with FOV of 180 degrees or better & 4 to 9 MHz frequency bandwidth withtemperature detection technology for gynecology applications.							To be now read as "**One trans-vaginal probe with FOV of 120 degrees or more & 4 to 9 MHz frequency or better bandwidth with Biopsy attachment**".
b) One Convex probe for applications in abdomen, obstetrics and gynaecology with 2 to 5 MHz withseparate selectable doppler frequency and harmonic frequency.							To be now read as "**One Convex probe for applications in abdomen, obstetrics and gynecology with 2 to 5 MHz or better with separate selectable Doppler frequency and harmonic frequency**".
c) One Linear array probe for applications of vascular lower and upper extremities, small parts and pediatric applications with 3 to 11 MHz with FOV of over 35 mm with steering angle of +/-20 degree in color with biopsy guide.							To be now read as "**One Linear array probe for applications of vascular lower and upper extremities, small parts and pediatric applications with 5 to 11 MHz or better with FOV of over 35 mm with steering angle of +/-20 degree in color with biopsy guide**".

25. UPS with 30 minutes back of power is mandatory and to be included in the Std. Scope of Supply.							No Changes
26. Safety conformance: Should meet all the standard norms & it should be ISO , CE /US FDA approved.							No Changes
27. User manual: A printed operating manual in English must be supplied.							No Changes
28. The supplier shall indicate the conformity of the specification point wise & also furnish additional features of the system if any clearly. Rates must be quoted for the System and accessories separately. The supplier also has to quote price of each 4D probe separately (Optional price).							No Changes
29. Manufacturer should be US FDA or European CE Certified/Approved							**No Changes**
B. CR SYSTEM:							**CR System stands DELETED & to be replaced by Thermal Printer as mentioned below:**
a. CR Reader with below mentioned sizes of cassettes (2 Nos. each) to be provided along with Single-plate Reader (which can retrieve images in about 60 sec for each plates) & Dry Laser Printer of Table Top Model with 500 or more DPI, 2 or more online.							CR System to be replaced & now read as "**Thermal Paper Printer of International Brand with 100 Rolls & Papers**".
b. CR System should be DICOM enabled.							No Changes
c. Through put should be 65 plates/ hr or better for 14" x 17".							No Changes
d. Following Cassette Sizes to be provided with the system:							No Changes
i) 8" x 10' – 2 Nos.							No Changes
ii) 10" X 12" – 2 Nos.							No Changes
iii) 14" x 17" – 2 Nos.							No Changes
e. Manufacturer should be US FDA & European CE Certified/Approved.							No Changes
f. Warrantte for 2 years with 3 years CMC should also be quoted. The cost of above mentioned cassettes shall be frozen for 3 years & should also be quoted separately so that the end user may purchase the same at a later date as per their requirement.							No Changes
g. Warrantee Certification/confirmation must also be given by the Principal Manufacturer.							No Changes
NOTE:							
Unless other mentioned elsewhere in the Technical Specifications, the bidder has to comply with the following:							
1. The quoted Equipment should be **DICOM 3.0 (or higher version) enabled / ready** (like send, receive, print, record on CD/DVD, acknowledge etc.) for connectivity to any network, computer/PC etc. in DICOM format and capable of being interfaced with HIS/RIS/PACS.							No Changes
2. The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments, if applicable (AERB NOC will not be accepted). The Equipments should have European CE and US FDA certification. Manufacturing firm should be ISO approved. Vendors shall assist the Consignee in getting AERB Site Plan approval prior to installation, wherever applicable, if applicable.							No Changes
3. The Bidders are advised to visit the Site to assess the site condition of Equipment placement and installation before quoting & obtain all necessary details as no representation shall be entertained on later date / after submission of quotation onwards.							No Changes

4. The Bidder is required to carry out minor modification in terms of Civil (including trenches, railing etc, if required), Mechanical (including HVAC, if required) & Electrical to meet the requirements for satisfactory working of the equipment.							No Changes
5. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirements for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. The Firm is required to provide / quote for both breakup cost & Total Lump sum cost towards the Turnkey works.							No Changes
6. The Department shall provide only three phase power supply along with Air-conditioning Ducting outlets with de-humidifying system at a suitable position in the concerned installation area. The rest of the work will be done by the firm on "**Turnkey Basis**" including rails for floor to ceiling column stand etc., if required etc. Earthing to be provided by the employer as per the requirement of the firm & this should be mentioned in the bid. Minimum necessary furniture and fire extinguisher system need to be part of Turnkey.							No Changes
7. "Special Compliance Note" at the end of the Technical Specifications may please be read in continuation with the above into while quoting.							No Changes

Item No 41) Specificaions for Intraoperative Color Doppler

The Tender Technical Specification has been completly replaced by the following Technical Specifications:

Sr. No.	Specificaions for Intraoperative Color Doppler
1	Should have High Resolution Imaging for Clinical needs
2	Should have speckle reduction technology for enhancing tissue margins for better anatomical visualization and to improve better organ anatomy from different angles.
3	Should have facility to connect at least two electronic and one single element transducers
4	Should support 360 degree scanning with compatible probes.
5	Should have Automated Mode Adjustment for high resolution B mode image
6	Should have facility to compensate the motion related imaging artifacts

7	Should have DICOM Capabilities
8	Transducers should have programmable start and stop buttons.
9	Control panel should be sealed for easy cleaning and disinfection
10	Control panel should be illuminated for easy access
11	Should have an internal hard drive memory to store still & video images.
12	Should have height adjustable mechanism with control panel.
13	CD /DVD writer and USB Flash memory drive should be the part of the system.
14	Should be of latest generation quad beam digital technology.
15	The equipment must be European CE / USFDA certified.
16	Imaging Modes: System should have following modes:
a	B mode
b	M Mode
c	Color Doppler
d	Power Doppler
e	Pulsed Wave Doppler
f	Tissue Harmonic Imaging
17	The following transducers are to be supplied along with the scanner
a	2-6MHz convex abdominal transducer with an autoclavable biopsy attachment
b	Transrectal transducer with simultaneous biplane imaging facility to visualize, sagittal as well as transverse planes of prostate gland. The same transducer should have an endfire array for scanning the apical areas of the prostate during nerve sparing lap radical prostatectomies. Transducer should compatible with standard sterilization methods like, immersion, ETO and Sterrad. A biopsy attachment for side fire as well as endfire arrays to be supplied.
c	A laparoscopic four way deflectable transducer which can be used through normal laparoscopic ports (10-12mm) with a biopsy facility to be supplied. Probe should be compatible with standard sterilization methods like immersion, ETO and Sterrad. Compatible biopsy attachment and flexible biopsy needles (at least 5nos) should be supplied.
18	**WARRANTY & CMC**
a	Two years warranty on all supplied items
b	Three years comprehensive maintenance charge (CMC) of all items.

