Response to Pre-Bid Queries

NIT Ref: HITES/PCD/IITKGP/03/18-19 dated: 08.03.2019 **Prebid meeting held on: 18.03.2019**

Sl. no.	Tender page & para	Tender specification	Name of the firm	Representations/queries received from firms	Recommendations/ replies by the end user (IIT)
	RESPONSES TO TECHNICAL SPECIFICATIONS				
	Item No.1 X ray-500mA				
1	Page 43 Para 5 i	Motorized table should have motorized Bucky consisting of Bucky grid with ratio 8:1 or more, 80 lines/inch.	Vision Medicaid	Horizontal Bucky table having motorized Bucky consisting of Bucky grid with ratio 8:1 or more, 80 lines/inch. **Reason**:It was confusing. Whole Specifications are for Radiography Setup. Motorized Table is used for Fluoroscopy hence not required. Horizontal Table is most appropriate.	To be amended as:- **Table** should have motorized bucky consisting of Bucky grid with ratio 8:1 or more, 80 lines/inch.
	Item No. 2 Computed Radiography Unit with Dry Imager				
2	Page 45 Para 2a	The CR reader / digitizer should be able to process 60 image plates/ hr or more of the largest size cassette	Konika	The CR reader should be able to process the largest size cassette	No change considered
3	Page 45 Para 2b	CR reader / digitizer must be able to handle phosphor image plates. CR reader capable of handling latest Dual side /needle/structured/ columnar	Konika	CR reader must be able to handle phosphor image plates. Needle/Rigid/Flexible phosphor image plates. **Reason:** Remove Dual Side reading as it is company specific point.	To be amended as:- CR reader must be capable to handle Needle/ Rigid/ Flexible phosphor image plates.
4	Page 45 Para 2e	It should have input -output buffer/stacker that can load at least 4 cassettes at least.	Konika	It should have separate input -output buffer/ stacker **Reason**: Remove 4 stacker as it is company specific	To be amended as:- It should have separate input -output buffer/ stacker
5	Page 46 Para 4c	The system must be able to print at least 60 films/ hr of the largest size	Konika	The system must be able to print at least 100 films/ hr for mixed film size. Resaon:- Basic configuration for 3 tray printers.	No change considered
	Item No.3 CT - 128 slice; 40 mm Detector				
6	Tender Title	CT - 128 slice; 40 mm Detector	Siemens Healthcare	Request you to amend as **"CT - 128 slice"**	No change considered
7	Page 46	Installation of top of a line Spiral Multi-Slice CT Scanner with capabilities of acquiring 128 slices per 360 degree in body and Cardiac Scan.	Philips	Installation of top of a line Spiral MultiSlice CT Scanner with capabilities of Generating 128 slices per 360 degree in body and Cardiac Scan. **Reason: We request you to change the 128 acquisitions to 128 slice generations per rotation.**	To be amended as : Installation of top of a line Spiral Multi-Slice CT Scanner with capabilities of **acquisition/ reconstruction** of 128 slices per 360

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				All vendor in this segment is having 64 physical rows only and from these 64 physical rows all vendors are generating 128 slices with Different methods available like I) Overlapping Algorithm & II) Flying focal algorithm (z-axis sampling) both of them are using overlapped data to generate 128 slices per rotation Ingenuity with the help of DAS (DATA acquisition and sampling provide high resolution 128 slice, thin reconstruction from oversampling data to produce superb quality images.	degree in body and Cardiac Scan.
8	Page 46 Scan Time	The scan time for one gantry rotation of complete 360 deg. Should be 0.35 sec or better. Faster rotation time will be given weightage.	Philips	The scan time for one gantry rotation of complete 360 deg. Should be 0.4 sec or better. Faster rotation time will be given weightage. **Reason:** We request you to kindly to change the minimum gantry rotation speed of 0.35 sec to 0.40 sec and the reason to support it are as follows : We use our patented technologies which are unique to Philips : i) BEAT to BEAT variable delay algorithm : This algorithm measures a best scan protocol by examine the diastole and systole moment 0f heart and ensure to do cardiac imaging at even very high rates and ensure better temporal resolution at every scan. It adaptive to the heart beat of the patient and remove problem of arrhythmia. ii) Adaptive Multicycle reconstruction: This algorithm ensure to get beat cardiac images with high temporal resolution by reconstructing an images with the help of multicycle data during a rotation of 360 degree. Also to confirm you that with the help of our adaptive multicycle reconstruction we can do a heart rate with a temporal resolution of up to 42msec.	To be amended as :- The scan time for one gantry rotation of complete 360 deg. should be **0.40 sec or faster**.
9	Page 47 Scanning Capability	True 3 -Dimensional Cone beam correction technique shall be available in all modes of acquisition such as axial, spiral, 128 slice mode, and also in various application studies for whole body and cardiac	Philips	True 3 -Dimensional Cone beam correction technique shall be available in all modes of generation such as axial, spiral, 128 slice mode, and also in various application studies for whole body and cardiac. **Reason:** We request you to change the 128 acquisitions to 128 slice generations per rotation. All vendor in this segment is having 64 physical rows only and from these 64 physical rows all vendors are generating 128 slices with Different methods available like I) Overlapping Algorithm & II) Flying focal algorithm(z-axis sampling) both of them are using overlapped	No change considered

