

TECHNICAL RE EVALUATION REPORT AFTER KPPRA DECISION

In response to the decision of KPPRA vide letter No.KP-PPRA/GRR/Appeal/265 of 2024/721, dated 18.04.2025, regarding subject Appeal under the Khyber Pakhtunkhwa Public Procurement grievance redressal rules, 2017, Titled: M/S SHAHCO medical (pvt)

vs

Dr. Saeeda bibi, Project Director Breast cancer screening center, Fata secretariat, warsak road Peshawar.

The Project Director, Breast Cancer Screening Center, FATA Secretariat, Warsak Road, Peshawar, convened a meeting of the Procurement Committee, including co-opted members with expertise in Biomedical medical equipment along with classified radiologist and surgeon from different health facility. As per the directives the committee thoroughly reviewed and re-evaluated the bids submitted by M/S Fujifilm Pakistan (Pvt) Ltd, M/S Shahco Medical (Pvt) Ltd, M/S Shirazi Trading Company (PVT) Ltd and M/S Global Traders. Following a thorough re-evaluation, the Procurement Committee has determined that certain variations, previously deemed acceptable and not considered as minor deviations due to minimal impact on system performance and to promote the health competition and was also acceptable for the classified radiologist of the procurement committee. Now the deviations noted will be treated as minor deviations, resulting in deduction of marks and in accordance with KPPRA Decision Para 21,

a. *Carry out a fresh and impartial technical re-evaluation of all bidders in strict accordance with the advertised specifications*

b. *Document and apply appropriate mark deductions for each deviation, major or minor, without exception.*

The re- evaluated Technical Evaluation Report is hereby attached along with the compliance report for implementation of the decision of the KPPRA and for the information of the bidders

TECHNICAL EVALUATION REPORT MAMMOGRAPHY

S. No	Description of Variables	Allocated Points/ Mandatory	M/S SHAHCO MEDICAL Pvt Ltd Responsive	M/S Fujifilm Responsive	Shirazi Trading Responsive	Global Traders Non responsive
1.	Conformance for the required Specification Fully compliance with the required specifications as per Statement of Requirement. Minor deviations may be accommodated up to 3, subject to the condition that main function and performance in any aspect would not be affected. More than 3 minor deviations will be considered as	25	19	23	23	Reason: Embassy attested authorization for quoted

	major deviation and the bidder will be considered as non-responsive for the quoted item. (2 points for each deviation will be deducted).					item not available
2	Product International Certification Among the three certifications mentioned below as 3, 4, and 5, two are required; failure to provide them will result in disqualification. Producing the third certificate will award an additional 5 marks	Mandatory	Available	Available	Available	
3	Certificate of US Food and Drug Administration (USFDA) for the quoted model. 1. Registration if the quoted product belongs to class I. 2. USFDA 510K if the quoted product belongs to class II. 3. Pre-Market approval (PMA) if the quoted product belongs to class III.	5	0	5	5	
4	Certificate of European community (93/42/EEC Medical devices, 98/79/EC In vitro diagnostic medical devices (Full Quality Assurance or Product Quality Assurance) or Regulation (EU) 2017/745 on medical devices, Regulation (EU) 2017/746 on in vitro diagnostic medical devices for the quoted product / manufacturer. The certificate must be issued from the European Commission notify bodies. Or European Union Medical Device Regulation (EU MDR) for the quoted product					
5	Certificate of Ministry of health labor and welfare Japan (MHLW) for the quoted model/Product. (Translated English Version)					
6	Valid ISO 13485 Medical Devices Quality Management Systems certificate of manufacturing plant from International Accreditation Forum (IAF) Accredited Bodies.	3	3	3	3	
7	Valid ISO 45001 Occupational Health & Safety Certificate of manufacturing plant from International Accreditation Forum (IAF) Accredited Bodies.	2	2	2	0	
8	The bidder must provide valid proof of being manufacturer or importer. In case of importers , the Importers should provide valid authorization certificate for their quoted products duly attested by the embassy of the country of origin in Pakistan or the embassy of Pakistan in the country of origin of the quoted items or where the commercial office located for the quoted items or apostille certificate from the country of origin. Non-provision of	Mandatory	Available	Available	Available	