Item No. 42 C–Arm Image Intensifier					
Requirement of Surgery & Orthopedics Department					
Qty - 3 Nos (1 for Surgery Dept. + 2 for Ortho Dept.)					
Description of Function:					**Amended Specifications**
Tender Specification					
1. This equipment is used in orthopaedic fractures for imaging of bone pathology Orfractures on a display monitor during operation / reduction of fractures.					No Changes
2. Uni-planar which is convenient, least bio/radiation-hazardous efficient for all type of orthopaedic imaging of bones preoperatively /otherwise.					No Changes
3. A Versatile, compact and true counterbalanced C-arm unit should allow unobstructed Positioning and enhanced ease of operation in OT for surgical interventions.					No Changes
Technical Specifications:					
1. Mechanical motion requirements for C-Arm:					No Changes
i. Motorized Vertical travel: Minimum 400 mm or more.					No Changes
ii. Horizontal travel: 200 mm or better.					No Changes
iii. Rotation of C-arm: +/- 180 deg. or more.					No Changes
iv. Pivotal rotation: 12.0 deg. or more.					To be now read as "**Pivotal rotation: 10.0 deg. or more**".
v. Orbital rotation: minimum 120 deg. (90 deg. to minimum 30 deg.) or better.					No Changes
vi. Depth / Radius of C-arm: 650 mm or better.					No Changes
vii. Free space between Image Intensifier & X-ray tube: Minimum 750 mm or more.					No Changes
viii. Source to Image intensifier distance (SID): 900 mm or more.					No Changes
2. The C-arm should have facility of locking the C-arm movements with easy to turn handle on control unit. Rear wheels must be freely movable for easy to turn handle on control unit. Rear wheels must be freely movable for easy positioning of the complete C-arm around the OT table.					No Changes
3. Image Intensifier should have at least triple field 9”/6”/4” input diameter offering resolution (Minimum 64lp/cm or better for 4” input) and contrast ratio (25:1 or better).					**No Changes**

4. TV Camera:					
Ultra Compact CCD camera or camera with CMOS or advanced CMOS sensor along with 2 Nos. 17" flicker free TV monitors with facility to rotate the image continuously.					To be now read as "**Ultra Compact CCD camera along with 2 Nos. 17" flicker free TV monitors with facility to rotate the image continuously**".
5. Direct Radiography:					
Radiography should be possible on a cassette to be fitted in a holder for 10X 12 Inches cassette. The unit should be complete with one such holder and 1 No. Cassettes should including high speed intensifying screens.					Point No. 5. stands **DELETED**.
6. X- ray generator:					
High frequency (20- 40 KHz or more) at least 6 KW or even better X-ray generator with high capacity rotating anode X-ray tube of dual foci of 0.3 and o.6 mm (200 KHU)or better.					**No Changes**
7. Fluoroscopy output: 40-120 KV in IKV steps.					To be now read as "**Fluoroscopy output: 40-110 KV**".
8. MA output: Minimum upto 8.0 mA or better.					**No Changes**
9. Snapshot: Minimum 7.0 mA or better.					
10. Pulse Fluroscopy with variable Pulse Rate.					**No Changes**
11. Automatic dose rate regulation.					No Changes
12. Time totaler for fluoroscopy with facility for alarm after every 5 minutes of fluoroscopy.					No Changes
13. Radiography output: 40-120 KV in 1 KV steps.					Point No. 13. stands **DELETED**.
14. mAs range: Up to 200 mAs or better.					Point No. 14. stands **DELETED**.
15. mA max: Up to 60 mA or better.					Point No. 15. stands **DELETED**.
16. Image Memory:					
At least 1 (LIH) + minimum 20,000 frames dynamic digital memory on Hard Disk with 1024 X 1024 matrix o f better. There should be facility to insert patient name through alpha-numeric key board. The system preferably must be upgradable for performing real time digital subtraction angiography with acquisition upto 6 frames/sec. or better and road mapping functions etc. at any later date for peripheral angiography.					**No Changes**
17. Image processing:					
The system should have automatic dose level selection. It should preferably have automatic image parameter selection with capability of Switching on to manual selection. Image storage of 20,000 images on a 1024 / 1024 matrix It should have image annotation facility; measuring of distances and angles, entering of demographic data of patients, support of DICOM 3.0 functions. Image processing must be a fully digital continuous chain of at least 1k / 1k matrix for image acquisition, processing, storage, archiving and documentation. **The system should allow configuration and linking up with the HIS (Hospital information system).**					No Changes

18. Essential Accessories: The complete functional system must be quoted with dual channel Laser light source onXray tube unit for making a cross to reduce the X-ray dose, built in dose area productmeter for display of X-ray dose, **AERB approved Light weight lead free aprons (7)**, **thyroid shields (5**), **gonadalshields (5), lead goggles (3)** and preferably a CVT and thermal printer with 12 film rolls and a CD/DVD writer.					No Changes
NOTE:					
Unless other mentioned elsewhere in the Technical Specifications, the bidder has to comply with the following:					No Changes
1. The quoted Equipment should be **DICOM 3.0 (or higher version) enabled / ready** (like send, receive, print, record on CD/DVD, acknowledge etc.) for connectivity to any network, computer/PC etc. in DICOM format and capable of being interfaced with HIS/RIS/PACS.					No Changes
2. The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments (AERB NOC will not be accepted). The Equipments should have European CE **and** US FDA certification. Manufacturing firm should be ISO approved. Vendors shall assist the Consignee in getting AERB Site Plan approval prior to installation, wherever applicable, wherever applicable.					To be now read as "**The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments (AERB NOC will not be accepted). The Equipments should have European CE <u>OR</u> US FDA certification. Manufacturing firm should be ISO approved. Vendors shall assist the Consignee in getting AERB Site Plan approval prior to installation, wherever applicable, wherever Applicable**".
3. The Bidders are advised to visit the Site to assess the site condition of Equipment placement and installation before quoting & obtain all necessary details as no representation shall be entertained on later date / after submission of quotation onwards.					
4. The Bidder is required to carry out turnkey works in terms of Civil (including trenches, railing etc, if required), Mechanical (including HVAC, if required) & Electrical to meet the AERB requirements for satisfactory working of the equipment.					
5. The company shall construct the protection chamber with 100 cm x 120 cm Lead Glass Window of 2mm thick lead equivalent for the Radiological Equipments, wherever applicable/needed.					
6. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Civil Works, Electrical cabling of suitable ratings, Electrical points of suitable ratings, water Connection, water drainage, plumbing & allied requirements for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. The Firm is required to provide / quote for both breakup cost & Total Lump sum cost towards the Turnkey works.					
7. The Department shall provide only three phase power supply along with Air-					

conditioning Ducting outlets with de-humidifying system at a suitable position in the concerned installation area. The rest of the work will be done by the firm on "**Turnkey Basis**" including rails for floor to ceiling column stand etc., if required etc. Earthing to be provided by the employer as per the requirement of the firm & this should be mentioned in the bid. Minimum necessary furniture and fire extinguisher system need to be part of Turnkey.					
8. "Special Compliance Note" at the end of the Technical Specifications may please be read in continuation with the above into while quoting.					

