CORRIGENDUM No: 3

to the TENDER DOSSIER

Publication Ref: SIHHAT/2018/SUP/INT/10

Subject: Supply of Medical Equipment for the Secondary Healthcare Premises

Location –Europe (non EU/Turkey)

The Tender Dossier is corrected/modified as follows:

INSTRUCTIONS TO TENDERERS
Instead of (the former text): **Item Number 1.1, Supplies to be provided** … in 18 lots to the points at the provinces of Turkey (please refer to the list of the provinces Appendix-A, delivery points list), within 90 (ninety) calendar days as also mentioned under Special Conditions, DDP[1], in accordance with point 15 of the Contract Notice. The detailed list of delivery points and quantities are given in Appendix-A to the Special Conditions. The distribution of quantities to the delivery points may be updated by the Contracting Authority based on the possible fluctuations on the number of migrants. **Read (new text):** **Item Number 1.1, Supplies to be provided** … in 18 lots to the points at the provinces of Turkey (please refer to the list of the provinces Appendix-A, delivery points list), within **90 (ninety) calender days for Lot-1, Lot-2, Lot-7, Lot-9, Lot-16 and Lot-18; 120 (a hundred and twenty) calender days for Lot-8, Lot-11, Lot-12 and Lot-17; 130 (a hundred and thirty) calender days for Lot-3, Lot-4, Lot-5, Lot-6 and Lot-10; 150 (a hundred and fifty) calender days for Lot-13, Lot-14 and Lot-15**;as also mentioned under Special Conditions, DDP[2], in accordance with point 15 of the Contract Notice. The detailed list of delivery points and quantities are given in Appendix-A to the Special Conditions. The distribution of quantities to the delivery points may be updated by the Contracting Authority based on the possible fluctuations on the number of migrants.
Instead of (the former text): **Article 11** Besides, the tenderer shall provide the following documentation / proposals for informative purpose during the post-warranty period. These proposals will not be a part of this contact but will be a binding commitment of the contractor: • a proposal including methodology and financial proposal for after-sales services (maintenance, repairing and logistics services) with their financial costs as specified in the Annex II+III Technical Specifications for 10 years.

[1] DDP (Delivered Duty Paid) — Incoterms 2010 International Chamber of Commerce http://www.iccwbo.org/products-and-services/trade-facilitation/incoterms-2010/the-incoterms-rules/.

[2] DDP (Delivered Duty Paid) — Incoterms 2010 International Chamber of Commerce http://www.iccwbo.org/products-and-services/trade-facilitation/incoterms-2010/the-incoterms-rules/.

Read (new text):

Article 11

… Besides, the tenderer shall provide the following documentation / proposals for informative purpose during the post-warranty period. These proposals will not be a part of this contact but will be a binding commitment of the contractor:

- a proposal including methodology and financial proposal for after-sales services (maintenance, repairing and logistics services) with their financial costs as specified in the Annex II+III Technical Specifications for 10 years.
- financial proposal for spare parts and consumables for use for 10 years with itemised price list…

SPECIAL CONDITIONS

Instead of (the former text):

Article 13.2 of Special Conditions

The subject of the contract shall be the supply, delivery, installation, warranty and training for all lots. Training must be completed within 90 (ninety) calendar days from the date of signature of the contract by both parties, at the indicative points in Appendix A to Special Conditions. In compliance with implementation of the tasks as required and within deadlines set in the ANNEX II + III: TECHNICAL SPECIFICATIONS

Read (new text):

Article 13.2 of Special Conditions

The subject of the contract shall be the supply, delivery, installation, warranty and training for all lots. Training must be completed within **90 (ninety) calender days for Lot-1, Lot-2, Lot-7, Lot-9, Lot-16 and Lot-18; 120 (a hundred and twenty) calender days for Lot-8, Lot-11, Lot-12 and Lot-17; 130 (a hundred and thirty) calender days for Lot-3, Lot-4, Lot-5, Lot-6 and Lot-10; 150 (a hundred and fifty) calender days for Lot-13, Lot-14 and Lot-15;** from the date of signature of the contract by both parties, at the indicative points in Appendix A to Special Conditions. In compliance with implementation of the tasks as required and within deadlines set in the ANNEX II + III: TECHNICAL SPECIFICATIONS

Instead of (the former text):

Article 19.1 of Special Conditions

The period of implementation of the tasks is within 90 (ninety) calendar days for the supply, delivery, warranty, installation and training. The date on which implementation of the tasks is to commence is the day following that on which the second of the two Parties sign …

Read (new text):

Article 19.1 of Special Conditions

The period of implementation of the tasks is within **90 (ninety) calender days for Lot-1, Lot-2, Lot-7, Lot-9, Lot-16 and Lot-18; 120 (a hundred and twenty) calender days for Lot-8, Lot-11, Lot-12 and Lot-17; 130 (a hundred and thirty) calender days for Lot-3,**

