



ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, NEW DELHI-110029
Stores Section (DO)

Dated:- 13.07.2026

GEM Bid No. GEM/2026/B/7468750

Tender ref. No. XX-10/SO(DO)/Emergency Medicine/GeM/2026-27/M&E

CORRIGENDUM

It is inform that the GeM Bid No. **GEM/2026/B/7468750** dated 30.04.2026 and tender reference No. XX-10/SO(DO)/Emergency Medicine/GeM/2026-27/M&E has been published on GeM Portal, there is some amendments as detail given below:

Sr. No.	Detail	Existing	Amended /Extended
1.	Bid Submission End date	15.07.2026	25.07.2026
2.	Technical Specification	As Per Bid Document	Revised Technical Specification Attached ANNEXURE-1

All other terms & condition of the tender are same

SR. STORES OFFICER (DO)

REVISED TECHNICAL SPECIFICATIONS OF CATHETERISATION LAB, EMERGENCY MEDICINE DEPARTMENT , AIIMS , NEW DELHI. BIDDERS ARE ADVISED TO QUOTE THEIR BID/PRODUCT AND MAY NOTE THAT THE TECHNICAL EVALUATION WILL BE CARRIED OUT AS PER THE REVISED TECHNICAL SPECIFICATION. ALL OTHER TERMS & CONDITION OF THE TENDER ARE SAME

Annexure 1

Technical specification for latest Advanced State of the art, **single plane** catheterization lab/ angiography equipment, with **floor mounted** C-arm/L-arm imaging system (**subject to submission of feasible lay out plan for installation within the existing site**) and **flat detector technology**, for **diagnostic/ interventional emergency procedures**-For Department Of Emergency medicine, AIIMS, New Delhi.

Please note that the installation, must not crowd the working environment and must insure that there is **free and unhindered movement** of other ceiling suspended items such as radiation protection shield, injector & monitors among others. The system should permit free and complete access, from **both sides of the table to the patient**. The vendor **must demonstrate the above by video/ live demonstration and provide an undertaking to this effect**.

Technical Specifications

The manufacturer/bidder must quote the latest 'state of the art' system with specifications below. Please mention the year of launch of the quoted model. The manufacturer will guarantee the latest available technologies for the individual component of the model at the time of delivery. Any up gradation / new features launched prior to the installation of the equipment should be part of the supply, even if not quoted at the submitting the bid. The detailed specification that follows shall be understood to be minimum requirement. However, additional relevant technical features suitable for our requirement will be given due weight age.

The essential features should be verifiable from catalogue/technical brochure of equipment the offered model of the equipment and vendor must specify page, paragraph and line number in technical literature that **indicates compliance**. For all components, the vendor must clearly mention what has been quoted. It should also clearly state what is available but not quoted. This is applicable for all equipment and accessories Bids with incompletely filled compliance statements may be summarily rejected.

A) C arm and Table

- 1) The C arm/G arm should travel both side (right and left) of the patient and it should be possible to park the C arm away from table for patient shifting
- 2) The C or G arm movement control should be possible from any side of the table.
- 3) The C or G arm rotation minimum 15 degrees/second in RAO/LAO and 15 degree/second in cranial/caudal
- 4) Angulations LAO/RAO= at least 105/105 degrees Cranial/caudal 45 degrees or more
- 5) Patient collision prevention and protection is necessary. The system should have an in-built collision protection
- 6) Arm design should allow sufficient space around the table during resuscitation and defibrillation
- 7) The C-arm should have head to toe coverage without patient repositioning.

8) The system should have synchronous rotation of detector and tube for heads up images at any gantry position.

9). **Table shall be floor mounted, with carbo-fiber table top and swivel capability ± 90 degree. It should have motorized head side tilt facility of at least ± 10 degrees or more.**

10). Maximum patient weight= 150 kg or higher with additional weight for at least 50 kg during resuscitation.

11). Table should have electromagnetic locks.

12). Table edge should be suitable for a wide range of accessories like arm rest, hand grips etc.

