Technical Specifications of X- Ray machine 300MA

S. N.	Purchaser's Specifications	Bidder's Compliance Sheet				
		बनेको/उत्पादन भएको देश र \कम्पनिको नाम		मुल्य रु. अंकमा	मुल्य रु. अक्षरमा	Remarks
		Yes	No			
	X Ray machine					
	Manufacturer					
	Brand					
	Type/Model					
	Country of Origin					
1	**Description of Functions**					
1.1	A general purpose 300mA X Ray machine with output power of at least 30kW.					
2	**Operational Requirements**					
2.1	It shall operate on three phase line frequency electrical supply.					
3	**System Configurations**					
3.1	300mA X Ray imaging system, 1unit.					
3.2	X –Ray High Voltage Tank, 1 unit					
3.3	Dual Focus Rotating X Ray Tube 300mA , 1 unit					
3.4	Multi pose X Ray Table, 1 unit					
3.5	Floor to Ceiling Stand. 1 unit					
4	**Technical Specifications**					
4.1	**X Ray Generator:** 300mA, 125KVP, 30kW full wave solid state silicon rectified x-ray generator for radiography suitable for single tube operation as per IS: 7620 Part-I.					
4.2	**Radiography:** 35 to 125 KVP. **Small Focus:** 50mA, 100mA **Large Focus:** 200mA,300mA					
4.3	Solid state electronic timer with timing range from 0.01 to 5 sec.(in 24 steps)					
4.4	**High Voltage Transformer:** Compact heavy duty transformer comprising HV silicon rectifiers, HT transformer, filament transformer, federal bushings all immersed in high dielectric strength transformer oil.					
4.5	**X Ray Tube:** 1 No. Dual focus rotating anode X-Ray tube having following focal spots: Small focus: 1.0mm Large Focus: 2.0mm Anode Heat Storage Capacity: 140KHU.					
4.6	**Collimator:** One manual collimator is provided.					
4.7	One pair of high voltage cables of suitable length					
4.8	**Floor to Ceiling Stand (FC Stand):** Floor to ceiling stand and with counter balanced tube head (rotatable ± 180 degree) 360 degree rotatable; mounted on floor ceiling rails for convenient movements.					

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		Yes	No			
4.9	**Multi-position table (Multi-pose):** Multi position, hand tilt, five position table; Trendelenburg to vertical (-12, 0, 30,60 & 90 Degree), motorized Bucky consisting of 8:1, 103 lines/inch grid size 17 ¼" X 18 7/8"; stainless steel cassette tray and foot rest					
5	**Accessories, Spare Parts and Consumables**					
5.1	Compression band – 1No Hand grip – 1No. Spare fuse set – 1No. Halogen lamp – 1No. Operation manual – 1No.					
6	**Operating Environment**					
6.1	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metres in length.					
6.2	Suitable Voltage Stabiliser should be supplied with the machine.					
7	**Standards & Safety Requirements**					
7.1	Must submit ISO 9001: 2008, ISO13485: 2012 for Medical Devices BIS approved **AND**					
7.2	Must submit AERB approved certificate					
7.3	Must submit BIS approved certificate					
7.4	CE (93/42 EEC Directives) or USFDA approved product certificate.					
8	**User Training**					
8.1	The training shall include the use of all operational functions of the equipment, as well as routine checks and maintenance expected by user.					
9	**Warranty**					
9.1	Comprehensive warranty for 1 year to be provided					
10	**Maintenance Service During Warranty Period**					
10.1	During the warranty period supplier must ensure preventive maintenance and corrective breakdown maintenance whenever required.					
11	**Installation and Commissioning**					
11.1	Supplier must accomplish proper installation & commissioning of equipment onsite.					
12	**Documentation**					
12.1	User (Operating) manual in English.					
12.2	Service (Technical / Maintenance) manual in English must be provided.					
12.3	Must submit the installation satisfaction letter with minimum 5 installations					
12.4	List of important spare parts and accessories with their part number and costing.					
12.5	Certificate of calibration and inspection from factory.					
12.6	Bidder must submit the valid authorization letter of the product					

Purchaser's Specifications	Bidder's Compliance Sheet				
	वनेको/उत्पादन भएको देश र \कम्पनिको नाम		मुल्य रु. अंकमा	मुल्य रु. अक्षरमा	Remarks
	Yes	No			
	Bidder must completely fill the Technical Specification Form (TSF). Only Yes/no/all complies should not be written. Page number in the catalogue of all the required parameters must be clearly mentioned and highlighted. Failure in doing so may lead to rejection of bid from technical committee.				