43) CT SCAN – 64 Slice

Tender Specs						**Amended Specifications**
The system should be latest state of the art, independent 64 or more rows of detectors with acquisition of at least 64 slices per rotation capable of integrating with any PACS/HIS system. The system should be **DICOM – enabled / ready** with true isotropic volume acquisition and sub millimeter resolution. The model quoted should be, AERB Type approved and US FDA and European CE certified. The essential requirements of the system are as follows:-						To be now read as "The system should be latest state of the art, independent of at least 64 slices per rotation capable of integrating with any PACS/HIS system. The system should be **DICOM – enabled / ready** with true isotropic volume acquisition and sub millimeter resolution. The model quoted should be, AERB Type approved and US FDA and European CE certified. The essential requirements of the system are as follows:-
a) Gantry:						
• Aperture: 70 cms or more						No Change
• FOV: 50 cms or more						No Change
• 3-D laser lights for positioning.						No Change
b) X-Ray Generator:						
• High Frequency type.						No Change
• Power output: 80 kW or higher						**No Change**
• mA Range: 20-600 mA (With incremental steps of 10 mA)						No Change
• KV Range: 80-110 or more						No Change
c) X-Ray Tube:						
• Tube Voltage: 80-110 kV or more						No Change

• Anode Heat Storage Capacity of at least 8.0 MHU or direct cooling tube						To be now read as "**Anode Heat Storage Capacity of at least 7.0 MHU or more direct cooling tube**".
d) Patient Table:						
• Load carrying capacity at least of 180 Kg with positional accuracy of 1 mm or less						No Change
• Metal free scan-able range of 150 cm or more.						No Change
• Floating table top with foot pedal/hand control for positioning.						No Change
e) Spiral Acquisition:						
• Scan Time should be 0.4 sec or less for full 360 degree rotation.						To be now read as "**Scan Time should be 0.35 sec or less for full 360 degree rotation**".
• Minimum slice thickness should be 0.625 mm or less.						No Change
• Pitch Factor (volume pitch): freely selectable in auto mode and also manually variable between 0.5 to 1.5 or more. Specify all possible pitch selections.						No Change
• Bolus Triggered or bolus chase spiral acquisition should be available.						No Change
• Real time x-ray dose reduction which combines both Z axis and angular tube current modulation to adjust the dose to the size and shape of individual.						No Change
f) Image Resolution:						
1. High contrast resolution should be at least 15 lp/cm for axial and spiral scan at 0% MTF with full FOV.						No Change
2. Low contrast resolution – 5mm or less at 3.0 HU using 20 cm CATPHAN phantom on 10 mm slice thickness.						No Change
g) Data Acquisition System:						
• Detector- Capable of acquiring 64 slices per 360 degree of rotation.						No Change
• At least 64 rows of independent detectors are required with Z-axis coverage of 38 mm or more.						To be **DELETED** & now read as "**Number of detectors to be mentioned as required with Z-axis coverage of 38 mm or more**".
• Solid state or rare earth detectors of latest technology free from repeated calibration.						No Change
h) Image Reconstruction:						
• High speed real time reconstruction with display matrix of 1024x1024 or more.						No Change
• Reconstructed slice thickness should be sub-millimeter to 10mm freely selectable.						No Change
i) Operator Console:						
• High resolution medical grade LCD color monitors of 19‖ or more.						No Change

• Should perform Registration, scheduling, protocol selection, Volume rendering, volume measurements, Multi-planar Reconstruction, and standard evaluation application and all available post processing functions without the help of the satellite workstation.						No Change
• Raw Data storage with at least 500 GB Hard disc having image storing capacity of 5,00,000 or more in 512x512 format.						**No Change**
• Auto-voice capability with custom designed key board and mouse.						No Change
• Archiving options: CD-R, DVD, should be available. 5000 rewritable DVDs should be provided.						No Change
j) Workstation client server architecture)						
1. It should be a high speed (minimum post-processing frame rate of 16 frames/sec) CPU with a speed of 3.0 GHz or better and with an independent Hard disc storage capacity of 512 GB or more, with 19 inches or more high resolution medical grade colour LCD monitors capable of simultaneously viewing and performing all post processing functions and filming independently without the help of main console.						**No Change**
2. Memory of the workstation should be independent of the console.						No Change
3. Two way data transfer between the operator console & the satellite workstation should be automatic and standard.						No Change
4. Post Processing Soft-wares						To be now read as "**The two client Server in addition to Operating Main Console workstations hardware should be latest with 8GB RAM, Quadcore CPU 3Ghz, 2GB graphic card and 19 inches or more monitor. Both client workstation should perform all post processing functions and filming independently without the help of main console**".
						No Change
(i) Perfusion CT for brain						No Change
(ii) CT Angio, VRT, MIP, MPR, 3-D Shaded Surface display, Image Fusion, Vessel segmentation, luminal view.						No Change
(iii) Virtual Endoscopy with facility for virtual dissection and computer aided detection of polyps.						No Change
(iv) Advanced cardiac package including Coronary Artery Imaging, Calcium Scoring, Myocardial Viability software, Cardiac functional analysis and advanced Vessel. Analysis including stenosis assessment. Facility for prospective and retrospective ECG gating, facility for automatic selection of rotation speed according to heart beat and step and shoot for low dose acquisition should be available.						**No Change**
(v) Automatic bone Removal facility.						No Change
(vi) Dental CT.						No Change

