

Amendment 2 Dt. 11.09.2020 to Tender Notice No.: 8.1/APMSIDC/2020-21, Dt: 27.08.2020;

Clarifications requested by the bidders during pre-bid meeting on 01.09.2020.

Sl. No	Item Name	Pg No	Tender Condition	Bidder Request	Can be read as
M/s. Wipro GE Healthcare Pvt. Ltd					
<u>CT Scan Machine 16 Slice</u>					
1			X-Ray Generator: b. Power output: 26 KW or higher Voltage Selection: 80-140 K or wider	X-Ray Generator: b. Power output: 40 KW or higher Voltage Selection: 80-140 K or wider Higher generator capacity offer wider range of KV & mA parameter to select for all type of patient examinations from lower BMI to higher BMI	X-Ray Generator: b. Power output: 24 KW or higher Voltage Selection: 80-130 K or wider
2			X-Ray Generator: c. mA Range: 230 mA or more (with incremental steps of 1 mA)	X-Ray Generator: c. mA Range: 350 mA or more (with incremental steps of 1 mA) At 3.5 MHU tube heat capacity 350 mA or provides better clinical results address all kind of patients	No Change
<u>MRI Scan Machine 1.5 Tesla</u>					
3			Magnet e. Magnet length should be less than 175 cm. lesser is better	Magnet e. Magnet length with covers should be less than 200 cm. Magnet Length is always defined with Enclosures/covers. GE has Magnet Length of 195 cm with enclosures. The Change is required to define as per standards.	Magnet length should be less than 200 cm or less

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4			<p>RF System a. A fully Digital RF System Capable of transmitting power of at least 15 kW</p>	<p>RF System a. A fully Digital RF System Capable of transmitting power of at least 10 kW</p> <p>The pulses and sequences are characteristics of peak B1 field. RF power is quantified by the RFPA (Radio Frequency Power Amplifier). The RFPA efficiency is determined by multiple factors like efficiency of RFPA, Modules of RFPA (Class of modules), Transmit chain of RF pulse to body etc. The modules of RPFA across vendors are different. Ex: The Conventional RFPA had a high power and low gain which lead to traditional RFPA design (therefore, different vendors have different RF Power). Also, the transmit chain of RF pulse from RF Amplifier to Body is different for all vendors. GE uses Eco Transmit chain i.e. the path from RFPA to body is efficient than other vendors. Also, we have installed Explorer in Medical colleges like Gujarat Cancer Society Hospital, Ahmedabad, Patna Medical College, In Corporate Hospitals like MAX, Global etc, In Oncology dedicated service providers like HCG, American Oncology Institute etc.</p>	<p>A fully Digital RF System Capable of transmitting power of 10 kW or more</p>

Sl. No	Item Name	Pg No	Tender Condition	Bidder Request	Can be read as
M/s. SIEMENS Health Care					
5	CT scan 16 slices	Pg. No. 44	The system should be latest, State-of-the Art system with latest release in the worldwide market. Should have valid CE/FDA and AERB certificate. Vendors should have at least 10 installations in South India to support after sales capability	The system should be latest, State-of-the Art system with latest release in the worldwidemarket. Should have valid CE/FDA/AERB certificate. Vendors should have at least 10 installations in South India to support after sales capability We request you to amend the specification for wider participation	The system should be latest, State-of-the Art system with latest release in the worldwide market. Should have valid CE/FDA. Should be AERB certificate. Vendors should have at least 10 installations in South India to support after sales capability
		Pg. No. 44	The scan time for one gantry rotation of complete 360° rotation should be 0.8Sec or less	The scan time for one gantry rotation of complete 360° rotation should be 1 Sec or less We request you to amend the specification for wider participation	The scan time for one gantry rotation of complete 360° rotation should be 1Sec or less
		Pg. No. 45	Detectors: Data acquisition system capable of acquiring 16 Slices or more per 360° rotation with 16 or more rows of detector. Total coverage of the detectors must be 12 mm or more	Data acquisition system capable of acquiring 16 Slices or more per 360° rotation with 16 or more rows of detector. Total coverage of the detectors must be 11 mm or more We request you to amend the specification for wider participation	Detectors: Data acquisition system capable of acquiring 16 Slices or more per 360° rotation with 16 or more rows of detector. Total coverage of the detectors must be 11 mm or more
		Pg. No. 45	X-Ray Generator: b) Power output: 26 KW or higher Voltage Selection: 80-140 KV or wider	Power output: 24 KW or higher Voltage Selection: 80-130 KV or wider We request you to amend the specification for wider participation	Power output: 24 KW or higher Voltage Selection: 80-140 KV or wider

