

Section VII. Technical Specifications

Note: Bidders must state in the Statement of Compliance either “**Comply**” or “**Not Comply**” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Unless otherwise categorically stated hereunder, evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidders statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the provisions of ITB Clause 3.1 (a)(ii) and/or GCC Clause 2.1 (a)(ii).

A. General Specifications

No.	General Specifications	Statement of Compliance
1	Lot Bidding for Supply, Delivery, Installation and Commissioning of Chest Stand Thorax Room with Flat Panel Detector System and Mobile X-Ray Machine	

Detailed Technical Specifications

ITEM NO.	ITEMS/ SPECIFICATIONS	STATEMENT OF COMPLIANCE
	Lot Bidding for Supply, Delivery, Installation and Commissioning of Chest Stand Thorax Room with Flat Panel Detector System and Mobile X-Ray Machine	
	Chest stand Thorax Room for COVID-19 patients	
	A. Tube Column	
	Maximum height of the x-ray tube focus: Not less than 2008 mm	
	Minimum height of the x-ray tube focus	
	At least 418 mm with vertical x-ray beam	
	At least 395 mm with horizontal x-ray beam	
	Vertical travel of X-ray tube: At least 1500 mm	
	Standard column rotation: +90°;-90° with mechanical detents every 90°	
	X-ray tube rotation on its axis, at least -135°& +135°	
	Braking system: Electromagnetic brakes	
	Tube column height: minimum 2300 mm	

	Arm length (x-ray focus –column centre)	
	At least 750 mm	
	B. Vertical Bucky Stand	
	Column height: at least 2100mm	
	Max height to the panel centre: 2000mm or higher	
	Min height panel centre Vertical travel: 440 mm or lower	
	Vertical Travel: At least 1500mm	
	Breaking System: Electromagnetic brakes	
	Panel dimensions: Not less than 600mm x 670 mm	
	Panel to detector distance: not more than 60mm	
	Al equivalence (Panel) <0.5mm Al @70kVp	
	Must be an Oscillating or potter bucky system	
	Grid type: At least a ratio of 10:1, 40 L/cm	
	C. Collimator	
	Multi-leaf type manual collimator with retractable tape, laser light pointer with light timer	
	Rotation: +/- 45 Degrees	
	Light Source: Halogen lamp or LED	
	Collimation Square field multilayer 48x48 cm @SID=1m	
	D. X-Ray Generator	
	High-frequency Generator type up to 40 kHz output	
	Output power: 50 KW	
	kV range: 40-150 kV	
	mA range: 10-630 mA or better	
	mAs range: 0.1-150 mAs or higher	
	Time range: 0.001-6.3 s	
	Anatomical Programs (APR)	
	o At least 300 possible storage	

	o With 1 point exam techniques	
	o 2 point (kV, mAs) techniques	
	o 3 point (kV, mA, s) techniques	
	AEC interface; Ionization or Solid state	
	Tube overload protection	
	Console must have at least 7" digital touch screen display	
	E. X-Ray Tube	
	Type Rotating anode:	
	o Anode rotating speed: 3000rpm-9000rpm	
	o Focal spot 0.6 mm/1.2 mm	
	o Max KV value 150kV	
	o Anode heat storage capacity 400 KHU (according to IEC 60613)	
	o Housing Capacity 1508 KHU	
	o Housing Heat Dissipation Rate 18 KHU/min	
	o Tube-Housing total filtration 2.5 mm Al Eq (IEC 60601-1-3)	
	o Line voltage of system 3 Phase 270 VAC Including at least 60 kW Constant Voltage Isolation Transform with dedicated grounding system	
	F. Accessories	
	• 3 pcs lead aprons	
	• 3 pcs Lead thyroid shield	
	• Radioluscent mobile stretcher	
	Dimensions at least 2000 x 660mm	
	Height from floor at least 780mm	
	Weight not more than 80kg	
	Flat Panel Detector System	
	A. Flat Panel Detector	
	Detector Technology: Amorphous Silicon	
	Scintillator: Csi	

	Wireless: WiFi	
	Active Area: 14 x 17 inch	
	Number of Pixels: at least 2500 x 3072 or better	
	Pixel size: 140 micron or smaller	
	AD Conversion: 16 bit	
	B. Laptop for Acquisition	
	Laptop Screen: at least 15 inch LED	
	Resolution: 1920 x 1080	
	Processor: AMD Ryzen 7 3750H or better	
	Graphics Card: NVIDIA GeForce RTX2060 (6GB) or better	
	RAM: 8 GB DDR4	
	HD at least 1TB HDD + 512 GB SSD	
	OS Windows 10 Pro	
	Network Wi-Fi Integrated 802.11 ac	
	C. Other Requirements	
	Must be compatible with the current PACS of the hospital.	
	Mobile X-Ray Machine	
	A. General Specification of the Unit:	
	Manually driven	
	Complete with handrails and positive foot or hand operated brakes	
	Electrically grounded	
	Maneuverable	
	Maximum height of 1.5 meters at transport position	
	Telescopic or foldable arm configuration	
	With compartment for cassette storage (cassette bin)	
	System weight: not more than 150 kg	
	B. X-Ray Generator	

