

## **Amendment No. 2**

**27-10-2017**

### **Sub: Amendment to the Bidding Document**

**Ref.: Notice Inviting Bid ref. HITES/PCD/NCI-AIIMS/02/17-18 dated 14.09.2017 read with its Amendment No 1 dated 25.10.2017**

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

### **SECTION - III SPECIAL INSTRUCTIONS TO BIDDERS (SIB)**

#### **Qualification Criteria (Ref. GIB Clause 30.1)**

The Purchaser reserves the right to ask for a free demonstration of the quoted equipment after giving reasonable time to the bidder at a pre-determined place acceptable to the purchaser or at site (in case of non-portable and heavy equipment) for technical acceptability as per the bidding document specifications, before the opening of the Price Bid.

#### **Comparison of Bids (Ref. GIB Clause 33 & 34)**

The comparison of bids will be based on GIB Clause 33, 34 and if any, as specified in the Technical specification(s). However, at the time of award of contract, the value of award (bid value/contract value) shall be limited to the upfront charges payable by the exchequer for Supply, Installation, Testing & Commissioning value only on DDP basis which is inclusive of warranty (for number of years specified at section VI; List of Requirement, Part I) and any other item(s)/services detailed for upfront purchase in the technical specifications. The cost of any other parameters like CAMC price beyond the warranty period, cost of any Consumables, any other recurring expenditure, etc. which have been considered for ranking of bids or for freezing of rates shall not be part of tender/award/bid/contract value.

### **SECTION- VI**

#### **LIST OF REQUIREMENTS**

#### **Part II: Required Delivery Schedule:**

##### **Existing:**

- a) **For Indigenous goods or for imported goods if supplied from India:**  
90 days from date of Notification of Award to delivery at consignee site. The date of delivery will be the date by when it is to be delivered at consignee site. Bidders may quote earliest delivery period.

Installation and Commissioning shall be done at the earliest but not later than 45 days of delivery of goods at site or date of handing over the site for installation, whichever is later.

**b) For Imported goods directly from foreign:**

90 days from the date of opening of L/C. The date of delivery will be the date of Bill of Lading/Airway bill. (Bidders may quote the earliest delivery period).

Installation and Commissioning shall be done at the earliest but not later than 45 days of delivery of goods at site or date of handing over the site for installation, whichever is later.

For delayed delivery and/or installation and commissioning liquidated damages will get applied as per GCC clause 23.

**Amended as:**

**For Indigenous or Imported goods:**

Supply, Installation and Commissioning to be completed **within 120 days** from the date of NOA or date of opening of LC or date of approval of layout drawing, whichever is later.

(In case of LC opening, necessary documents like valid Performance Security and Proforma Invoice are to be submitted within 30 days from the date of release of NOA. In case layout drawing approval is applicable, it should be submitted by the supplier within 21 days from the date of release of NOA.)

For delayed delivery and/or installation and commissioning liquidated damages will get applied as per GCC clause 23.

**SECTION - VII**

**TECHNICAL SPECIFICATION AND GENERAL POINTS**

**A. TECHNICAL SPECIFICATION:**

**Item sl. no. 01**

**3.0 TESLA MR SCANNER**

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
1	Page 45 Para 2.a.ii	<b>2 a) Patient Table</b> (ii) The vendor should supply Dockable Table/ Table Top/ Table Top with dockable trolley for the main MRI patient table.	<b>2 a) Patient Table</b> (ii) The vendor should supply <b>fully motorized computer controlled table</b> , with movements in vertical and horizontal directions for the main MRI patient table.

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
2	Page 45 Para 2.b.i	<b>b) Patient monitoring</b> <b>(i)</b> Patient monitoring devices for ECG, respiratory, pulse rate, oxygen saturation, at the console etc. A comprehensive solution at patient side and at main console capable of gating the sequence protocols with respect to patient's heart (ECG) and respiratory rates. <b>Remote display of gating signals on magnet and at console.</b>	<b>b) Patient monitoring</b> <b>(i)</b> Patient monitoring devices for ECG, respiratory, pulse rate, oxygen saturation, at the console etc. A comprehensive solution at patient side and at main console capable of gating the sequence protocols with respect to patient's heart (ECG) and respiratory rates.
3	Page 46 Para 4.e	<b>Para 4 e)</b> Coils (in addition to the in-built body coil) <b>Price to be separately for each coil , biopsy needle</b>	<b>Para 4 e)</b> Coil: Breast coil for breast biopsy; <b>Price to be separately quoted for all consumables including biopsy needle; Two sets of biopsy needle and full kit to be quoted in the tender.</b>
4	Page 46 Para 4.e.ii	<b>Para 4 e)</b> <b>(ii)</b> Standard Head coil (15-channel or more) .	Para 4 e) <b>(ii) : DELETED.</b>
5	Page 46 Para 4.e.v	<b>Para 4 e)</b> <b>(v)</b> Spine array coil (12 Channel or more)	Para 4 e) <b>(v) : Spine array coil (32 Channel or more)</b>
6	Page 46 Para 4.e.vi	<b>Para 4 e)</b> <b>(vi)</b> Body array coil / Phased Array coil <b>(32 Channel)</b> If a single coil is not available with the vendor, then a combination of coils should be quoted (capable of single station Cardiac/ abdominal imaging), so that the resolution over 40 FOV is not compromised.	Para 4 e) <b>(vi) : Body array coil / Phased Array coil (28 Channel);</b> If a single coil is not available with the vendor, then a combination of coils should be quoted (capable of single station Cardiac/ abdominal imaging), so that the resolution over 40 FOV is not compromised.
7	Page 47 Para 4.e.vii	<b>Para 4 e)</b> <b>(vii)</b> Bilateral Breast array coil (16 Channel or more)	Para 4 e) <b>(vii) : Bilateral Breast array coil (8 Channel or more)</b>

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
8	Page 47 Para 4.e.viii	<b>Para 4 e)</b> (viii) Shoulder array coil (8 Channel or more)	Para 4 e) (viii) : <b>Dedicated</b> Shoulder array coil (8 Channel or more); <b>If a dedicated coil is not available with the vendor, then the vendor has to quote equivalent coil (for eg, if Flex coil is offered, then the number should be in addition to the previously quoted coil)</b>
9	Page 47 Para 4.e.ix	<b>Para 4 e)</b> (ix) Dedicated wrist coil (8 Channel or more)	<b>Para 4 e)</b> (viii) : <b>Suitable Wrist coil (8 Channel or more); If a dedicated coil is not available with the vendor, then the vendor has to quote equivalent coil (for eg, if Flex coil is offered, then the number should be in addition to the previously quoted coil)</b>
10	Page 47 Para 4.e.x	<b>Para 4 e)</b> x) Extremity coil (8 Channel or more)	<b>Para 4 e)</b> <b>(x) : DELETED</b>
11	Page 47 Para 4.e.xi	<b>Para 4 e)</b> (xi) Knee imaging (Transmit/Receive 8 Channel or more)	<b>Para 4 e)</b> <b>(xi) : Knee imaging (Transmit/Receive 15 Channel or more)</b>
12	Page 47 Para 4.e.xii	<b>Para 4 e)</b> <b>(xii)</b> Peripheral angiography coil (32 Channel or more) for carrying out with high SNR and high spatial resolution.	<b>Para 4 e)</b> <b>(xii) : Dedicated Peripheral coil or whole body coil with a coverage of atleast 80 cm (with a maximum combination of 2 coils)</b>
13	Page 47 Para 4.e.xvii	<b>Para 4 e)</b> <b>(xvii)</b> Bilateral Breast Biopsy Coil (with Grid biopsy – Core and Vacuum assisted Biopsy facility with all necessary software and hardware).	<b>Para 4 e)</b> <b>(xvii) : Bilateral Breast Biopsy Coil (with Grid biopsy – Core) should be compatible with the Vacuum assisted Biopsy facility (that is being procured separately), with all necessary software and hardware for integration.</b>
14	Page 48 Para 5.e	<b>Para 5.e : Film documentation</b> DICOM interface to hook DICOM compatible, dockable, latest state-of-art Dry Laser Camera with more than 600 dpi, capable of storing/printing images of 1024 x 1024 (or higher, if available) matrix size in various matrix formats (including 16 format) without loss of digital resolution to be made available on	<b>Para 5.e : Film documentation</b> DICOM interface to hook DICOM compatible, dockable, latest state-of-art Dry Laser Camera with more than <b>500 dpi</b> , capable of storing/printing images of 1024 x 1024 (or higher, if available) matrix size in various matrix formats (including 16 format) without loss of digital resolution to be made available on any of the consoles and on the films, with three online tray system.

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
		any of the consoles and on the films (Agfa/Fuji/Kodak), with three online tray system.	
15	page 49 para 6.a.b	<b>Para 6 : a)</b> Data Acquisition Fast sequences:	<b>Added para</b> <b>Para 6 : a) Data Acquisition - Fast sequences:</b> <b>(xi) Multi-band EPI: Simultaneous Multi Slice Accelerate advance applications for clinical routine .</b>
16	Page 51 Para 6.c.vii	<b>Para 6. c : Neuro</b> <b>(vii) Synthetic MR imaging</b>	Para 6. c : Neuro <b>(vii) Synthetic MR imaging with offline provision to reconstruct with variable TR/TE</b>
17	Page 51 Para 6.c.ix	<b>Para 6. c : Neuro</b> <b>(ix) 2D &amp; 3D ASL</b>	Para 6. c : Neuro <b>(ix) 2D or 3D ASL, with quantitative mapping</b>
18	Page 53 Para 7.i	<b>Post Processing and evaluation Special Application Packages.</b> (i) The vendor must provide their specialized and optimized imaging sequences with post-processing packages for :	<b>Post Processing and evaluation Special Application Packages.</b> (i) The vendor must provide their specialized and optimized imaging sequences <b>in the Main Acquisition Console; Post-processing packages in the Main Acquisition Console and additional workstation</b>
	Page 53-54 Para 7.k	<b>Special Application Packages.</b> <b>k)</b> Necessary composing s/w for whole body applications. Smart Exam/ Smart Brain/ Ready Suite/equivalent technique should be quoted in all available imaging packages.	<b>Special Application Packages.</b> k) Necessary composing s/w for whole body applications. <b>Smart Exam/ Smart Brain/ Ready Suite/Brain Dot Engine/ equivalent technique</b> should be quoted in all available imaging packages.
	Page 54 Para 7	<b>Arterial Spin Labelling</b> <b>2D and 3D ASL</b> processing and quantification package	<b>Arterial Spin Labelling</b> <b>2D or 3D ASL</b> processing and quantification package in main console/additional workstation
18	Page 53-54 Para 7.k	<b>7. Special Application Packages.</b>	<b>Added para:</b> <b>7. Special Application Packages.:</b> <b>7. r :</b> Any advanced organ specific imaging with automatic planning, scanning and post-processing application should be quoted.