	valid embassy attested authorization or apostille certificate for imported items will lead to disqualification of firm					
9	Warranty Period of five years both for spare parts and services from the date of Installation / Commissioning	Mandatory	Available	Available	Available	
10	Firm / bidder registered with DRAP (Drug Regularity Authority of Pakistan) or PEC (Pakistan Engineering Council) in code ME06.	Mandatory	available	available	Available	
11	One mark for each after sale satisfactory performance certificate (verifiable) of the firm / bidder in last six years on letter head, signed and stamped letter by the end-user for the quoted model or previous provided model	5	5	3	4	
12	Graduate Engineer with PEC Registration in electrical / electronics, biomedical / mechatronics / mechanical / industrial. PEC registration card of the engineer must be submitted. (2 marks for each Engineer), Appointment order (to be verified through bank statement) last three months' salary must be attached for proof	6	6	6	6	
13	Diploma of Associate Engineer (DAE) in electrical / electronic / biomedical / mechatronics / mechanical / industrial. DAE certificate must be submitted. (1 mark for each certificate), Appointment order (to be verified through bank statement) last three months' salary must be attached for proof	3	3	3	3	
14	Factory trained engineer with firm on the quoted item (to be verified through Visa and passport)	2	2	2	2	
15	List of related tools available at workshop. Details shall be submitted with technical bid. These marks shall be subject to inspection of the premises by the procurement entity	3	3	3	3	
16	List of Testing and Calibration tools for the quoted items available at workshop. Details shall be submitted with technical bid. These marks shall be subject to inspection of the premises by the procurement entity	3	3	3	3	
17	Detail of Spare parts availability at workshop for the quoted items. Details shall be submitted with technical bid. These Marks shall be subject to inspection of the premises by the procurement entity.	3	3	3	3	
18	Firm / bidder registration at relevant forum (SECP/ or Registrar of Firm / bidder/ FBR).	Mandatory	Available	Available	Available	

19	Annual sales tax and Income tax returns for last three years	Mandatory	Available	Available	Available	
20	<p>Financial Position of the firm</p> <p>Last 3 years Audited Balance Sheet Duly attested by Chartered Accountant.</p> <p>For Mammography</p> <ul style="list-style-type: none"> • Turnover 600 million or above 9 marks/points. • Turnover less than 600 and above 400 million will be awarded 6 marks/points. • Turnover below 400 million will be awarded 3 marks/points <p>For ultrasound and vein viewer</p> <ul style="list-style-type: none"> • Turnover 60 million or above 9 marks/points. • Turnover less than 60 and above 40 million will be awarded 6 marks/points. • Turnover below 40 million will be awarded 3 marks/points <p>Note: Annual tax returns of last three financial years must be attached, otherwise, no marks shall be awarded.</p>	9	9	9	9	
21	Valid ISO 9001 Quality Management Certificate of the firm / bidder from PNAC accredited bodies.	3	3	3	3	
22	Total points of the Firm / bidder	72	61	68	67	

Compliance Sheet of the required specifications and the Quoted Specifications of M/S M/S SHAHCO Medical (Pvt) Ltd