	Generator Type: High frequency	
	Generator Setting:	
	Kilovoltage Setting	
	Minimum Setting: 40kV	
	Maximum Setting: $\geq 125\text{kV}$	
	Maximum tube current: atleast 400mA	
	Power rating: Atleast 32kW	
	C. X-Ray Tube Assembly	
	Anode Type: Rotating	
	Nominal focal spot:	
	Small focus: $\leq 0.8\text{mm}$	
	Large focus: $\leq 1.3\text{mm}$ "	
	Total filtration $\geq 2.5\text{mm Al}$	
	Anode Heat Capacity: Atleast 105kHU or better	
	D. Collimation System:	
	Manually or automatically controlled	
	With field lamp and cross-hair centering	
	With SID measuring device and preferably SID indicator	
	Pivot: minimum of $\pm 45^\circ$	
	Tube Head Rotation:	
	Rotation angle: $+180^\circ$ to -180°	
	With tube angle indicator	
	X-Ray Tube Axis Rotation: atleast 90°	
	Tube Arm Movement:	
	Lateral/Column rotation atleast $+90^\circ$ to -90°	
	Horizontal travel: at least 700mm	
	Vertical travel: at least 2000mm	
	Locking Mechanism: Electromagnetic or manual	

	E. Control Unit	
	Overload protection indicator: Visual/audible	
	<u>Technique selector:</u>	
	Kilovoltage (kV)	
	Milliamperage (mA)	
	Time (sec or msec and/or pulse) or milliamperere second (mAs)	
	With programmable APR of atleast 100 slots	
	• Operator Interface: Microcontroller touch screen display for all operating parameters	
	<u>Radiography Exposure Control:</u>	
	Double click exposure button with extension cable"	
	• Automatic Closedown: An automatic closedown system after 30 minutes of not being used	
	• Safety devices: Temperature monoblock	
	F. Display:	
	• Kilovoltage (kV)	
	• Milliamperage (mA)	
	• Time (sec or msec and/or pulse) or milliamperere second (mAs)"	
	• Exposure Switch: Dead-man type hand switch with cable (atleast 2m) and push button	
	• Ready and X-Ray Exposure Indicator: Audible and/or visible	
	G. Accessories	
	• Radiation Protection Device:	
	o 3pcs lead rubber aprons of atleast 0.35mm Pb equivalence	
	o 3pcs lead rubber thyroid shields of atleast 0.35mm Pb equivalence	
	• 1 pc measuring caliper, sliding, double sided, scaled in cm, with blunt edges and parallel arm	
	Power Requirements:	
	• Power Supply Voltage: - Single phase, 220-240VAC; 60Hz; Three-pronged plug	

	Others Terms and Conditions:	
	<ul style="list-style-type: none"> • Equipment must pass the acceptance testing of the CSL, FDA-DOH. The transportation expenses and per diem of the CSL Medical Physics Team shall be shouldered by the bidder as provided in the DOH AO No. 21, s. 1996 dated 4 June 1996. 	
	<ul style="list-style-type: none"> • Must comply with the applicable requirements under the DOH Administrative Order (A.O.) No. 35, s. 1994. 	
	<ul style="list-style-type: none"> • Three (3) years warranty for parts and service after the acceptance testing of the Common Services Laboratory (CSL) of the Food and Drug Administration (FDA) – Department of Health (DOH). 	
	Certification from the Manufacturer:	
	<ul style="list-style-type: none"> • That the bidder has the capability for corrective and preventive maintenance of the unit. 	
	<ul style="list-style-type: none"> • That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bid. Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer. 	
	<ul style="list-style-type: none"> • Guaranteeing the availability of all spare parts for the next ten (10) years duly authenticated by the Philippine Embassy in the country of origin. 	
	<ul style="list-style-type: none"> • That the equipment is a brand-new unit and not a discontinued model and has no history of product recall. 	
	<ul style="list-style-type: none"> • That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract. 	
	<ul style="list-style-type: none"> • Certificate of exclusive distributorship from the unit manufacturer mentioning the name of the Philippine representative. 	
	<ul style="list-style-type: none"> • Supplier engineers shall perform comprehensive quarterly preventive maintenance service on the machine at no cost to the end user for a period of three years after the acceptance testing of the CSL of the FDA-DOH. The supplier shall submit a document stating this particular requirement with the schedule of visits. 	
	<ul style="list-style-type: none"> • The bidder must provide training on the applications/operations, and basic maintenance for users (radiologists, medical physicists and radiologic technologists and maintenance personnel of the hospital-Biomed). 	
	<ul style="list-style-type: none"> • Certification from the bidder of 95% uptime guarantee for the equipment offered within the warranty period. Accumulated downtime in excess of 5% shall be added to the warranty period. 	
	<ul style="list-style-type: none"> • The bidder must submit the original brochure with technical specifications in English language. 	
	<ul style="list-style-type: none"> • The machine should conform to the International Electrotechnical Commission (IEC) standard or its equivalent national standard. The 	

	bidder must provide Certificate of Declaration of Conformity.	
	• The equipment shall be either Health Level (HL) 7 Compliant, Integrating Healthcare Enterprise (IHE) Compliant, or US FDA/European CE Compliant.	
	• Inventory of spare parts for the unit/model offered duly signed by the manufacturer.	
	• The bidder shall specify post warranty comprehensive preventive maintenance costs including list and price of major spare parts for the next five years after warranty.	
	• The bidder must have a track record of at least 10 years as distributor in the radiology field.	
	• The bidder must provide and install dedicated grounding system for the machine.	
	• All shielding requirements for the Stationary Chest Stand Thorax room for COVID-19 patients shall be delivered and installed by the supplier.	
	• The supplier shall shoulder installation costs including architectural, electrical, civil works, and magnification of the end-user's existing room (Stationary Chest Stand Thorax room) to meet the applicable regulatory standards and manufacturer's room requirements.	
***Note: Must submit sample of item for evaluation.		

Conforme:
Company/Bidder's Name:
Name and Signature of Authorized Representative:
Date: