Computed Radiography System with Single Tray Printer

S. N.	Purchaser's Specifications
	Computed Radiography System with Single Tray Printer
	Manufacturer
	Brand
	Type/Model
	Country of Origin
1	**Description of Functions**
1.1	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**
2.1	The system shall be able to record X-Ray images on Imaging Plates (IP).
2.3	Operationally and functionally equivalent to and better than the present film based system.
2.4	Convert these images from the IP into digital values and transfer these values to an image evaluation computer with predefined Image Processing Parameters.
2.6	Maintain and manage data bank of all patient and image data.
2.9	Show full image in the X-Ray room for preview purposes.
3	**System Configurations**
3.1	Image Reader system: 01
3.2	CR Workstation: 01
3.5	Archiving System: 01
3.6	Dry Thermal Printer (Single Tray): 01
4	**Technical Specifications**
4.1	**Image Reader:** • Cassette Mechanism to load and unload IP. • Scanning mechanism to read, erase and process the images from the imaging plate. (IP) • Including auto routing newly acquired images to desired preview monitor. • IP processing rate> 70 plates/hr. • Panel for indicating online status of the CR Reader in case of machine malfunction. • Verification of the connectivity status of configured image destination. • Table Top Type • Ortho Pantomography(OPG) Readable • Minimum time required for IP feed should not exceed 50 secs • Reading specification of 10 pixels/mm and 5 pixels/mm • Light weight system not exceeding 40 kg
4.2	**CR Console:** • Capable of Archiving and printing selected images to a standard DICOM destination. • Storing images in the local disk for predefined period. • Mechanism for accepting new images when the local disc is full. • Sorting of patient image based on name, date, exam etc. • Advance Processing Software. • Using predefined parameters or user defined and stored image parameters. • Must Have DICOM print software and Free Layout Software. • Image Intelligence software with features like MFP (Multi-Frequency Processing), FNC (Flexible Noise Control), GPR (Grid Pattern Removal)

नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय
विकिरण विज्ञान राष्ट्रिय प्रतिष्ठान
राष्ट्रिय टेमा सेन्टर
महाकाल, काठमाडौं

2066/05/20
Roshan Pokharel
Biomedical Engineer
NEC NO: 331"A"

4.4	**Colour Dry View Imaging Printer(film based):** • Up to 90 Films/Hr • Thermal Printing System • Daylight Film Loading • Automatic Density Adjustment
5	**Accessories, Spare Parts and Consumables**
5.1	• **CR Imaging Plates:** ▪ 8"x10" ---------- 1 set ▪ 10"x12" ---------- 1 set ▪ 14"x14" ---------- 1 set ▪ 14"x17" ---------- 1 set • **CR IP Cassettes:** ▪ 8"x10" ---------- 1 set ▪ 10"x12" ---------- 1 set ▪ 14"x14" ---------- 1 set ▪ 14"x17" ---------- 1 set
5.2	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. Bidders must specify the quantity of every item included in their offer (including items not specified above).
5.3	Must quote price of films valid for 2 years must be included in the bid.
6	**Operating Environment**
6.1	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.
6.2	Power supply: 220 – 240 VAC, 50Hz Single Phase fitted with appropriate plug. The power cable must be at least 3 metre in length.
6.3	Suitable UPS with maintenance free batteries, voltage regulation and spike protection for minimum 30 min. back-up shall be supplied with the system.
7	**Standards & Safety Requirements**
7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**
7.2	CE (93/42 EEC Directives) or USFDA.
7.3	Electrical safety conforms to standards for electrical safety IEC 60601-1 General requirement for Electrical safety of Medical Equipment.
8	**User Training**
8.1	Must provide user training (including how to use and maintain the equipment).
9	**Warranty**
9.1	Comprehensive warranty for 1 year after acceptance.
10	**Maintenance Service During Warranty Period**
10.1	During warranty period supplier must ensure preventive maintenance & corrective/breakdown maintenance whenever required.
11	**Installation and Commissioning**
11.1	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**
12.1	User (Operating) manual in English.
12.3	List of important spare parts and accessories with their part numbers and costing.
12.4	Certificate of calibration and inspection from factory.

नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय
चिकित्सा विज्ञान राष्ट्रिय प्रतिष्ठान
राष्ट्रिय टेमा सेन्टर
मेडिकल, काठमाडौं

2066/05/20

Roshan Pokharel
Biomedical Engineer
NEC NO: 331"A"

X-ray Machine 300mA or more

S No.	Purchaser's Specifications
	X-ray Machine 300mA
	Manufacturer
	Brand
	Type/Model
	Country of Origin
1	**Description of Functions**
1.1	A general X-ray machine 300mA or more with fixed height table.
2	**Operational Requirements**
2.1	It shall be suitable to be used for adult and paediatric patients in general radiography examination and it shall operate on three phase AC power supply.
3	**System Configurations**
3.1	X-ray Generator, 1unit.
3.2	Control Console, 1unit.
3.3	Radiography patient table, 1unit.
4	**Technical Specifications**
4.1	**X-ray Generator**
4.2	Microprocessor based, high frequency inverter generator, the generator shall have at least 40KHz.
4.3	Generator output: not less than 32 KW or more.
4.4	Radiographic voltage range: 40 - 125KV with 1KV adjustment.
4.5	Radiographic mA: 10 - 300mA or more in 10 steps.
4.7	Timer. 0.001 to 5 sec (Not more than 24 steps).
4.8	Digital Display of KVP, mA and mAs.
4.9	Dual action hand Switch
4.10	Overload protection device shall be provided.
4.11	Power supply: Three Phase 380-415V 50/60Hz.
4.12	**X-Ray Tube**
4.13	X-ray tube rotating: +/-180°.
4.16	Tube Unit must have Rotating Anode type
4.17	Multi leaf Collimator for centering
5	**Accessories, Spare Parts and Consumables**
5.1	**Accessories:** • Lead apron-01 no.
5.2	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. Bidders must specify the quantity of every item included in their offer (including items not specified above).
6	**Operating Environment**
6.1	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.

नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय
चिकित्सा विज्ञान राष्ट्रिय प्रतिष्ठान
राष्ट्रिय टेमा सेन्टर
गोकर्ण, काठमाडौं

2066/05/20
Roshan Pokharel
Biomedical Engineer
NEC NO: 331"A"

7.1	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**
7.2	CE (93/42 EEC Directives) or USFDA
8	**User Training:**
8.1	The Supplier shall conduct user training for this equipment to enable operators to use the equipment properly. The training shall include the use of all operational functions of the equipment, as well as routine checks and maintenance expected by users.
9	**Warranty**
9.1	Comprehensive warranty for 1 year after acceptance.
10	**Maintenance Service During Warranty Period**
10.1	During warranty period supplier must ensure preventive maintenance & corrective/breakdown maintenance whenever required.
11	**Installation and Commissioning**
11.1	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**
12.1	User (Operating) manual in English.
12.3	List of important spare parts and accessories with their part numbers and costing.
12.4	Certificate of calibration and inspection from factory.

नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय
चिकित्सा विज्ञान राष्ट्रिय प्रतिष्ठान
राष्ट्रिय ट्रमा सेन्टर
महाकाल, काठमाडौं

२०८६/०३/२०

Roshan Pokharel
Biomedical Engineer
NEC NO: 331"A"