Purchase & Store Section,

Liaquat University of Medical & Health Sciences, Jamshoro.

Tender opened: 22-05-2024

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Financial Comparative Statement of Sr. No. 1. Procurement of CT Scan Machine 32 Slice for District Headquarters Hospital (DHQ) Dadu

Sr. No.	Description of required Items	QTY	M/s Medequips S.M.C. Karachi		Remarks
			Rate Rs.	Amount Rs.	
1.	**KNOCKOUT CRITERION:** 1. The quoted equipment must be manufactured in USA, Europe or Japan only. 2. The firms must quote their latest model from the above mentioned origins with the proven past performance nationally and internationally. The firm must possess its related back up support services including trained engineers, workshop facilities, spare parts availability and repair/calibration tools etc. 3. The quoting firm must possess ISO certificate for service operations and should have proper infrastructure to handle and execute the complete package with previous experience. 4. The quoting firm must have installed at least 30 Units of same equipment in Pakistan and must bring satisfactory recommendation letters from at least 15 local users along with installation certificates. 5. The firm must be a sole distributor at least for the Ten consecutive years and should have sole agency from manufacturer and also must have an established track record government supplies of over 15-years. 6. The most important criterion is the capability to provide quick and efficient after sales service at site. The hospital reserves the right to inspect workshop facilities of the vendor at any time to ascertain technical delivery capability. Bidders with inadequate facilities will not be considered. **Gantry:** 78cm or more wide bore. Rotation Speed of 0.8 seconds for generation of 32-slices per 360 degree rotation. Minimum scan length of the table should be 100 cm or more. **X-ray Generator:** The generator should be 50KW or more, high frequency type and should have KV range selectable between 80/100KVP and 130/135 KVP or more, mA range of 10mA upto 300mA or more, in suitable combinations. **Routine Scan Time:**	01 No.	**WHOLE BODY 32 SLICE CT SCAN MACHINE** Canon's 0.75 second continuous slip ring latest generation Whole Body 32-Slices CT Scanner with latest clinical application software model Aquilion Start and sixteen simultaneous multi-slice detectors for helical scanning. Aquilion Start is a multi-slice helical CT System that supports whole body imaging. Aquilion Start is packed with premium technology originally developed for Canon's high-end CT systems, carefully crafted and adapted keeping in mind the changing requirements of healthcare organizations, including the need for faster workflows, universal accessibility and sound economics. Designed to Maximize Clinical Flexibility; pureVision Detector technology, which was introduced in Canon's premium systems, has been adapted to 1mm elements to achieve the perfect balance of image quality and patient dose optimized for outstanding speed in routine clinical practice. The spacious 780mm wide bore and 470mm wide couch allow comfortable scanning for even the largest patients. The couch-top can be lowered to a minimum height of 312mm, which makes it easier to transfer patients from a wheel chair. **TECHNICAL SPECIFICATIONS AND COMPOSITION:** **GENERAL:** Latest Generation Whole Body CT Scanning machine for general purpose, multi-slice technology of 32-Slice per rotation with helical / spiral scanning capabilities. **GANTRY:** Gantry bore: 78 cm. Rotation Speed of 0.75 seconds for generation of 32-slices per 360-degree rotation. Scannable length of the table is: 183 cm. **X-RAY GENERATOR:** High frequency power generator of 50.4kW.	79,900,000	**M/s Medequips S.M.C. Karachi has Qualified for award of contract being best evaluated**

