JKMSCL

JAMMU AND KASHMIR MEDICAL SUPPLIES CORPORATION LTD.

(Public Sector Undertaking of the Government of Jammu and Kashmir)
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CORRIGENDUM

In light of the representation(s) submitted by the prospective bidder(s) thereof, the critical dates for the finalization of Rate Contract for the procurement of "Machinery & Equipments" uploaded vide No. Mach/2025/659 dated 22.03.2025, **the amendments in the technical specifications of "PET CT SCAN MACHINE" as recommended by the technical experts are annexed as Annexure-A (09 Pages).**

The critical dates are extended with the approval of tender inviting authority. The critical dates are as under:

1. Last date and time for submission of online bids: 10.07.2025 upto 1600 hrs
2. Date and time for online opening of technical bids: 12.07.2025 at 1100 hrs

Please Note:

1. *Those firms/bidders who have already uploaded their bids are required to re-upload their bids as per amendments and corrigendum issued thereof.*
2. All the bidders are requested to keep themselves updated & submit their e-bids through e-portal as per specifications & BOQs. The amendments/modifications shall be available on e-Portal and www.jkmsclbusiness.com

30/6/25

(Mohd. Ashraf Choudhary) JKAS
General Manager (Adm),
JKMSCL.

No.: JKMSCL/Corg/2025/ 2813-15 Dated: 30.06.2025.

Copy for information to the:-

1. General Manager-(K), JKMSCL.
2. P.A to Managing Director, JKMSCL for the information of Managing Director.
3. Assitant Programmer, JKMSCL for inf. & n.a
4. File

Technical Specifications of PET/CT Scanner

Technical Specification of PET/CT Scanner	
Please quote all available models including state-of-the art and models to be marketed in the near future. which meet the minimum specifications.	
Integrated PET and multi-slice spiral CT scanner of ATLEAST 16 SLICES; designed to provide accurate registration and fusion of high-resolution PET and CT images.	
Should be capable of functioning as a CT scanner or PET scanner	
Alone as required.	
The CT component should comprise a whole body Multi slice scanner, capable of obtaining 16 slices or more per rotation.	
The PET component should be capable of imaging all applicable PET radio-pharmaceutical agents and have sensitivity of atleast 11.7 cps/kbg NEMA. The axial field of view must be of atleast 22 cm or better. Higher sensitivity is preferred. Higher Axial field of view preferred.	
Turnkey option.	
Please quote for all available models including state-of-the art models to be marketed in the near future. which meet the minimum specifications.	
All reconstruction algorithms and for image reconstruction must be made available, that are available for that product.	
Must contain advanced quantification software with maximum value recovery possible.	
S.No	Specifications
	Model Name:
	Make:
	Specification:
	Year of Introduction:
	Probable end of support:
•	PARAMETERS
i)	**PET**
A	**DETECTOR ASSEMPLY**
1	Type: Lutetium (LSO/LYSO
2	No. of detector crystal
3	Gantry aperture
B	**SYSTEM PERFORMANCE**
1	Axial FOV should be 22 cm or more
2	Trans axial FOV (cm)
3	No. of image Planes
4	Plane Spacing (mm)
5	Transverse resolution (mm)
6	Axial resolution (mm)
7	Sensitivity (cps/KBg) NEMA

8	Please specify the NEMA Sensitivity and NECR, And also specify its multiple Ranges.
10	Scatter fraction please specify.
11	Reconstruction time
12	Please specify Reconstruction algorithms provided.
13	" System must have Time of Flight Technology for better resolution and faster scanning"
C	**Acquisition**
1	Volume acquisition
2	Combined PET/CT operation.
3	Automated multi-bed acquisitions
4	Automatic PET initialization following CT
D	**Combined PET/CT whole body protocols**
1	Store function for multiple user-defined combinations of CT and PET protocols
2	Capability for arbitrary combination of multiple CT and PET protocols
E	**PET Exam planning**
1	PET bed planning based on Spiral CT acquisitions.
2	Selection and positioning of PET examination ranges on CT topogram should be possible
F	**Data Corrections and Reconstruction**
1	CT based attenuation correction
2	Scatter correction
3	Decay correction
4	Dead time correction
5	Detector efficiency normalization
6	FORE/OSEM reconstruction
G	**Image Display**
1	Whole body viewer with standing MIP views.
2	Number of orthogonal views should be possible
3	PET-CT image fusion of co-registered data
4	SUV analysis
H	**Maintenance and Quality control**
1	Automated calibration of PET and CT detectors and electronics.
2	Automated daily quality assurance of PET acquisition system
3	Acquisition of normalization and well counter calibration data
ii)	**CT**
A	**GANTRY**
1	Aperture: 70 cms or more
2	Rotation Mechanism
3	Scan Field
4	Rotation Time please specify
5	Bi-way patient communication system-specify
6	Integrated cooling system with heat dissipation outside the Gantry Room
B	**GENERATOR**
1	Type
2	Maximum Power