Advertised / Required Specification	Quoted Specifications	Remarks
3D Mammography machine breast biopsy system Acquisition workstation, reporting workstation contrast enhancement laser printer	Complies	Nil
Swivel arm system consisting of X-ray tube unit, compression device and object table with integrated detector	Complies	Nil
Motorized, iso centric rotation of the swivel arm with preset rotation angle	Complies	Nil
The motorized, height-adjustable object table must adjust from examination stand as well as via the foot switch	Complies	Nil
Motorized and manual compression force	Complies	Nil
Digital display of compression force and compression thickness	Complies	Nil
Automatic collimation to the required radiation field size according to the compression plate selected	Complies	Nil
Integrated positioning/collimator light	Complies	Nil
Function for optimizing compression force	Complies	Nil
Pre-programmable exposure parameters for optimized patient dose and AEC (Automatic Exposure Control)	Complies	Nil
Source-image distance: 65 cm or more	Complies	Nil
Swivel range (motorized): + 180° to – 135° or more	Complies	Nil
Height adjustment (motorized): 70 cm to 138 cm or better on either side	70.5cm to 141cm	<p>As per the advertised specification, the motorized height adjustment of the system must range from 70 cm to 138 cm or better on either side. M/S Shaco Medical quoted a range of 70.5 cm to 138 cm. While the upper limit meets the requirement, the lower limit does not meet the specified minimum of 70 cm, as it starts at 70.5 cm—thus not touching the required lower boundary.</p> <p>Accordingly, the committee has considered this a minor deviation, and a deduction of 2 marks has been applied to M/S</p>

		Shaco Medical's technical evaluation score.
Grid Ratio: 5:1, 31 lines/cm or better	Complies	Nil
Magnification factors: 1.5, geometric or better	Complies	Nil
X-Ray Generator	Complies	Nil
System with integrated, microprocessor-controlled, high frequency generator	Complies	Nil
Power output: 5 kW or better	Complies	Nil
kV Range: 23 kV to 49 kV or better on either side(adjustable in 1 kV increment)	Complies	Nil
mAS Range: 5 mAS to 500 mAs or better on either side	Complies	Nil
Exposure times: 3 sec or less in large focus & 5 sec or less in small focus	3.7 sec or in large focus & 3.7 sec in small focus	<p>As per the advertised specification, the exposure time must be 3 seconds or less for large focus and 5 seconds or less for small focus. M/S Shaco Medical quoted 3.7 seconds for both large and small focus. While the quoted time for small focus complies with the requirement, the exposure time for large focus exceeds the specified limit of 3 seconds. This detail was clearly mentioned by the bidder in their submitted quotation.</p> <p>Accordingly, the committee has classified this as a minor deviation, and a deduction of 2 marks has been applied to M/S Shaco Medical's technical evaluation score.</p>
Exposure Modes: Automatic or Manual	Complies	Nil
X-Ray Tube	Complies	Nil
Mammography X-ray tube unit with dual-focus rotating-anode tube (Molybdenum/Tungsten/Rhodium)	Complies	Nil
Mammography X-ray tube unit with rotating anode	Complies	Nil
Focal spot: 0.1 / 0.3 or better	Complies	Nil
Anode Heat Storage Capacity: 300 kHU or more	Complies	Nil
Anode speed: As per OEM	Complies	Nil
Nominal Voltage: As per OEM	Complies	Nil
Optical Anode Angle: As per OEM	Complies	Nil
Flat Panel Detector	Complies	Nil
An integrated Flat Panel Detector	Complies	Nil

Latest detector technology with Amorphous Selenium (aSe)/CSi or equally advanced material	Complies	Nil
Detector size: 24 cm x 29 cm or better	Complies	Nil
Pixel size: 100 µm or less	Complies	Nil
Acquisition WorkStation (Should be from same OEM)	Complies	Nil
CPU: Intel/AMD Multicore central processing unit or equivalent and should be from original manufacturer workstation	Complies	Nil
RAM: 16 GB or more	Complies	Nil
Hard Disk: 1 TB or more for image data	Complies	Nil
TFT color display Screen size: 3 MP 21" or better	3MP medical grade grayscale LCD display	As per the advertised specification, the required display must be a color screen with a resolution of 3 MP and a screen size of 21 inches or better . M/S Shaco Medical quoted a 3 MP medical-grade grayscale LCD display , which does not meet the color display requirement. This specification detail was clearly indicated in their submitted data sheet. Accordingly, the committee has classified this as a minor deviation , and a deduction of 2 marks has been applied to M/S Shaco Medical's technical evaluation score.
Image Acquisition/Display/Processing:	Complies	Nil
Patient directory	Complies	Nil
image processing: Application-oriented (lookup tables) for contrast/brightness, Edge enhancement, Dynamic range control, Noise reduction, Detection of breast border, electronic shuttering	Complies	Nil
Text/graphic functions: Image orientation label, Image annotation and comment, Length and angle measurement, Interactive zoom and pan, Gray-scale inversion, Split screen function	Complies	Nil
Data Transfer and Documentation:	Complies	Nil
DICOM interface for image data communication based on the DICOM 3 standard: DICOM Storage (Send/Receive), DICOM Query/Retrieve, DICOM Storage Commitment, DICOM Print, DICOM HIS/RIS	Complies	Nil
DVD / CD burner writing of images in DICOM format to DVD/CD	Complies	Nil
The image should be transfer to reporting station for examination and reporting .Separate reporting workstation	Complies	Nil

