

Compliance Sheet for Computed Radiography (CR) System

- Offers without Compliance sheet will not be considered.
- Mere copy and pasting of specification in Compliance sheet shall not be done.
- Party has to provide page and paragraph number of product brochure against each complied specification. In case it is not possible, party has to provide sufficient clarifications.

Manufacturer's Name with complete Address	
Supplier's Name with complete Address	
Name and model number of proposed Equipment	

	Compliance/Clarifications
1 Scope of Supply:	
1.1 The scope of supply includes the Supply, Installation, Commissioning, and Demonstration of Computed Radiography System for the intended functions on buy back basis against the existing defective CR system.	
1.2 The scope also includes on-site training of VSSC ¹ personnel after I&C ² (minimum 2 days) on the complete functioning and day-to-day maintenance and minor trouble shooting of the total x-ray system.	
2 Technical Specification	
The Proposed CR ³ system shall consists of the following main sub-systems:	
2.1 CR Read out unit/scanner	
2.2 Imaging plates	
2.3 Image quality indicator (test phantom)	

¹VSSC—Vikram Sarabhai Space Centre

²I&C—Installation and Commissioning

³CR- Computed Radiography

	Compliance/Clarifications
2.4 Image Acquisition & post processing software	
2.5 Workstation for image acquisition and enhancement	
3 CR Read out unit/scanner:	
3.1 Type: table top Flatbed type laser scanner with contactless mean of transportation.	
3.2 Provision for simultaneous multiple plates scanning through a flat transport path (with side by side and back to back feeding options).	
3.3 Resolution: standard resolution (SR)-70 μ m, high resolution (HR)-35 μ m with option to switch/select the resolution shall be present.	
3.4 Spatial resolution: better than or equal to 12.5 LP/mm	
3.5 Bit depth: 16 bit enabling image processing with at least 2 selectable resolutions setting.	
3.6 Weight: \leq 50 kg	
3.7 Capable to scan imaging plates of width up to 35 cm with provision for feeding imaging plate alone or with flexible/rigid cassettes.	
3.8 The scanner should be capable of operating in ambient light condition with the use of its own light cover.	
3.9 The scanner should have operating modes of “erase only/scan and erase/scan and hold for erase later”. There should be provision to automatically adjust the erasing level by which no ghost images are left in the display after erasing.	
3.10 The eraser section of the scanner should be either completely sealed or equipped with filtered positive pressure air flow inside the scanner through HEPA dual air filters to prevent from the migration of dust particles into the machine.	
3.11 It is preferred to have the capability of straightening of the bent imaging plate during scanning.	

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3.12 Equipped to work with Indian electric power supply (220 Volts ±5%, 50Hz±1%)	
3.13 Temp & Humidity range: 15 ⁰ C to 35 ⁰ C or wider with a relative humidity of 15% to 80% (non-condensed).	
4 Imaging plates:	
4.1 Imaging plates of extreme high resolution and slow speed required for high sensitive applications for critical weld joints, castings and other finished products.	
4.2 Party has to quote the per piece rate of imaging plate of different sizes. The preferred sizes are 30 x 40 cm, 30 x 20 cm, 15 x 40 cm, 7.5 x 40 cm, 15 x 20 cm, 30 x 10 cm.	
4.3 The flexible and hard cassettes to load the imaging plates of the above sizes are also to be quoted in per piece rate. The minimum order quantity if any of the imaging plates/hard and flexi cassettes are there to be indicated.	
5 Image quality indicator/ test phantom:	
5.1 CR test phantom (conforming to test methodology as per ASTM E 2445) containing image quality indicators to be supplied for long term evaluation.	
5.2 Party has to demonstrate the manufacturing characteristics of the CR System as per ASTM E 2445 (or any other equivalent international standard) on I&C with the test phantom.	
6 Image Acquisition & post processing software:	
The software with following basic feature shall be supplied along with the system: 6.1 The software licence should be of perpetual type.	
7 Image acquisition:	
7.1.1 Acquire image from the imaging plate and render the raw digital image to the review/image enhancement software.	