(3)

C	TUBE
1	MA range
2	Tube Voltage KV range
3	Anode heat storage capacity
4	Computer Control anode temperature monitoring
E	DETECTOR SYSTEM
1	Type of detector
2	Number of elements
3	Number of projections
4	Number of Detector Channels
iii)	PATIENT TABLE
1	Flat table top (insert)
2	Minimum table top height
3	Scanable length (Metal free)
4	Maximum Patient Weight
5	Indexing Accuracy
6	Random feed
7	Remote control table feed in steps of 1mm
8	Scout film, topogram or scanogram length
9	Logitudinal table movement
10	Logitudinal table speed
iv)	IMAGE ACQUISITION AND RECONSTRUCTION
1	Different type of acquisition mode for PET/CT: static, Dynamic and Whole body scan
2	Gated-ECG and Respiritatory gated static and dynamic and whole body scan
3	Volume acquisition:16 slices per rotation or more
4	Real time reconstruction (No. images/sec)
5	Slice thickness(mm)please specify.
6	Scan field(cm)
7	Reconstruction field(cm)
8	Reconstruction matrix
9	Real time dose modulated acquisition (modulation of x-ray beam according to patient anatomy)
V)	IMAGE DISPLAY
1	Monitor
2	Monitor resolution
3	Image display matrix
4	Pixel size(mm)
5	CINE display
6	Cine image rate
7	Filming (interactive and automatic)
8	Window width
vi)	PERFORMANCE OF SYSTEM(IMAGE QUALITY)
1	Spatial resolution (High Resolution)
2	Low contrast resolution for full FOV
3	Noise
vii)	COMPUTER AND ARCHIVING CAPACITY

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1	Capacity of system disc(GB)
2	Raw data(GB)
3	Image data (No.Images at 512*512 matrix)
4	Long Term Storage(preferably on CD-R)
viii)	**SPIRAL SCANNING FACILITY**
1	Longest continuous spiral scan time (at leat 100 sec)
2	Please specify Fastest rotational speed
3	Minimum slice width (less than 1.0 mm)
4	Length of continuous spiral scan (cm)
5	Maximum spiral scan time (sec)
6	Image quality (should be constant foe the complete length of the spiral scan)
7	Pitch factor (volume pitch)
8	Maximum number of ranges in Auto range.
9	Number of scans range
10	Maximum number of images per range
11	Scan cycle time (sec)
ix)	**CLINICAL APPLICATION- SOFTWARE**
1	In addition system should have facility for
2	(These functions should be possible from Main console
3	3D Reconstruction and Display
4	Shaded surface display
5	Maximum intensity projection
6	Minimum intensity projection
7	Volume rendering technique
8	Cine Display
9	CARE Bolus / Smart prep. / Any other equivalent facility
10	Real rime Multiplanar Reconstruction and display
11	Volume measurement of tissues and organs
12	Quantitative lung evaluation either in console or in workstation. (And atleast one workstation should have it.)
13	Pre and post processing filter functions
14	CT angiography with rotation facility
15	CT perfusion multi organ
16	Advanced vessel analysis for vessel and lesion quantification either in console or in workstation.
17	Fly-through image software for airways, bowel (colonography) and vessels
18	Multi-modality image fusion (CT/MR, CT/PET)
19	Pediatric protocols
20	Any other clinical application including those under development on offer
21	Application software for follow-up PET CT Scans using PERCIST/RECIST criteria either in console or in workstation. (And atleast one workstation should have it.)
22	Brain 3D SSP software with FDG normal data base Z-score images either in console ot in workstation. (And atleast one workstation should have it.)
x)	**RADIOTHERAPY PLANNING (RTP)**
1	Flat table top insert. Make:- Scan 'O' Plan or equivalent
2	Patient positioning & fixation accessories (Head, arm, IV contrast injection)
3	Laser planning system (Moving lasers).
4	Network compatibility to varus/eclipse /Cadplan/Piato/Brainscan/Lantis/Sunrise.
5	Archiving with CD/DVD writer & CD-ROM