Should have TFT color display Screen size: 3 MP 21" or better, with advance computerized added detection software and laser jet printer		
Stereotactic Biopsy Unit	Complies	Nil
The biopsy unit should be automatic stereotactic biopsy	Complies	Nil
The biopsy unit should comprise of a hand box for controlling the needle positioning device, a standard needle holder, a face shield to protect the patient from swivel arm movements, and calibration accessories	Complies	Nil
The biopsy unit should simply slide onto the object table and must be automatically detected by the machine for biopsies from any projection.	Complies	Nil
Workflow should be automated with remote tube movements of the stereo pair acquisition controlled from the AWS, and automatic needle positioning	Complies	Nil
Stereotactic biopsy shall be performed on seated and recumbent/prone position of the patients	Complies	Nil
Biopsy volume vertical needle guidance	Complies	Nil
Should have three axes (x, y & z) in vertical approach	Complies	Nil
Biopsy compression plates with and w/o window for vertical needle guidance	Complies	Nil
Swivel range of X-ray unit during stereotactic exposure: + 15° and – 15° or better	Complies	Nil
Supplier shall provide dedicated and motorized table for biopsy in recumbent/ prone position	Complies	Nil
Supplier shall provide dedicated and motorized chair for biopsy in seated position	Complies	Nil
Biopsy unit Weight: As per OEM	Complies	Nil
3D TOMOSYNTHESIS	Complies	Nil
3D volumes of the breast shall be displayed in individual slices	Complies	Nil
Number of exposures during tomosynthesis should not exceed 25 during a scan from various angles	Complies	Nil
Optimum depth resolution shall be achieved with large angle range and short exposure time	Complies	Nil
Conventional and tomosynthesis exposures shall be possible during the same examination	Complies	Nil
Tube angulation: $\pm 15^\circ$ or better	Complies	Nil
Scan time: 25 seconds or less	Complies	Nil
Number of projections: As per OEM or better	Complies	Nil
Pixel size tomosynthesis: 100 μm or less	Complies	Nil
Display on AWS: Projections: Reconstructed slices, Cine mode, Dose / projection, Dose / scan.	Complies	Nil
Contrast enhancement mammography option should be available	Complies	Nil
Standard Accessories with Mammography system (Sizes will be as per OEM)	Complies	Nil
Flexible compression plates: 18cm \times 24 cm, 24cm \times 30 cm approx	Complies	Nil
Mag Spot compression plate: 9 cm x 9 cm approx	Complies	Nil

Wall Holder: Compression Plates	Complies	Nil
Compression foot/paddle	Complies	Nil
Two magnifying glass / hand mirrors for viewing	Complies	Nil
Laser Printer: capable of printing 8×10 and 10×12 Films	Complies	Nil
X-Ray shield from original manufacturer integrated with acquisition console for protection	Complies	Nil
Illuminators for viewing mammograms	Complies	Nil
Memo pads 80 Qty or more	Complies	Nil
Mammography chair	Complies	Nil
3 Nos of Lead apron with thickness of 0.5mm	Complies	Nil
Compatible UPS for whole system with at least 30 minutes backup	Complies	Nil
15 days on site training	Complies	Nil
The supplier shall be responsible for the renovation of the entire Breast Screening Center. Renovation shall include,	Complies	Nil