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
19	Page 53-54 Para 7.k	<b>7. Special Application Packages. :</b>	<b>Added para:</b> <b>7. Special Application Packages.:</b> <b>7. s :</b> Silent MRI for neuro protocols including T1W, T2W imaging without any loss of image quality on all sequences (like Neuro Silent/ Silenz, or equivalent), with noise less than 80 dB. The quiet scanning should be without loss of SNR and without prolongation of scan time. The silent sequences should be dedicated inaudible sequence without compromising gradient performance(s).
20	Page 54 Para 7.o	<b>Para 7.o : Coregistration</b> Superimposition on Neurotractography geometry and tensor diffusion field on both functional BOLD mapping and neurometabolite (CSI) mapping.	<b>Para 7.o : Deleted</b>
21	Page 55 Para 11.iii	<b>11 Standard MRI Accessories</b> <b>(iii)</b> MR compatible ( <b>minimum 2000 Gauss line</b> ) cardiac and physiological monitor (ECG, NIBP, SPO2,) for neonates/ infants and adults (with all accessories for five years) (MedRad/In-vivo/equivalent models)	<b>11 Standard MRI Accessories</b> <b>(iii)</b> MR compatible ( <b>minimum 5000 Gauss line</b> ) cardiac and physiological monitor (ECG, NIBP, SPO2,) for neonates/ infants and adults (with all accessories for five years) (In-vivo/Iradimed/ equivalent models)
22	Page 55 Para 11.vi	<b>11 Standard MRI Accessories</b> <b>(vi)</b> MR Compatible Dual Pressure injector (minimum 2000 Gauss line) (MedRad/equivalent models) to be supplied with 100 syringes with 500 tubings.	<b>11 Standard MRI Accessories</b> <b>(vi) a.</b> MR Compatible Dual Pressure injector or <b>Triple head (minimum 2000 Gauss line) (Ulrich/ MedRad/ better models);</b> <b>(vi) b.</b> Please quote the price of the consumables for the quoted MR Compatible pressure injector (for 100 syringes/pump hoses and 500 patient tubings), valid for a period of five years. This has to be supplied in a staggered manner, after consultations with the user. This is to be quoted separately.

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
23	Page 55 Para 11	<b>11 Standard MRI Accessories :</b>	<b>Added para:</b> <b>11 Standard MRI Accessories :</b> xiv. : <b>MR compatible crash-cart - 1 no.</b> xv. : <b>MR compatible instrument-trolley - 1 no.</b> xvi. : <b>MR compatible patient trolley</b> (to transfer patient to the magnet table) with both vertical and horizontal movement with hydraulic operation and should take a minimum load of 150 Kg in both vertical and horizontal motion (Model: Adjustable Height Trolley: MR5501 of Wardray Premise Ltd. U.K or Adjustable Height Trolley, Ferno, UK or equivalent) - 1 no. xvii. : <b>MR compatible wheel chair</b> (with cushion, back-rest and arm-rest) - 1 no. xviii. : <b>MR Compatible Cart</b> for biopsy handling, etc . - 1 no.
24	Page 57-58 Para 16	<b>16. Special Conditions.</b>	<b>Added para:</b> <b>16. Special Conditions.</b> <b>16.1.a :</b> Original Product Datasheet of main unit and all accessories, including third party items to be provided.

**Additional specifications to the existing as under:**

25. SITE MODIFICATION WORK – 3 T MRI SYSTEM	
<b>1</b>	<b>The Site Modification Scope of Work -3 T MRI</b>
i.	<p>The vendor should inspect the site at NCI, Jhajjar, before quoting and ensure that the unit can be installed in the available space without any functional compromise.</p> <p>The Site drawing of the Institute can be obtained from the Project office of NCI - AIIMS, room no. 161, 1st floor, DBRAIRCH, AIIMS campus, New Delhi.</p> <p>Complete equipment layout site plan and details of work (BOQ) should be part of technical bid.</p> <p>Provisions should be made for placing the various accessories in console room, work-station and printer locations.</p> <p>It should also include Door with glass peeping window, warning indicators and signage, false ceiling, GVT floor tiles and wall tiles/ Panelling/painting.</p> <p>All site modification works should comply with specified standards of the hospital.</p>
ii.	While preparing the plan, the following aspects have to be addressed.
iii.	Care should be taken to provide easy negotiation of the patient stretchers/ trolleys through corridors and doors.

iv.	RF shielding for doors, walls, glass viewer etc.
v.	Furniture like desk, chairs, shelves etc.
vi.	Patient stretcher and other furniture/ accessory to make the scan centre functional.
vii.	<b>The cost of Site Modification will be considered for Ranking / Evaluation purpose.</b>
viii.	<b>Moreover Bidders will have to quote the Unit Rates of the following components of Site Modification work.</b>
	Civil works
	Electrical work
	Air Conditioning (HVAC)
	Fire Alarm & Detector
	Interior Furnishing & Furniture
<b>2</b>	<b>Scope of work for Site Modification MRI unit works:-</b>
	The supplier should inspect the proposed site and submit all the detailed equipment layout drawings and BOQ for the proposed MRI Scan Centre along with technical bid of the tender.
	<b>The plan of the proposed 3T MRI site is attached below as Annexure 1.</b>
	<b>The MRI SCAN CENTRE shall consist of the following rooms:</b>
i.	MRI Room-Gantry
ii.	Console room
iii.	Electrical room
iv.	UPS room/ equipment room
v.	Patient preparation and changing room
<b>3</b>	<b>Civil work</b>
i.	Civil construction work including construction / demolition / alteration of brick wall, plastering, flooring as per the approved plan and equipment layout plan.
ii.	Concrete reinforcement required for MRI equipment area, if required.
iii.	Platform for unloading and shifting the MRI should be provided if necessary.
iv.	Platform for Chiller unit if needed. Fencing and weather protection facility should be provided for the Chiller unit.
v.	Cable tray, trench & channel – necessary trenches, cable tray and channels at required location would be provided.
vi.	All the construction work to be done as per the final plan approved by the purchaser.
vii.	Active and passive room shielding for magnetic, fringe field should be provided as per the requirement of the equipment.
viii.	False Ceiling-to-floor ceramic wall tiling in: Console room, Patient preparation room.
<b>4</b>	<b>Flooring</b>
i.	5mm Hospital grade Vinyl Flooring of reputed brands (eg. Armstrong, Gerflor, Tarkett or equivalent) for MRI Examination-Gantry room.
ii.	600 x 600 mm vitrified tiles with 100mm tile skirting to match in other rooms.
iii.	50 mm thick cement concrete flooring with 5mm-Vinyl flooring in MRI equipment / UPS room.
<b>5</b>	<b>Painting</b>



i.	Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in MRI equipment / UPS room and electrical room etc.
ii.	Pre laminated particleboard wall panelling in MRI examination – Gantry room.
<b>6</b>	<b>False Ceiling</b>
i.	Lightweight Aluminium ceiling panels, acoustical-treated, supported on grid or finished seamless with support above ceiling. Powder coated finish (colour to be approved by Institute). The False ceiling inside RF cage as per equipment and RF cage requirement and design. Ceiling height to suit the equipment mount and clearances.
<b>7</b>	<b>Electrical work</b>
i.	The supplier shall be required to specify the total load requirements for the MRI scan centre including the load of air conditioning, room lighting and for the accessories if any. The mains supply line will be provided by the Institute up to one point within the MRI Scan centre area. The distribution panel shall be provided by the vendor. Few lights in each room shall be connected to the UPS to provide emergency lighting.
ii.	The electrical work shall include the following:
iii.	Wiring – All interior electrical wiring as well as wiring for Diesel generator chiller and outdoor a/c units - with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. The wires shall be of copper of different capacity as per the load and should be renowned make as listed below. Electrical Earthing for all equipment & accessories supplied shall be provided by the vendor. The earth-pits should be located as per the approved by the Institute.
iv.	Switches light and power points should be of modular type and of standard make as listed below.
v.	LED light fittings with minimum 500 Lux Illumination.
vi.	MRI compatible lights for MRI examination room. The lamps/bulbs used within the RF cage should be easy replaceable and locally available.
<b>7</b>	<b>AIR CONDITIONING: minimum 16 TR ( 10 TR working + 6 TR standby)</b>
i.	Duct-able Package air conditioners and split AC units may be used according to room requirement and suitability. Humidity control should be effective to eliminate moisture condensation on equipment surface. . The Air conditioning should be designed with standby provision to function 24 hours a day.
ii.	The outdoor units of AC should be located as approved by the Institute and should have grill coverings to prevent theft and damage.
iii.	Copper pipes and valve panel to be used for the Chiller to the MRI.
iv.	<b>Environment specifications:</b>
a	Humidity range: Relative humidity 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.
b	Temperature ranges: $22 \pm 2^{\circ}$ C in all areas except equipment room which shall be as per requirement of the equipment.
c	Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder.
<b>8</b>	<b>Furniture:</b>
i.	Revolving chairs height adjustable, medium-back with hand-rest in the Control room, Radiologist room and viewing area. – <b>8</b> Nos.



**Item sl. no. 02****256 SLICE DUAL ENERGY CT**

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
1	Page 60	State-of-the-art, USFDA approved, <b>256 slice per rotation</b> whole body CT scanner with Dual energy scanning capability should be quoted with following essential specifications.	State-of-the-art, USFDA approved, <b>256 slice or more per rotation</b> whole body CT scanner with Dual energy scanning capability should be quoted with following essential specifications.
2	Page 60 Para 1.a	Quoted model must have AERB type approval.	Quoted model must have AERB type approval. <b>OR</b> <b>Models which do not have AERB Approval may be supplied with the undertaking that the supplier shall be responsible for obtaining the AERB Type approval of the system within reasonable time, at no cost nor liability to the Institute.</b>
3	Page 60 Para 4.c	<b>4. Detector and Data Acquisition System:</b> c. The detector should allow <b>simultaneous acquisition of 256 or more slices per rotation</b> with slice thickness of 0.625mm or lower for all types of scans and applications	<b>4. Detector and Data Acquisition System:</b> c. The detector should allow <b>simultaneous generation of 256 or more slices per rotation</b> with slice thickness of 0.625 mm or lower for all types of scans and applications
4	Page 60 Para 5.e	<b>5. Gantry:</b> e. The gantry tilt of minimum 25 degree <b>which can be operated both from gantry and console room.</b>	<b>5. Gantry:</b> e. The gantry tilt of minimum 25 degree
5	Page 61 Para 7.a	<b>Operator Console:</b> a. The latest computer should be offered with <b>64 Bit processor</b> with minimum RAM of 4 GB.	<b>Operator Console:</b> a. The latest computer should be offered with <b>32 Bit processor</b> with minimum RAM of 4 GB.
6	Page 61 Para 8.a	<b>Spiral Scan:</b> a. The detector should allow <b>simultaneous acquisition of 256 or more slices</b> per rotation with slice thickness of 0.625mm or lower for all types of applications	<b>Spiral Scan:</b> a. The detector should allow <b>simultaneous generation of 256 or more slices</b> per rotation with slice thickness of 0.625 mm or lower for all types of applications
7	Page 61 Para 9.b	<b>9. Dose Reduction:</b> b. Latest Modality based Iterative Reconstruction Technique to be quoted as standard. <b>(Admire/ VEO/IMR or equivalent).</b>	<b>9. Dose Reduction:</b> b. Latest <b>Raw Data based</b> Iterative Reconstruction Technique to be quoted as standard.