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		Pg. No. 45	X-Ray Generator: c) mA Range: 230 mA or more (with incremental steps of 1 mA)	mA Range: 180 mA or more (with incremental steps of 1 mA) We request you to amend the specification for wider participation	No Change
		Pg. No. 46	<u>Patient Table:</u> e. Elevating table.	To be deleted We request you to remove the specification as mentioned for wider participation	No Change
		Pg. No. 46	Image Reconstruction: Reconstruction Field of View Range: 5-45 cm Reconstruction Matrix: 1024 x 1024	Reconstruction Field of View Range: 5-45 cm Reconstruction Matrix: 512x512 We request you to amend the specification for wider participation	No Change
		Pg. No. 46	Image Reconstruction: a) Image reconstruction capability should be at least 10 images/sec with simultaneous reconstruction facility	Image reconstruction capability should be at least 9 images/sec with simultaneous reconstruction facility We request you to amend the specification for wider participation.	Image reconstruction capability should be at least 9 images/sec with simultaneous reconstruction facility
		Pg. No. 46	Image Reconstruction: b) Storage Capacity 1 TB or more	Storage Capacity 500 GB or more We request you to amend the specification for wider participation	Storage Capacity 1 TB or more / 500 GB + External 1 TB can be provided
		Pg. No. 46	<u>Computer System & Image Processor</u> c. Hard Disc of 1 TB or more	<u>Computer System & Image Processor</u> c. Hard Disc of 500GB or more We request you to amend the specification for wider participation	No Change
		Pg. No. 46	<u>Computer System & Image Processor</u> d. Image storage in 512 x 512 matrix for storage of 7, 00,000 images or more.	Image storage in 512 x 512 matrix for storage of 75,000 images or more. We request you to amend the specification for wider participation	Image storage in 512 x 512 matrix for storage of 75,000 images or more.

Sl. No	Item Name	Pg No	Tender Condition	Bidder Request	Can be read as
		Pg. No. 46	<p>g. Computer System & Image Processor The image reconstruction time should be at least 10 images /sec or better for all types of acquisition modes including Cone Beam Correction, Neuro Imaging studies.</p>	<p>The image reconstruction time should be at least 9 images /sec or better for all types of acquisition modes including Cone Beam Correction, Neuro Imaging studies. We request you to amend the specification for wider participation</p>	<p>The image reconstruction time should be at least 9 images /sec or better for all types of acquisition modes including Cone Beam Correction, Neuro Imaging studies.</p>
		Pg. No. 47	<p>Others: iii. A Barcode reader for entering patient data from HIS RIS must be possible</p>	<p>To be deleted We request you to remove the specification as it is specific to one vendor.</p>	<p>No Change</p>
		Pg. No. 48	<p>Standard & Safety: a) Should be of CE ("ConformitéEuropéene") or FDA (US) and AERB approved. Quoted model release should be within 3 years. Please submit the documents for the same.</p>	<p>Should be of CE ("ConformitéEuropéene") or FDA (US) or AERB approved. Quoted model release should be within 3 years. Please submit the documents for the same. We request you to amend the specification for wider participation</p>	<p>Standard & Safety: a) Should be of CE ("ConformitéEuropéene") or FDA (US). Should be AERB approved. Quoted model release should be within 3 years. Please submit the documents for the same.</p>
		Pg. No. 48	<p>Workstation: d) Image evaluation tools: All advanced post processing Software like MIP, MPR, VRT,SSD, IMAGE FUSION, Neuro Subtraction, CT angio for both brain and body, Perfusion CT for brain, Virtual endoscopy, Vessel analysis, Vessel segmentation.</p>	<p>Image evaluation tools: All advanced post processing Software like MIP, MPR, VRT,SSD, IMAGE FUSION, CT angio for both brain and body, Virtual endoscopy, Vessel analysis, Vessel segmentation. We request you to amend the specification as mentioned for wider participation</p>	<p>Workstation: d) Image evaluation tools: All advanced post processing Software like MIP, MPR, VRT, SSD, IMAGE FUSION, Neuro Subtraction or equalent CT angio for both brain and body, Virtual endoscopy, Vessel analysis,</p>