(vii) Lung nodule evaluation software. CAD for Lung nodule evaluation software should also be provided.						No Change
(viii) Liver segmentation display software in different colours, volumetry and virtual surgical plane identification.						No Change
(ix) Bone Mineral Densitometry software.						This Point No. 4. (ix) stands **DELETED**.
5. Interactive & Automatic Cine display should be available.						No Change
6. Image Evaluation Tools:						No Change
(i) Parallel evaluation of multiple ROI in circle, irregular and Polygonal forms,						No Change
(ii) Statistical Evaluation for area/ volume, S.D, Mean/Max and Histograms.						No Change
(iii) Distance & angle measurement, freely selectable, positioning of co-ordinate system, grid and image annotation.						No Change
One similar independent post processing stations (workstations, total no.2) with all the software as in the main console should be available. . The necessary connectivity etc. for proper functioning should be provided by the vendor with the supply of standalone server of atleast 10 tera byte storage capacity with expansion slot of additional tera bytes. All post processing facility and data archiving should be available independently at both the workstations.						Following to be read in addition to the Tendered Specification & replaced where applicable: "**Requires two independent Workstation in addition to Main Operating Console**".
k) <u>Patient communication system</u>:						
1. An integrated intercom and Automated Patient Instruction System (API) should be provided.						No Change
2. Two closed circuit TV for patient monitoring.						No Change
l) <u>Dry Chemistry Laser Imager</u>:						
1. Resolution: 16 bits/ **500** dpi or more with minimum three ports.						No Change
2. Support Multiple Film Sizes: one of which must be 17″ x14″ .						No Change
3. DICOM 3.0 Compatible.						No Change
m) <u>System Configuration Accessories, spares and consumables</u>:						
• Collapsible wheel chair with rubberized swivel wheels - 01 nos.						No Change
• Standard Patient positioning accessories and restraining devices - 02 sets.						No Change
• Gonadal shields – 5 Nos, Thyroid shields – 5 Nos and Lead goggles – 5 Nos.						No Change
• Lead Glass 100 cm x 150 cm of 2 mm Lead equivalence as per the requirement of the equipment, as per AERB guideline / recommendations.						No Change
• Online UPS of suitable rating should be supplied for the complete system including Gantry, computer system, with at least 30 minutes back up.						No Change
• Dual Head Pressure Injector with 5000 syringes of 200 ml.						No Change
• Software for Remote Diagnostics Service should be provided.						No Change

• System must be PACS, HIS/RIS interface ready without any new hardware or software.						No Change
• Centralized oxygen and suction facility (to be connected to the nearest port) in gantry and recovery room.						No Change
• A free comprehensive software upgrade guarantee for entire life of scanner must be provided.						No Change
• **Real time CT Fluoroscopy** with at least 6 to 8 frames per second with dedicated 15" color LCD monitor. Facility table side controls and foot switch for biopsy to be quoted separately.						No Change
NOTE:						
Unless other mentioned elsewhere in the Technical Specifications, the bidder has to comply with the following:						
1. The quoted Equipment should be **DICOM 3.0 (or higher version) enabled / ready** (like send, receive, print, record on CD/DVD, acknowledge etc.) for connectivity to any network, computer/PC etc. in DICOM format and capable of being interfaced with HIS/ RIS/ PACS						No Change
2. The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments (AERB NOC will not be accepted). The Equipments should have European CE **and** US FDA certification. Manufacturing firm should be ISO approved. Vendors shall assist the Consignee in getting AERB Site Plan approval prior to installation, wherever applicable, wherever applicable.						No Change
3. The Bidders are advised to visit the Site to assess the site condition of Equipment placement and installation before quoting & obtain all necessary details as no representation shall be entertained on later date / after submission of quotation onwards.						No Change
4. The Bidder is required to carry out turnkey works in terms of Civil (including trenches, railing etc, if required), Mechanical (including HVAC, if required) & Electrical to meet the AERB requirements for satisfactory working of the equipment.						No Change
5. The company shall construct the protection chamber with 100 cm x 150 cm Lead Glass Window of 2mm thick lead equivalent for the Radiological Equipments, wherever applicable/needed.						No Change
6. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Civil Works, Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirements for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. The Firm is required to provide / quote for both breakup cost & Total Lump sum cost towards the Turnkey works.						No Change
7. The Department shall provide only three phase power supply along with Air-						No Change

conditioning Ducting outlets with de-humidifying system at a suitable position in the concerned installation area. The rest of the work will be done by the firm on "**Turnkey Basis**" including rails for floor to ceiling column stand etc., if required etc. Earthing to be provided by the employer as per the requirement of the firm & this should be mentioned in the bid. Minimum necessary furniture and fire extinguisher system need to be part of Turnkey.						
8. "Special Compliance Note" at the end of the Technical Specifications may please be read in continuation with the above into while quoting.						No Change

Item No. 44) MAMOGRAPHY MACHINE WITH CR SYSTEM				
Tender Specifiation				**Amended Specifications**
Generator: a) Microprocessor controlled High Frequency generator with integrated beam filters to reduce patient skin radiation dose				No Change
b) Minimum generator output: 5 KW or more				No Change
X ray Tube:				
Rotating Anode X-Ray tube				No Change
KV: 23 KV to 35 KV, adjustment in increment of 1 KV				No Change
mAs capacity - 1 mAs to 500 mAs or more				**No Change**
Focal Spots: Dual focal spots of 0.3 mm and 0.1 mm or better				No Change
Anode Heat Storage capacity: 200 KHU or more				**No Change**
Gantry/ X – Ray Stand:				
Motorized height adjustable to at least 75 cm to 125 cm or more above the floor to object table				No Change
Should have large swivel range: -180 deg to + 135 deg or more. Rotation should be iso-centric				**No Change**
Automatic collimation to film format				No Change
Grid:R 5:1, 30 lines/ cm or more				No Change
Combination filter Mo/Mo and Mo/Rh and the lower dose according to individual breast				No Change
Automatic Exposure Control with compensation Compression device: Both motorized and manual Exposure Modes:				No Change
Dual mode - Automatic & manual Magnification device:				To be now read as "**Manual mode Magnification device**:".
Metallic magnification device with a magnification factor of 1.5 to 2 or better				No Change
Bucky unit: 18X24 cm & 24 X 30 cm.				No Change
The CR cassettes compatible with CR should be supplied. System must have AERB type approval				No Change
The unit should have European CE certificate / US FDA				To be now read as "**Manufacturer should have US FDA or European CE Certified**

				/ Approved".
1. Suitable Radiation shield				No Change
2. Rotating stool for patient				No Change
3. Suitable online UPS with at least 30 min back up.				To be now read as "**UPS is required for only CR system**".
4. Unit should be upgradable to Stereotactic Biospy.				No Change
CR SYSTEM				**No Changes**
a. CR Reader with below mentioned sizes of cassettes (2 Nos. each) to be provided along with Single-plate Reader (which can retrieve images in about 60 sec for each plates) & Dry Laser Printer of Table Top Model with 500 or more DPI, 2 or more online.				No Change
b. CR System should be DICOM enabled.				No Change
c. Through put should be 65 plates/ hr or better for 14" x 17".				Through put should be **60 plates/ hr** or better for 14" x 17
d. Following **FDA Approved Mammography Cassette Sizes** to be provided with the system:				No Change
i) 8" x 10' – 4 Nos.				No Change
ii) 10" X 12" – 4 Nos.				No Change
e. Following Cassette Sizes to be provided with the system:				No Change
i) 8" x 10' – 2 Nos.				No Change
ii) 10" X 12" – 2 Nos.				No Change
iii) 14" x 17" – 2 Nos.				No Change
f. System should be able to perform 20 pixel/mm for mamography also.				No Change
g. Manufacturer should be US FDA & European CE Certified/Approved.				No Change
h. Warrantte for 2 years with 3 years CMC should also be quoted. The cost of above mentioned cassetes shall be forzen for 3 years & should also be quoted separately so that the end user may purchase the same at a later date as per their requirement.				No Change
i. Warrantee Certification/confirmation must also be given by the Principal Manufacturer.				No Change
NOTE:				
Unless other mentioned elsewhere in the Technical Specifications, the bidder has to comply with the following:				No Change
1. The quoted Equipment should be **DICOM 3.0 (or higher version) enabled / ready** (like send, receive, print, record on CD/DVD, acknowledge etc.) for connectivity to any network, computer/PC etc. in DICOM format and capable of being interfaced with HIS/RIS/PACS.				No Change
2. The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments (AERB NOC will not be accepted). The Equipments should have European CE **and** US FDA certification. Manufacturing firm should be ISO approved. Vendors shall assist the Consignee in				To be now read as "The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments

getting AERB Site Plan approval prior to installation, wherever applicable, wherever applicable.				(AERB NOC will not be accepted). The Equipments should have European CE **or** US FDA certification. Manufacturing firm should be ISO approved. Vendors shall assist the Consignee in getting AERB Site Plan approval prior to installation, wherever applicable, wherever applicable".
3. The Bidders are advised to visit the Site to assess the site condition of Equipment placement and installation before quoting & obtain all necessary details as no representation shall be entertained on later date / after submission of quotation onwards.				No Change
4. The Bidder is required to carry out turnkey works in terms of Civil (including trenches, railing etc, if required), Mechanical (including HVAC, if required) & Electrical to meet the AERB requirements for satisfactory working of the equipment.				No Change
5. The company shall construct the protection chamber with 100 cm x 120 cm Lead Glass Window of 2mm thick lead equivalent or provide Stand Alone Radiation Protection Shield for all Radiological Equipments, wherever applicable/needed.				No Change
6. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Civil Works, Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirements for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. The Firm is required to provide / quote for both breakup cost & Total Lump sum cost towards the Turnkey works.				No Change
7. The Department shall provide only three phase power supply along with Air -conditioning Ducting outlets with de-humidifying system at a suitable position in the concerned installation area. The rest of the work will be done by the firm on "**Turnkey Basis**" including rails for floor to ceiling column stand etc., if required etc. Earthing to be provided by the employer as per the requirement of the firm & this should be mentioned in the bid. Minimum necessary furniture and fire extinguisher system need to be part of Turnkey.				No Change
8. "Special Compliance Note" at the end of the Technical Specifications may please be read in continuation with the above into while quoting.				No Change

45) MRI - 1.5 Tesla

Tender Specs					**Amended Specifications**
Competitive bids are invited for installation of **1.5 Tesla** MRI System with state-of-the-art latest features commercially available at the time of supply **European CE and US FDA approved).** The system must be capable of integrating with any PACS/HIS system. The system should be **DICOM – enabled / ready** with true isotropic volume acquisition and sub millimeter resolution. The system should be cost effective, with user friendly platform, reliable and capable of providing excellent performance for clinical imaging and research. The detailed specification that follows shall be understood to be minimum requirement.					**No Changes**
1. MAGNET					
a. Whole Body **1.5Tesla** Magnetic Resonance Imaging System optimized for higher performance in Whole Body and Vascular examinations with superconducting magnet, high performance gradients and digital Radio Frequency System.					No Changes
b. **1.5T** active shielded super conductive magnet should be short and non-claustrophobic.					No Changes
c. It should have at least 70 cm patient bore with flared opening.					No Changes
d. Magnet length should be less than 200cm.					No Changes
e. Homogeneity of magnet should be less than 3.5 ppm over 45cm DSV					No Changes
f. The magnet should be well ventilated and illuminated with built in 2 way intercom for communication with patient.					No Changes
g. It should have a built in cryo-cooler such that helium consumption does not exceed 0.03 lit/ hour.					**No changes**
2. SHIM SYSTEM					
a. High performance, highly stable shim system with global and localized automated shimming for high homogeneity magnetic field for imaging and spectroscopy.					No Changes
b. Auto shim should be available to shim the magnet with patient in position.					No Changes
3. GRADIENT SYSTEM					
a. Actively shielded Gradient system					No Changes
b. The gradient should be actively shielded with each axis having independently a slew rate of at least 200 T/m/s and a peak amplitude of 33 mT/m.					To be now read as "**The gradient should be actively shielded with each axis having independently a slew rate of 125 T/m/s or better and a peak amplitude of**

					33 mT/m".
c. The system should have efficient and adequate Eddy current compensation					No Changes
d. Effective cooling system for gradient coil and power supply					No Changes
4. RF SYSTEM					
a. A fully digital RF system capable of transmitting power of at least 15kw.					No Changes
b. It should also have at least 16 independent RF receiver channels with each having bandwidth of 1 MHz or more along with necessary hardware to support quadrature ICP array/Matrix coils. The highest receiver channels available with the vendor should be quoted.					**No changes**
c. It should support Parallel acquisition techniques with a factor of up to 2 in 2D.					No Changes
d. Should allow remote selection of coils and / or coil elements.					No Changes
5. PATIENT TABLE					
a. The table should be fully motorized, computer controlled table movements in vertical and horizontal directions.					"**Dockable Patient trolley to be provided**" to be added.
b. A CCTV system with colour LCD display to observe the patient should be provided: Moving table angiography should be possible.					No Changes
c. There should be a hand held alarm for patients					No Changes
6. COMPUTER SYSTEM /IMAGE PROCESSOR / OPERATOR CONSOLE					No Changes
a. The main Host computer should have a 19 inches or more high resolution LCD TFT color monitor with 1024 x 1024 matrix display					No Changes
b. The system should have image storage capacity of 100 GB for at least 2,00,000 images in 256x256 matrix.					No Changes
c. The reconstruction speed should be at least 1300 or more for full FOV 256 matrix.					No Changes
d. The main console should have facility for music system for patient in the magnet room. The system should have DVD / CD / flash drive archiving facility. Supply 5000 DVD along with the system. The system should be provided with auto DVD writer.					No Changes
e. Two way intercom system for patient communication.					No Changes
f. MRI System should be enabled and networked to RIS/HIS					No Changes
7. MEASUREMENT SYSTEM					
a. Largest Field of View should be at least 45 cm in all three axis.					No Changes
b. The measurement matrix should be from 128x128 to 1024x1024.					No Changes
c. Minimum 2D slice thickness mm should be equal to or less than 0.5					No Changes
d. Minimum 3D slice thickness mm should be equal to or less than 0.1					No Changes
8. COIL SYSTEM					