13). The table top should be equipped with gantry controls, table system controls, collimation controls and Intravenous poles

14). Please specify the range of table travel in longitudinal and vertical directions

15) Table should have additional control knob for movement of table in horizontal and longitudinal direction by the primary operator

16. There should be touch screen on the table for selection of various exposure and display parameters.

B) X-RAY system Generator and X-ray Tube

1). **Generator should be latest technology with high frequency type with at least 100kW output at maximum factor.**

2). High frequency power unit that provides pulsed fluoroscopy capability should have automatic exposure control device for radiographic, fluoroscopy and Angio mode.

3). Should have an overloading protection.

4). X-Ray tube should be minimum dual focus with high cooling rate to ensure continuous operation, capable of pulsed fluoroscopy. Please specify the focal spot sizes and kW outputs.

5). **The X-ray tube should have Anode heat storage capacity of at least 2.4 MHU or more (True Value)**, having liquid bearing technology or metal lubricant.

6). System should have fluoroscopy pulse rate from 1 frame /sec to 30 frame/sec . Lower frame rate will be preferred for EP procedures

7). **System should have fluoro mA up to 120 mA or more for shorter pulses for lower motion artifacts and lower scattered dose**

8). The generator Continuous fluoro power for more than 30 minutes should be atleast 1500 W or more

9). The collimator should have facility for automatic /pre programmed pre-filtration . Adequate filtration for different clinical setting should be provided and clearly mentioned in the offer. At least 3 selectable spectral filters should be provided

10). Synchronous movement of tube/detector for straight image in radial access

C) RADIATION PROTECTION:

1). Latest dose reduction protocol should be available during acquisition

- 2).The system should have integrated computer-controlled X-ray Beam filtering with automatic/programmable copper filters of various sizes from 0.1 mm to 0.3 mm or better.
- 3). The system should have monitoring and display of X-ray dose during the patient examination. It should be possible to create a DICOM based dose report of the patient.
- 4). System should meet all National & International safety standers & comply with BARC & AERB guidelines
- 5). Flexible Lead curtains should be there on both side of tables

D) DYNAMIC FLAT DETECTOR SYSTEM AND IMAGE PROCESSING:

- 1). A flat detector digital system with acquisition and display in 1024x1024 matrix with at least 14 bit digitization or above. Please specify the pixel size. **Detector size should be 30x 30 cm or above.** (2048x1500 matrix with at least 16 bit digitization, should be quoted as an option).
- 2). System must be offered with latest image processing software /algorithm to reduce quantum noise in image to have excellent image quality
- 3). At least 3 level acquisitions zoom facility
- 4). **The DQE of detector should be at least 70%**
- 5). The system should have capability to acquire the images up to 25/30 fps
- 6). **Digital rotational angiography facility** at a speed of 40 degree/sec. or more should be available..
- 7). Facilities for import of **CT fusion package data on live fluoroscopy** should be available
- 8). **3D road mapping facility** should be available. It should be possible to CArm /G Arm automatically based on 3D image
- 9). **The latest complete software and hardware** for emergency cardio / neuro / interventional radiology procedures should be available
- 10). OEM Based **Dedicated 3D workstation to free the main system after acquisition should be offered.** It should be able process patient images on this workstation independent of case in exam room. It should be in addition to CD writing station/workstation .
- 11). **The system must have latest software / hardware packages of image processing** like ASPIRE/ Clarity IQ/CARE & CLEAR/ Blueprint/Autoright etc.
- 12). Live/Instant stent enhancement facility for accurate stent positioning before stent deployment should be available
- 13). Digital imaging for acquisition storage and retrieval in high matrix of 1024 x 1024 or more acquisition/ display and storage of image application to give excellent resolution with latest image processing software/algorithm
- 14). Gray scale depth of at least 8-bit pixel should be possible at all frame speeds.
- 15). Image storage capacity of 1,00,000 image at 1024 x 1024 matrix at a minimum of 8 bits/pixel on main system hard disk

16). **Medical grade large high-definition display (at least 55 inches) to display live, reference, 3D Hemodynamic and EP waveforms with layout selection from table side control or separate touch screen module in exam room. One back up monitor of at least 19" should be provided**

17). **Cath lab should be supplied with state of art complete coronary , Neuro , ventricular and peripheral vascular online & off line (both) quantifications software programs** which are clinically validated with operation from exam room and control room. It should have auto calibration facility . The analysis should be possible from tableside in the examination room and from the control room. Full quantitative analysis package should be provided. QCA facility should be also available for recorded CD/DVD.