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					Vessel segmentation.
6	1.5 T MRI	Pg. No. 50	<p><u>GRADIENT SYSTEM</u> b) The gradient should be actively shielded with each axis having a slew rate of atleast 120T/m/s and peak amplitude of 33mT/m at max field view offered by the scanner. Digital gradient controller is must</p>	<p><u>GRADIENT SYSTEM</u> The gradient should be actively shielded with each axis having a slew rate of atleast 100T/m/s and peak amplitude of 30mT/m at max field view offered by the scanner. Digital gradient controller is must We request you to kindly amend the specification as requested. Hereby we are submitting our clinical justification for your perusal. Its always about minimum TE & minimum TR -Both spatial resolution and imaging speed depend upon good gradient performance.</p> <p>Routine abdominal imaging required for a Dynamic liver- TE 1.8ms and Minimum TE for gradient echo in Siemens is 0.32ms</p> <p>Routine imaging with turbo spin echo (e.g. brain, spine, knee, etc.) typical minimum TE required 10ms and Minimum TE for turbo spin echo (TSE) in Siemens is 2ms</p> <p>Routine diffusion scans (e.g. brain, abdomen, etc.) what typical minimum TE 72ms and Minimum TE for EPI</p>	<p><u>GRADIENT SYSTEM</u> b) The gradient should be actively shielded with each axis having a slew rate of atleast 100T/m/s and peak amplitude of 30mT/m at max field view offered by the scanner. Digital gradient controller is must</p>

Sl. No	Item Name	Pg No	Tender Condition	Bidder Request	Can be read as
				<p>diffusion in Siemens is 60ms.</p> <p>The minimum resolution parameters of Siemens meet all routine imaging requirements and in some cases better than other scanners in its</p> <p><i>Gradients major role in MR imaging is slice selection.</i></p> <p>We would also like to bring to your humble notice the following points,</p> <p>This gradient and slew rate has been approved by FDA and CE. This clearly specifies that there is been no compromise done on the clinical aspects. - Copy of FDA attached along with the letter.</p> <p>In the present scenario ,we have more than >480 systems in India with 30mT/m and 100T/m/s gradient and slew rate. This includes major hospitals and diagnostics chain.</p> <p>Tamilnadu Medical Service corporation has installed machine with same gradient in 11 districts hospitals across TN scanning all kinds of patients and advanced examinations.</p>	

Sl. No	Item Name	Pg No	Tender Condition	Bidder Request	Can be read as
			h. Bilateral Breast Coil with at least 6 Channel	Bilateral Breast Coil with at least 4 Channel We request you to amend the specification to allow more bidders to participate	Bilateral Breast Coil with at least 4 or more Channel
			i. At least 8 channel shoulder coil or equivalent	6 Channel or more Shoulder Coil We request you to amend the specification to allow more bidders to participate	At least 6 channel or more shoulder coil or equivalent
			k. The system should continuously monitor the RF coils used during scanning to detect failure modes. RF coils should not require either set up time or coil tuning. The coil connector should be table itself.	The system should continuously monitor the RF coils used during scanning to detect failure modes. RF coils should not require either set up time or coil tuning; Multi coil connection for up to 3 or more coils simultaneous scanning without patient repositioning. We request you to amend the specification as this would avoid patient repositioning in case of multiple organ scan which will improve the workflow and throughput .This is available with all the bidders in the industry to the best of our knowledge.	No Change
			<u>WORKSTATION</u> a. Multimodality Client server workstation with hardware and software. Preferably the same user interface as of main console is required with 3 concurrent Licenses where in minimum 3 users should be able to	<u>WORKSTATION</u> a. Multimodality Client server workstation with hardware and software. Preferably the same user interface as of main console is required with 3 concurrent Licenses where in	Add minimum RAM of 96 GB or better should be provided

Sl. No	Item Name	Pg No	Tender Condition	Bidder Request	Can be read as
			<p>use any of required post processing application including.</p> <p>It should be possible to interconnect all the server to central facility with license sharing among server and should have the provision to host it on the cloud in future and facilitate remote viewing and post processing capabilities at the central hub.</p>	<p>minimum 3 users should be able to use any of required post processing application including.</p> <p>A minimum RAM of 96GB or better should be provided for faster processing and faster multitasking.</p> <p>It should be possible to interconnect all the server to central facility with license sharing among server and should have the provision to host it on the cloud in future and facilitate remote viewing and post processing capabilities at the central hub.</p> <p>We request to include the RAM requirement as client server workstation is required at spoke for lag free experience while using the clients.</p>	
			<p>Site Modification Clarification -1.5 T MRI scan air conditioners – 2 tons X four nos, wall tiles up to false ceiling</p>	<p>Ductable 8.5 tonne x 2 no's,Wall panning /wall tiles upto false ceiling We request you to amend the specification as for MRI we recommend to go with Ductable AC's .</p>	No Change
7	Teleradiology Hardware and software		<u>Clarification required</u>	<p>Server -hardware specifications to be mentioned along with number of scans at each centre As per tender specifications ,the storage mentioned is for 10 years</p>	No Change