**Compliance Sheet of the Required Specifications and the Quoted Specifications of M/S M/S
Fujifilm Pakistan (Pvt) Ltd**

Advertised / Required Specification	Quoted Specifications	Remarks
3D Mammography machine breast biopsy system Acquisition workstation, reporting workstation contrast enhancement laser printer	Complies	Nil
Swivel arm system consisting of X-ray tube unit, compression device and object table with integrated detector	Complies	Nil
Motorized, iso centric rotation of the swivel arm with preset rotation angle	Complies	Nil
The motorized, height-adjustable object table must adjust from examination stand as well as via the foot switch	Complies	Nil
Motorized and manual compression force	Complies	Nil
Digital display of compression force and compression thickness	Complies	Nil
Automatic collimation to the required radiation field size according to the compression plate selected	Complies	Nil
Integrated positioning/collimator light	Complies	Nil
Function for optimizing compression force	Complies	Nil
Pre-programmable exposure parameters for optimized patient dose and AEC (Automatic Exposure Control)	Complies	Nil
Source-image distance: 65 cm or more	Complies	Nil
Swivel range (motorized): + 180° to – 135° or more	Complies	Nil
Height adjustment (motorized): 70 cm to 138 cm or better on either side	Complies	Nil
Grid Ratio: 5:1, 31 lines/cm or better	Complies	Nil
Magnification factors: 1.5, geometric or better	Complies	Nil
X-Ray Generator	Complies	Nil
System with integrated, microprocessor-controlled, high frequency generator	Complies	Nil
Power output: 5 kW or better	Complies	Nil
kV Range: 23 kV to 49 kV or better on either side(adjustable in 1 kV increment)	Complies	Nil
mAS Range: 5 mAS to 500 mAs or better on either side	Complies	Nil
Exposure times: 3 sec or less in large focus & 5 sec or less in small focus	Complies	Nil
Exposure Modes: Automatic or Manual	Complies	Nil
X-Ray Tube	Complies	Nil
Mammography X-ray tube unit with dual-focus rotating-anode tube (Molybdenum/Tungsten/Rhodium)	Complies	Nil
Mammography X-ray tube unit with rotating anode	Complies	Nil
Focal spot: 0.1 / 0.3 or better	Complies	Nil
Anode Heat Storage Capacity: 300 kHU or more	Complies	Nil
Anode speed: As per OEM	Complies	Nil
Nominal Voltage: As per OEM	Complies	Nil
Optical Anode Angle: As per OEM	Complies	Nil
Flat Panel Detector	Complies	Nil

An integrated Flat Panel Detector	Complies	Nil
Latest detector technology with Amorphous Selenium (aSe)/CSior equally advanced material	Complies	Nil
Detector size: 24 cm x 29 cm or better	Complies	Nil
Pixel size: 100 µm or less	Complies	Nil
Acquisition WorkStation (Should be from same OEM)	Complies	Nil
CPU: Intel/AMD Multicore central processing unit or equivalent and should be from original manufacturer workstation	Complies	Nil
RAM: 16 GB or more	Complies	Nil
Hard Disk: 1 TB or more for image data	Complies	Nil
TFT color display Screen size: 3 MP 21” or better	2MP and 3MP LCD monitor	<p>As per the advertised specification, the system must include a color display with a resolution of 3 MP and a screen size of 21 inches or better. M/S Fujifilm quoted both 2 MP and 3 MP medical-grade monitors with the Acquisition Workstation (AWS). While the inclusion of the 3 MP monitor satisfies the minimum requirement, the presence of a 2 MP monitor introduces a variation in resolution within the offered configuration</p> <p>Accordingly, the committee has classified this as a minor deviation, and a deduction of 2 marks has been applied to M/S Fujifilm's technical evaluation score.</p> <p>The firm also provide third 5MP monitor for reporting workstation quotation</p>
Image Acquisition/Display/Processing:	Complies	Nil
Patient directory	Complies	Nil
image processing: Application-oriented (lookup tables) for contrast/brightness, Edge enhancement, Dynamic range control, Noise reduction, Detection of breast border, electronic shuttering	Complies	Nil
Text/graphic functions: Image orientation label, Image annotation and comment, Length and angle measurement, Interactive zoom and pan, Gray-scale inversion, Split screen function	Complies	Nil
Data Transfer and Documentation:	Complies	Nil