	Compliance/Clarifications
7.1.2 Provision to enter the component details and exposure technique data shall also be present.	
8 Image processing:	
8.1.1 Adjustment of brightness & contrast levels, image enhancement through smoothing, sharpening, shadowing, enhance and detect edge filters, selection of region of interest.	
8.1.2 Tool bars for horizontal and vertical flipping, view of previous and next items, rotation of the image, zooming from 1X to 4X, inversion of the current window level.	
8.1.3 Provision for automatic image cropping by detecting the physical edges of each individual plate during simultaneous scanning of a number of imaging plates.	
8.1.4 Capability for viewing, selecting the region of interest, enhancing, measuring and annotating on the image with alphanumeric characters and shapes. There should be provision to record the comment/remark of the interpreter on the image.	
8.1.5 Equipped with advanced high quality image layer viewing option, re-rendering the relevant imaging data with a clear vision and optimal image quality even with minimal contrast against variations of density/geometry/radiation quality/exposure settings of the image.	
8.1.6 DICONDE compliant which enables digital data transfer, storage, display and archival & retrieval of the data in TIFF, BMP, JPEG or DICONDE formats.	
9 Workstation for image acquisition and enhancement:	
The system must be interfaced with a compatible workstation, featuring:	
9.1 Processor: Intel i7 or better.	
9.2 Random Access Memory (RAM): 16GB or more.	
9.3 Hard Disk: 2 TB or more.	
9.4 Display: Monochrome 5MP with size of 21.3" or larger preferably of Eizo make	

	Compliance/Clarifications
9.5 Graphics Card: Suitable Graphics card for proper functioning shall be provided	
9.6 Input: Keyboard, mouse.	
9.7 Communication: RS 232/485, Ethernet (preferred) or USB	
9.8 UPS: Dedicated online UPS for the workstation	
10 Compliance and Certifications:	
10.1 Operational compliance: The system should work with operational complaints as per ASME/ISO or any equivalent international standard. Brochure/catalogue/technical data sheet for the support of claim to be submitted along with the offer.	
10.2 Environmental and Safety Compliance: The system should also meet international standards for environmental protection, electrical and electromagnetic compatibility. Brochure/ catalogue / technical data sheet for the support of claim to be submitted along with the offer.	
11 General Specifications (Terms & Conditions)	
11.1 This specification document is for the procurement of a CR system <u>on buy back basis of our existing defective GE Sensing & Imaging Technologies GmbH, Germany make CRx 25P CR system procured in the year 2015.</u> Party may have to visit our facility at VSSC to have an assessment of the existing CR system to decide upon the buyback price, if required.	
11.2 The offer should be submitted in two parts.	
11.2.1 Part-1: Technical bid containing details of the system meeting all technical specifications with all brochures/catalogues/technical data sheets. The items/accessories included along with CR system in the standard supply to be clearly indicated in the offer. The masked price bid with cost of the standard supply, other essential & optional accessories with split up cost after deducting the special discount (price masked) for the existing CR system, AMC cost and price list of probable spares required for the AMC period should also be attached.	

	Compliance/Clarifications
11.2.2 Part 2: Price bid offer of the system with split up cost for all the items mentioned in the part1	
11.3 VEC⁴: The offered system should be the latest, standard model having brochure/catalogue with model number from a reputed manufacturer. The party has to mention the year of manufacturing along with model number of the system. Technical Brochure/Catalogue containing the full Technical specification of the system should be attached (in English) along with the offer.	
11.4 VEC: The party shall be an OEM ⁵ or an authorized sales agent and service dealer of the OEM (The latest original authorization certificate from the OEM should be attached if the party is a sales agent/dealer).	
11.5 VEC: The party should have after-sales service facility in India with service personnel trained and certified by the principal in troubleshooting/maintenance/calibration and software update of the system.	
11.6 I&C and Training:	
11.6.1 The party has to perform I&C of the system satisfactorily and submit I&C certificate.	
11.6.2 The party has to provide two days exclusive training on the complete functioning and day-to-day maintenance and minor trouble shooting of the CR system at VSSC.	
11.6.3 The party has to demonstrate and establish the manufacturing characterisation of the system as per ASTM E 2445 (or any other equivalent international standard) and a certificate to be submitted.	
11.7 A list of existing customers in India (with addresses) to whom the same or similar systems supplied within last five years and the present working in satisfactory condition are to be provided. The Party has to coordinate a visit of the VSSC Team to any one of these customers as per our choice, if required during the technical bid evaluation. If there is no customer in India, the details of customers to whom the same or similar systems are supplied by the dealer/OEM within the last five years, with a latest (not later than 6 months) performance evaluation certificate from any two customers are to be supplied along with the offer.	