18). Auto calibration should be possible. Table side touch screen for image post processing should be offered

19). All recall of stored images in fast, slow still modes to select images at table side itself

20). Cine loop replay facility & last image hold facility during fluoroscope

21). On line acquisition & display of DSA images in 1024 x 1024 matrix with DSA post processing from tableside control in exam room and control room. All 2D and 3D road mapping features should be offered.

22). Should have facility for stent enhancement operable from table side with touch screen and from control room. The latest complete software and hardware for visualizing stent with the facility of stent enhancement with relation of vessel Lumen –fade in fade out.

23). The system should have facility for storage of fluoro-loop scene at least of 10 seconds.

24). Software/algorithm for efficient compensation of motion for Improved visibility of moving vessels and guide wires during fluoroscopy.

25). The system should have Automatic pixel shift processing during DSA should be available.

26). The system should have adaptive image noise reduction through dose dependent filtering of the image data.

27). The system should allow to create different flavors of images according to user preference.

28). The system should be able to perform region of interest positioning without using fluoroscopy.

E). Digital Archiving and Retrieval

1).The system should have provision for recording in DICOM 3.0 (or higher version) Medical format on CD/DVD with capability of bi-directional transfer of images.

2).Dynamic viewing of CD images, single frame step by step, fast forward & fast rewind.

3).Image transfer from digital system should be possible in background mode without affecting the system operation. The system should be compatible and linked to the existing PACS system.

4).It should be possible to quickly retrieve the angiographic study which is stored on the equipment server and/or the departmental PACS within less than a minute. Also complete post processing of these retrieved cases should be possible (e.g. subtraction, pixel shifting, masking, measurements etc.)

5).The system should be fully linked to PACS/RIS/HIS. All necessary licenses for patient registration and data transfer in both directions (including the MMWP and DMWL licenses) are to be provided by the manufacturer.

F). Hemodynamic Recorder specifications:

- 1). A high end, latest technology hemodynamic recorder
- 2). Multichannel (>12 channels), modular recorder with software for recording, and archiving in hard disk and DVD.
- 3). Should have network printer for printing high quality traces
- 4). Should have high resolution, medical grade, >18" monitors (2), separate for recording and printing.
- 5). Should be able to display 12 channel ECG, Pressure waveforms, respiration, SPO2 etc
- 6). Should be provided with original table, housing cabinet.
- 7). Should be integrated with main system for auto transfer of demographic data of patient to main system
- 8). System should be supplied with 5 set each of Reusable pressure transducers , ECG cable .

G) CONTROL CONSOLE:

- 1). All system movements of C-Arm, table, image display, image review, image post processing and quantification shall be controlled both by the operator at the table in the exam room.
- 2). The system should have facility for edge enhancement, Positive/negative image display, windowing, contrast/brightness, electronic shuttering, image/pixel shifting, vertical and horizontal image reversal, zoom functions.
- 3). The system should have fast and direct access to all series, single images, in both examination and control room.
- 4). Console room should have two 19 inch monitors for simultaneous display of patient demographics, live image, reference image & 3D rotational angio images. The 30 inch display monitor if available should be quoted as an option
- 5). Two remote control should be provided with the system for display of images and other parameters
- 6). 1 cordless/wired control for doing fluoroscopy and cine should be available in console room
- 7). Facility for live transmission of cases from exam and console room available; audio communication via –way communication.