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				data to generate 128 slices per rotation. Ingenuity with the help of DAS (DATA acquisition and sampling provide high resolution 128 slice, thin reconstruction from oversampling data to produce superb quality images	
10	Page 47 c	The acquisition shall be 128 slice modes for all studies including cardiac. Step & shoot or an equivalent algorithm during cardiac scanning for dose reduction will be an essential requirement.	Philips	The generation shall be 128 slice modes for all studies including cardiac. Step & shoot or an equivalent algorithm during cardiac scanning for dose reduction will be an essential requirement. Reason: We request you to change the 128 acquisitions to 128 slice generations per rotation. All vendor in this segment is having 64 physical rows only and from these 64 physical rows all vendors are generating 128 slices with Different methods available like I) Overlapping Algorithm & II) Flying focal algorithm (z-axis sampling) both of them are using overlapped data to generate 128 slices per rotation. Ingenuity with the help of DAS (DATA acquisition and sampling provide high resolution 128 slice, thin reconstruction from oversampling data to produce superb quality images	No change considered
11	Page 47	The detectors shall be large area detector with a Z-axis coverage of at least 40mm per rotation for all applications. Larger than 40 mm coverage will be given weightage.	Siemens Healthcare	Request you to amend as "The detectors shall be large area detector with a Z axis coverage of at least 38mm per rotation for all applications"	To be amended as: - The detectors shall be large area detector with a Z-axis coverage of at least 40mm per rotation for all applications.
12	Page 47 Para a	128 slice acquisition with minimum thickness of 0.625 mm or better.	Siemens Healthcare	Request you to amend as "The detectors shall be large area detector with a Z axis coverage of at least **38mm per rotation** for all applications" Justification: In axial or sequential scans, we acquire data with 0.6 mm slice thickness (collimation: 64 x 0.6mm), but during reconstruction of axial scans, the practice is to take reconstruct a thicker slice, usually 1 - 3mm in order to keep the noise to a minimum while still maintaining LCR. We have kept the reconstructed slice width at 0.8mm which is tested to give you optimum noise and LCR while giving you the thinnest axial slice you can use in your daily routine.	No change considered
			Philips	128 slice generation with minimum thickness of 0.625 mm or better. Reason: We request you to change the 128 acquisitions to 128 slice generations per rotation. All vendor in this segment is having 64 physical rows only and from	

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				these 64 physical rows all vendors are generating 128 slices with Different methods available like I) Overlapping Algorithm & II) Flying focal algorithm (z-axis sampling) both of them are using overlapped data to generate 128 slices per rotation. Ingenuity with the help of DAS (DATA acquisition and sampling provide high resolution 128 slice, thin reconstruction from oversampling data to produce superb quality images.	
13	Page 47 Para b	Any variable slice thickness from 0.625mm-10 mm in spiral mode and 0.625 mm-10mm in axial mode	Siemens Healthcare	Request you to amend as "The detectors shall be large area detector with a Z axis coverage of at least 38mm per rotation for all applications" Justification: In axial or sequential scans, we acquire data with 0.6 mm slice thickness (collimation: 64 x 0.6mm), but during reconstruction of axial scans, the practice is to take reconstruct a thicker slice, usually 1 – 3mm in order to keep the noise to a minimum while still maintaining LCR. We have kept the reconstructed slice width at 0.8mm which is tested to give you optimum noise and LCR while giving you the thinnest axial slice you can use in your daily routine.	To be amended as :- Any variable slice thickness from 0.625mm-10 mm in spiral mode and **0.8** mm-10mm in axial mode
14	Page 47 Detector	The detector shall have at least 64 rows with each row having atleast more than 800 elements	Philips	The detector shall have at least 64 rows with each row having at least more than 600 elements. Reason: Every Detector is having different geometry and alignment of element per row differs from vendor to vendor. All elements correspond to 128-slice generation in whichever way they are aligned in the detector	To be amended as :- The detector shall have at least 64 rows with each row having at least **600** elements
15	Page 47 Para g	Latest Model based Iterative reconstruction technique launched by company used for low dose scanning should be offered as standard. Model based iterative recon preferred For Example ASiR-V, IDOSE4 ADMIRE, AIDR etc Please mention if the latest iterative reconstruction technique has any improvement on image quality, spatial resolution etc	Siemens Healthcare	Request you to amend the specification to – **Latest Raw Data Based iterative reconstruction technique** launched by company used for low dose scanning should be offered as standard. Please offer a FDA document or equivalent for quantifying the dose reduction possible with the technique. Justification: All companies have multiple iterative reconstruction techniques available. In order to ensure getting the latest dose saving techniques, the type of iterative reconstruction needs to specified.	No change considered
			Philips	Latest Model based Iterative reconstruction technique launched by company used for low dose scanning should be offered as standard. Model based iterative recon preferred. For Example ASiR-V, IDOSE4 ADMIRE, AIDR etc. Please mention if the latest Iterative reconstruction technique has any improvement on image quality,	