a. The main body coil integrated to the magnet must be Quadrature / CP. In addition to this following coils should be quoted (total **11** including body coil)					No Changes
b. Multichannel Head coils with at least 8 channel for high resolution brain imaging. (16 channel coil should be supplier whenever available to the vendor with no additional cost.)					**No Change**
c. Neuro-vascular Coil with 16 or more channels or Head / Neck Coil combined, capable of high resolution neuro-vascular imaging					No Changes
d. Spine Array/Matrix Coils for thoracic and lumbar spine imaging.					**No Change**
e. Body Array/Matrix coil with at least 45 cm z axis coverage for imaging of abdomen (so that it can cover the maximum part of abdomen), angiograms and heart. (The best available body coil with the vendor must be supplied)					**No Change**
f. Dedicated Cardiac Coil.					To be now read as "**Dedicated / suitable Cardiac coil**".
g. Suitable coil for peripheral angiography application					No Changes
h. Bilateral Breast Coil with at least 7 channels. The best available coil with vendor should be supplied.					No Changes
i. Dedicated Shoulder Coil – 8 Channels.					**No Change**
j. Dedicated Knee Coil – 8 Channels.					**No Change**
k. Breast Coils.					**This Point to be deleted as this is Duplicate of point h**
l. General purpose flexible coils and circular coils					**No change.**
m. Loop Flex Coil					No Changes
n. Coil Storage Cart					No Changes
o. The system should continuously monitor the RF coils used during scanning to detect failure modes. RF coils should not require either set up time or coil tuning; Multi coil connection for up to 2 or more coils for multaneous scanning without patient repositioning coil combination should be quoted as standard.					To be read in addition to the Tendered Technical Specifications as "**Latest Integrated coil Technology to be quoted**".
9. APPLICATION SEQUENCES					
a. The system should have basic sequences package with Spin Echo, Inversion Recovery, Turbo Spin Echo with high turbo factor of 256 or more, Gradient Echo with ETL of 255 or more, FLAIR.					No Changes
i. Single slice, multiple single slice, multiple slice, multiple stacks, radial stacks and 3D acquisitions for all applications.					No Changes
ii. Single and Multi shot EPI imaging techniques with ETL factor of 255 or more					No Changes
iii. Fat suppression for high quality images both STIR and SPIR.					No Changes
iv. The system should acquire motion artifact free images in T2 studies of brain in restless patients (Propeller, Multivane, Blade etc)					No Changes
v. Dynamic study for pre and post contrast scans and time intensity studies					No Changes

vi. MR angio Imaging: Should have 2D/3D TOF, 2D/3D PC, MTS and TONE, ceMRA, Facilities for Accelerated time resolved vascular imaging with applications like Treats/Tracks/Tricks sequences.					No Changes
vii. Fat and water excitation package. Diffusion Weighted Imaging, with at least b value of 5000 or more.					No Changes
b. Bolus chasing with automatic and manual triggering from fluro mode to 3D acquisition mode with moving table facility.					No Changes
c. Non contrast enhanced peripheral angiography for arterial flow with Native/Trance/lnhance sequences					No Changes
d. Whole body screening imaging studies for metastasis					No Changes
e. High resolution Abdominal and Liver imaging in breathold and free breathing modes with respirator triggered volume acquisitions					No Changes
f. The system should have basic and advanced MRCP packages including free breathing and 3D techniques.					No Changes
g. The system should have facility for flow quantification of CSF, vessel flow and hepatobiliary system.					No Changes
h. The system should have the Hydrogen, Single Voxel spectroscopy, Multivoxel, Multislice & Multiangle 2D, 3D Spectroscopy and Chemical shift imaging in 2D/3D. The complete processing/post-processing software including color metabolite maps should be available on main console. Complete prostate spectroscopy hardware and applications should be provided.					No Changes
i. Advanced Cardiac Applications:**.** VCG gating, Morphology/wall motion; Cine perfusion imaging; Myocardial viability imaging; Arrhythmia rejection techniques, Advanced Cardiac Ventricular Measurement Analysis; Cine Cardiac Tagging Techniques; Coronary artery techniques; real time interactive imaging, 2D/3D fast field echo/balanced/steady state techniques and evaluation package on workstation					**No change**
j. Advanced Breast imaging Package.					No Changes
k. Perfusion imaging of brain (including ASL)					**No change**
l. Susceptibility weighted imaging (i.e.SWI)/ Venous BOLD imaging.					**No change**
m. Multi Direction DWl and DTI with minimum of 32 directions (Complete package including quantification and tractography software). Prospective motion correction enabled software preferred.					**No change**
n. High resolution imaging for inner ear					No Changes
10. WORK STATION – 2 Nos.					
i. A workstation with preferably the same user interface as of main console is required with the availability of all necessary software including Client source based Architecture.					To be read in addition to Tendered Specification "**Two Nos. Latest Client Server architecture based workstations to be provided**".
ii. Basic post-processing software including MIP, MPR, surface reconstruction and volume rendering technique.					No Changes
iii. Advanced post-processing offered applications perfusion quantification, advanced diffusion and DTI, processing of 2D/3D CSI data, with color metabolite mapping, quantification of CSF flow data, vascular analysis package.					**No change**

iv. It should have at least 19 inch LCD TFT color monitor, with hard disk of at least 120 GB for at least 250,000 image storage in 256 matrix, and 4 GB RAM capacity or more, with self-playing OVO/CO archiving facility.					**No change**
v. The workstation should display cardiac cine images in movie mode with rapid avi creation.					No Changes
vi. The workstation should enable printing in laser film camera and color printers					No Changes
11. SAFETY FEATURES					
The System should have following safety features:					No Changes
a. The magnet system should include an Emergency Ramp Down unit (ERDU) for fast reduction of the magnetic field with Ramp Down time below 3 minutes					No Changes
b. The magnet should have .quench bands that contain the fringe fields to a specified value in the event of a magnet quench					No Changes
c. Real time SAR calculation should be performed by software to ensure that RF power levels comply with regulatory guidelines and are displayed on each image					No Changes
d. The system shall have manual override of the motor drive for quick removal of the patients from the magnet bore					No Changes
e. Temperature sensor (built in) for magnet refrigeration efficiency must be provided.					No Changes
12. DOCUMENTATION					
a. DICOM compatible Dry Chemistry laser camera with integrated processor for filming from main console & workstation.					No Changes
b. Printing on films of 14" x 17",11" x 14" and 10" x 8" sizes in a resolution of 500 or more dpi. It should be possible to connect other imaging modalities to the printer**.** 5000 compatible films to be provided.					No Changes
13. UPS					
The system should be provided with UPS system for the complete system with at least 30 minute back up.					No Changes
14. SUITABLE RF ENCLOSURE					
a. RF Cabin: The system should be supplied with the imported RF cabin with RF room shielding, RF Door screen, and interiors for the same should be carried out suitably.					No Changes
15. ACCESSORIES					
i. Dual Head MRI Compatible Pressure Injector of International make with 100 sets of syringes.					No Changes
ii. Water Chiller for Cold Head I Gradients.					No Changes
iii. One Non-ferromagnetic patient transfer trolley of international make should be provided.					No Changes
iv. Fire Fighting System, Detectors and 6 Fire Extinguishers.					No Changes