फर्म/संस्था/कम्पनीको नाम:-

फर्म/संस्था/कम्पनीको छाप:-

कर्मचारीको नाम र पद:-

हस्ताक्षर:-

Technical specification of Computed Radiography (CR) System

	Purchaser's Technical Specifications			Bidder's Compliance Sheet		
		बनेको/उत्पादन भएको देश र कम्पनिको नाम		मुल्य रु. अंकमा	मुल्य रु. अक्षरमा	Remarks
	Computed Radiography (CR) System	**Yes**	**No**	**Page No. in Catalogue**		
	Manufacturer					
	Brand					
	Type / Model					
	Country of Origin					
1.	**Description of Function**					
a.	Radiography system to replace conventional Film/Screen based X-Ray processing techniques with Photostimulable Phosphor Plate technology to obtain digital X-ray images.					
2.	**Operational Requirements**					
a.	The system shall be able to record X-Ray images on Imaging Plates (IP)					
b.	Convert these images from the IP into digital values and transfer these values to an image evaluation computer with predefined Image Processing Parameters.					
c.	Operationally and functionally equivalent to and better than the present film based system.					
3.	**System Configuration**					
a.	Image Reader system: 01					
b.	CR Workstation: 01					
c.	RIS Interface: 01					
d.	Remote ID and Preview station: 01					
e.	Archiving System: 01					
f.	Dry view imaging printer (film based), and double tray type :01					
4	**Technical Specifications**					
4.1	**Image Reader**					
a.	IP processing rate minimum 40 films/hr or more for 14 x 17 inches cassette.					
b.	Scanning mechanism to read. erase and process the images from the imaging plate. (IP)					
c.	Panel for indicating online status of the CR Reader in case of machine malfunction					
d.	Emergency Mode for accepting exposed cassettes without patient demographics for casualty trauma workflow requirements					
e.	Verification of the connectivity status of configured image destination					
f.	Spatial resolution of digital image 6-10 pixels/mm.					
g.	CR System should have data acquisition of 16 bits or more					
h.	X-Ray Generator compatibility with reputed manufacturers.					
i.	CR system should have the capability of processing the cassettes					

	in standard and high speed mode.					
	nage matrix at standard resolution (14 x 17) - 3000 x 4000 Row x Column					
4.2	**CR Workstation:**					
a.	Capable of Archiving and printing selected images to a standard DICOM destination in DICOM 3.0 format					
b.	Storing images in the local disk for predefined period.					
c.	Sorting of patient image based on name, date, exam etc.					
d.	Using predefined parameters or user defined and stored image parameters					
e.	Correcting typographical in patient demographic module, in case RIS connection was down and manual data entry was done.					
f.	Capability of changing R/L, Flipping, Rotating, Zooming, Collimating, annotating the incoming image.					
g.	Multi-image and slide formats					
h.	Capability of storing in CD/DVD.					
i.	Software for Advance Image processing, applications, display and quality monitoring.					
j.	Connectivity and compatibility to communicate to RIS/HIS and DICOM Compatible devices such as MR/CT/DSA Work station.					
k.	Scanning gray scale resolution- 16 bits/pixel.					
4.3	**Console:**					
a.	Software should have graphic selection to allow quick and easy picking of body parts and views					
b.	Software should have minimum 4 web enablement license for viewing of images to enhance productivity					
c.	Multifunctional console having all image optimization and post processing software like zooming, annotation, flipping, windowing and centering.					
d.	Additional computer with necessary software should be provided at the reception to feed the patient information to help ease the workflow.					
e.	19" LCD Monitor with CPU.					
4.4	**Dry view imaging printer (film based) 1unit:**					
a.	Print images from CR workstation, in DICOM 3 format.					
b.	Printer should provide image depth of 14 bits or more					
c.	Mechanism to print images to 14x17 and 8x10 film sizes simultaneously.					
d.	Docked in processor.					
e.	Resolution> 500 DPI.					
f.	Processing capacity should be more than 50 films/hour or more for 14x17 inch film size					
g.	Shall be able to switch between Receiver Mode and Processor mode.					
h.	Printer should have dry Laser imager Technology					
4.5	**IP/Cassettes size:**					
a.	CR system should be provided with the following cassettes and					

	ing plates.					
	x 17 in: 1 Pcs.					
	10 x 12 in: 1 Pcs.					
d.	8 x 10 in: 1 Pcs.					
4.6	Bidder must submit the quotation of (14 x 17)inch , (10 x 12) inch and (8 x 10) inch sizes of the film otherwise it might be the reason for the rejection of the offer					
5.	**Accessories, spares and consumables**					
5.1	**Accessories:**					
a.	**Computer and Printer**					
b.	Desktop Computer with 4 GB RAM, 160 GB ROM and 19"LCD Monitor- 1 set					
c.	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer.					
d.	Suitable UPS with maintenance free batteries, voltage regulation and spike protection for minimum 30 min. back-up shall be supplied with the system.					
e.	CR Film of the following sizes must be supplied with machine without any extra charge: 14 x 17 in:500 pcs 10 x 12 in: 500 pcs 8 x 10 in: 500 Pcs.					
6.	**Operating Environment**					
a.	The system offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.					
b.	Power supply: 220 - 240 VAC, 50Hz fitted with appropriate plug.					
7	**Standards and Safety Requirements**					
a.	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**					
b.	CE (93/42 EEC Directives) or USFDA approved product certificate					
c.	Electrical safety conforms to standards for electrical safety IEC 60601-1 General requirement for Electrical safety of Medical Equipment.					
8.	**User Training**					
a.	Must provide user training (including how to use and maintain the equipment).					
9.0	**Warranty**					
a.	Comprehensive warranty for 2 years after acceptance.					
10.	**Maintenance Service During Warranty Period**					
a.	During warranty period supplier must ensure preventive maintenance & corrective/breakdown maintenance whenever required					
11.	**Installation and Commissioning**					

a.	The bidder must arrange for the equipment to be installed by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail.					
12	**Documentation**					
a.	User (Operating) manual in English					
b.	Service (Technical / Maintenance) manual in English.					
c.	Certificate of calibration and inspection from factory.					
d.	Authorization letter of the product must be submitted					
13	**X-ray/CR Film-500 Piece.**					
14	**Oil/liquid based Stabilizer 50KVA**					

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कर्मचारीको नाम र पदः-

हस्ताक्षरः-