DICOM interface for image data communication based on the DICOM 3 standard: DICOM Storage (Send/Receive), DICOM Query/Retrieve, DICOM Storage Commitment, DICOM Print, DICOM HIS/RIS	Complies	Nil
DVD / CD burner writing of images in DICOM format to DVD/CD	Complies	Nil
The image should be transfer to reporting station for examination and reporting .Separate reporting workstation Should have TFT color display Screen size: 3 MP 21” or better, with advance computerized added detection software and laser jet printer	Complies	Nil
Stereotactic Biopsy Unit	Complies	Nil
The biopsy unit should be automatic stereotactic biopsy	Complies	Nil
The biopsy unit should comprise of a hand box for controlling the needle positioning device, a standard needle holder, a face shield to protect the patient from swivel arm movements, and calibration accessories	Complies	Nil
The biopsy unit should simply slide onto the object table and must be automatically detected by the machine for biopsies from any projection.	Complies	Nil
Workflow should be automated with remote tube movements of the stereo pair acquisition controlled from the AWS, and automatic needle positioning	Complies	Nil
Stereotactic biopsy shall be performed on seated and recumbent/prone position of the patients	Complies	Nil
Biopsy volume vertical needle guidance	Complies	Nil
Should have three axes (x, y & z) in vertical approach	Complies	Nil
Biopsy compression plates with and w/o window for vertical needle guidance	Complies	Nil
Swivel range of X-ray unit during stereotactic exposure: + 15°and – 15° or better	Complies	Nil
Supplier shall provide dedicated and motorized table for biopsy in recumbent/ prone position	Complies	Nil
Supplier shall provide dedicated and motorized chair for biopsy in seated position	Complies	Nil
Biopsy unit Weight: As per OEM	Complies	Nil
3D TOMOSYNTHESIS	Complies	Nil
3D volumes of the breast shall be displayed in individual slices	Complies	Nil
Number of exposures during tomosynthesis should not exceed 25during a scan from various angles	Complies	Nil
Optimum depth resolution shall be achieved with large angle range and short exposure time	Complies	Nil
Conventional and tomosynthesis exposures shall be possible during the same examination	Complies	Nil
Tube angulation: $\pm 15^\circ$ or better	Complies	Nil
Scan time: 25 seconds or less	Complies	Nil
Number of projections: As per OEM or better	Complies	Nil
Pixel size tomosynthesis: 100 μm or less	Complies	Nil

Display on AWS: Projections: Reconstructed slices, Cine mode, Dose / projection, Dose / scan.	Complies	Nil
Contrast enhancement mammography option should be available	Complies	Nil
Standard Accessories with Mammography system (Sizes will be as per OEM)	Complies	Nil
Flexible compression plates: 18cm × 24 cm, 24cm × 30 cm approx	Complies	Nil
Mag Spot compression plate: 9 cm x 9 cm approx	Complies	Nil
Wall Holder: Compression Plates	Complies	Nil
Compression foot/paddle	Complies	Nil
Two magnifying glass / hand mirrors for viewing	Complies	Nil
Laser Printer: capable of printing 8×10 and 10×12 Films	Complies	Nil
X-Ray shield from original manufacturer integrated with acquisition console for protection	Complies	Nil
Illuminators for viewing mammograms	Complies	Nil
Memo pads 80 Qty or more	Complies	Nil
Mammography chair	Complies	Nil
3 Nos of Lead apron with thickness of 0.5mm	Complies	Nil
Compatible UPS for whole system with at least 30 minutes backup	Complies	Nil
15 days on site training	Complies	Nil
The supplier shall be responsible for the renovation of the entire Breast Screening Center. Renovation shall include,	Complies	Nil