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				spatial resolution etc. Reason: We request to amend as either: 1. Please mention the Latest Model Based Reconstruction Techniques such as IMR, VEO, ADMIRE, AIDR-FIRST. ASIR –V and AIDR is not a model based iterative technique.	
16	Page 47 Resolution	The high contrast resolution should be at least 19 lp/cm for 128 slice mode. (Specify phantom used scan time, mA, filter for image reconstruction scan field dose slice and MTF)	Philips	The High Contrast Resolution should be at least 15 lp/cm for 128 slice mode at 0% MTF. Reason: We request you to make it 15 lp/cm which can be used for all clinical cases.	To be amended as : - The high contrast resolution should be **at least 15 lp/cm** for 128 slice mode. (Specify phantom used scan time, mA, filter for image reconstruction scan field dose slice and MTF)
17	Page 48 X-ray Tube	Peak Heat dissipation rate of Anode should be at least 1000 Khu/min.	Siemens Healthcare	Request you to amend as "Peak Heat dissipation rate of Anode should be at least 750 Khu/min." Justification: The latest CT Scanners released in RSNA 2017-18, from Siemens the SOMATOM go. Top (64 Row, 128 Slice) and GE Revolution CT (256 Row, 512 Slice), both have lower MHU tubes than previous generation CT Scanners. This is thanks to data encoding of the iterative reconstruction algorithms at the detector which allow almost 3 times higher effective heat storage capacity. Both the system tubes are robust enough to handle simultaneous acquisition of dual energy data. With iterative reconstruction technology at maintained image quality the same clinical results can be achieved with less dose, filling up the heat storage of the system more slowly, therefore increasing the heat storage capacity. Our latest systems are equipped with SAFIRE, which is certified by the FDA for 54-60% less exposure, which gives an equivalent value of 15 MHU with our tube. Request you to change the specification to allow us to quote our highest end 128 slice generation CT scanner to date. Attaching the GE Revolution CT & Siemens whitepaper as supporting document for your consideration.	To be amended as : - Peak Heat dissipation rate of Anode should be at least **750** Khu/min.
18	Page 48 Operator Console	All functions including scanning image reconstruction film documentation, archiving, transferring, Direct MPR, Angiography, maximum intensity projection, volume rendering, 3D SSD, CT Angio, vessel measurement, small	Siemens Healthcare	Request you to amend as "All functions including scanning image reconstruction film documentation, archiving, transferring, Direct MPR, Angiography, maximum intensity projection, volume rendering, 3D SSD, CTAngio, vessel measurement, small volume quantification, Virtual endoscopy software for visualization of vessels and air filled structures and Colonoscopy software for virtual endoscopic, and	To be amended as : - All functions including scanning image reconstruction film documentation, archiving, transferring, Direct MPR, Angiography, maximum intensity

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		volume quantification, Virtual endoscopy software for visualization of vessels and air filled structures and Colonoscopy software for virtual endoscopic, and Brain & Body Perfusion, should be possible on this operating console and on the independent workstation simultaneously.		Brain Perfusion, should be possible on this operating console and on the independent workstation simultaneously." Justification: Body perfusion shall be removed from console as all advanced post processing software has moved to the workstation.	projection, volume rendering, 3D SSD, CT Angio, vessel measurement, small volume quantification, Virtual endoscopy software for visualization of vessels and air filled structures and Colonoscopy software for virtual endoscopic, and Brain & Body Perfusion, should be possible on this operating console **and/or** on the independent workstation.
			Philips	All functions including scanning image reconstruction film documentation, archiving, transferring, Direct MPR, Angiography, maximum intensity projection, volume rendering, 3D SSD, CT Angio, vessel measurement, small volume quantification, Virtual endoscopy software for visualization of vessels and air filled structures and Colonoscopy software for virtual endoscopic should be possible on this operating console and on the independent workstation simultaneously. Reason: Please remove brain & body perfusion from console	
19	Page 48 Computer System & image processor:	The image reconstruction time should be at least 30 images /per second (or frames per second FPS) or better for all types of acquisition modes including Cone beam correction, Neuro Imaging studies and 512 matrix. and standard pitch	Philips	The image reconstruction time should be at least 20 images /per second (or frames per second FPS) or better for all types of acquisition modes including Cone beam correction, Neuro Imaging studies and 512 matrix and standard pitch. Reason: Kindly change the reconstruction images per second to 20 images/per second	No change considered
			Siemens Healthcare	Request you to amend as " The image reconstruction time should be at least 23 images /per second (or frames per second FPS) or better for all types of acquisition modes including Cone beam correction,	
20	Page 49	a) The CT scanner should be able to perform dual energy applications for neuro based subtractions angiography, renal stone assessment, gout assessment and metal artifact suppression.	Siemens Healthcare	Request you to amend the specification to- "The CT scanner should be able to perform contrast enhanced dual energy applications for neuro based subtractions angiography, renal stone assessment, gout assessment, metal artifact suppression, lung analysis, virtual unenhanced." This is a requested specification in the majority of 128 slice CT scanner specifications. Dual Energy/spectral imaging was launched in 2006-07, and is now being used in routine scans. The recent tenders in AIIMS and JIPMER have the same requirement.	No change considered
21	Page 49 b)	The CT scanner should be able to perform coronary motion blur removal using latest techniques; the same should be specified with details of techniques used by the vendors.	Siemens Healthcare	Request you to remove the specification as the mentioned motion blur removal technique is unique to one vendor. We have the fastest temporal resolution in 128 slice CT segment and hence the fastest rotation speed, which coupled with our GO technologies, does not require us to artificially enhance the coronary which has a very high risk of misrepresentation and hence misreporting or rescanning.	No change considered