Lot-4, Lot-5, Lot-6 and Lot-10; 150 (a hundred and fifty) calender days for Lot-13, Lot-14 and Lot-15 for the supply, delivery, warranty, installation and training. The date on which implementation of the tasks is to commence is the day following that on which the second of the two Parties sign …

CONTRACT NOTICE

Instead of (the former text):

Article 15. Period of implementation of tasks

The implementation period for the contract will last 90 calendar days, starting from the commencement date of the Contract and ending on the day of issuance of the certificate of Provisional Acceptance. The implementation period will include delivery, installation, training and Provisional Acceptance.

Read (new text):

Article 15. Period of implementation of tasks

The implementation period for the contract will last **90 calender days for Lot-1, Lot-2, Lot-7, Lot-9, Lot-16 and Lot-18; 120 calender days for Lot-8, Lot-11, Lot-12 and Lot-17; 130 calender days for Lot-3, Lot-4, Lot-5, Lot-6 and Lot-10; 150 calender days for Lot-13, Lot-14 and Lot-15**; starting from the commencement date of the Contract and ending on the day of issuance of the certificate of Provisional Acceptance. The implementation period will include delivery, installation, training and Provisional Acceptance.

Instead of (the former text):

Article 16 of Contract Notice

…Professional capacity of tenderer (based on i.a. items 4 and 5 of the Tender Form for a Supply Contract). The reference period, which will be taken into account will be the last 5 years from submission deadline…

Read (new text):

Article 16 of Contract Notice

…Professional capacity of tenderer (based on i.a. items 4 and 5 of the Tender Form for a Supply Contract). The reference period, which will be taken into account will be the last **3** years from submission deadline…

ANNEX II+III: TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

Instead of (the former text):

General Requirements, Item Number **3.7**

The tender shall submit along with their bids the originals or notarized copies of the following documents, which certify that they are actually engaged in the business that is covered by the tender and pertain to the year in which the tender is conducted. Capacity Report, Industry Ministry after Sales Service Qualification Certificate, Industry Ministry Authorized Service Certificate, ISO 9001 Certificate.

Read (new text):

This item is hereby removed from the Technical Specifications.

Instead of (the former text):

General Requirements, Item Number **3.9**

Unless otherwise stated, the contractor at least 2 (two) days free training of at least 2 (two) staff to determine the use, maintenance, calibration, care and possible defects of the device with their trained staff. These trainings will be repeated up to 3 times for each device if requested during the warranty period. This requirement will be certified by the contractor in the tender file. The date and place which will be determined by the center. Documents and equipment's required for training shall be met by the Contractor.

Read (new text):

General Requirements, Item Number **3.9**

Unless otherwise stated, the contractor at least 2 (two) days free training of at least 2 (two) staff to determine the use, **daily** maintenance, calibration, **first level intervention in case of malfunctions** of the device with their trained staff. These trainings will be repeated up to 3 times for each device if requested during the warranty period. This requirement will be certified by the contractor in the tender file. The date and place which will be determined by the center. Documents and equipment's required for training shall be met by the Contractor.

Instead of (the former text):

Item Number **1.2.1**

Anaesthesia device shall be composed of patient bedhead unit with anaesthetic trolley, a ventilator, a vaporizer, a fresh gas delivery unit, a CO2 absorber, ventilation monitor, **and a portable display module**. All units, except the patient bedhead unit, must belong to the same manufacturer.

Read (new text):

Item Number **1.2.1**

Anaesthesia device shall be composed of anaesthetic trolley, a ventilator, a vaporizer, a fresh gas delivery unit, a CO2 absorber, ventilation monitor and patient bedhead unit. All units, except the patient bedhead unit, must belong to the same manufacturer.

Instead of (the former text):

Item Number **1.2.6**

The flow sensor and the oxygen sensor of the device must be paramagnetic.

Read (new text):

Item Number **1.2.6**

The flow sensor and the oxygen sensor of the device must be **re-usable**.

Instead of (the former text):

Item Number **1.2.30**

The ventilator of the device shall be in an electronic controlled-piston type shall have volume reflector technology to sensitively deliver anaesthetic gases to the respiratory system and it shall have the characteristics specified in the following articles.

Read (new text):

Item Number **1.2.30**

The ventilator of the device shall be in an electronic controlled-piston type or **bellow type** or shall have volume reflector technology to sensitively deliver anaesthetic gases to the respiratory system and it shall have the characteristics specified in the following articles.

Instead of (the former text):

Item Number **1.2.30.4**

The PEEP value of the ventilator must be adjustable within the range of at least 1 (one) cmH2O to 20 (twenty) cmH2O.