	0.8 second or less for 360 degree scan. **Detectors:** Should be ultrafast solid state/ceramic detector, compatible with multi slice CT Scanner. Low contrast detectability of 2mm or less at contrast difference of 3HU (0.3%) and Spatial Resolution of 18lp/cm at 0% MTF or more. Detector width should be 16mm minimum. Detector should be of same material as highest end CT of manufacturer and should allow for low dose. CT dose of less than 10 mGy to achieve resolution of 3mm@3HU. **Slice thickness / Collimation:** Multiple slice thickness options, selectable. **X-Ray Tube:** Actual anode heat storage capacity should be at least 3.5 MHU (Mega Heat Unit) or more. **Cooling System:** Water to water / air heat exchanger for the dissipation of heat generated in the gentry. **Table:** - Motorized table with a weight bearing capability of 200kg or more and Scan length (with head rest) of 178 cm. - 47 cm or more wide couch for patient comfort allowing scanning for even the largest patients. - The couch-top can be lowered to a minimum height of 312 mm, which makes it easier to transfer patients from a wheel chair. **Helical Mode:** Full range of all helical / spiral studies / capabilities should be included. **Computer:** - System architecture and operating system must be based on latest capacity. - Multi-tasking and parallel processing CPU system with 32GB or more memory size - Hard drive capacity should be 450GB or more. Storage capacity should be 250,000 or more. - Access to raw data files and images should be available. - Image zoom, pan, evaluation, measurement and annotation facilities should be present. - Image reconstruction of 15-images per second or faster. - Real time MPR/ Multi-planner Reformatting. - 3-D surface and volume rendering for virtual endoscopy. - DVD/CRD/MOD storage device (re-writable) should be available. - Compatible keyboard. **Operator Console:**		Selectable kV range of 80, 100, 120 and 135 kVp. Current range of 10mA to 300mA. **ROUTINE SCAN TIME:** Gantry rotation speed: 0.75 seconds for 360 degree scan. **DETECTORS:** pureVISION ultra-fast solid state 16-row detectors compatible with multi-slice CT scanner with conversion efficiency (X-Ray to signal strength) of nearly 100%. Low Contrast Detectability 2mm @ contrast difference of 3HU (0.3%) on CT cataphan of 20cm. Spatial Resolution of 18 lp/cm at 0% MTF Detector width is 16mm. Detector is of same material as highest end CT which allows for low dose. CT dose of 9.5 mGy is required to achieve resolution of 3mm@3HU. **SLICE THICKNESS / COLLIMATION:** Multiple slice thickness, selectable. X-RAY TUBE: Anode heat storage capacity of 3.5MHU (Mega heat unit). Anode heat dissipation of 735kHU/min. **COOLING SYSTEM:** Cooling method: Air; heat exchanger for dissipation of heat generated in the gantry. **TABLE:** Motorized table with patient weight bearing capacity of 220kg. Scan length (with head rest) of 178 cm. 47 cm wide couch for patient comfort allowing scanning for even the largest patients. The couch-top can be lowered to a minimum height of 312 mm, which makes it easier to transfer patients from a wheel chair. **HELICAL MODE:** Capable of full range of all helical / spiral studies. **SYSTEM COMPUTER:** 64-bit CPU with compatible software system architecture and operating system based on latest technology. Multitasking and parallel processing CPU system with 64-bit word. 32GB RAM. Hard drive capacity of 480GB total, capable of storing 260,000 images. Access to raw data files and images are available. Image zoom, pan, evaluation, measurement and annotation facilities are provided. Image reconstruction speed of 15-images/sec at 512 x 512 matrix for fast image reconstruction and review. Real time MPR (Multi Planner Reformatting) is provided as standard. 3D volume rendering and surface rendering for virtual endoscopy. DVD-R/MOD storage (re-writeable). Compatible keyboard. **OPERATOR CONSOLE:** High resolution flicker free console color monitor LCD/TFT type 19" (48.1cm).		