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			Philips	Kindly delete this line. Reason: This motion blur removal technique is specific to one vendor only.	
22	Page 49 c)	The CT scanner should be able to perform kinematic joint studies, free breathing patients scan for body/ abdomen and 4D dynamic scans, 4D Perfusion assessment for both neuro and body applications, please specify the coverage in case of dynamic perfusion studies with new techniques used, higher coverage systems shall be given preference. Highest coverage on dynamic mode scanning protocol and applications will get preference.	Siemens Healthcare	We request you to delete this specification. Kinldy clarify the "kinematic joint studies" requirement. These kind of studies are usually done in a MRI scanner. The dose implication for such a scan on a CT is extremely high (15-20mSV) and hence, not performed on this modality. Also this technique is unique to one vendor. Request you to clarify the how the preference will be given for higher coverage in dynamic scanning.	To be amended as: - The CT scanner should be able to perform kinematic joint studies, free breathing patients scan for body/ abdomen and 4D dynamic scans, 4D Perfusion assessment for both neuro and body applications, please specify the coverage in case of dynamic perfusion studies with new techniques used.
			Philips	The CT scanner should be able to perform Perfusion assessment for both neuro and body applications, please specify the coverage in case of dynamic perfusion studies with new techniques used, higher coverage systems shall be given preference. Highest coverage on dynamic mode scanning protocol and applications will get preference. Reason: We request to delete Kinematic joint studies & Free breathing 4D dynamic scans as these specific to some vendor. 4D perfusion is also need to be change to perfusion assessment studies. This nomenclature is specific to one company	
23	Page 49 d	TAVI planning must be offered standard	Siemens Healthcare	Request you to clarify TAVI planning.	Para to be deleted
			Philips	Please elaborate more about TAVI and requirement. TAVI contains Segmentation , measurement , planning etc	
24	Page 49 e	Oncology quantification must be offered standard	Philips	Please specify more details about oncology quantification	Should conform to RECIST criteria laid down by World Health Organisation
25	Page 49 f	Heart rate independent coronary imaging and less than 5 sec cardiac imaging must be offered standard.	Siemens Healthcare	Request you to clarify Heart rate independent coronary imaging	Should enable cardiac scan for patients with high and/or variable heart rates without needing medication
26	Page 49	Special Features required The CT scanner should be able to perform dual energy applications for neuro based subtractions angiography, Renal stone assessment, Gout Assessment and metal artifact suppression.	Philips	The CT scanner should be able to perform dual energy applications for Renal stone assessment, Gout Assessme. Reason: We request you to delete neuro based subtractions angiography & metal artifact suppression, as we do not have these applications available on 128-slice CT. For neuro Substraction and metal artifact reduction, we have	No change considered

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				individual single energy acquisition software package but that should be not be quote under dual energy application. Should be asked separately if required.	
27		**ADDED PARA requested**	Siemens Healthcare	c) Tube Current: Minimum range 20-800 mA Justification:This ensures that you have enough mA reserves to do cardiac, triple phase, triple rule outs, trauma scans without any compromise in image quality. Spiral scans require higher mA due to need of acquiring more data in shorter time. The exposure is a product of "mA" and "sec", known as "mAs". If we reduce the "sec" component we need to compensate with higher mA.	No change considered
	Item No.4 Colour Doppler - 2D & 3D				
28	Page 50	System should have minimum of 1000 Digital Channels for better resolution	GE	System should have minimum of 140000 or more Digital Channels for better resolution.	System should have minimum of **100,000** Digital Channels for better resolution
			Siemens Healthcare	Request you to amend as "System should have minimum of 1.7 Lac Digital Channels for better resolution."	
			Trivitron	**it should be more than 10000 Digital Channels** so that low end ultrasound machines cannot quote.	
29	Page 50	System should have Dynamic Range of atleast 170 Db.	Siemens Healthcare	Request you to amend as "System should have Dynamic Range of atleast **260** Db or more"	No change considered
30	Page 51	The system shall include at least 100 GB of dedicated hard drive for large local storage capacity, with 20000 image storage capacity or more.	GE	The system shall include at least **500 GB inbuilt** dedicated hard drive for large local storage capacity, with 20000 image storage capacity or more.	To be amended as:- The system shall include at least **500 GB** of dedicated hard drive for large local storage capacity, with 20000 image storage capacity or more.
			Siemens Healthcare	Request you to amend as "The system shall include at least **500 GB** of dedicated hard drive for large local storage capacity,with **300,000** image storage capacity or more. "	
31	Page 51	The system shall have a facility allowing the M-Mode cursor to be adjustable in any plane and allow for accurate measurements. The M-mode shall be available from a CINE loop or live image.	Trivitron	The system shall have a facility allowing the M-Mode cursor to be adjustable in any plane and allow for accurate measurements. **There should be minimum 3 M-Mode cursors.**	No change considered
32	Page 51	The unit should have US FDA or BIS or European CE with four digit notified body number certificate and certificate to be submitted	Siemens Healthcare	The unit should have **US FDA and European CE** with four digit notified body number certificate and certificate to be submitted.	To be amended as:- The unit should have **US FDA certification along with BIS and/or European CE with four digit notified body number certificate**. Certificates to be submitted.

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33		**Suggested by vendor**	Trivitron	The frame-rate of machine should be more than 700 frames per second. This should be added in the specs.	Para to be added:- The frame-rate of machine should be at least 500 frames per second
34		**ADDED NEW POINT**	Siemens Healthcare	System should be offered with a 21 inch or more LED High Resolution Flat Panel Display monitor with facility for position adjustments. 10 inch Touch screen and control panel should be Height-adjustable.	Para to be added:- Higher resolution Flat Panel Monitor should be provided
35		**ADDED NEW POINT**	Siemens Healthcare	System should be upgradable to Convex 4D applications with Transducer.	Para to be added:- System should be upgradable to Convex 4D applications with Transducer.
36		**ADDED NEW POINT**	Siemens Healthcare	System should be upgradeable to real time Contrast Imaging.	Not considered
37		**ADDED NEW POINT**	Siemens Healthcare	System should be upgradeable to Strain based ealstography.	Para to be added:- System should be upgradeable to Strain based ealstography
38		**ADDED NEW POINT**	Siemens Healthcare	System should be upgradable to Auto Follicle Measurements	Not considered
39		**ADDED NEW POINT**	Siemens Healthcare	Upgradable to Cardiac Imaging and Adult TEE Transducer. (Upgradable feature)	Para to be added:- Upgradable to Cardiac Imaging and Adult TEE Transducer
	Item No.5 ECG - 12 Channel				
40	Page 52	Twelve channel 5.7" or more LCD display for all 12 leads along with on screen details.	Schiller Healthcare	The display should be color 8 inch or more -**for viewing 12 lead ECG bigger size screen is preferred**	No change considered
41	Page 52	Recording for 12 channels simultaneously and have option for user selectable any lead as Rhythm lead. Can able to print ECG at A4 size paper through inbuilt printer.	Schiller Healthcare	Add : The paper loading tray should be motorised. Should have Sampling frequency of atleast 4000 Hz	No change considered
42	Page 52	Patient memory function 20 patients or more	Schiller Healthcare	Add : Also should have external mmeory storage in form of pdf	No change considered
43				Add : Should have acquisition frequency of 0.05 Hz to 250 Hz	Not considered
44	Page 52	Patient memory function 20 patients or more	GE	Patient memory function 200 ECG storage inbuilt patients or more **Reason**: 20 ECGs storage is very low for high volumes like ECGs. Now all latest devices will have higher memory. Specifying just 20	To be amended as:- Patient memory function **200 ECG storage inbuilt** patients or more