Read (new text):

Item Number **1.2.30.4**

The PEEP value of the ventilator must be adjustable within the range of at least **2 (two)** cmH2O to 20 (twenty) cmH2O.

Instead of (the former text):

Item Number **1.2.32.3**

At the same time, at least 3 (three) waveforms shall be observed. (Airway pressure, VT and CO2).

Read (new text):

Item Number **1.2.32.3**

At the same time, at least 3 (three) waveforms shall be observed. (Airway pressure, VT or **flow** and CO2).

Instead of (the former text):

Item Number **1.2.36**

With a module or external monitor that can optionally be added to the monitor via the hemodynamic monitor with a fee, and a Bilaterally BIS or Sedline, cardiac output (CO) or continuous cardiac output (CCO) parameters can be added in the future.

Read (new text):

Item Number **1.2.36**

With a module or external monitor that can optionally be added to the monitor via the hemodynamic monitor with a fee, and a BIS or Sedline, cardiac output (CO) or continuous cardiac output (CCO) parameters can be added in the future.

Instead of (the former text):

Item Number **1.2.39.13**

For the back of the anaesthesia device, 1 (one) oxygen tube in its original size (at least five litres) and the original jack and connection clips the hoses, if need be, pressure regulator clock that provide the connection with the device.

Read (new text):

Item Number **1.2.39.13**

The item is hereby removed from the technical specifications.

Instead of (the former text):

Item Number **1.2.39.14**

For the back of the anaesthesia device, 1 (one) nitrogen tube original tube in its original size (at least five litres) and the original jack and connection clips the hoses, if need be, pressure regulator clock that provide the connection with the device.

Read (new text):

Item Number **1.2.39.14**

The item is hereby removed from the technical specifications.

Instead of (the former text):

Item Number **2.3.33.6**

The vaporizer shall be in capacity to receive the inhalation agent of at least 220 mA.

Read (new text):

Item Number **2.3.33.6**

The vaporizer shall be in capacity to receive the inhalation agent of at least 220 **ml**.

Instead of (the former text):

Item Number **2.4.2**

The ventilator's inflation pressure shall be adjustable between at least 5 (five) cmH_2o and 60 (sixty) cmH_2o intervals.

Read (new text):

Item Number **2.4.2**

The ventilator's **inspiration** pressure shall be adjustable between at least 5 (five) cmH_2o and 60 (sixty) cmH_2o intervals.

Instead of (the former text):

Item Number **2.4.5**

The PEEP value of the ventilator must be adjustable between at least 1 (one) cmH_2o and 20 (twenty) cmH_2o.

Read (new text):

Item Number **2.4.5**

The PEEP value of the ventilator must be adjustable between at least **2 (two)** cmH2o and 20 (twenty) cmH2o.

Instead of (the former text):

Item Number **2.4.9**

The devices shall have a flow triggering system that can be set at a minimum (-20) -0 cmH_2o range and/or can be set at a minimum 0.3-10 lt/min range.

Read (new text):

Item Number **2.4.9**

The devices shall have a flow **or pressure** triggering system that can be set at a minimum (-20) -0 cmH2o range and/or can be set at a minimum 0.3-10 lt/min range.

Instead of (the former text):

Item Number **2.5.3**

At least 3 (three) waveforms (airway pressure/flow, VT and CO_2) should be monitored at the same time.

Read (new text):

Item Number **2.5.3**

At least 3 (three) waveforms (airway pressure, VT or flow and CO2) should be monitored at the same time.

Instead of (the former text):

Item Number **2.6.9**

The parameters specified on the patient bed monitor (internal or external), at least in the following items, must be monitored as standard and the monitor must have the necessary software and hardware for it.

Read (new text):

Item Number **2.6.9**

The parameters specified at least in the following items, must be monitored on the patient bed monitor or on another external monitor as standard and the monitor must have the necessary software and hardware for it.

Instead of (the former text):

Item Number **3.3.7**

At least 750 frame will be taken with 2D-Mode and at least 30 seconds of Doppler information will be taken with “cineloop” memory of the system. Cine memory capacity of device will be at least 1.5 GB. It will be possible to select images from memory and to replay in slow mode.

Read (new text):

Item Number **3.3.7**

At least 750 frame will be taken with 2D-Mode and at least 30 seconds of Doppler information will be taken with “cineloop” memory of the system. Cine memory capacity of device will be at least **500 MB**. It will be possible to select images from memory and to replay in slow mode.

Instead of (the former text):

Item Number **3.3.13**

System monitor will have high resolution, vibration free Flat Panel (LCD or LED) in at least 19” size.

Read (new text):

Item Number **3.3.13**

System monitor will have high resolution, vibration free Flat Panel (**OLED** or LCD or LED) in at least 19” size.