H.	Essential Accessories that must be supplied as part of machine
1.	TWO state of the art High Pressure injector (one ceiling mounted and another mobile) of reputed make should be supplied. a) Ceiling mounted injector- It should not interfere with movement of C-arm/L-arm. System should have programmed flow rate, volume, with variable pressure limits for all type of angiographies with disposable high-pressure syringes. The firm should supply 1000 Nos. Syringes free of cost with the equipment (Syringes to be supplied in

	staggered fashion as per departmental requirement). Unit price of each 50 syringe pack should quote in the bid. b) Mobile injector- System should have programmed flow rate, volume, with variable pressure limits for all type of angiographies with disposable high-pressure syringes. The details of the make of the mobile injector must be provided. It should be Medrad Mark V Provis injector (or equivalent) with 150 ml syringe. It should be supplied with 500 Syringes (syringes to be supplied in staggered fashion as per departmental requirement). Unit price of each 50 syringe pack should be quoted in the bid and this will be valid for subsequent 10 years
2.	Lead glass at least 100 x 150 cm for console room to have complete view of the patient.
3.	Ceiling suspended system required. Remote holder should be available on touch monitor and on ceiling monitor stand,
4.	Over and under the couch mobile dockable lead shield system (MAVIG) or reputed vendor will be preferred.
5.	15 zero lead aprons (wrap around skirt type) with integrated thyroid shields, 15 universal lead eye glasses, 15 lead caps, and wall mounted aprons racks (6 apron) — 6 No. Lead apron different size details should be collected from the department
6.	Suitable UPS of at least 120 kVA with 30 minutes back up.
7.	Necessary furniture (including 6 chairs) and fire extinguisher system for suite. The fire protection system must include high sensitivity smoke detectors, a sprinkler system for the entire structure and a clean agent system (eg.Inergen/FM200 or equivalent) for fire within closed compartments.
8.	2 Saline infusion pumps of latest make and highest standard should be provided with flow rate from 1ml/h to 1000ml/h.
9.	One ceiling suspended operation lamp.
10.	Technical specifications for syringe infusion pumps — 2 Nos. should be supplied. (i) Should accommodate standards 20/50 ml syringe with automatic syringe recognition. (ii) Should work on both 220V AC mains and an in -built rechargeable battery. (iii) Battery life of at least 3 hours when fully charged. (iv) Flow rate range 0.1 to 99.9 ml/hr IN 0.1 ml increments. (iv) Drive accuracy $\pm 3\%$ (v) Should have the following audio and visual alarms: ● Power supply failure ● Low battery ● Near empty syringe ● Occlusion (vii) Adjustable occlusion pressure (viii) Ability to deliver bolus dose. (ix) KVD mode (Keep vein open) (x) Display of volume infused. (xi) Display of driving pressure (xii) Capable of complete inter feasibility with RS 232 port availability.
11.	One desktop computer (HP/DELL or equivalent at least 8 GB RAM & 1 TB hardisk and i7 configuration) and one laser Network Printer (HP/Samsung or equivalent) of high resolution (at least 1200 dots per inch) with minimum 128 MB memory and 1200 dpi should also be offered for high quality image printing on A4 paper . At least 5 set of cartridges per annum to be provided by vendor for the warranty period. Antivirus and other software's should be preinstalled for at least 5 yrs duration.
12.	A standalone 20 TB image archiving solution with software from the same equipment vendor (should be quoted as an option)
13.	Specifications of Defibrillator — 01 No. to be supplied