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				storage may qualify the devices that are very old platforms and does not support the increasing demands	
45	Page 52	Equipment should be European CE with four digit notified body number or BIS or US FDA approved and certificate to be submitted.	GE	European CE & US FDA **Reason:** Mere CE certification only ensures the electrical safety aspects an does not certify the quality of the product. FDA ensure the product meets the required international standards	Equipment should be European CE with four digit notified body number **and** US FDA approved and certificate to be submitted.
46	Page 53	The system should have the capability to acquire/analyse 12 lead ECG derived out of 3 or more Channel using 5 or more electrodes for 48 Hrs. With facility to display/print 12 lead ECG at any point of time.	GE	"using 5 leads to derive 12 leads" is not equivalent to True 12 lead with 10 lead patient cable (and also a brand specific specification). Diagnostic standard 12-lead 12-channel requires 10 lead patient cable for acquisition.(4 limb leads and 6 chest leads). When system supports 3 channel (by using 7 lead cable) and 12 channel (by using 10 lead patient cable). Hospital can choose to buy the either 3 channel recorders/12 channel recorders and 3 channel recorders as per the clinical need	To be amended as:- The system should have the capability to acquire/analyse 12 lead ECG derived out of **12** or more Channel using **10** or more electrodes for 48 Hrs. with facility to display/print 12 lead ECG at any point of time.
47	Page 53	Product should have European CE with 4 digit notifying body no//BIS/US FDA Approved certificate to be provided.	GE	Mere CE certification only ensures the elctrical safety aspects an does not clarify the quality of the product. FDA ensures the product meets the required international standards	Para to be deleted (as already covered above)
	Item No.6 Defibrillator				
48	Page 52 Para 6	Monitor should display selected and delivered energy	Schiller Healthcare	Add : Should have display of atelast 8 inch or more color TFT- So that Defibrillator data on screen can be viewed from a distance	To be amended as:- **Should have display of at least 5 inch or more.** It should display selected and delivered energy
	Item No.7 Treadmill Test				
49	Page 53	System should be based on Windows platform with minimum 19" color monitor having minimum resolution 1280 x 1024.RAM 8 GB, 1 TB HDD, CD/DVD-RW, Mouse.	Schiller Healthcare	The dedicated systems have an industrial architecture PC. The Architecture PC has a limitations and not a configuration of normal Computers	To be amended as:- The System should be with minimum 19" color monitor having minimum resolution 1280 x 1024.RAM 8 GB, 1 TB HDD, CD/DVD-RW, Mouse.
50	Page 53	Display of real time 12 lead diagnostic qualities ECG waveform, average complexes beat of all 12 leads with superimposed color comparison along with digital value of ST level and slope. Print the graph on the recording paper.	Schiller Healthcare	Add : System should have following softwares QT Analysis, Late Ptential Analysis	No change considered

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	Item No.8 Holter				
51	Page 53	The system should have the capability to acquire/ analyse 12 lead ECG derived out of 3 or more Channel using 5 or more electrodes for 48 Hrs. With facility to display/print 12 lead ECG at any point of time.	GE	The system should have 12 Channel and 3 channel ECG recording facility and the capability to acquire 3 channel data from a 7 lead recorder and 12 channel data from recorder that has 10 lead patient cable. System should support both 3 channel and 12 channel recorders. Reason:"using 5 Leads to derive 12 leads" is not equivalent to True 12 lead with 10 lead patient cable (and also a brand specific specification). Diagnostic standard 12- lead 12- channel requires 10 lead patient cable for acquisition. (4 limb leads and 6 chest leads). When system supports 3 channel (by using 7 lead cable) and 12 channel (by using 10 lead patient cable), Hospital can choose to buy the either 3 channel recorders/12 channel recorders or the combination of 12 channel and 3 channel recorders as per the clinical need.	To be amended as :- The system should have 12 Channel and 3 channel ECG recording facility and the capability to acquire 3 channel data from a 7 lead recorder and 12 channel data from recorder that has 10 lead patient cable. System should support both 3 channel and 12 channel recorders.
52	Page 53 Para 1	Heart Rate Variability	Schiller Healthcare	Add : Should have Heart Rate Variability Software in time & frequency domain	No change considered
53				Add :Should have RR Interval measurement Beat by Beat	No change considered
54				Add : Should have calipers for measurements of time in msec and heart rate and preferably amplitude measurement.	No change considered
55	Page 53	3. T wave alternans		Is a feature of TMT and hence should be removed	To be amended as :- Deleted
56	Page 54	j) TWA alterns analysis		Is a feature of TMT and hence should be removed	To be amended as :- Deleted
57	Page 54 Para 3	Digital recorder should have 128 samples/sec/channel for recording and storage 1000/sec/channel for VLP.		Should have Sampling rate of 8000 Hz- **Higher the sampling rate, Acquisition of ECG is much better without noise**	No change considered
58	Page 54	Product should have European CE with 4 digit notifying body no//BIS/US FDA Approved certificate to be provided.	GE	European CE & US FDA **Reason**:Mere CE certification only ensures the electrical safety aspects an does not certify the quality of the product. FDA ensure the product meets the required international standards	No change considered
	Item No.10 EEG				
59	Page 56 Para 1	The system should have Core i5 or better PC with 4GB RAM, 21" color touch screen display, multimedia	Chroma N.V.	21" color screen display, no use of buying touch screen, so this change will make the specification more broad based and more number of bidders can bid	No change considered