**Compliance Sheet of the Required Specifications and the Quoted Specifications of M/S M/S
Shirazi Trading Company (Pvt) Ltd**

Advertised / Required Specification	Quoted Specifications	Remarks
3D Mammography machine breast biopsy system Acquisition workstation, reporting workstation contrast enhancement laser printer	Complies	Nil
Swivel arm system consisting of X-ray tube unit, compression device and object table with integrated detector	Complies	Nil
Motorized, iso centric rotation of the swivel arm with preset rotation angle	Complies	Nil
The motorized, height-adjustable object table must adjust from examination stand as well as via the foot switch	Complies	Nil
Motorized and manual compression force	Complies	Nil
Digital display of compression force and compression thickness	Complies	Nil

Automatic collimation to the required radiation field size according to the compression plate selected	Complies	Nil
Integrated positioning/collimator light	Complies	Nil
Function for optimizing compression force	Complies	Nil
Pre-programmable exposure parameters for optimized patient dose and AEC (Automatic Exposure Control)	Complies	Nil
Source-image distance: 65 cm or more	Complies	Nil
Swivel range (motorized): + 180° to – 135° or more	Complies	Nil
Height adjustment (motorized): 70 cm to 138 cm or better on either side	Complies	Nil
Grid Ratio: 5:1, 31 lines/cm or better	Complies	Nil
Magnification factors: 1.5, geometric or better	Complies	Nil
X-Ray Generator	Complies	Nil
System with integrated, microprocessor-controlled, high frequency generator	Complies	Nil
Power output: 5 kW or better	Complies	Nil
kV Range: 23 kV to 49 kV or better on either side(adjustable in 1 kV increment)	Complies	Nil
mAS Range: 5 mAS to 500 mAs or better on either side	(0.1 sec to 2.5 sec)	
Exposure times: 3 sec or less in large focus & 5 sec or less in small focus	(0.1 sec to 2.5 sec)	<p>M/S Shirazi Trading Company (Pvt) Ltd has provided the minimum and maximum exposure times corresponding to varying breast thicknesses, which fall within the required advertised specifications. However, the firm has not explicitly specified whether these exposure times pertain to the large focus or small focus.</p> <p>Accordingly, the committee has classified this as a minor deviation, and a deduction of 2 marks has been applied to the technical evaluation score of M/S Shirazi Trading Company (Pvt) Ltd.</p>
Exposure Modes: Automatic or Manual	Complies	Nil
X-Ray Tube	Complies	Nil
Mammography X-ray tube unit with dual-focus rotating-anode tube (Molybdenum/Tungsten/Rhodium)	Complies	Nil
Mammography X-ray tube unit with rotating anode	Complies	Nil
Focal spot: 0.1 / 0.3 or better	Complies	Nil
Anode Heat Storage Capacity: 300 kHU or more	Complies	Nil
Anode speed: As per OEM	Complies	Nil
Nominal Voltage: As per OEM	Complies	Nil