	● Defibrillator should be Biphasic. ● Should monitor ECG and Display them. ● Should print the ECG on thermal Printer. ● Should work on manual and automated external defibrillation mode. ● Can be operated from mains as well as battery. ● Should be a Biphasic Defibrillator monitor with recorder having capability of delivering at least 200 Joules. ● Should monitor ECG through paddles and monitoring electrodes and defibrillate through pads and paddles. ● Should compensate for body impedance for range of 25 to 1500ohms. ● Should have charging time of less than 5 seconds for maximum energy. ● Should have a bright electroluminescent display of viewing waveforms and ECG wave of 4 seconds. ● Should have external paddles and patches with contact indicator- for good contact, Both adult and pediatric/infants and neonates paddles and patches should be available. Price of patches should quoted for price fixation and vendor should supply 6 patches per year for 10 years. ● Should have event summary facility for recording and printing at least 250 events and 50 waveforms. ● Should have a battery capable of usage for at least 90 minutes of 40 discharges. ● Should be capable of printing reports on Events summary/ configuration self-test, battery capacity etc. ● Should have facility for self-test/ check before usage and setup function. ● Should be capable of delivering energy in increments of 1-2 joules up to 30 Joules and increments of maximum 50 joules thereafter. ● Defibrillator should be able to recognize ventricular tachyarrhythmia during uninterrupted CPR.
14.	Ultrasonic pest repellents- Four units to be provided and installed
15.	Patient address system -Slim Hand free microphones and loud-speakers to communicate between patients in examination room and console room
16	Digital weighing machine -1
17	Adequate CCTV coverage for theft prevention
Turnkey (Approximate area 1400 sqft)	
1.2	INTERIOR FINISHES:
1.2.1	Walls:
	All the walls should be mentioned as per machine requirement.
	● Outer walls of Angio room should be constructed with 9" thick brick work.
	● All walls should be finished with DuPont™ Corian/equivalent solid surface material that create spaces that, with proper cleaning (stability against bacteria and fungi), according to European standard and should be Stain resistant & Slip resistant. Walls of UPS/ Cabinets rooms shall be finished with POP and Paint.
1.2.2	Flooring
	● Flooring in console Patient preparation and Examination room should be non slippery floor in accordance with ICU flooring guidelines
1.2.3	False Ceiling:
	● Power coated Light weight Aluminum False Ceiling acoustically treated, Armstrong Modular Grid Ceiling of size 600x600 suspended on inter locking metal grid should be done in all rooms.
	● Gypsum false ceiling with sky panel should be provided in console room.
	● Picture light should be provided at the centre of ceiling.
1.3	DOORS & WINDOWS
	Doors:

	● ISI marked commercial flush door (35 mm thick) with laminate on both side and 2mm thick lead sheet finish should be installed, hold fasts and accessories as per the proposed layout design for the facility. (2 no. Lead Lined Door including the main entry door). The doors should be provided with minimum 7-lever pad locks, rest all other doors would be of commercial flush door with laminate on both side.	
	Windows:	
	● wooden framed window with 2mm thick lead on all edges of the frame with lead glass (150x150cm) should be installed in the console room.	
1.4	FURNITURE:	
	● Furniture of Hermen Miller , Godrej , Featherlite, Geeken equivalent make .	
	DESCRIPTION	QTY
	Work station Tables to be customized at site in accordance with departmental need and specification matching existing cath lab	2
	Revolving chairs with user-adjustable height, medium backrest height, with hand-rest.	6
	Chairs for patient waiting area- three-seater (chrome plated)	1
	Providing and placing Cupboard with laminate door shutters for storage of spare parts, accessories and records, as per requirement (25 (customized at site) as per department specifications matching existing cath lab	3
	Aluminum plated footrest	1
	Name boards for all rooms	5
	Dustbins (plastic with lid)	4
1.6	HVAC Works:	
	● Ductable Split & Split AC units, amounting to a total tonnage of 22 TR, (16.5 TR Working + 5 TR Standby) of Bluestar or equivalent make. Make: Blue Star/LG/Carrier/Daikin/Equivalent	
	● Temperature range considered for area under scope should be 22±2 degree Celsius.	
1.7	FIRE DETECTION WORKS	
	● Fire detection system should comprise of 'smoke cum heat' detectors installed at appropriate locations within the facility along with response indicator. Sounders/strobes and should be integrated with the nearest hospital fire system panel.	
	● Supply & installation of dry CO2 type fire extinguisher five nos. of 5kg capacity should be provide at suitable locations to combat any accidental fire.	
1.8	ELECTRICAL WORKS:	
	● Total load of the equipment, accessories and other items to be mentioned by the supplier.	
	● The supplier will provide load cable up to electrical room of cath lab. This should include cabling connection to the hospital generator facility.	
	● Electrical work should consist of point wiring in all rooms, using copper wiring, sockets & switches (renowned make like Finolex, Havells, V-Guard etc. or equivalent).	
	● Cable trench and trays should be provided.	
	● Switches: light and power point should be of modular type of standard make. (Legrand, L&T, Crabtree, Roma)	
	● Providing and fixing Recessed type 1 x 36W LED down lighter fixture of approved make and brand without LED driver, all necessary lamps & mounting accessories complete as required, etc. (Make : Crompton Cat LCTLS-36-CDL) Philips / Crompton / Wipro / Syska or equivalent.	
	● Providing and fixing Recessed type 1 x 18W LED down lighter fixture of approved make and brand without LED driver, all necessary lamps & mounting accessories complete as required, etc. (Make : Crompton Cat LCTLS-36-CDL) Philips / Crompton / Wipro / Syska or equivalent.	