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		speakers, optical mouse, 1TB hard disk or better, latest windows software, latest MS office , DVD Writer, Laser printer, UPS – 1KVA and metallic trolley as reccomended by Manufacturer			
	Item No.11 EMG				
60	Page 56	Two channel monophasic/biphasic constant current electrical stimulator, upgradable to 4 electric stimulator with artifact compensation and temperature measurement for CCV.	Chroma N.V	Two channel monophasic/biphasic constant current electrical stimulator with artifact compensation and temperature measurement for CCV. Upgradation to 4 electrical stimulator does not require in Clinical EMG, NCS & EP studies, it's a part of Intra-operative monitoring study, so better to delete the point, so this change will make the specification more broad based and more number of bidders can bid	**To be amended as:-** Two channel monophasic/biphasic constant current electrical stimulator with artifact compensation and temperature measurement for CCV.
61	Page 57	System should have at least 1 triggers input / output, upgradable to 6 Triggers	Chroma N.V	System should have at least 1 triggers input / output, doesn not required so many triggers to connect third party stimulator e.g. Magnetic Stimulator, 1 Trigger IN/OUT is more than sufficient for this function, so this change will make the specification more broad based and more number of bidders can bid	**To be amended as :-** System should have at least 1 triggers input / output.
62	Page 57	User should be able to open at least 8 test protocols simultaneously.	Chroma N.V	User should be able to open multiple test protocols simultaneously, so this change will make the specification more broad based and more number of bidders can bid	**May be amedned as:-** User should be able to open at least 4 test protocols simultaneously.
63	Page 57	Programmable measurement conditions up to 300 or more examination conditions of live EMG for minimum 10 minutes up to 99 sites. The system should have QEMG, Single fiber EMG, Stimulated SFEMG and Macro EMG.	Chroma N.V	Programmable measurement conditions / examination conditions of live EMG for minimum 10 minutes for mutiple sites. Numbers of examination condition and site are differently used for individual test, So this change will make the specification more broad based and more number of bidders can bid	**To be amended as:-** Programmable measurement conditions / examination conditions of live EMG for minimum 10 minutes for mutiple sites.The system should have QEMG, Single fiber EMG, Stimulated SFEMG and Macro EMG.
64	Page 57	Should have Somatosensory Evoked potentials (SEP, SSEP and ESCP) simultaneous SSEP and SEP measurement.	Chroma N.V	Should have Somatosensory Evoked potentials (SEP/SSEP/ESCP). As all tests are related to one i.e Somatosensory Evoked Potential, so this change will make the specification more broad based and more number of bidders can bid	**To be amended as:-** Should have Somatosensory Evoked potentials (SEP/SSEP/ESCP).
65	Page 57	Provision of EEG data review in the EMG system - Preferably	Chroma N.V	Deleted, EEG is not a part of EMG software, so nobody will do this, so this change will make the specification more broad based and more number of bidders can bid	**To be amended as:-** DELETED

Sl. no.	Tender page & para	Tender specification	Name of the firm	Representations/queries received from firms	Recommendations/ replies by the end user (IIT)
66	Page 57	Should have option of directly interfacing high voltage stimulator in future without additional hardware	Chroma N.V	Deleted, it's a part of Intra-operative monitoring study, so better to delete the point, so this change will make the specification more broad based and more number of bidders can bid	**To be amended as:-** DELETED
67	Page 57	Should have provision of setting up more than 10 user accounts for more than 50 user setting protocols.	Chroma N.V	Should have provision of setting the user accounts with user setting protocols. Numbers of users and user settings are rarely used in any Neurophysiology Lab, the only things is software should be password protected, So this change will make the specification more broad based and more number of bidders can bid	**To be amended as :-** Should have provision of setting user accounts for protocols.
68	Page 58	With 22" color touch screen display	Chroma N.V	With 22" color screen display, no use of buying touch screen, so this change will make the specification more broad based and more number of bidders can bid	No change considered
69	Page 58	Stimulus software	Chroma N.V	Deleted, as we already going to add the Hardware and Software for different tests including stimulators	No change considered
	Item No.12 NCV				
70	Page 59	User should be able to open at least 8 test protocols simultaneously.	Chroma N.V	User should be able to open multiple test protocols simultaneously, so this change will make the specification more broad based and more number of bidders can bid	**To be amended as:-** User should be able to open multiple test protocols simultaneously
71	Page 59	Programmable measurement conditions up to 300 or more examination conditions of live EMG for minimum 10 minutes up to 99 sites. The system should have QEMG, Single fiber EMG, Stimulated SFEMG and Macro EMG.	Chroma N.V	Programmable measurement conditions / examination conditions of live EMG for minimum 10 minutes for mutiple sites. Numbers of examination condition and site are differently used for individual test, So this change will make the specification more broad based and more number of bidders can bid	**To be amended as:-** Programmable measurement conditions / examination conditions of live EMG for minimum 10 minutes for multiple sites. The system should have QEMG, Single fiber EMG, Stimulated SFEMG and Macro EMG.
72	Page 59	Should have Somatosensory Evoked potentials (SEP, SSEP and ESCP) simultaneous SSEP and SEP measurement.	Chroma N.V	Should have Somatosensory Evoked potentials (SEP/SSEP/ESCP). As all tests are related to one i.e Somatosensory Evoked Potential, so this change will make the specification more broad based and more number of bidders can bid	To be amended as:- Should have Somatosensory Evoked potentials (SEP/SSEP/ESCP).
73	Page 59	Should have option of directly interfacing high voltage stimulator in future without additional hardware	Chroma N.V	Deleted, it's a part of Intra-operative monitoring study, so better to delete the point, so this change will make the specification more broad based and more number of bidders can bid	To be amended as:- **DELETED**
74	Page 59	Should have provision of setting up more than 10 user accounts for more than 50 user setting protocols.	Chroma N.V	Should have provision of setting the user accounts with user setting protocols. Numbers of users and user settings are rarely used in any Neurophysiology Lab, the only things is software should be password protected, So this change will make the specification more broad based and more number of bidders can bid	**To be amended as:-** Should have provision of setting the user accounts with user setting protocols.