Optical Anode Angle: As per OEM	Complies	Nil
Flat Panel Detector	Complies	Nil
An integrated Flat Panel Detector	Complies	Nil
Latest detector technology with Amorphous Selenium (aSe)/CsI or equally advanced material	Complies	Nil
Detector size: 24 cm x 29 cm or better	Complies	Nil
Pixel size: 100 µm or less	Complies	Nil
Acquisition WorkStation (Should be from same OEM)	Complies	Nil
CPU: Intel/AMD Multicore central processing unit or equivalent and should be from original manufacturer workstation	Complies	Nil
RAM: 16 GB or more	Complies	Nil
Hard Disk: 1 TB or more for image data	Complies	Nil
TFT color display Screen size: 3 MP 21" or better	Complies	Nil
Image Acquisition/Display/Processing:	Complies	Nil
Patient directory	Complies	Nil
image processing: Application-oriented (lookup tables) for contrast/brightness, Edge enhancement, Dynamic range control, Noise reduction, Detection of breast border, electronic shuttering	Complies	Nil
Text/graphic functions: Image orientation label, Image annotation and comment, Length and angle measurement, Interactive zoom and pan, Gray-scale inversion, Split screen function	Complies	Nil
Data Transfer and Documentation:	Complies	Nil
DICOM interface for image data communication based on the DICOM 3 standard: DICOM Storage (Send/Receive), DICOM Query/Retrieve, DICOM Storage Commitment, DICOM Print, DICOM HIS/RIS	Complies	Nil
DVD / CD burner writing of images in DICOM format to DVD/CD	Complies	Nil
The image should be transfer to reporting station for examination and reporting .Separate reporting workstation Should have TFT color display Screen size: 3 MP 21" or better, with advance computerized added detection software and laser jet printer	Complies	Nil
Stereotactic Biopsy Unit	Complies	Nil
The biopsy unit should be automatic stereotactic biopsy	Complies	Nil
The biopsy unit should comprise of a hand box for controlling the needle positioning device, a standard needle holder, a face shield to protect the patient from swivel arm movements, and calibration accessories	Complies	Nil
The biopsy unit should simply slide onto the object table and must be automatically detected by the machine for biopsies from any projection.	Complies	Nil
Workflow should be automated with remote tube movements of the stereo pair acquisition controlled from the AWS, and automatic needle positioning	Complies	Nil
Stereotactic biopsy shall be performed on seated and recumbent/prone position of the patients	Complies	Nil

Biopsy volume vertical needle guidance	Complies	Nil
Should have three axes (x, y & z) in vertical approach	Complies	Nil
Biopsy compression plates with and w/o window for vertical needle guidance	Complies	Nil
Swivel range of X-ray unit during stereotactic exposure: + 15° and – 15° or better	Complies	Nil
Supplier shall provide dedicated and motorized table for biopsy in recumbent/ prone position	Complies	Nil
Supplier shall provide dedicated and motorized chair for biopsy in seated position	Complies	Nil
Biopsy unit Weight: As per OEM	Complies	Nil
3D TOMOSYNTHESIS	Complies	Nil
3D volumes of the breast shall be displayed in individual slices	Complies	Nil
Number of exposures during tomosynthesis should not exceed 25 during a scan from various angles	Complies	Nil
Optimum depth resolution shall be achieved with large angle range and short exposure time	Complies	Nil
Conventional and tomosynthesis exposures shall be possible during the same examination	Complies	Nil
Tube angulation: $\pm 15^\circ$ or better	Complies	Nil
Scan time: 25 seconds or less	Complies	Nil
Number of projections: As per OEM or better	Complies	Nil
Pixel size tomosynthesis: 100 μm or less	Complies	Nil
Display on AWS: Projections: Reconstructed slices, Cine mode, Dose / projection, Dose / scan.	Complies	Nil
Contrast enhancement mammography option should be available	Complies	Nil
Standard Accessories with Mammography system (Sizes will be as per OEM)	Complies	Nil
Flexible compression plates: 18cm \times 24 cm, 24cm \times 30 cm approx	Complies	Nil
Mag Spot compression plate: 9 cm \times 9 cm approx	Complies	Nil
Wall Holder: Compression Plates	Complies	Nil
Compression foot/paddle	Complies	Nil
Two magnifying glass / hand mirrors for viewing	Complies	Nil
Laser Printer: capable of printing 8 \times 10 and 10 \times 12 Films	Complies	Nil
X-Ray shield from original manufacturer integrated with acquisition console for protection	Complies	Nil
Illuminators for viewing mammograms	Complies	Nil
Memo pads 80 Qty or more	Complies	Nil
Mammography chair	Complies	Nil
3 Nos of Lead apron with thickness of 0.5mm	Complies	Nil
Compatible UPS for whole system with at least 30 minutes backup	Complies	Nil
15 days on site training	Complies	Nil
The supplier shall be responsible for the renovation of the entire Breast Screening Center. Renovation shall include,	Complies	Nil