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
8	Page 62 Para 14.d	<b>14. Post Processing and reporting with Client Server Architecture</b> <b>d.</b> Server Hardware: Dell/HP/IBM dual CPU; <b>RAM- 64 GB</b> minimum; Data Disc: RAID level 5; Graphical processing unit: NVIDIA GPU or equivalent; Image storage minimum <b>4 TB (as PACS will be there)</b>	<b>14. Post Processing and reporting with Client Server Architecture</b> <b>d.</b> Server Hardware: Dell/HP/IBM dual CPU; <b>RAM- 32 GB</b> minimum; Data Disc: RAID level 5; Graphical processing unit: NVIDIA GPU or equivalent; Image storage minimum <b>2.5 TB.</b>
9	Page 63 Para 16.g	<b>16. Advanced applications with one floating user license for each applications</b> <b>g.</b> Multimodality Image fusion: between PET-CT, PET-MR, CT-MR, MR-SPECT, MR-MR, <b>MR-US, CT-US</b> etc.	<b>16. Advanced applications with one floating user license for each applications</b> <b>g.</b> Multimodality Image fusion: between PET-CT, PET-MR, CT-MR, MR-SPECT, MR-MR etc.
10	Page 63 Para 18	<b>18. Dual Energy CT Scanner:</b> The system must have dual energy capabilities and wide range of applications should be available. Dual Energy / Spectral CT in 128 slice acquisition and automatic post-processing should be offered as standard. (GSI / Twin Beam / IQon Spectral/equivalent).	<b>18. Dual Energy CT Scanner:</b> The system must have dual energy capabilities and wide range of applications should be available. Dual Energy / Spectral CT in <b>256 slice generation</b> and automatic post-processing should be offered as standard.
11	Page 64 Para 21.d	<b>21. Accessories</b> <b>d. Dual Head Pressure Injector of reputed make with 50 sets of Syringes &amp; 200 sets of tubings.</b> Specify the make of Injector.	<b>21. Accessories</b> <b>d. Triple-Head Syringeless Pressure Injector of reputed make with 100 sets of Pump Hose &amp; 500 sets of patient tubings.</b> Specify the make of Injector. <b>Provide original datasheet of the quoted model.</b>
12	ADDED PARA. 23	<b>23. Instructions</b>	<b>ADDED PARA.</b> <b>23 Instructions</b> <b>23.1 : Original Product Datasheet of main unit and all accessories, including third party items to be provided.</b>
13	ADDED PARA. 23	<b>23. Instructions</b>	<b>ADDED PARA.</b> <b>23 Instructions</b> <b>23.2 : There should be at least three installations of the quoted model globally.</b> Satisfactory performance certificate by users on their letterhead must be attached.
14	Page 64 Para 21.g	<b>21. Accessories</b> <b>added para:</b>	<b>ADDED PARA.</b> <b>21. Accessories</b> <b>added para: Crash cart - 1 Nos.</b>

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
15	Page 65-67	<b>SITE MODIFICATION WORKS:</b>	Existing para for Site Modification Works may be read as <b>SITE MODIFICATION SCOPE OF WORK – 256 SLICE DUAL ENERGY CT: as given below.</b>

### **SITE MODIFICATION SCOPE OF WORK – 256 SLICE DUAL ENERGY CT**

<b>1</b>	<p>The vendor should inspect the site at NCI, Jhajjar, before quoting and ensure that the unit can be installed in the available space without any functional compromise.</p> <p>The Site drawing of the Institute can be obtained from the Project office of NCI - AIIMS, room no. 161, 1st floor, DBRAIRCH, AIIMS campus, New Delhi.</p> <p>Complete equipment layout site plan and details of work (BOQ) should be part of technical bid.</p> <p>Provisions should be made for placing the various accessories in console room, work-station and printer locations.</p> <p>It should also include Lead lined door with lead glass peeping window, radiation warning indicators and signage, Aluminium false ceiling, GVT floor tiles and wall tiles/painting.</p> <p>All site modification works should comply with specified standards of the hospital.</p>
<b>2</b>	While preparing the plan, the following aspects have to be addressed.
a)	Care should be taken to provide easy negotiation of the patient stretchers/ trolleys through corridors and doors.
b)	Radiation shielding for doors, walls, windows etc.
c)	Furniture like desk, chairs, shelves etc.
d)	Patient stretcher and other furniture/ accessory to make the scan centre functional.
<b>3</b>	<b>The cost of Site Modification will be considered for Ranking / Evaluation purpose.</b>
<b>4</b>	<b><i>Moreover Bidders will have to quote the Unit Rates of the following components of Site Modification work.</i></b>
a)	Civil works
b)	Electrical work
d)	Air Conditioning (HVAC)
e)	Interior Furnishing & Furniture
f)	Miscellaneous
g)	Fire alarm & Detector
	<b>Scope of work for Site Modification CT unit :-</b>
	<b>The supplier should inspect the proposed site and submit all the detailed equipment layout drawing and BOQ for the proposed CT Scan Centres.</b>
<b>5</b>	<b>The CT SCAN CENTRE shall consist of the following rooms:</b>
a.	CT Gantry Room
b.	Console room
c.	Equipment room
d.	UPS room / Electrical room

e.	Patient preparation & Change room
	<b>The actual area of Site Modification works done will be considered for payment, based on the unit rates and site measurements</b>
<b>6</b>	<b>Civil work</b>
a)	Civil construction work including construction of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.
b)	Concrete bed at CT equipment area.
c)	Platform for unloading and shifting the CT should be provided if necessary.
d)	Cable tray, trench & channel – necessary trenches, cable tray and channels at required location would be provided.
e)	All the construction work to be done as per the final plan approved by the Institute.
f)	False Ceiling-to-floor ceramic wall tiling in : CT Gantry Room , Console room , Patient preparation & Change room.
<b>7</b>	<b>Flooring</b>
a)	600 x 600 mm vitrified tiles with 100mm tile skirting to match in CT examination room, console room.
b)	50 mm thick cement concrete flooring with (eg. Armstrong, Gerflor, Tarkett) CT equipment & UPS room.
<b>8</b>	<b>Painting</b>
a)	Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in Equipment & UPS rooms.
<b>9</b>	<b>False Ceiling</b>
a)	<b>Lightweight Aluminium ceiling panels</b> , acoustical-treated, supported on grid or finished seamless with support above ceiling. Powder coated finish (colour to be approved by Institute). Ceiling height to suit the equipment mount and clearances.
<b>10</b>	<b>Electrical work</b>
a.	The supplier shall be required to specify the total load requirements for the CT scan centre including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the CT Scan centre area. The distribution panel shall be provided by the vendor. Few lights in each room shall be connected to the UPS to provide emergency lighting.
b.	The electrical work shall include the following:
c.	Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
e.	Switches light and power points should be of modular type and of standard make as listed below.
f.	General lights – LED light fittings with 500 Lux Illumination
<b>11</b>	<b>AIR CONDITIONING: minimum 14 TR ( 9 TR Working + 5 TR Standby)</b>
a.	Duct-able package air conditioners and split AC units may be used according to room requirement and suitability. Humidity control should be effective to eliminate moisture condensation on equipment surface. The Air conditioning should be designed with standby provision to function 24 hours a day.
b.	The outdoor units of AC should have grill coverings to prevent theft and damage.
<b>c.</b>	<b>Environment specifications:</b>
i.	Relative Humidity range: To be maintained between 60% and 80% in all areas except equipment room ; which shall be as per requirement of the equipment.

ii.	Temperature ranges: 22± 2° C in all areas except equipment room which shall be as per requirement of the equipment.
iii.	Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder.
<b>12</b>	<b>Furniture:</b>
a)	Revolving chairs height adjustable, medium-back with hand-rest in the Control room, Radiologist room and viewing area. – 4 Nos.
b)	Chairs for patient waiting area – Three seater (chrome plated). - 10 Nos.
c)	Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – 3 Nos.
d)	Drug trolleys – 1 NO.
e)	Patient trolley with rubber foam mattress - 1 NO
f)	Name boards for all rooms
g)	Tables for Workstation and Radiologist - 2 Nos.
h)	Changing rooms should have change lockers and dressing table.
i)	Dustbins: 10 Nos.
	All furniture items should be of standard make as mentioned in the table below.
<b>13</b>	<b>Miscellaneous:</b>
iv.	LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14"x17" size. – 2 Nos.
v.	Cabling of Network (LAN) connectivity for camera system, console system, workstation, servers and computers etc.
vi.	Cabling for Broadband connection: for REMOTE SERVICE of CT system.
<b>14</b>	<b>Fire alarm &amp; Detector:</b>
iii.	Fire alarm (along with new/existing panel) should be provided in all rooms, wherever site modification is being carried out. Fire alarm shall comprise of fire panel, smoke / heat detectors. The vendor should discuss with the engineering section and the department before quoting for Site-Modification
iv.	Fire extinguisher Dry CO2 type as required for the building safety. – One per room
<b>15</b>	<b>LIST OF ITEMS AND SUGGESTED MANUFACTURERS.</b>
	<b>ITEMS</b> <b>PREFERRED MAKES</b>
A	<b>FLOORING VITRIFIED TILES</b> -Somany, Kajaria , H&R Johnson, RAK india
B	<b>PAINT</b> - Dulux, Asian Paints , Nerolac
C	<b>PLUMBING</b> - Kohler, Jaguar , Grohe , Roca
D	<b>SANITARY ITEMS</b> - CERA, Hindware, Parryware
E	<b>ELECTRICAL</b>
1	<b>CABLES</b> - Finolex, Havells ,V-Guard
2	<b>SWITCHES</b> - Legrand, L&T, Crabtree , Roma
3	<b>DISTRIBUTION BOX , MCB</b> - Legrand, L&T, Siemens, Havels
4	<b>LIGHT FITTINGS</b> - Philips / Crompton / Wipro/syska
F	<b>AIR CONDITIONING</b> - Daikin, Hitachi, Blue Star, Voltas,
G	<b>FURNITURE</b> - Hermen Miller , Godrej , Featherlite, Geeken