Sl. no.	Tender page & para	Tender specification	Name of the firm	Representations/queries received from firms	Recommendations/ replies by the end user (IIT)
75	Page 59	With 22" color touch screen display	Chroma N.V	With 22" color screen display, no use of buying touch screen, so this change will make the specification more broad based and more number of bidders can bid	No change considered
76	Page 59	Stimulus software	Chroma N.V	Deleted, as we already going to add the Hardware and Software for different tests including stimulators	No change considered

Sl. no.	Ref. clause of tender	Tender terms	Name of the firm	Representations/queries received from firms	Recommendations/ replies by the end user (IIT)
	RESPONSES TO OTHER TENDER TERMS				
1	Clause 30.3 Resolution of disputes Pg 38	If the parties fail to resolve their dispute or difference by such mutual consultation within twenty-one days of its occurrence, then, unless otherwise provided in the SCC, either the Purchaser/ Consignee or the supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided the applicable arbitration procedure will be as per the Arbitration and Conciliation Act, 1996 of India or amendments thereof. In the case of a dispute or difference arising between the Purchaser/Consignee and a domestic Supplier relating to any matter arising out of or connected with the contract, such dispute or difference shall be referred to the sole arbitrator appointed by CEO (HITES). The award of the arbitrator shall be final and binding on the parties to the contract subject to the provision that the Arbitrator shall give reasoned award in case the value of claim in reference exceeds Rupees One lakhs (Rs. 1,00,000/-)	Siemens Healthcare	We request for either of the following: Arbitrator should be appointed by mutual consent of the parties. If parties do not agree, arbitrator should be appointed by court. **Or, Alternatively** Arbitrator should be from either Ministry of Law & Justice (as was done in tenders of 2017) or from an arbitration institute. **Justification:** As per the Transparency Principle in Procurement Manual, all procuring entities are to ensure transparency, fairness, equality, competition and provide equal opportunities. Present clause is not balanced clause and gives wide discretion to Principal Secretary (Health) to appoint an ad-hoc arbitrator. There is wide scope for the supplier to challenge the appointment or arbitration award on grounds of the arbitrator being biased. Thus there	No change considered - this clause is standard and acceptable to all the bidders in different tenders of HITES

Sl. no.	Ref. clause of tender	Tender terms	Name of the firm	Representations/queries received from firms	Recommendations/ replies by the end user (IIT)
				may be delay in dispute resolution on this ground. As per clarification in section 4.4 of Appendix 2 to Manual for Procurement of Goods, 2017: Legal Aspects of Public Procurement, parties can mutually agree on a procedure for appointing the arbitrator.	
2	Part II: Required Delivery Schedule- Indigenous goods. Page no: 41	60 days from date of Notification of Award to delivery at consignee site. The date of delivery will be the date of delivery at consignee site. Tenderers may quote earliest delivery period. Installation and commissioning shall be done within 15 days of receipt of the stores/ goods at site or 15 days from the date of site handover, whichever is later.	Siemens Healthcare	**75 days from the date of opening of L/C of main equipment or site handing over along with availability of permanent power, whichever is later**. The date of delivery will be the date of delivery at consignee site. Tenderers may quote earliest delivery period. Installation and commissioning shall be done **within 45 days of receipt of the stores/ goods at site or within 45 days** of handing over the site with availability of permanent power for installation, whichever is later. Justification: Delivery should be linked with Site handing over with availability of permanent power to avoid the delay in installation and warranty loss and damage to equipment.	**Delivery time for "CT - 128 slice" bearing RFx/Event no. 3000003937 only to be amended as under**:- "Delivery and installation of goods at Consignee site to be completed within **120 days** from date of Notification of Award. Tenderers may quote earliest delivery period. The number of days delay in installation due to non availability of site or power connection or for reasons not attributed by the supplier shall be waved off."
3	Clause 6 of Integrity Pact Fall Clause	The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems OR providing similar services at a price / charge lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found any stage that similar product/systems or sub systems was supplied by the BIDDER to any to the Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for	Siemens Healthcare	*Clause be amended as following:* The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems **of identical description (i.e. same nature, class, specifications prevailing exchange rate, warranty, quantity and other commercial terms & conditions)** OR providing similar services at a price / charge lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found any stage that similar product/systems or sub systems	It is hereby clarified that the stated price comparison, if any, is always made like-to-like basis configuration of specification only.