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6	Hardware: Specify
7	Software: (OEM simulation software to be provided)
8	Image display
9	Volume definition
10	Contour tracing & editing
	Beam placement & Beam Shaping
	4D grating software
	Motion planning software
	Motion Correction system software
	DRR feature
9	**Others:**
A	Also fixture for fixing RPM device should be supplied
B	DICOM/DICIM-RT Connectivity with other verification & planning systems as above
C	Respiratory Gating (quote the below items as Optional)
D	RPM/RGSC device with leaser beam and console hardware. Quote as optional.
E	Mounting bracket for RPM/RGSC devise on PET CT table
F	Phase matched PET & CT reconstruction and fusion software
G	Retrospective reconstruction software for CT Bin reconstruction
H	Post processing application to review gated PET CT images
10	CAT PHAN 500 phantoms quote as optional.
11	Diagnostic QA kit quote as optional
12	Auto countering quote as optional.
13	A compatible robotic navigation system for PET-CT guided interventions & RF ablations. A compatible robotic navigation system for metabolic biopsies along with consuambles for 50 procedures shall be supplied by the vendor. The robotic arm should be in satisfactory use in at least three institutes of national repute for at least two years.
xi)	**DICOM CONNECTIVITY**
1	Dicom Ready for integration with PACS and Radiotherapy planning Systems
xii)	**WORK STATIONS**
1	Total no. of OEM workstations should be 3, excluding console or OEM server client architecture with three clients. with 3 clients independent of operator console.
2	Should have display matrix of 1024 x 1024, with colour monitor with RAM that should be compatible or supportive for 4D scan.
3	Software for multiplaner and 3D image reconstruction in Gray scale and colour, CT angiography.
4	Having maximum and minimum intensity projection, volume redering, multi-modakity image fusion, and fly-through image software.
5	Only one workstation should be fully loaded with RTP software.
xii)	**PERIPHERALS**
1	Laser camera for hard copy on films With atleast 2 trays.
2	Automatic film processor (preferably dry view) –for film size up to 14" x 17".
3	Automatic pressure injector for contrast injection- Single head – 1no
4	UPS at least 30 min backup for computer
5	Colour printer : 01 no.
6	Desktop PC with latest specifications : 02 nos.
7	Lead shiled for Daily QA phantom or pin source : 01 no
8	Lead Aprons : 02 nos.
9	Decontamination kit : 01 no.
10	Forceps and Tongs : 03 each
11	Lead Shield for Dose Calibrator
13	60 nos lead bricks

14	Lead Syringe Carrier : 03 nos.

15	Tungsten Syringe 2cc : 02 nos.
16	Tungsten Syringe 5cc : 02 nos.
17	L Bench for 511 KEV : 01 no.
18	Pocket Dosimeter : 02 nos.
19	Lead pot with dispensing arm : 01 no.
20	Survey cum contamination monitor : 01 no.
21	Contamination monitor : 01 no.
22	Radiation Stickers set : 01 no.
23	PET range DOSE CALIBRATOR : 01 no.
24	3 Qty client hardware to be provided if server client is offered.
xiv)	**OTHER REQUIREMENTS**
1	Various Positioning aids
2	Infant immobilizers
3	Quality Assurance phantoms & Tools for CT & PET
4	Multiple number of users definable scanning protocols
5	Extended patient scheduling facility
6	Manuals & others charts
7	All the software related to the system should be handed over to USER
8	Service tool kit should be provided to Biomedical Engineering department (DELETED)
9	Service training to be provided to Biomedical Engineers. (DELETED)
	INSTALLATION REQUIREMENT
1	Physically Dimensions and Weights
2	CT-PET Gantry
3	Auxiliary cabinet
4	Patient Cough
5	Control console & monitors
6	Camera
7	Printers
	ELECTRICAL REQUIREMENTS
1	Load
2	-Standby mode
3	-Ready mode
4	-Beam ON mode
5	Power consumption
6	Voltage line-to-line / 3 phase
7	Frequency
8	UPS details for CT & PT
	COOLING SYSTEM (CHILLER)
1	Temperature
2	Flow
3	Pressure difference (Please specify)
	AIR CONDITIONING – OPERATING TEMPERATURE
1	Temperature
2	Relative Humidity
3	Air changes (Please specify no. per hour)