	● Few lights in each room should be connected to the UPS to provide emergency lighting.
	● Roof Light-Led Down lighter of Philips/Osram/Wipro.
	● Furnish & install the main incomer MCCB along with power distribution panel for the complete facility including the machine, UPS input, AC, Power & lighting etc.
	● Main switchgears, fuse units shall be L&T / Siemens/ GE.
	● Required Eight nos. of Earth pits considered, upto a depth of 3 mts including accessories and masonry enclosure with cover plate and filled with charcoal/coke and salt as required.
	● Telephone cables should be of Finolex& RR cables, Havells & Ecko brands.
	● All the cables, Pipes and Manifold lines routed thought the proposed site to be shifted by the vendor before handing over the site for site modification works
	● Internet and telephone connectivity and wiring to be provided by the vendor in the console room
1.9	COMMUNICATION:
	● Cabling of Network (LAN) connectivity for all system including console system, workstation and computers along with connectivity to nearest point of hospital should be done. Vendor will be responsible for all networking and connection with existing network of hospital.
1.10	EXTERNAL WORKS:
	● Providing and fixing MS grill for AC outdoor unit should be in vendor's scope.
	● Platform for unloading and shifting of cath lab equipment to be provided if required.
	<u>Guarantee/Warranty</u> 1. 02 years comprehensive onsite warranty of entire system. This will be followed by 08 years comprehensive maintenance contract for all equipment's including accessories. 2. All accessory equipment including cables, adaptor, connectors should be included in comprehensive warranty. 3. X ray tube warranty should be for 02 years warranty and 08 years CAMC. 4. Post warranty on site annual comprehensive maintenance contract to cover, complete system including all components, accessories, should be quoted separately for additional Eight years with year wise break up. 5. Uptime guarantee of 95% must be agreed. Penalty clause will be applicable if the downtime of the unit exceeds 5% of the permissible downtime. The penalty will be in the form of extended warranty beyond 5 years, which will be equal to the period of double the number of days for which the unit is non-functional. 6. It should have USFDA/EUROPEAN CE/BIS/CDSCO CERTIFICATION
	General Instructions for the Vendor
1.	Supplier should give a live demonstration of the quoted model and demonstrate all its features.
2.	Supplier must ensure availability of expertise service and maintenance at site of installation. Uninterrupted availability of spare parts and repair for next ten years must be assured.
3.	Two bid system: vendor is required to make separate bids for technical and price components. These should be quoted in two separate sealed envelopes.
4.	Please note that all technical features, facilities and accessories mentioned in the tender documents are standard requirements and hence, these should be offered as the standard feature. None of these should be offered as optional items.
5.	In price bid, cost of locally supplied items must be quoted separately in Indian currency.

6.	Please respond to each specification in the same format and order as mentioned in the tender document and specify/indicate the page number and paragraph for verification from the product data sheet against each column.
7.	Original product data sheets, complete manuals and other necessary documents should be provided. Photocopies of these documents or printouts of the email/web pages will not be accepted.
8.	When required, information other than those in the data sheets should be provided as a separate document from the principals only and should refer to the specific sections being addressed. When standard vendor data sheet disagrees with the bid response (offer/compliance statement), clarification should accompany in the form of certificate from the principals only. In absence of this, the vendor data sheet will prevail for the purpose of evaluation and decision of the technical committee would be final and binding on the supplier.
9	It will be the responsibility of the vendor to perform periodic QA examination and uploading the report on AERB website. Vendors will also be responsible for complying all the AERB guidelines during installation of equipment and the period of warranty and subsequent CMC/AMC
10	Mention the number (with addresses and phone numbers) of installations of the quoted unit in India and abroad.
11.	Free upgrade(s) not involving any hardware as applicable should be provided during the period of warranty/CMC.
12.	Unit price of all consumables should be quoted at the time of purchase, for the whole life of machine.
13.	Any representation regarding technical specification mentioned in the tender shall reach department two days prior to pre bid meeting & may be discussed in prebid meeting for consideration.