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				<p>,however,we request you to clarify the number of scans and storage requirement in TB per centre</p> <p>We request you to publish the detailed scope of Teleradiology,so that the bidders can provide an optimized solution as per the TIA requirements.</p>	
M/s. Boston Ivy Healthcare Solutions (Partners with United Imaging Healthcare)					
CT Scan - 16 slices					
8			Gantry - Aperture of 65 cm or more	Amend to - Aperture of 70 cm or more 70 cm is the standard bore size across all 16/32 slice CT platform. This will enable better patient comfort & better space in case you need to perform biopsy procedures. Also, extremely good for claustrophobic patients, obese patients and small children.	No Change
9			Detectors - Total coverage of the detectors must be 12 mm or more	Amend to - Total coverage of the detectors must be 20 mm or more 12 mm detector coverage is very poor specification. If you have a better detector coverage, you can complete the patient scan faster. This will benefit patient with less dose, faster scan time & less breath hold time for breath hold studies. Also, during longer contrast studies like peripheral Angios, you will not have any venous contamination if	Detectors: Data acquisition system capable of acquiring 16 Slices or more per 360° rotation with 16 or more rows of detector. Total coverage of the detectors must be 11 mm or more

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				you have 20 mm or more detector. Hence we strongly recommend you to amend this parameter to 20 mm and above.	
10			Workstation - Price to be quote sepeartely and will be taken for evaluation	Amend to - Dedicated post-processing workstation with all application from original manufacturer as standard Dedicated workstation is extremely mandatory for all the postprocessing applications like Auto Bone Removal, Neuro Perfusion, Lung Analysis, Colon Analysis , Dental Analysis which will be cumbersome on Main Host Console. Main Host console is for Patient data entry and acquisition protocol setting, hence you need dedicated workstation for post-processing.	No Change
MRI 1.5 T					
11			Magnet - The largest FOV should not be less than 45 cm in all the three axis	Amend to - The largest FOV should not be less than 50 cm in all the three axis 50 cm FOV in all three axis will enable you better off centre imaging for studies like shoulder imaging without any distortion artifacts at the periphery and will also ensure better fat saturation for MSK imaging. It will also accommodate obese patients without any anatomy distortion at the edges. All good 1.5T systems offer 50 cm FOV in all three axis.	No Change

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12			Gradient system - The gradient should be actively shielded with each axis having independently a slew rate of at least 120T/m/s and peak amplitude of at least 33mT/m at max field of view offered by the scanner.	<p>Amend to - The gradient should be actively shielded with each axis having independently a slew rate of at least 125T/m/s and peak amplitude of at least 33mT/m at max field of view offered by the scanner.</p> <p>You must ask for better gradient specification. 33mT/m and 125 T/m/s are standard specifications offered by all performance segment 1.5T MRI from all vendors.</p>	<p><u>GRADIENT SYSTEM</u></p> <p>b) The gradient should be actively shielded with each axis having a slew rate of atleast 100T/m/s and peak amplitude of 30mT/m at max field view offered by the scanner. Digital gradient controller is must</p>
13			Coil system - Dedicated 8 channel knee coil	<p>Amend to - Dedicated 12 channel knee coil or more</p> <p>12/16 channel knee coil offer very high resolution for MSK imaging. Works extremely well with 16 channel MRI system.</p>	No Change
14			Coil system - Bilateral Breast Coil with at least 16 channels	<p>Amend to - Bilateral Breast Coil with at least 10 channel or more. We have high resolution 10 channel coil for Breast Imaging</p>	Bilateral Breast Coil with at least 4 or more Channel
15			Coil system - At least 8 channel shoulder coil or equivalent	<p>Amend to - At least 12 channel shoulder coil or more</p> <p>12/16 channel shoulder coil offer very high resolution for MSK imaging. Works extremely well with 16 channel MRI system.</p>	At least 6 channel or more shoulder coil or equivalent

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16			Workstation - A Client server workstation with hardware and software	Workstation - A dedicated workstation with hardware and software Dedicated workstation is more robust than client server architecture. If Client fails, you work will get handicapped.	No Change

General specifications for HUB and Spoke

1. Point No. 8 read as All consumables except Helium will be provided by APMSIDC

Note:

- The OEM with prior permission will be allowed for R & D for the validation of their newly invented softwares with condition, subsequently these softwares should be provided free of cost to upgrade these machines.
- **The Last date for submission of bid is 18.09.2020 @ 11.00 A.M**