**Item sl. no. 03****128 SLICE CT SCAN UNIT**

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
1	Page 69 Para 2.b	<b>2. X-Ray Tube:</b> b. Tube cooling rate of <b>1600 kHU</b> per minute or more.	<b>2. X-Ray Tube:</b> b. Tube cooling rate of <b>1000 kHU per minute</b> or more.
2	Page 69 Para 3.d	<b>3. Detector and Data Acquisition System:</b> d. The detector should have <b>700 or more effective elements / channels</b> per slice (this number should not include the reference elements / channels and channels required for calibration).	<b>3. Detector and Data Acquisition System:</b> d. The detector should have <b>600 or more effective elements / channels per slice</b> (this number should not include the reference elements / channels and channels required for calibration).
3	Page 69 Para 4.d	<b>4. Gantry:</b> d. The scan time for a 360 Degree rotation should be 0.35 second or lower	<b>4. Gantry:</b> d. The scan time for a 360 Degree rotation should be <b>0.40 second or lower</b>
4	Page 69 Para 6.a	<b>6. Operator Console:</b> a. The latest computer should be offered with 64 Bit processor with minimum RAM of 4 GB	<b>6. Operator Console:</b> a. The latest computer should be offered with <b>32 Bit</b> processor with minimum RAM of 4 GB
5	Page 70 Para 7.b	<b>7. Spiral Scan:</b> b. The scan time for a 360 Degree rotation should be 0.35 second or lower	<b>7. Spiral Scan:</b> b. The scan time for a 360 Degree rotation should be <b>0.40</b> second or lower
6	Page 70 Para 8.c	<b>8. Dose Reduction:</b> c. Latest Modality based Iterative Reconstruction Technique to be quoted as standard ( <b>Admire/Asir-V/IMR/or equivalent</b> ). <b>Certified document showing extent of dose reduction by these techniques should be attached</b>	<b>8. Dose Reduction:</b> c. Latest <b>Raw Data</b> based Iterative Reconstruction Technique to be quoted as standard
7	Page 70 Para 9.a	<b>9. Image Reconstruction:</b> a. Real Time reconstruction speed should be 35 images/sec or more	<b>9. Image Reconstruction:</b> a. Real Time reconstruction speed should be <b>12 images/sec</b> or more
8	Page 70 Para 10.a	<b>10. Image Resolution:</b> a. The system should have a high contrast resolution of at least 15 lp/cm for axial and spiral scan 0%MTF with full 50cm FOV	<b>10. Image Resolution:</b> a. The system should have a high contrast resolution of <b>at least 17 lp/cm</b> for axial and spiral scan 0%MTF with full 50cm FOV
9	Page 71 Para 13.d	<b>13. Post Processing and reporting with Client Server Architecture</b> d. Server Hardware: Dell/HP/IBM dual CPU;	<b>13. Post Processing and reporting with Client Server Architecture</b> d. Server Hardware: Dell/HP/IBM dual CPU; RAM- <b>32</b>



		RAM- 64 GB minimum; Data Disc: RAID level 5; Graphical processing unit: NVIDIA GPU or equivalent; Image storage minimum 4 TB (as PACS will be there)	<b>GB minimum</b> ; Data Disc: RAID level 5; Graphical processing unit: NVIDIA GPU or equivalent; Image storage <b>minimum 2.5 TB</b> .
10	Page 72 Para 15.e	<b>15. Advanced applications (one floating user license for each application).</b> e. Multimodality Image fusion: between PET-CT, PET-MR, CT-MR, MR-SPECT, MR-MR, <b>MR-US, CT-US</b> etc .	<b>15. Advanced applications (one floating user license for each application).</b> e. Multimodality Image fusion: between PET-CT, PET-MR, CT-MR, MR-SPECT, MR-MR etc .
11	Page 72 Para 16.c	<b>16. Accessories</b> <b>c. Dual Head Pressure Injector of reputed make with 50 sets of Syringes &amp; 200 sets of tubings.</b> Specify the make of Injector. Unit price of syringe and tubings to be quoted separately for additional requirement.	<b>16. Accessories</b> <b>c. Triple Head Syringeless Pressure Injector of reputed make with 100 Nos. Pump Hose &amp; 500 Nos. patient tubings.</b> Specify the make of Injector. Unit price of syringe and tubings to be quoted separately for additional requirement.
12	PAGE 72 PARA 20.	<b>20. Instructions</b>	<b>20. Instructions :</b> <b>20.1 :</b> There should be at least three installations of the quoted model <b>globally</b> . Satisfactory performance certificate by users on their letterhead must be attached.
13	PAGE 72 PARA 20.	<b>20. Instructions</b>	<b>20. Instructions :</b> <b>20.e :</b> <b>Original Product Datasheet of main unit and all accessories, including third party items to be provided.</b>
14	PAGE 72 PARA 16.	<b>16. Accessories</b>	<b>ADDED PARA</b> <b>16. Accessories</b> 16.F : Crash cart - 1 no.

***Additional specifications to the existing as under:***

<b>15. <u>Site Modification Scope of Work – 128 SLICE CT SCAN UNIT</u></b>	
1	<p>The vendor should inspect the site at NCI, Jhajjar, before quoting and ensure that the unit can be installed in the available space without any functional compromise.</p> <p>The Site drawing of the Institute can be obtained from the Project office of NCI - AIIMS, room no. 161, 1st floor, DBRAIRCH, AIIMS campus, New Delhi.</p> <p>Complete equipment layout site plan and details of work (BOQ) should be part of technical bid.</p> <p>Provisions should be made for placing the various accessories in console room, work-station and printer locations.</p> <p>It should also include Lead lined door with lead glass peeping window, radiation warning indicators and signage, Aluminium false ceiling, GVT floor tiles and wall tiles/painting.</p> <p>All site modification works should comply with specified standards of the hospital.</p>

<b>2</b>	While preparing the plan, the following aspects have to be addressed.
a)	Care should be taken to provide easy negotiation of the patient stretchers/ trolleys through corridors and doors.
b)	Radiation shielding for doors, walls, windows etc.
c)	Furniture like desk, chairs, shelves etc.
d)	Patient stretcher and other furniture/ accessory to make the scan centre functional.
<b>3</b>	<b>The cost of Site Modification will be considered for Ranking / Evaluation purpose.</b>
<b>4</b>	<b><i>Moreover Bidders will have to quote the Unit Rates of the following components of Site Modification work.</i></b>
a)	Civil works
b)	Electrical work
d)	Air Conditioning (HVAC)
e)	Interior Furnishing & Furniture
f)	Miscellaneous
g)	Fire alarm & Detector
	<b>Scope of work for Site Modification CT unit :-</b>
	<b>The supplier should inspect the proposed site and submit all the detailed equipment layout drawing and BOQ for the proposed CT Scan Centres.</b>
<b>5</b>	<b>The CT SCAN CENTRE shall consist of the following rooms:</b>
a.	CT Gantry Room
b.	Console room
c.	Equipment room
d.	UPS room / Electrical room
e.	Patient preparation & Change room
	<b>The actual area of Site Modification works done will be considered for payment, based on the unit rates and site measurements</b>
<b>6</b>	<b>Civil work</b>
a)	Civil construction work including construction of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.
b)	Concrete bed at CT equipment area.
c)	Platform for unloading and shifting the CT should be provided if necessary.
d)	Cable tray, trench & channel – necessary trenches, cable tray and channels at required location would be provided.
e)	All the construction work to be done as per the final plan approved by the Institute.
f)	False Ceiling-to-floor ceramic wall tiling in : CT Gantry Room , Console room , Patient preparation & Change room.
<b>7</b>	<b>Flooring</b>
a)	600 x 600 mm vitrified tiles with 100mm tile skirting to match in CT examination room, console room.
b)	50 mm thick cement concrete flooring with (eg. Armstrong, Gerflor, Tarkett) CT equipment & UPS room.
<b>8</b>	<b>Painting</b>
a)	Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in Equipment & UPS rooms.
<b>9</b>	<b>False Ceiling</b>

a)	<b>Lightweight Aluminium ceiling panels</b> , acoustical-treated, supported on grid or finished seamless with support above ceiling. Powder coated finish (colour to be approved by Institute). Ceiling height to suit the equipment mount and clearances.
<b>10</b>	<b>Electrical work</b>
a.	The supplier shall be required to specify the total load requirements for the CT scan centre including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the CT Scan centre area. The distribution panel shall be provided by the vendor. Few lights in each room shall be connected to the UPS to provide emergency lighting.
b.	The electrical work shall include the following:
c.	Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
e.	Switches light and power points should be of modular type and of standard make as listed below.
f.	General lights – LED light fittings with 500 Lux Illumination
<b>11</b>	<b>AIR CONDITIONING: minimum 14 TR ( 9 TR Working + 5 TR Standby)</b>
a.	Duct-able package air conditioners and split AC units may be used according to room requirement and suitability. Humidity control should be effective to eliminate moisture condensation on equipment surface. The Air conditioning should be designed with standby provision to function 24 hours a day.
b.	The outdoor units of AC should have grill coverings to prevent theft and damage.
<b>c.</b>	<b>Environment specifications:</b>
iv.	Relative Humidity range: To be maintained between 60% and 80% in all areas except equipment room ; which shall be as per requirement of the equipment.
v.	Temperature ranges: $22 \pm 2^{\circ}$ C in all areas except equipment room which shall be as per requirement of the equipment.
vi.	Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder.
<b>12</b>	<b>Furniture:</b>
a)	Revolving chairs height adjustable, medium-back with hand-rest in the Control room, Radiologist room and viewing area. – <b>4 Nos.</b>
b)	Chairs for patient waiting area – Three seater (chrome plated). - <b>10 Nos.</b>
c)	Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – <b>3 Nos.</b>
d)	Drug trolleys – <b>1 NO.</b>
e)	Patient trolley with rubber foam mattress - <b>1 NO</b>
f)	Name boards for all rooms
g)	Tables for Workstation and Radiologist - <b>2 Nos.</b>
h)	Changing rooms should have change lockers and dressing table.
i)	Dustbins: <b>10 Nos.</b>
	All furniture items should be of standard make as mentioned in the table below.
<b>13</b>	<b>Miscellaneous:</b>
vii.	LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14"x17" size. – <b>2 Nos.</b>

viii.	Cabling of Network (LAN) connectivity for camera system, console system, workstation, servers and computers etc.
ix.	Cabling for Broadband connection: for REMOTE SERVICE of CT system.
<b>14</b>	<b>Fire alarm &amp; Detector:</b>
v.	Fire alarm (along with new/existing panel) should be provided in all rooms, wherever site modification is being carried out. Fire alarm shall comprise of fire panel, smoke / heat detectors. The vendor should discuss with the engineering section and the department before quoting for Site-Modification
vi.	Fire extinguisher Dry CO2 type as required for the building safety. – One per room
<b>15</b>	<b>LIST OF ITEMS AND SUGGESTED MANUFACTURERS.</b>
	<b>ITEMS</b> <b>PREFERRED MAKES</b>
A	<b>FLOORING VITRIFIED TILES</b> -Somany, Kajaria , H&R Johnson, RAK india
B	<b>PAINT</b> - Dulux, Asian Paints , Nerolac
C	<b>PLUMBING</b> - Kohler, Jaguar , Grohe , Roca
D	<b>SANITARY ITEMS</b> - CERA, Hindware, Parryware
E	<b>ELECTRICAL</b>
1	<b>CABLES</b> - Finolex, Havells ,V-Guard
2	<b>SWITCHES</b> - Legrand, L&T, Crabtree , Roma
3	<b>DISTRIBUTION BOX , MCB</b> - Legrand, L&T, Siemens, Havels
4	<b>LIGHT FITTINGS</b> - Philips / Crompton / Wipro/syska
F	<b>AIR CONDITIONING</b> - Daikin, Hitachi, Blue Star, Voltas,
G	<b>FURNITURE</b> - Hermen Miller , Godrej , Featherlite, Geeken