	- High resolution flicker free LCD / TFT 19" or more color monitor with 1024 x 1024 or better display matrix, keyboard and mouse control should be provided. Intercom for patient monitoring and instructions should be available. - Contrast media synchronization software. - Advanced iterative dose reduction for dose management controls to automatically optimize radiation dose for every procedure with integrated tools to achieve the highest quality images. - Metal artifact reduction software technique to reduce metallic artifact, improving visualization of implants, supporting bone and the adjacent soft tissues for a clearer and more confident diagnosis. **CT Angiography:** - CT Angiography software should be available on console and workstation. **3-D Image Reconstruction:** - Software should be available in main console on console and workstation. **Following latest Software are required on console and workstation:** - Brain Perfusion CT for stroke evaluation. - Lung analysis Software. - Vessel Analysis software. - Color iodine overlay maps for detection of tumors and to detect low perfusion iodine take-up in liver and abdomen. (Mandatory to be quoted as optional) - Color iodine overlay maps for detection of tumors and to detect low perfusion iodine take-up in Lungs. (Mandatory to be quoted as optional) - Artificial Intelligence deep learning reconstruction (AiCE / True Fidelity / Precise Image) system for ultra-high resolution images at lowest dosage. Older technology MBIR is not acceptable. (Mandatory to be quoted as optional) **Following accessories are required with the system:** - Real Time Multi-planner Reconstruction Facility. - Infant cradle, axial head folders, security straps, arm rest, table cushion, phantoms and phantom petitioners. - Lead glass 3 x 2 Feet. - The system should be DICOM compatible and functionally ready. It should be able to send receive query / retrieve, print and store the images. **SITE PREPARATION:** Electrical, wiring for lighting, false ceiling, lead lining (of walls and doors) and air conditioning for the main equipment, console and UPS would be responsibility of the supplying firm.		Monitor matrix 1280 x 1024 with key board and mouse control. Intercom system for patient monitoring and instructions. Contrast media synchronization software. Advanced iterative dose reduction for dose management controls to automatically optimize radiation dose for every procedure with integrated tools to achieve the highest quality images (AIDR). Single energy metal artifact reduction software technique (SEMAR) to reduce metallic artifact, improving visualization of implants, supporting bone and the adjacent soft tissues for a clearer and more confident diagnosis. **CT ANGIOGRAPHY:** CT Angiography with MIP (Maximum intensity projection) software. **3-D IMAGE RECONSTRUCTION:** 3D image reconstruction software is provided as standard in main console. **FOLLOWING LATEST FEATURES / SOFTWARE ARE PROVIDED ON CONSOLE:** Vessel stenosis analysis is provided. Contrast media based synchronizing software sureSTART provided at console. Advanced Iterative dose reduction software AIDR 3D enhanced Automatically optimize radiation dose for every procedure with integrated tools to achieve the highest quality images. SEMAR (single energy metal artifact reduction) software is provided as standard. SEMAR is a sophisticated algorithm is utilized to virtually eliminate metal artifacts, improving visualization of implants and supporting bone and adjacent soft tissue for a clearer and more confident diagnosis. Automatic contrast media based synchronization bolus tracking software surestart is provided as standard on console. Brain Perfusion CT for Stroke evaluation / Cerebral blood flow Analysis. Lung analysis Software. **Software (included as standard):** Full color volume rendering 3D at console and workstation Isotropic volume acquisition at console. Software is provided as a standard in the main console and work station for both maximum intensity projection and minimum intensity projection to do CT angiography. Vessel stenosis analysis is provided as a standard both at console and workstation. 3D surface rendering at both console and workstation. Curved planner reformation at console and workstation. Multi Modality Viewer Filming for CT Vitrea Peripheral Vessel Probe CT Abdominal Analysis CT Circle of Willis CT Carotid CT Larynx Airway CT Musculoskeletal CT Renal CT Runoff Analysis CT Urogram CT Aorta Analysis Global Illumination		

	WARRANTY: Comprehensive warranty of 01 year for whole system must be provided by the manufacturer. **COUNTRY OF ORIGIN AND MANUFACTURING:** The country of origin and country of manufacturing should be USA, Europe or Japan only.		**SITE PREPARATION:** Electrical, wiring for lighting, false ceiling, lead lining (of walls and doors) and air conditioning for the main equipment, console and UPS room would be our responsibility. **FOLLOWING ACCESSORIES WILL BE PROVIDED WITH THE SYSTEM:** Real Time Multi-planner Reconstruction Facility. Infant cradle, axial head folders, security straps, arm rest, table cushion, phantoms and phantom petitioners. Lead glass 3 x 2 Feet. DICOM-3.0 COMPATIBLE: DICOM 3 ready for Send, Receive, Archive, Retrieve and Print, and Store the images. **WARRANTY:** One year comprehensive warranty. **POST WARRANTY:** - Post Warranty service Contract with Parts and service except consumables & detector will be charged @ 15% of the contract value. - Post Warranty service Contract charges without parts will be charged@ 5% of the contract value. **POWER REQUIREMENT:** 3-phase with line voltage of 220V, 50Hz. **COUNTRY OF MANUFACTURE AND ORIGIN OF CT SCAN SYSTEM:** Canon Medical Systems Corporation, Japan.		
	Total Amount with All Taxes			**79,900,000**	

The single firm quoted Item(s) in question; the Central Purchase Committee has validated and verified the same vide market survey under the Provision of SPPRA Rule-48.

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