	ROOM REQUIREMENTS
1	Design plan for facilities on the enclosed floorplan
2	Room Designs & Shielding
	Any other requirements not mentioned above
	Additional information not mentioned above
1	Performance parameters should as pet latest NEMA NU2 2001
xiv)	**VALIDITY OF QUOTATION**
xv)	WARRANTY 05 Years
xvi)	CMC: CMC @ maximum 5% per annum for 05 years on Ex-works cost after warranty (Should include QA QC annually as per AERB norms.) Included 4 preventive maintenance / year and al breakdowns visits. All bought out items used in system should be included in the warranty. CMC should include upgrades/update cost, No separate software licence fees will be payable.
xvii)	WARRANTY (Individually) (As applicable)
1	-X-Ray tube
2	-Detectors
xviii)	PENALTY CLAUSE
1	The supplier and / or its Indian agent will be required to give the guarantee towards the performance of the equipment during the warranty periods and in case of comprehensive annual maintenance contract period for maintaining the equipments in good working condition for a period of at least 300 days out of a period of 365 days a year (i.e 95% uptime) 24 x 7. The ten hours non-functioning of the equipment or any part thereof will be considered as one day downtime. Total 3000 hours in a year will be considered as Uptime guarantee. Working time is 08:00 AM to 06:00 PM. On week days and 08:00 AM to 04 PM for Saturdays. The equipment shall be fully functional as part of the uptime and if it is partly functional it shall be considered as downtime and deduction shall be made on Pro-rata basis i.e if the equipment is 70% functional & 30% downtime shall be applicable. The decision of the GMC management or its representative in determining the % of the downtime shall be final and binding. Essential period to shut down the installation entirely or partially shall also be included in the downtime while calculating the 95% guaranteed uptime i.e all features as per specifications in purchase order should be functional for uptime. The supplier/agent shall be required to pay a penalty of 0.1% of total cost (Ex works) of equipment per day per machine excluding 150 hours permissible downtime. This rate shall increase commensurate with the rate increase of CMC. If the number of days downtime in each period of 365 days is more than the downtime permissible (which is to be calculated as defined above), the delay for not bringing the equipments in functioning order in any way, directly or even partially will be attributable to the firm. The bidder should provide the details of preventive maintenance to be undertaken through the year. Preventive maintenance to be done on holidays only. Preventive maintenance and breakdown will not be clubbed. The bill should be raised quarterly and will be paid at the end of every quarter only. If system is unserviceable for patients in its full capacity (full capacity : all features as demonstrated during commissioning) for more than 7 days at a stretch then these additional days exceeding 7 days will be considered as "downtime" and to levy penalty will be the discretion of Managing Director, JKMSCL irrespective of 95% overall uptime in a year. Thus clause is to ensure maximum uninterrupted service to patients and hence Managing Director, JKMSCL decision in enforcing /invoking thus clause will be final and binding for all. For CMC, Work Order issued by GMC shall be final as per D.A.E (Department of Atomic Energy) norms.

2	Preventive maintenance on Staurday's/Sundays
xix)	DELIVERY SCHEDULE
xx)	TRAINING OF STAFF
1	At site training of technologies by experienced staff from India / abroad for two weeks.
2	At site training of nuclear physicians and radiologist by experienced staff from India / abroad for two weeks.
3	Vendor will have to train the 2 Biomedical Engineers at their renowned training facility for two weeks. (DELETED)
xxi)	**REGULATORY REQUIREMENTS Please enclose copies**
1	-AERB certification
2	- International - FDA certification
xxii)	**OTHER INFORMATION**
1	-Number of similar models: World (enclose separate list of institutions)
2	-Number of similar models: India (enclose separate list of institutions)
3	-Number of certified engineers in India (enclose list of names)
4	-Remote Diagnosis Facility (India / Abroad) availability
5	-Catalogue (To be enclosed)
6	-any other relevant details
xxiii)	Please Provide Emerson make online UPS with isolation transformer of adequate capacity for the complete systems with 30 min back up.
1	If 05 years warranty and CMC @ maximum 5% per annum for 5 years on Ex-works cost after warranty conditions are not adhered to, JKMSCL reserves right to reject the offer.
2	Only Yes or No should be mentioned in compliance report and additional information should in remark columns.