⁴VEC-Vendor Eligibility Criteria

⁵OEM-Original Equipment Manufacturer

	Compliance/Clarifications
<p>11.8 After Sales and service support: The party has to give an undertaking to ensure the availability of spare and services for at least the next 10 years from the date of installation of the system. <u>There should be commitment also from the part of OEM for assured support on real-time basis, in case of breakdown/urgency, if any, and the Indian agent/Service provider fails to act (A letter of commitment from the OEM is to be attached along with the offer).</u></p>	
<p>11.9 Warranty: The system supplied should be provided with a two-year warranty from the date of I&C and thereafter a Non-comprehensive AMC⁶ for five years, for which a separate PO⁷ may be released after the expiry of warranty. However, the placement of PO for AMC, at the expiry of warranty period shall be the discretion of VSSC.</p>	
<p>11.10 AMC: The Party has to quote separately for the AMC [2 PM⁸ visits and one BM⁹visit (if required at free of cost) per year] with a price list of probable spares to be procured during the AMC period. <u>The cost of AMC shall also be accounted for arriving at the L1 offer during bid evaluation.</u> The party has to quote for additional visits if more than one breakdown maintenance visit becomes necessary in a year during AMC period.</p>	
<p>11.11 Scope of work in Warranty and AMC Period:</p>	
<p>11.11.1 Conduct 2 PM visits and any number of BM visits (if required at free of cost) every year during the warranty period and 2 PM and 1 BM (if required at free of cost) visits during the AMC period.</p>	
<p>11.11.2 During every PM visit in warranty and AMC period, party has to perform routine checks of all the functions and corrections if any to ensure fault free operation of the system, including cleaning of exterior and plate/cassette transport system</p>	
<p>11.11.3 During every PM visit in warranty and AMC period, party has to verify the functions of the Image Acquisition and Image Enhancement software and updating of software if any required</p>	

⁶AMC-Annual Maintenance Contract

⁷PO-Purchase Order

⁸PM-Preventive Maintenance

⁹BM-Break-down Maintenance

	Compliance/Clarifications
<p>11.11.4 Once in every year in warranty and AMC period, party has to perform the calibration of the entire system as per ASTM E 2445 (or any other equivalent International standard) and submit calibration certificate.</p>	
<p>11.12 Breakdown (if any) of the system both in warranty and AMC period has to be attended to within two consecutive working days on receipt of information from VSSC and periodic maintenance visit in due course on mutual agreement.</p>	
<p>11.13 During maintenance, replacement of parts if any, which are not available with VSSC has to be supplied by the party with prior approval from VSSC. Payment for the same shall be released separately on the certification of the successful functioning of the system after the replacement of the spare by VSSC and against the production of documentary evidence by the party.</p>	
<p>11.14 Party has to quote for any other accessories which are considered essential for commissioning and utilization of the machine, even if not specified with proper justification.</p>	
<p>11.15 Installation prerequisites if any, to be arranged by VSSC, may be clearly indicated in the offer.</p>	
<p>11.16 Apart from items mentioned under the Technical Specification above, party may quote any other additional concomitant and optional Accessories, including additional software features (if any) essential to extract the full rated performance of the system with proper justification.</p>	
<p>11.17 It is the responsibility of the party to take back the existing CR system with its accessories after the successful installation of the proposed CR system.</p>	

	Compliance/Clarifications
11.18 Documents to be supplied along with the offer:	
11.18.1 Documents for Part-1:	
11.18.1.1 Technical bid with price masked (of the standard supply of the system, essential & optional accessories list) for the buyback of existing CR system.	
11.18.1.2 The party has to provide a compliance sheet along with the quote, explaining detailed compliance against each serial number of the specification list. Offer without the compliance matrix shall not be considered for evaluation. Stating just “Yes” or “Complied” against each serial number of the specification sheet without proper explanation may cause the rejection of the offer without any further intimation from VSSC.	
11.18.1.3 AMC quote (Price masked, including the cost of additional BM visits, if any), List of spares for the AMC period	
11.18.1.4 Brochures/catalogues/Technical data sheets (in English), Certificate from OEM (in case of Dealer/Indian agent), Certificate for commitment from the OEM for spare and service support for fault free operation (at for 10 years)	
11.18.1.5 List of existing customers in India/ List of customers outside India with original performance evaluation certificate from any two customers	
11.18.2 Documents for Part-2: Price bid (with the price of all items filled as per the above—system, sub-system, essential accessories, optional accessories, AMC charges, additional BM charges etc.)	
11.19 Documents to be attached along with the supply of the system: Operating instruction manual (Hard Copy in English), Certificate of warranty, Certificate of operational compliance, Certificate of conformities for electrical safety & environmental protection, Calibration certificate from the OEM, Report of FAT undergone at the OEM’s facility.	
11.20 Documents to be submitted after I&C: Certificate of I&C, Certificate for the demonstration of manufacturing characterisation at VSSC.	