**Item sl. no. 04****DIGITAL SUBTRACTION ANGIOGRAPHY**

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
1	Page 74	State of art, latest model, USFDA approved, <b>AERB Approved</b> , and Ceiling suspended C-arm, Digital Subtraction Angiography (DSA) system with flat panel detector Technology, Rotational Angiography, 3D angiography and CT imaging suitable for vascular and non-vascular interventional procedures should be quoted.	State of art, latest model, USFDA approved, and Ceiling suspended C-arm, Digital Subtraction Angiography (DSA) system with flat panel detector Technology, Rotational Angiography, 3D angiography and CT imaging suitable for vascular and non-vascular interventional procedures should be quoted.  <b><u>Model which do not have AERB Approval shall be supplied with the undertaking that the supplier shall be responsible for obtaining the AERB Type approval of the system within reasonable time, at no cost nor liability to the Institute.</u></b>
2	Page 74 Para 4.2	<b>4. X- Ray Tube</b> <b>4.2</b> Anode heat storage capacity should be 5 MHU or above with latest cooling technology.	<b>4. X- Ray Tube</b> <b>4.2</b> Anode heat storage capacity should be <b>2.4 MHU or above</b> with latest cooling technology.
3	Page 74 Para 5.1	<b>5. Digital Imaging System</b> <b>5.1</b> A flat panel detector of 43 x 43 cm or above. Pixel size 160 micron or less.	<b>5. Digital Imaging System</b> <b>5.1</b> A flat panel detector of <b>dimensions : 40 x 30 cm or larger</b> . Pixel size 160 micron or less.
4	Page 74-75 Para 5.3	<b>5. Digital Imaging System</b> <b>5.3</b> It should be capable of acquisition and processing in 1920x2048 matrix with at least 16 bit digitization.	<b>5. Digital Imaging System</b> <b>5.3</b> It should be capable of acquisition and processing in <b>1500 x 2048 matrix with at least 16 bit digitization</b> .
5	Page 75 Para 5.6	5.6 Image storage capacity of at least 1,00,000 images in 1024x1024 matrix at 10/12 bits on the main system disk.	5.6 Image storage capacity of at least <b>90,000 images</b> in 1024x1024 matrix at 10/12 bits on the main system disk.
6	Page 77 Para 11	<b>11. Instructions</b>	<b>Added para:</b> <b>11 Instructions</b> <b>11.1</b> : There should be at least three installations of the quoted model <b>globally</b> . Satisfactory performance certificate by users on their letterhead must be attached.
7	Page 77 Para 11	<b>11. Instructions</b>	<b>Added para:</b> <b>11 Instructions</b> <b>11.5</b> : <b>Original Product Datasheet of main unit and all accessories, including third party items to be provided.</b>

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
8	Page 76 Para 8.	<b>8. Essential Accessories</b>	<b>Added para:</b> <b>8. Essential Accessories</b> <b>8.11 Crash cart - 1 no.</b>
9	Page 77-79 Para 11	<b>12. Site Modification Works: (entire paragraph)</b>	Existing para for Site Modification Works may be read as <b>SITE MODIFICATION SCOPE OF WORK – DIGITAL SUBTRACTION ANGIOGRAPHY: as given below.</b>

### **SITE MODIFICATION WORK- DIGITAL SUBTRACTION ANGIOGRAPHY**

<b>1</b>	<p>The Site drawing of the Institute can be obtained from the Project office of NCI - AIIMS, room no. 161, 1st floor, DBRAIRCH, AIIMS campus, New Delhi.</p> <p>The vendor should inspect the site at NCI, Jhajjar, before quoting and ensure that the unit can be installed in the available space without any functional compromise.</p> <p>Complete equipment layout site plan and details of work (BOQ) should be part of technical bid.</p> <p>Provisions should be made for placing the various accessories in console room, work-station and printer locations.</p> <p>It should also include Lead lined door with lead glass peeping window, radiation warning indicators and signages, Aluminium false ceiling, GVT floor tiles and full height wall tiles.</p> <p>All site modification works should comply with specified standards of the hospital.</p>
<b>2</b>	<b>The SCOPE OF WORK for SITE MODIFICATION OF DSA system shall consist of the following rooms:</b>
a)	DSA Examination room
b)	Console room
c)	DSA equipment
d)	Electrical room/ UPS room
e)	Patient preparation room
f)	Change Room
g)	Scrub room /area
	<b>The area considered for Site Modification for item: DSA SYSTEM is indicated in the site plan attached below as Annexure 1.</b>
<b>3</b>	<b>Moreover Bidders will have to quote the Unit Rates of the following components of Site Modification work.</b>
a)	Civil works
b)	Electrical work
c)	Air Conditioning (HVAC)
d)	Fire Alarm & Detector
e)	Interior Furnishing & Furniture
<b>4</b>	<b>Civil work</b>
a)	Civil construction work including construction/ modification/ demolition of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.
b)	Additional strengthening of floor / Concrete for DSA equipment area, ceiling structure for DSA, if required. Installation of ceiling structure required to suspend the DSA system; without affecting the structural integrity of the building.
d)	Platform for unloading and shifting the DSA System should be provided if necessary.

e)	Cable tray, trench & channel – necessary trenches, cable tray and channels at required location would be provided.
f)	All the construction work to be done as per the final plan approved by NCI Jhajar
f)	Ceiling-to-false-ceiling level: wall ceramic tiling for DSA Examination room, Console room, Patient preparation room and scrub room/area.
<b>a)</b>	<b>Flooring</b>
1	600 x 600 mm glazed vitrified (GVT) tiles with 100mm tile skirting in Examination room, Console room, Change room , Patient preparation room scrub area .
2	5mm-Vinyl flooring in DSA equipment / UPS room.
<b>b)</b>	<b>Painting</b>
1	Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in DSA equipment / UPS room, change room.
<b>c)</b>	<b>False Ceiling</b>
1	<b>Lightweight Aluminium ceiling panels</b> supported on grid or finished seamless with support above ceiling. Powder coated finish (colour to be approved by Institute). Ceiling height to suit the equipment mount and clearances.
<b>5</b>	<b>Electrical work</b>
<b>1</b>	The supplier shall be required to specify the total load requirements for the DSA system including the load of air-conditioning, room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the DSA area. The distribution panel for UPS, DSA System shall be provided by the vendor. Few lights in each room shall be connected to the UPS to provide emergency lighting.
<b>2</b>	The electrical work shall include the following:
a.	Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
b.	Switches light and power points should be of modular type and of standard make as listed below.
c.	General lights –LED light fittings with minimum 500 Lux Illumination.
<b>6</b>	<b>AIR CONDITIONING: minimum 14 TR ( 9 TR Working + 5 TR Standby)</b>
a)	Duct-able Package air-conditioners may be used according to room requirement and suitability. Humidity control should be effective to eliminate moisture condensation on equipment surface.
b)	The outdoor units of AC should have grill coverings to prevent theft and damage.
<b>2</b>	<b>Environment specifications:</b>
a)	Relative Humidity range: To be maintained between 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.
b)	Temperature ranges: 22± 2° C in all areas except equipment room which shall be as per requirement of the equipment.
c)	Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder.
<b>7</b>	<b>Furniture:</b>
a)	Revolving chairs height adjustable, medium-back with hand-rest – 4 Nos.
c)	Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – 3 Nos.
d)	Drug trolleys - 1 NO.
e)	Patient trolley with rubber foam mattress - 1 No
f)	Name boards for all rooms

g)	Tables for Workstation and Radiologist - 2 Nos.	
i)	Dustbins: 10 Nos.	
	All furniture items should be of standard make as mentioned in the table below.	
<b>8</b>	<b>Miscellaneous:</b>	
x.	LED X-ray Film viewer with adjustable brightness ; capable of holding 3 films of 14"x17" size. – 2 Nos.	
xi.	Cabling of Network (LAN) connectivity for camera system, console system, workstation, servers and computers etc.	
xii.	Cabling for Broadband connection: for REMOTE SERVICE of DSA system.	
<b>9</b>	<b>Fire alarm &amp; Detector:</b>	
vii.	(i) Fire alarm (along with new/existing panel) should be provided in all rooms, wherever site modification is being carried out. Fire alarm shall comprise of fire panel, smoke / heat detectors. The vendor should discuss with the engineering section and the department before quoting for Site-Modification	
viii.	Fire extinguisher Dry CO2 type as required for the building safety. – One per room	
<b>10</b>	<b>LIST OF ITEMS AND SUGGESTED MANUFACTURERS.</b>	
	<b>ITEMS</b>	<b>PREFERRED MAKES</b>
A	FLOORING VITRIFIED TILES	-Somany, Kajaria , H&R Johnson, RAK india
B	PAINT	- Dulux, Asian Paints , Nerolac
C	PLUMBING	- Kohler, Jaguar , Grohe , Roca
D	SANITARY ITEMS	- CERA, Hindware, Parryware
E	ELECTRICAL	
1	CABLES	- Finolex, Havells ,V-Guard
2	SWITCHES	- Legrand, L&T, Crabtree , Roma
3	DISTRIBUTION BOX , MCB	- Legrand, L&T, Siemens, Havels
4	LIGHT FITTINGS	- Philips / Crompton / Wipro/syska
F	AIR CONDITIONING	- Daikin, Hitachi, Blue Star, Voltas,
G	FURNITURE	- Hermen Miller , Godrej , Featherlite, Geeken