Sl. no.	Ref. clause of tender	Tender terms	Name of the firm	Representations/queries received from firms	Recommendations/ replies by the end user (IIT)
		elapsed time will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to HITES, if the contract has already been concluded.		was supplied by the BIDDER to any to the Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to HITES, if the contract has already been concluded. **This undertaking shall be valid until installation of the equipment or 12 months from delivery of the equipment, whichever is earlier.** *Justification:* Since the medical equipment's are offered against the different technical specifications & QR with different assessed needs of purchaser according to usage, the configuration of machine/equipment are different on case-to-case basis to fit every BBQR & Technical Specifications. Every configuration has its own assertive price. Further, this is an open ended price fall clause which makes liable to the supplier for any sale done either prior to after supplies done under a given tender. Also, this is not in accordance with the undertaking to be given as per tender terms and conditions 11.1(A)(iii) of Preamble (pg.11)	
4	Clause no. 15.6 Warranty Page No. 31	If the supplier, having been notified, fails to respond to take action to repair or replace the defect(s) within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis, the purchaser may proceed to take such remedial action(s) as deemed fit by the purchaser, at the risk and expense of the supplier and without prejudice to other contractual rights and remedies, which the purchaser may have against the supplier.	Siemens Healthcare	Request to provide amendment: If the supplier, having been notified, fails to respond to take action to repair or replace the defect(s) within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis, **penalty in the form of extension of warranty period by double the downtime period beyond 5%.** ~~the purchaser may proceed to take such remedial action(s) as deemed fit by the purchaser, at the risk and expense of the supplier and without~~	No channge considered

Sl. no.	Ref. clause of tender	Tender terms	Name of the firm	Representations/queries received from firms	Recommendations/ replies by the end user (IIT)
				~~prejudice to other contractual rights and remedies, which the purchaser may have against the supplier.~~	
5	Payment for imported Goods Page no. 34.a ix)	(ix) Consignee Receipt Certificate as per Section XVI in original issued by the authorized representative of the consignee.	Siemens Healthcare	(ix) ~~Consignee Receipt Certificate as per Section XVI in original issued by the authorized representative of the consignee.~~ *Justification:* Request to delete this clause as CRC cannot be submitted while claiming payment on shipment.	No change required as the prices are asked **to be quoted in INR only** as per insertion in SIT at Section-III of the Tender Enquiry Document
6	SECTION - III Special Instructions to Tenderers (SIT)	Price to be quoted in INR only for all the goods against any events/RFx, irrespective of, conditions for imported items adapted in this Tender Enquiry Document.	Wipro GE Healthcare	We humbly request you to kindly delete/remove this point and retain the clause, **B) Payment for Imported Goods: 75%-25% through Letter of Credit (LC)** as per Page No. 33 of Tender Enquiry Document, Clause 21. Terms and mode of payment. Allow vendors to quote: For imported goods if supplied directly from abroad, prices shall be quoted in any freely convertible currency say US Dollar, Euro, GBP or Japanese Yen.	Discussed during prebid meeting that most of the likely bidders have their offices in India and they have agreed to quote in INR as they would import the goods of their own and bill in INR
7	Part II: Required Delivery Schedule:	a) For Indigenous goods or for imported goods if supplied from India: 60 days from date of Notification of Award to delivery at consignee site. The date of delivery will be the date of delivery at consignee site. Tenderers may quote earliest delivery period. Installation and commissioning shall be done within 15 days of receipt of the stores/ goods at site or within 15 days from the date of site handover, whichever is later.	Wipro GE Healthcare	a) For Indigenous goods or for imported goods if supplied from India: **90 days from date of Notification of Award or site handover or date of approval of layout drawing from AERB (whichever is later) to delivery** at consignee site. The date of delivery will be the date of delivery at consignee site. Tenderers may quote earliest delivery period. Installation and commissioning shall be done **within 45 days of receipt of the stores/ goods at site or within 45 days from the date of site handover**, whichever is later.	**Delivery time for "CT - 128 slice bearing RFx/Event no. 3000003937" only to be amended as under:-** "Delivery and installation of goods at Consignee site to be completed within **120 days** from date of Notification of Award. Tenderers may quote earliest delivery period. The number of days delay in installation due to non availability of site or power connection or for reasons not attributed by the supplier shall be waved off."

Sl. no.	Ref. clause of tender	Tender terms	Name of the firm	Representations/queries received from firms	Recommendations/ replies by the end user (IIT)
8	Part II: Required Delivery Schedule:	b) For Imported goods directly from foreign country: 60 days from the date of opening of L/C to deliver at port of destination. The date of delivery will be the date on which the consignment reaches the Port of Destination. (Tenderers may quote the earliest delivery period). Installation and commissioning shall be done within 15 days of receipt of the stores/ goods at site or 15 days from handing over the site, whichever is later.	Wipro GE Healthcare	b) For Imported goods directly from foreign country: **90 days from the date of opening** of L/C **or site handover or date of approval of layout drawing from AERB (**whichever is later)to deliver at port of destination. The date of delivery will be the date on which the consignment reaches the Port of Destination. (Tenderers may quote the earliest delivery period). Installation and commissioning shall be done within 45 days of receipt of the stores/ goods at site or 45 days from handing over the site, whichever is later.	No change required as the prices are asked **to be quoted in INR only** as per insertion in SIT at Section-III of the Tender Enquiry Document