v.	Hand held metal detectors and Stand alone Metal Detector to be installed at the entrance point.				No Changes
vi.	Closed circuit CCD camera.				No Changes
vii.	Phantoms for image quality audits.				No Changes
viii.	MRI compatible Anaesthesia machine – detailed specification given below, **to be quoted as optional Item**.				No Changes
ix.	Suction and O_2 pipeline and manifold to be provided inside the RF enclosure.				No Changes
16.	**GUARANTEE**				
a.	The vendor should guarantee the service and spare support for 10 Years of the system including Helium and cold head and all accessories after warranty.				
b.	Application training to be provided onsite for total of FOUR weeks.				
c.	Two Radiologists to be provided training at premier govt. teaching institute within country for two weeks.				No Changes
17.	**Warranty and CMC:**				
All tender responses should include the following without which the tender will be considered invalid					No Changes
•	The system should have warranty for two years including helium refill, all accessories and turnkey work. Helium Refill shall be the responsibility of the Bidder throughout the Warrantee Period & also during the CMC tenure.				No Changes
•	Comprehensive Maintenance Contract (CMC) for the whole equipment including helium refill and all accessories including turnkey for Eight years should be quoted after warranty.				No Changes
•	**The Warrantee & CMC shall be for all items for which the order shall be placed including Third Party Items. Repair Maintenance shall be executed through the Main Vendor / Bidder**.				No Changes
•	The model with 'the best and latest technical features available with the vendor should be quoted in tender response with original printed vendor data sheets.				No Changes
•	All product catalogues including Detailed Technical Data Sheet in original must be provided.				No Changes
•	A soft copy in word format in addition to a hard copy to be provided in a CD.				No Changes
•	When the vendor data sheet disagrees with the bid response, clarification should accompany in the form of letter/certificates from the principals in original.				No Changes
•	The System should be DICOM – 3MPPS enabled & should be ready to integrate with any existing PACS/HIS System.				No Changes
•	List of all installations of the system in the country.				No Changes
•	The bidder must provide Compliance Statement indicating all Tendered Specifications & must corroborated in the compliance statement the page number where it is listed in the original technical data sheet along with soft copy of the same.				No Changes

• Turnkey work detail & other details are provided separately.					No Changes
Technical Specifications for MRI Compatible Various Machines					
(TO BE QUOTED AS OPTIONAL ITEM FOR I & II BELOW)					
I. **Specifications for Anesthesia Machine:**					
1. All the components of anesthesia machine including anesthesia ventilator, anesthesia monitor and accessories should be MRI compatible					No Changes
2. The Machine should have separate indexed (pin index/ DISS/NIST) provision for connecting central pipeline gas supply of oxygen, air and nitrous oxide. It should have mounting capability of two oxygen and two nitrous oxide pin-indexed gas cylinders.					No Changes
3. High pressure tubing for Oxygen, air and Nitrous Oxide for central supply connection with pipeline connectors should be supplied with machine.					No Changes
4. There should be pressure indicating gauges for each gas for both cylinder as well as pipeline supply in accordance to ISO requirements.					No Changes
5. **Gas Flow Management:**					
a. Mechanical colour and touch coded flow meters: precisely calibrated cascaded tube flow meters for oxygen down the stream.					No Changes
b. Mechanical hypoxic guard to ensure minimum concentration of 25% oxygen, across all oxygen nitrous oxide mixtures and oxygen failure alarm along with nitrous oxide cut off conforming to ISO requirements.					No Changes
c. Machine should be able to deliver maximal flows for oxygen and nitrous oxide at least up to 8 liters per minute through flow meters.					No Changes
d. Emergency oxygen flush that can deliver flows between 35 to 50 liters per minute. It should be protected from accidental activation as per ISO requirements.					No Changes
6. **Vaporisers:**					
a. Vaporiser shall mount to a selectatee manifold of at least two vaporizers, which allows easy exchange between agents.					No Changes
b. Vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer.					No Changes
c. With each working station temperature, pressure and flow compensated anaesthetic agent specific vaporizers for Isoflurance and sevoflurane should be provided. Vaporizers should be quick loading / unloading type.					No Changes
7. **Breathing system:**					

a. Closed circle system with carbon dioxide absorbent canisters should be part of machine. There should be common gas outlet for using other type of breathing system with this machine. Breathing system shall be fully autoclavable to 134ºC and natural latex free. Long coaxial breathing system tubings to meet the requirement of MRI suit.					No Changes
b. Facility of connecting to scavenging system.					No Changes
8. Anesthesia machine should be mounted on flour large antistatic castor wheels with foot brake/ locking facility for at least front two wheels.					No Changes
9. There should be work surface and drawers with at least one drawer with locking facility.					No Changes
II. **Specifications for Anesthesia Ventilator:**					
1. The anesthesia machine should have integrated Anesthesia Ventilator system that should have at least CMV or A/CMV mode with adjustable breath rate, tidal volume and I:E ratio.					No Changes
2. Ventilator bellows should be integrally mounted to the breathing system and ascending type. Bellow assembly should be autoclavable.					No Changes
3. Anesthesia ventilator should have following adjustable parameters: (The range mentioned below in adjustable parameters is minimal desirable and wider range than this will be preferred)					No Changes
i. Tidal volume range 50ml to 1200ml					No Changes
ii. Respiratory rate range 4 to 30 breath per minute					No Changes
iii. I:E ratio range 1:1 to 1:3					No Changes
iv. Inspired airway pressure range 15 to 60cm of water.					No Changes
4. Anesthesia ventilator should have audiovisual alarms with temporary muting facility for power failure, breathing system disconnection, high inspiratory airway pressure					No Changes
(TO BE QUOTED AS ESSENTIAL ITEMS ALONG WITH THE SYSTEM FOR III, IV & V BELOW)					
III. **Specifications for MRI Compatible Multi Parameter Monitor:**					
1. The anesthesia machine should have integrated / mounted monitoring system with memory to monitor patient parameters:					No Changes