**Item sl. no. 05****DIGITAL FLAT PANEL RADIOGRAPHY FLUOROSCOPY SYSTEM**

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
1	Page 81	The Unit should be (USFDA approved and European CE certified) digital flat panel radiography-fluoroscopy system, for the radiography, contrast studies, diagnostic and interventional fluoroscopy. The Unit should be AERB approved.	The Unit should be (USFDA approved and European CE certified) digital flat panel radiography-fluoroscopy system, for the radiography, contrast studies, diagnostic and interventional fluoroscopy. <b><u>Model which do not have AERB Approval may be supplied with the undertaking that the supplier shall be responsible for obtaining the AERB Type approval of the system within reasonable time, at no cost nor liability to the Institute.</u></b>
2	Page 81 Para 1.3	<b>1. Table:</b> <b>1.3</b> Continuously motorized remotely controlled <b>longitudinal and</b> transverse and vertical movements. Please specify the range of movements	<b>1. Table:</b> <b>1.3</b> Continuously motorized remotely controlled transverse and vertical movements. <b>Continuously motorized remotely controlled Longitudinal Movement of Tabletop or Detector. Please specify the range of movements .</b>
3	Page 81 Para 2.3	<b>2. Digital Detector for Fluoroscopy &amp; Direct Radiography:</b> <b>2.3</b> DQE at least 65% at 0lp/mm	<b>2. Digital Detector for Fluoroscopy &amp; Direct Radiography:</b> <b>2.3</b> DQE at least 65% (at 0 lp/mm or <b>0.05 lp/mm</b> ).
4	Page 82 Para 5.4	<b>5 X-Ray Tube:</b> <b>5.4</b> Rotation of X-ray tube assembly +/- 90 degree or more.	<b>5 X-Ray Tube:</b> <b>5.4</b> Rotation of X-ray tube assembly +/- <b>40 degree</b> or more.
5	Page 82 Para 6.6	<b>6 Direct Digital imaging System for fluoroscopy</b> <b>6.6 Provision for translateral radiography</b>	deleted
6	Page 82 Para 7.7	<b>7 Control Console, Image Processing , Image display, Image storage system and Transmission</b> <b>7.7</b> Image processing functions: The system should have facility for edge enhancement, positive / negative image display, windowing, contrast/ brightness, electronic shuttering, <b>image/ pixel shifting</b> , vertical and horizontal image reversal, text input, roam and zoom	<b>7 Control Console, Image Processing , Image display, Image storage system and Transmission</b> <b>7.7</b> Image processing functions: The system should have facility for edge enhancement, positive / negative image display, windowing, contrast/ brightness, electronic shuttering, vertical and horizontal image reversal, text input, roam and zoom

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
7	Page 83 Para 8.1	<b>8 Essential accessories</b> <b>8.1</b> Six light weight AERB approved lead aprons with steel stand, Six thyroid shields, three sets of Paediatric and adult gonadal shields (All sizes both for male and female and ultralight weight)	<b>8 Essential accessories</b> <b>8.1</b> Six light weight AERB approved " <b>ZERO LEAD</b> " aprons with steel stand, Six thyroid shields, <b>Two sets each of ultralight Paediatric and Adult gonadal shields (Each set to contain : Gonadal shields for both male and female , All sizes)</b>
8	Page 83 Para 8.10	<b>8 Essential accessories</b>	<b>Added para.</b> <b>8 Essential accessories</b> <b>8.10</b> : Crash cart - 1 no.
9	Page 84 Para 11.1	<b>11 Instructions</b> <b>11.1</b> There should be at least three installations of the quoted <b>model in India</b> . Satisfactory performance certificate by users on their letterhead must be attached.	<b>11 Instructions</b> <b>11.1</b> There should be at least three installations of the quoted model <b>globally</b> . Satisfactory performance certificate by users on their letterhead must be attached.
10	Page 84 Para 11	<b>11 Instructions</b>	<b>Added para.</b> <b>11 Instructions</b> <b>11.5</b> : Original Product Datasheet of main unit and all accessories, including third party items to be provided.

**Additional specifications to the existing as under:**

<b>11 SITE MODIFICATION WORK – DIGITAL FLAT PANEL RADIOGRAPHY FLUOROSCOPY SYSTEM</b>	
<b>1</b>	Supplier shall ensure that the equipment model quoted is commissioned within the designated area of NCI, without major structural changes to the building. The Site drawing of the Institute can be obtained from the Project office of NCI - AIIMS, room no. 161, 1st floor, DBRAIRCH, AIIMS campus, New Delhi. The vendor should inspect the site at NCI, Jhajjar, before quoting and ensure that the unit can be installed in the available space without any functional compromise. Complete equipment layout site plan and details of work (BOQ) should be part of technical bid. Provisions should be made for placing the various accessories in console room, work-station and printer locations. It should also include Lead lined door with lead glass peeping window, radiation warning indicators and signages, Aluminium false ceiling, GVT floor tiles and full height wall tiles. All site modification works should comply with specified standards of the hospital.
<b>2</b>	The scope of work for site modification of Digital Radiography - Fluoroscopy System shall consist of the following rooms:
a)	Digital Radiography - Fluoroscopy Examination Room
b)	Console room

c)	Digital Radiography - Fluoroscopy equipment / UPS room.
e)	Patient change room/area
<b>3</b>	<b><i>Moreover Bidders will have to quote the Unit Rates of the following components of Site Modification work.</i></b>
a)	Civil works
b)	Electrical work
c)	Air Conditioning (HVAC)
d)	Fire Alarm & Detector
e)	Interior Furnishing & Furniture
<b>3</b>	<b>The area considered for Site Modification for item: Digital Radiography - Fluoroscopy System is indicated in the site plan attached below as Annexure 1.</b>
<b>4</b>	<b>Civil work</b>
a)	Civil construction work including construction/ modification/ demolition of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.
b)	Additional strengthening of floor , ceiling structure for equipment , if required
c)	Platform for unloading and shifting the Digital Radiography - Fluoroscopy System should be provided if necessary.
d)	Cable tray, trench & channel – necessary trenches, cable tray and channels at required location would be provided.
e)	All the construction work to be done as per the final plan approved by NCI Jhajjar
f)	False Ceiling-to-floor ceramic wall tiling in : Digital Radiography - Fluoroscopy Examination Room , Console room and Patient change room/area.
<b>5</b>	<b>Flooring</b>
a.	600 x 600 mm glazed vitrified (GVT) tiles with 100mm tile skirting in DIGITAL RADIOGRAPHY - FLUOROSCOPY Examination room, Console room , patient change room/area.
b.	5mm-Vinyl flooring in Digital Radiography - Fluoroscopy equipment / UPS room.
<b>6</b>	<b>Painting</b>
a)	Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in equipment / UPS room.
<b>7</b>	<b>False Ceiling</b>
a	<b>Lightweight Aluminium ceiling panels</b> supported on grid or finished seamless with support above ceiling. Powder coated finish (colour to be approved by Institute). The False ceiling inside RF cage as per equipment and RF cage requirement and design. Ceiling height to suit the equipment mount and clearances.
<b>8</b>	<b>Electrical work</b>
a)	The supplier shall be required to specify the total load requirements for the Digital Radiography – Fluoroscopy system including the load of air conditioning, room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the Digital Radiography - Fluoroscopy area. The distribution panel for UPS, Digital Radiography – Fluoroscopy system shall be provided by the vendor. Few lights in each room shall be connected to the UPS to provide emergency lighting.
b)	The electrical work shall include the following:
c)	Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.

d)	Switches light and power points should be of modular type and of standard make as listed below.
e)	General lights –LED light fittings with minimum 500 Lux Illumination
<b>9</b>	<b>AIR CONDITIONING: minimum 9 TR ( 6 TR Working + 3 TR Standby)</b>
a)	Duct-able package air conditioners may be used according to room requirement and suitability. Humidity control should be effective to eliminate moisture condensation on equipment surface.
b)	The outdoor units of AC should have grill coverings to prevent theft and damage.
c)	<b>Environment specifications:</b>
i	Relative Humidity range: To be maintained between 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.
ii	Temperature ranges: 22± 2° C in all areas except equipment room which shall be as per requirement of the equipment.
iii	Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder.
<b>10</b>	<b>Furniture:</b>
a.	Revolving chairs height adjustable, medium-back with hand-rest – 4 Nos.
b.	Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – 3 Nos.
c.	Drug trolleys - 1 Nos.
e.	Patient trolley with rubber foam mattress - 1 Nos.
f.	Name boards for all rooms
g.	Tables for Workstation and Radiologist - 2 Nos.
h.	Dustbins: 10 Nos.
i.	All furniture items should be of standard make as mentioned in the table below.
<b>11</b>	<b>Miscellaneous:</b>
i.	LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14"x17" size. – 2 Nos.
<b>12</b>	<b>Fire alarm &amp; Detector:</b>
i	(i) Fire alarm (along with new/existing panel) should be provided in all rooms, wherever site modification is being carried out. Fire alarm shall comprise of fire panel, smoke / heat detectors. The vendor should discuss with the engineering section and the department before quoting for Site-Modification
ii	Fire extinguisher Dry CO2 type 5 kg as required for the building safety. – One per room
<b>13</b>	<b>LIST OF ITEMS AND SUGGESTED MANUFACTURERS.</b>
	<b>ITEMS</b>
	<b>PREFERRED MAKES</b>
a)	<b>FLOORING VITRIFIED TILES</b> -Somany, Kajaria , H&R Johnson, RAK india
b)	<b>PAINT</b> - Dulux, Asian Paints , Nerolac
c)	<b>PLUMBING</b> - Kohler, Jaguar , Grohe , Roca
d)	<b>ELECTRICAL</b>
e)	<b>CABLES</b> - Finolex, Havells ,V-Guard
f)	<b>SWITCHES</b> - Legrand, L&T, Crabtree , Roma
g)	<b>DISTRIBUTION BOX , MCB</b> - Legrand, L&T, Siemens, Havels
h)	<b>LIGHT FITTINGS</b> - Philips / Crompton / Wipro/Syska
i)	<b>AIR CONDINTIONING</b> - Daikin, Hitachi, Blue Star, Voltas,
j)	<b>FURNITURE</b> - Hermen Miller , Godrej , Featherlite, Geeken.

**Item sl. no. 06****DIGITAL X-RAY UNIT**

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
1	Page 86	State of art flat panel digital radiography system with two detectors should be quoted. The unit should have <b>AERB Type approval</b> for installation and use in India, NOC only will not be accepted.	State of art flat panel digital radiography system with two detectors should be quoted.  <b><u>Model which do not have AERB Approval may be supplied with the undertaking that the supplier shall be responsible for obtaining the AERB Type approval of the system within reasonable time, at no cost nor liability to the Institute.</u></b>
2	Page 86	At least two out of three main components (X-ray tube, generator and detector) should be from principle manufacturer.	<b>Deleted</b>
3	Page 87 Para 4.b	<b>4. Vertical Bucky (Wall stand)</b> <b>4.b)</b> Vertical detector system should be tiltable and should travel from minimum 1.3 to 6.2 feet above floor level.	<b>4. Vertical Bucky (Wall stand)</b> <b>4.b)</b> Vertical detector system should be tiltable and should travel from minimum 1.3 to 5.6 feet above floor level.
4	Page 87 Para 5.g	<b>5. Detector System</b> <b>5.g)</b> Detector Quantum Efficiency (DQE) of detector system should be 65% or more at 0 line pairs DQE at 0lp/mm or 0.5lp/mm should be at least 65%.	<b>5. Detector System</b> <b>5.g)</b> Detector Quantum Efficiency (DQE) of detector system should be 65% or more at 0 line pairs DQE at 0lp/mm or <b>0.05lp/mm</b> should be at least 65%.
5	Page 87 Para 6.h	<b>6. Operating (acquisition) workstation</b> <b>6.h)</b> Automatic image stitching should be available	<b>6. Operating (acquisition) workstation</b> <b>6.h)</b> Automatic image stitching should be available <b>.Necessary Hardware should be offered.</b>
6	Page 87 Para 7.a	<b>7. Post processing &amp; reporting workstation</b> 7.a) Medical grade 3MP monitor	<b>7. Post processing &amp; reporting workstation</b> <b>7.a) DICOM 3.0 compliant post-processing &amp; reporting workstation with 2 MP Medical grade colour monitor. .</b>
7	Page 87 Para 7.b	<b>7. Post processing &amp; reporting workstation</b> 7.b) Storage 1 TB	<b>7. Post processing &amp; reporting workstation</b> <b>7.b) Storage 1 TB , 4GB RAM.</b> It should be able to support integration ,multi monitor - RIS ,PAC terminals. It should be able to perform operations like viewing ,zoom ,pan, windowing,edge enhancement, image transfer , retrieve , query , storage and printing.