2. Five lead ECG with arrhythmia detection facility.					No Changes
3. Respiratory rate measurement by impendence method.					No Changes
4. SPO2 measurement with plethysmograph and saturation dependent audio tone.					No Changes
5. NIBP measurement.					No Changes
6. Temperature measurement.					No Changes
7. It should have provision for automatic identification and measurement of anesthetic agents (Sevoflurance, isoflurane) and EtCO2					No Changes
IV. **Essential Accessories**					
Each anesthesia machine should be supplied with complete MRI compatible accessories and spares to make its all functions operational.					No Changes
1. Long coaxial circle system tubings 1 set to suit MRI suit, 2L reservoir bag 1, brains breathing system					No Changes
2. At least three ECG cables with MRI compatible body electrodes					No Changes
3. SPO2 cable and sensor adult 1 paediatric 1					No Changes
4. Temperature probe nasopharyngeal 1, skin 1					No Changes
5. EtCO2 and anesthesia gas sampling lines 2					No Changes
6. NIBP tubing and cuff adult range 1, medium 1, paediatric 1					No Changes
V. **Others**					
1. The Monitor should have at least 30 min battery backup.					No Changes
2. Laryngoscope – adult and pediatric compatible with MRI 1.5 T (2Nos.).					No Changes
NOTE:					
Unless other mentioned elsewhere in the Technical Specifications, the bidder has to comply with the following:					No Changes
1. The quoted Equipment should be **DICOM 3.0 (or higher version) enabled / ready** (like send, receive, print, record on CD/DVD, acknowledge etc.) for connectivity to any network, computer/PC etc. in DICOM format and capable of being interfaced with HIS/RIS/PACS.					No Changes
2. The quoted Equipment should have AERB Type Approval of the Manufacturer for Radiological Equipments (AERB NOC will not be accepted). The Equipments should have European CE **and** US FDA certification. Manufacturing firm should be ISO approved. Vendors shall assist the					**No change**

	Consignee in getting AERB Site Plan approval prior to installation, wherever applicable, wherever applicable.					
3.	The Bidders are advised to visit the Site to assess the site condition of Equipment placement and installation before quoting & obtain all necessary details as no representation shall be entertained on later date / after submission of quotation onwards.					No Changes
4.	The Bidder is required to carry out turnkey works in terms of Civil (including trenches, railing etc, if required), Mechanical (including HVAC, if required) & Electrical to meet the AERB requirements for satisfactory working of the equipment.					**No change**
5.	The company shall construct the protection chamber with 100 cm x 120 cm Lead Glass Window of 2mm thick lead equivalent for the Radiological Equipments, wherever applicable/needed.					No Changes
6.	Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Civil Works, Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirements for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. The Firm is required to provide / quote for both breakup cost & Total Lump sum cost towards the Turnkey works.					No Changes
7.	The Department shall provide only three phase power supply along with Air-conditioning Ducting outlets with de-humidifying system at a suitable position in the concerned installation area. The rest of the work will be done by the firm on "**Turnkey Basis**" including rails for floor to ceiling column stand etc., if required etc. Earthing to be provided by the employer as per the requirement of the firm & this should be mentioned in the bid. Minimum necessary furniture and fire extinguisher system need to be part of Turnkey.					No Changes
8.	"Special Compliance Note" at the end of the Technical Specifications may please be read in continuation with the above into while quoting.					No Changes

SPECIAL COMPLIANCE NOTE (For Radiology Equipments):

Unless other mentioned elsewhere in the Technical Specifications, Tender Document, Notes (mentioned against each Equipment), the bidder has to comply with the following, however, it is the responsibility of the bidders to visit the consignee site for assessing site requirements and its readiness:

A. DICOM enabled:

All Digital Imaging Equipments (1000 mA X-Ray, Ultrasound, CT Scan, MRI, C-Arm with IITV, Mammography etc) should be **DICOM enabled / ready** and capable of being interfaced with HIS/RIS/PACS.

B. Essential Accessories:

Unless otherwise mentioned, the following essential accessories to be provided with the units:

i. Servo Voltage stabilizer of suitable Capacity with spike suppressor. The make & rating of the voltage stabilizer should be specified.
ii. Lateral cassette holder, wherever applicable – One.
iii. Five Nos. AERB approved Light Weight Lead-free Aprons with each Radiological Equipments to be quoted & provided.
iv. Two nos Slim LED based Film View Box of four panel, for viewing 14" x 17" Films, to be quoted with each machine.

C. Warrantee:

i. Warranty of 24 months from the date of Installation, of the equipments including all parts for which the order has been placed as well as accessories and auxiliary units supplied with the main equipment including x – ray tube & other accessories.
ii. 95% uptime guarantee should be given. 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.
iii. The vendor must maintain a Logbook & needs to be countersigned by HOD/Authorized Departmental Person while attending the Equipments.

D. C. M. C.:

C.M.C. for 5 years (8 years in case of CT Scan & MRI) for whole equipment including labour cost, spare cost, accessories supplied with the unit like A.C. etc. and x-ray tube.

E. APPROVALS:

The quoted Equipment Model must be registered with AERB. The offered unit should have AERB Type Approval of the Manufacturer & NOC from AERB will not be accepted for any Radiological Equipments. **All Radiological Equipments should have IEC/European CE or US FDA for radiation protection, however, for Ultrasound, CT Scan & MRI, the quoted Model must have US FDA Approval**. Manufacturing firm should be ISO approved. Vendors shall be responsible for getting AERB Site Plan approval prior to installation, wherever applicable. The documentary evidence for the above must be attached. The bidder shall assist the end user in obtaining the Radiation Equipment registered with AERB.

F. Third Party Inspection:

The firm should get the **third party inspection** done before dispatch of the equipment at its own cost, certifying that the equipment is brand new and as per NIT/specifications

G. QA Test Report:

i. The company should provide lay out plan and QA Test Report for Registration in AERB, as per Law of the Land.
ii. Vendor must perform QA Tests, every quarter of the year, on the Equipments during Warrantee & CMC Periods & quote accordingly. They must keep/maintain record for the same.

H. Turnkey Work:

Bidders are requested to visit the Site to assess the site condition of Equipment placement and installation before quoting & obtain all necessary details as no representation shall be entertained on later date / after submission of quotation onwards. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirements for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. The Firm is required to provide / quote for both breakup cost & Total Lump sum cost towards the Turnkey works.

The company shall construct the protection chamber with 100 cm x 150 cm Lead Glass Window of 2mm thick lead equivalent, wherever applicable.

The Department shall provide only three phase power supply along with Air-conditioning Ducting outlets with de-humidifying system at a suitable position in the concerned installation area. The rest of the work will be done by the firm on "**Turnkey Basis**" including rails for floor to ceiling column stand etc., if required etc. Earthing to be provided by the employer as per the requirement of the firm & this should be mentioned in the bid. Minimum necessary furniture and fire extinguisher system need to be part of Turnkey.

I. Instructions to the vendors/suppliers:

All companies must give product data sheets confirming the specifications along with the tender. ***The compliance statement must be filled strictly in a tabulated and point wise manner clearly mentioning the page / paragraph number of original catalogue / datasheet any point***. Each specification corroborated in the compliance statement must give the page number where it is listed in the product data sheet. Incompletely filled information will not be considered.

J. Standards, safety and training:

1. The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg. C and relative humidity of 15-90%.
2. The unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%.
3. Comprehensive training for lab staff and support services till familiarity with the system.
4. User/Technical/Maintenance manuals to be supplied in English.
5. Certificate of calibration and inspection.
6. List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
7. List of important spare parts and accessories with their part number and costing.
8. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist.
9. The job description of the hospital technician and company service engineer should be clearly spelt out.