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
8	Page 87 Para 7.c	<b>7. Post processing &amp; reporting workstation</b> 7.c) Post processing software should be from the principal manufacturer of the quoted unit	<b>7. Post processing &amp; reporting workstation</b> 7.c) : Deleted
9	Page 88 Para 8.	<b>8. Accessories</b>	added para: <b>8. Accessories</b> 8.i) : Crash cart - 1 no.
10		Added para: <b>10. Instructions</b>	Added para: <b>10 Instructions</b> <b>10.1</b> There should be at least three installations of the quoted model globally. Satisfactory performance certificate by users on their letterhead must be attached. <b>10.2</b> All information asked for must be provided in the compliance statement under the headings given above. <b>10.3</b> All information in the tender document must be supported by original product data sheets or should be certified by the principals. Computer generated data sheets, photocopies or email printouts shall not be accepted.
10		Added para: <b>10. Instructions</b>	<b>10.4</b> If the unit is being quoted by Indian agency which is not a direct subsidiary of the principals; an undertaking from the principals must be provided that in case of discontinuation or change of the agency, merger, acquisition or any corporate rearrangement, the principal will arrange for onsite maintenance of the unit and abide by all terms and conditions of the tender. <b>10.5</b> Original Product Datasheet of main unit and all accessories, including third party items to be provided.
11	Page 88-90. para 9.	<b>SITE MODIFICATION WORKS:</b>	Existing para for Site Modification Works may be read as : <b>SITE MODIFICATION SCOPE OF WORK – DIGITAL X-RAY UNIT: as given below.</b>

**SITE MODIFICATION – DIGITAL X-RAY UNIT**

1	<p>The vendor should inspect the site at NCI, Jhajjar, before quoting and ensure that the unit can be installed in the available space without any functional compromise.</p> <p>The Site drawing of the Institute can be obtained from the Project office of NCI - AIIMS, room no. 161, 1st floor, DBRAIRCH, AIIMS campus, New Delhi.</p> <p>Complete equipment layout site plan and details of work (BOQ) should be part of technical bid.</p> <p>Provisions should be made for placing the various accessories in console room, work-station and printer locations.</p> <p>It should also include Lead lined door with lead glass peeping window, radiation warning indicators and signage, Aluminium false ceiling, GVT floor tiles and wall tiles/painting.</p> <p>All site modification works should comply with specified standards of the hospital.</p>
2	<b>The Digital X-Ray site modification shall consist of the following rooms:</b>
a)	Digital X-Ray Examination Room
b)	Console room
c)	Digital X-Ray equipment / UPS room.
d)	Patient change area
3	<b><i>Moreover Bidders will have to quote the Unit Rates of the following components of Site Modification work.</i></b>
a)	Civil works
b)	Electrical work
c)	Air Conditioning (HVAC)
d)	Fire Alarm & Detector
e)	Interior Furnishing & Furniture
	<b>The area considered for Site Modification for item: Digital X-Ray System is indicated in the site plan attached below as Annexure 1.</b>
4	<b>Civil work</b>
a)	Civil construction work including construction/ modification/ demolition of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.
b)	Additional strengthening of floor , ceiling structure for equipment , if required
c)	Platform for unloading and shifting the Digital X-Ray should be provided if necessary.
d)	Cable tray, trench & channel – necessary trenches, cable tray and channels at required location would be provided.
e)	All the construction work to be done as per the final plan approved by NCI Jhajjar
f)	False Ceiling-to-floor ceramic wall tiling in Digital X-Ray examination room, console & patient change area.
5	<b>Flooring</b>
a.	600 x 600 mm glazed vitrified (GVT) tiles with 100mm tile skirting in Digital X-Ray Examination room, console room, Patient change area.

b.	5mm-Vinyl flooring in Digital Xray equipment / UPS room.
<b>6</b>	<b>Painting</b>
a)	Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in Digital X-Ray equipment / UPS room.
<b>7</b>	<b>False Ceiling</b>
a	<b>Lightweight Aluminium ceiling panels</b> , acoustical-treated, supported on grid or finished seamless with support above ceiling. Powder coated finish (colour to be approved by Institute). Ceiling height to suit the equipment mount and clearances.
<b>8</b>	<b>Electrical work</b>
a)	The supplier shall be required to specify the total load requirements for the Digital Xray including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the DIGITAL XRAY Scan area. The distribution panel for UPS , DIGITAL XRAY shall be provided by the vendor. Few lights in each room shall be connected to the UPS to provide emergency lighting.
b)	The electrical work shall include the following:
c)	Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
d)	Switches light and power points should be of modular type and of standard make as listed below.
e)	General lights –LED light fittings with minimum 500 Lux Illumination
<b>7)</b>	<b>AIR CONDITIONING: minimum 9 TR ( 6 TR Working + 3 TR Standby)</b>
a)	Duct-able package air conditioners may be used according to room requirement and suitability. Humidity control should be effective to eliminate moisture condensation on equipment surface.
b)	The outdoor units of AC should have grill coverings to prevent theft and damage.
c)	<b>Environment specifications:</b>
i	Relative Humidity range: To be maintained between 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.
ii	Temperature ranges: $22 \pm 2^{\circ}$ C in all areas except equipment room which shall be as per requirement of the equipment.
iii	Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder.
<b>8</b>	<b>Furniture:</b>
a.	Revolving chairs height adjustable, medium-back with hand-rest – 4 Nos.
b.	Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – 3 Nos.
c.	Drug trolleys - 1 No.
e.	Patient trolley with rubber foam mattress - 1 No.
f.	Name boards for all rooms



g.	Tables for Workstation and Radiologist - 2 Nos.
h.	Dustbins: 10 NOS.
i.	All furniture items should be of standard make as mentioned in the table below.
<b>9</b>	<b>Miscellaneous:</b>
vii.	LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14"x17" size. – 2 Nos.
<b>10</b>	<b>Fire alarm &amp; Detector:</b>
i	(i) Fire alarm (along with new/existing panel) should be provided in all rooms, wherever site modification is being carried out. Fire alarm shall comprise of fire panel, smoke / heat detectors. The vendor should discuss with the engineering section and the department before quoting for Site-Modification
ii	Fire extinguisher Dry CO2 type 5kg as required for the building safety. – One per room
<b>11</b>	<b>LIST OF ITEMS AND SUGGESTED MANUFACTURERS.</b>
	<b>ITEMS</b> <span style="float: right;"><b>PREFERRED MAKES</b></span>
a)	<b>FLOORING VITRIFIED TILES</b> -Somany, Kajaria , H&R Johnson, RAK india
b)	<b>PAINT</b> - Dulux, Asian Paints , Nerolac
c)	<b>PLUMBING</b> - Kohler, Jaguar , Grohe , Roca
d)	<b>ELECTRICAL</b>
e)	<b>CABLES</b> - Finolex, Havells ,V-Guard
f)	<b>SWITCHES</b> - Legrand, L&T, Crabtree , Roma
g)	<b>DISTRIBUTION BOX , MCB</b> - Legrand, L&T, Siemens, Havels
h)	<b>LIGHT FITTINGS</b> - Philips / Crompton / Wipro/Syska
<b>13</b>	<b>AIR CONDINTIONING</b> - Daikin, Hitachi, Blue Star, Voltas,
xiii.	<b>FURNITURE</b> - Hermen Miller , Godrej , Featherlite,Geeken.

**Item sl. no. 07****FULL FIELD DIGITAL MAMMOGRAPHY UNIT**

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
1	Page 93 Para 1.b	<b>1. X-ray Generator</b> a. X-ray generator should deliver high frequency constant output with minimum rating of 5KW with 100 mA at 35 kV.	<b>1. X-ray Generator</b> a. X-ray generator should deliver high frequency constant output with minimum rating of 5KW with <b>100 mA or more</b> at 35 kV.
2	Page 93 Para 2.c	<b>2. X-ray tube</b> c. Collimator and cross-hair shadow marker.	<b>2. X-ray tube</b> c. Collimator
3	Page 93 Para 4.a	<b>4. Digital flat panel detector</b> a. Solid state direct conversion type, size 24x30 cm or more	<b>4. Digital flat panel detector</b> a. Solid state <b>Direct / Indirect</b> conversion type, size 24 cm x29 cm ( $\pm 1$ cm).
4	Page 93 Para 5.e	<b>5. Digital breast Tomosynthesis:</b>	<b>added para :</b> <b>5. Digital breast Tomosynthesis:</b> 5.e : It should be possible to generate synthesized mammographic view from tomosynthesis data.
5	Page 94 Para 7	<b>7. Reporting workstation :</b> 7a. 10MP or more medical grade monitor approved for mammography and tomosynthesis with in-built calibration.	<b>Para 7 : REPORTING WORKSTATIONS: (1 no. ) :</b> <b>7.a.i :</b> Medical grade Colour Monitor of minimum 10 Megapixel resolution (configurable as 5 MP x 2 ), Capable of at least 1000cd/m <sup>2</sup> brightness , with Out-of-the-box calibration to the DICOM grayscale display function for luminance. Display should be suitable for digital breast imaging, including breast tomosynthesis. With automated built-in QA and calibration. It should include a protective anti-reflective glass panel to prevent accidental damage to the screen. <b>7.a.ii.</b> The Image processing as well as reviewing software shall be from the principal manufacturing company of Digital Mammography unit. <b>7.a.iii.</b> The Image processing as well as reviewing software should be USFDA certified for Digital mammography & Tomosynthesis. <b>7.a.iv.</b> The Image processing as well as reviewing software shall be from the principal manufacturing company of Digital Mammography unit. <b>7.a.v.</b> The Image processing as well as reviewing software should be USFDA certified for Digital mammography & Tomosynthesis.

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
6	Page 94 Para 7	<b>7. Reporting workstation</b> 7 g. Storage capacity of <b>minimum 20,000 images.</b>	<b>7. Para 7 : REPORTING WORKSTATIONS:</b> <b>7 g.</b> Storage capacity of <b>minimum 10,000 images.</b>
7	page 94 para 9.	<b>9. Digital Stereotactic breast biopsy facility :</b>	<b>Added para.</b> <b>9. Digital Stereotactic breast biopsy facility</b> <b>9.c :</b> It should be able to do <b>tomosynthesis -guided biopsy.</b>
8	Page 94 Para 10.e	<b>10. Compression paddles</b> <b>e.</b> Cross hair shadow device	<b>10. Compression paddles</b> <b>e.</b> DELETED.
9	Page 95 Para 11.c	<b>11. Standard accessories :</b> c. Complete contrast enhanced mammography package including software and hardware should be provided	<b>11. Standard accessories:</b> c. Complete contrast-enhanced: <b>Spectral / Dual energy</b> Mammography package including software and hardware should be provided . <b>Suitable pressure Injector with at least 20 disposable syringes with patient connector tubes.</b>
10	Page 95 Para 11.e	e. Motorized mobile biopsy chair cum couch (Acus or DBI or equivalent reputed brand) suitable for stereotactic biopsy in sitting and lateral decubitus position. Complete digital mammography QA kit (Radcal or Pehamed or Unfor or equivalent) including kV meter and ACR approved phantom.	<b>11. Standard accessories</b> e. <b>Motorized or Hydraulic</b> mobile biopsy chair cum couch of reputed brand suitable for stereotactic biopsy in sitting and lateral decubitus position. Complete digital mammography QA kit including kV meter and ACR approved phantom. The supplier shall provide regular calibration and QA during the warranty and CMC period.
11	Page 95 Para 12.c	<b>12. Other features</b> c. Vendor should not be blacklisted from any govt institution or judicial or semijudicial authority. An affidavit to this effect should be submitted.	<b>12. Other features</b> c. Vendors should have <b>minimum three global Installations</b> of the quoted system.
12	PAGE 96 Para 15	<b>15. Instructions:</b>	<b>15 Instructions</b> <b>ADDED PARA : 15</b> <b>e :</b> Original Product Datasheet of main unit and all accessories, including third party items to be provided. <b>f :</b> There should be at least three installations of the quoted model globally. Satisfactory performance certificate by users on their letterhead must be attached.

Sl. No	Tender Page & Para	EXISTING TENDER SPECIFICATION	AMENDED TENDER SPECIFICATION
13	PAGE 94 PARA 11.	<b>11. Standard accessories:</b>	<b>ADDED PARA:</b> <b>Accessories:</b> <b>11. i:</b> Crash cart - 1 no.
14	PAGE 95 Para 14	<b>14. Installation:</b> Air-conditioning for the Mammography Room , <b>Console Room</b> should be provided.	<b>14. Installation:</b> Air-conditioning for the Mammography Room should be provided.

***Additional specifications to the existing as under:***

<b>15 SITE MODIFICATION- FULL FIELD DIGITAL MAMMOGRAPHY UNIT</b>	
1	<p>The Site drawing of the Institute can be obtained from the Project office of NCI - AIIMS, room no. 161, 1st floor, DBRAIRCH, AIIMS campus, New Delhi.</p> <p>The vendor should inspect the site at NCI, Jhajjar, before quoting and ensure that the unit can be installed in the available space without any functional compromise.</p> <p>Complete equipment layout site plan and details of work (BOQ) should be part of technical bid.</p> <p>Provisions should be made for placing the various accessories in console room, work-station and printer locations.</p> <p>It should also include Lead lined door with lead glass peeping window, radiation warning indicators and signage, Aluminium false ceiling, GVT floor tiles and full height wall tiles.</p> <p>All site modification works should comply with specified standards of the hospital.</p>
2	<b>The Digital Mammography site modification shall consist of the following rooms:</b>
a)	Digital Mammography Room with Control panel area & patient change area.
3	<b><i>Moreover Bidders will have to quote the Unit Rates of the following components of Site Modification work.</i></b>
a)	Civil works
b)	Electrical work
c)	Air Conditioning (HVAC)
d)	Fire Alarm & Detector
e)	Interior Furnishing & Furniture
	<b>The area considered for Site Modification for item: Digital Mammography System is indicated in the site plan attached below as Annexure 1.</b>
4	<b>Civil work</b>
a)	Civil construction work including construction/ modification/ demolition of brick wall if any, plastering, flooring as per the approved plan and equipment layout plan.
b)	Additional strengthening of floor , ceiling structure for equipment , if required

c)	Platform for unloading and shifting the Digital Mammography should be provided if necessary.
d)	Cable tray, trench & channel – necessary trenches, cable tray and channels at required location would be provided.
e)	All the construction work to be done as per the final plan approved by NCI Jhajjar.
f)	False Ceiling-to-floor ceramic wall tiling
<b>5</b>	<b>Flooring</b>
a.	600 x 600 mm glazed vitrified (GVT) tiles with 100mm tile skirting in Digital Mammography room.
<b>6</b>	<b>False Ceiling</b>
a	<b>Lightweight Aluminium ceiling panels</b> , acoustical-treated, supported on grid or finished seamless with support above ceiling. Powder coated finish (colour to be approved by Institute). Ceiling height to suit the equipment mount and clearances.
<b>7</b>	<b>Electrical work</b>
a)	The supplier shall be required to specify the total load requirements for the Digital Mammography including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the DIGITAL MAMMOGRAPHY area. The distribution panel for UPS, DIGITAL MAMMOGRAPHY shall be provided by the vendor.
b)	The electrical work shall include the following:
c)	Wiring – All interior electrical wiring- with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
d)	Switches light and power points should be of modular type and of standard make as listed below.
e)	General lights –LED light fittings with minimum 500 Lux Illumination
<b>8)</b>	<b>AIR CONDITIONING: minimum 6 TR ( 4 TR Working + 2 TR Standby)</b>
a)	Split air conditioners may be used according to room requirement and suitability. Humidity control should be provided to effectively eliminate moisture condensation on equipment surface.
b)	The outdoor units of AC should have grill coverings to prevent theft and damage.
c)	<b>Environment specifications:</b>
i	Relative Humidity range: To be maintained between 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.
ii	Temperature ranges: $22 \pm 2^{\circ}$ C in all areas except equipment room which shall be as per requirement of the equipment.
iii	Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the bidder.
<b>8</b>	<b>Furniture:</b>
a.	Revolving chairs height adjustable, medium-back with hand-rest – 4 Nos.

b.	Cupboard with laminate door shutters for storage of spare parts and accessories and records as per requirement. – 2 Nos.
c.	Drug trolleys - 1 NOS.
e.	Patient trolley with rubber foam mattress - 1 No.
f.	Name boards for all rooms
g.	Tables for Workstation and Radiologist - 2 Nos.
h.	Dustbins: 4 Nos.
i.	All furniture items should be of standard make as mentioned in the table below.
<b>9</b>	<b>Miscellaneous:</b>
viii.	LED X-ray Film viewer with adjustable brightness; capable of holding 3 films of 14"x17" size. – 2 Nos.
<b>10</b>	<b>Fire alarm &amp; Detector:</b>
i	(i) Fire alarm (along with new/existing panel) should be provided in all rooms, wherever site modification is being carried out. Fire alarm shall comprise of fire panel, smoke / heat detectors. The vendor should discuss with the engineering section and the department before quoting for Site-Modification
ii	Fire extinguisher Dry CO2 type 5kg as required for the building safety. – One per room
<b>11</b>	<b>LIST OF ITEMS AND SUGGESTED MANUFACTURERS.</b>
	<b>ITEMS</b> <b>PREFERRED MAKES</b>
a)	<b>FLOORING VITRIFIED TILES</b> - Somany, Kajaria , H&R Johnson, RAK india
b)	<b>PAINT</b> - Dulux, Asian Paints , Nerolac
c)	<b>PLUMBING</b> - Kohler, Jaguar , Grohe , Roca
d)	<b>ELECTRICAL</b>
e)	<b>CABLES</b> - Finolex, Havells ,V-Guard
f)	<b>SWITCHES</b> - Legrand, L&T, Crabtree , Roma
g)	<b>DISTRIBUTION BOX , MCB</b> - Legrand, L&T, Siemens, Havels
h)	<b>LIGHT FITTINGS</b> - Philips / Crompton / Wipro/Syska
<b>13</b>	<b>AIR CONDINTIONING</b> - Daikin, Hitachi, Blue Star, Voltas,
xiv.	<b>FURNITURE</b> - Hermen Miller , Godrej , Featherlite,Geeken.

**B. GENERAL POINTS:**

**1. Warranty:**

**Existing:**

- c) During the Warranty period, desired Uptime of 95% of 365/366 (Leap Year) days (24 hrs), if downtime more than 5%, the warranty period/CAMC period will be extended by double the downtime period. In addition a penalty equal to amount of 0.25 % of the total cost of equipment per day will be liveable for the excess downtime period. Complaints should be attended properly, maximum within 8 hrs.

**Amended as:**

- c) During the Warranty period, desired Uptime of 95% of 365/366 (Leap Year) days (24 hrs), if downtime more than 5%, the warranty period/CAMC period will be extended by double the downtime period. Complaints should be attended properly, maximum within 8 hrs.

**4. Comprehensive Annual Maintenance Contract (CAMC) of subject equipment:**

**Existing:**

- e) During the CAMC period, desired Uptime of 95% of 365/366 (Leap Year) days (24 hrs), if downtime more than 5%, the warranty period/CAMC period will be extended by double the downtime period. In addition a penalty equal to amount of 0.25 % of the total cost of equipment per day will be liveable for the excess downtime period. Complaints should be attended properly, maximum within 8 hrs.

**Amended as:**

- e) During the CAMC period, desired Uptime of 95% of 365/366 (Leap Year) days (24 hrs), if downtime more than 5%, the warranty period/CAMC period will be extended by double the downtime period. Complaints should be attended properly, maximum within 8 hrs.

**5. Uptime & Downtime Penalty Clause:**

**Existing:**

- b) During the Warranty period and CAMC period, desired Uptime of 95% of 365/366 (Leap Year) days (24 hrs), if downtime more than 5%, the warranty period/CAMC period will be extended by double the downtime period. In addition a penalty equal to amount of 0.25 % of the total cost of equipment per day will be liveable for the excess downtime period. Complaints should be attended properly, maximum within 8 hrs.

**Amended as:**

- b) During the Warranty period and CAMC period, desired Uptime of 95% of 365/366 (Leap Year) days (24 hrs), if downtime more than 5%, the warranty period/CAMC period will be extended by double the downtime period. Complaints should be attended properly, maximum within 8 hrs.

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