Instead of (the former text):

Item Number **3.3.22**

Software will be given for off-line works via computers with appropriate hardware and software to do strain / strain rate/ speckle tracking (2D strain or AFI) and 3D volume analysis on images taken from device. Device will have nSIGHT, XDclear, IN Focus Coherent or Smart Core Engine technology which makes it possible to examine tissue details in a much higher resolution by providing high levels of penetration at high frequencies especially for difficult patients.

Read (new text):

Item Number **3.3.22**

A software which would run in a computer with the suitable hardware and software should be provided in order to implement strain / strain rate/ speckletracking (2D strain or AFI) and 3D volume analysis off-line on the images from the system. The system should have nSIGHT or XDclear or IN FocusCoherent or **iBEAM** technology which would provide high resolution analysis for detailed tissue analysis at high frequencies with high penetration especially on technically challenging patients.

Instead of (the former text):

Item Number **3.3.23**

It will be able to do automatic Speckle tracking and Global Strian analysis and will detect biplane systole and diastole and carry out EF calculation and sector probe can be attached for live 3D imaging which can increase to 7 MHz frequency special for pediatric patients.

Read (new text):

Item Number **3.3.23**

It will be able to do automatic Speckle tracking and Global Strian analysis and will detect biplane systole and diastole and carry out EF calculation and sector probe can be attached for live 3D imaging which can increase to at least 4 MHz frequency special for pediatric patients.

Instead of (the former text):

Item Number **3.3.24**

It will be able to do 4D Strain in the system.

Read (new text):

Item Number **3.3.24**

It will be able to do 4D Strain or full automatically perform left ventricule (LV) and left atrium (LA) volume analysis (Dynamic Heart Model).

Instead of (the former text):

Item Number **3.4**

System can do real time tissue synchronization and strain-strain rate imaging.

Read (new text):

Item Number **3.4**

System can do real time **or post processes** tissue synchronization and strain-strain rate imaging.

Instead of (the former text):

Item Number **3.4.1**

Offered system will be DICOM 3.0 compliant and this feature must be given with the system. One laser printer with at least 2400x600 dpi resolution and 15 pages/minute printing speed and 1 black/white video printer will be given.

Read (new text):

Item Number **3.4.1**

Offered system will be DICOM 3.0 compliant and this feature must be given with the system. One laser printer with at least 2400x600 dpi resolution and 15 pages/minute printing speed **or one video printer** and 1 black/white video printer will be given.

Instead of (the former text):

Item Number **4.3.10.2**

Matrix, X-Matrix or Volume sector probe which can do Transthoracic, Adult, Paediatric or Newborn real-time 3D imaging.

Read (new text):

Item Number **4.3.10.2**

Matrix, X-Matrix or Volume probe which can do, Adult, Pediatric or Newborn real-time 3D imaging.

Instead of (the former text):

Item Number **4.3.20**

Multiplan TEE probes can be connected to the system for adult and pediatric purposes.

Read (new text):

Item Number **4.3.20**

Multiplan TEE **or Matrix or Xmatrix Multiplan TEE** probes can be connected to the

system for adult and pediatric purposes.

Instead of (the former text):

Item Number **4.3.22**

When demanded, hardware including software and probe for carrying out real time transthoracic cardiac can be added to system. (If 3D is required in the hospital, cost of necessary hardware and probe is paid according to probe and part price list demanded with device. Related firm is responsible to upgrade device hassle free for 3D function.)

Added software will include real time transthoracic 3D cardiac imaging, single beat, Multi Beat 3D Full Volume imaging, at least 6 or 9 slice imaging and real time 3D or 4D works. Firms will deliver detailed information and documents about related software and hardware.

Read (new text):

Item Number **4.3.22**

When demanded, hardware including software and probe for carrying out real time transesophageal cardiac can be added to system. (If 3D is required in the hospital, cost of necessary hardware and probe is paid according to probe and part price list demanded with device. Related firm is responsible to upgrade device hassle free for 3D function.)

Added software will include real time TEE 3D cardiac imaging, single beat, Multi Beat 3D Full Volume imaging, at least 6 or 9 slice imaging and real time 3D or 4D works. Firms will deliver detailed information and documents about related software and hardware.

Instead of (the former text):

Item Number **4.3.23**

Device will have nSIGHT, XDclear, IN Focus Coherent, Smart Core Engine or Sound Velocity technology which make it possible to examine tissue details in a much higher resolution by providing high levels of penetration at high frequencies especially for difficult patients.

Read (new text):

Item Number **4.3.23**

Device will have nSIGHT, XDclear, IN Focus Coherent, Smart Core Engine or **iBEAM** technology which make it possible to examine tissue details in a much higher resolution by providing high levels of penetration at high frequencies especially for difficult patients.

Instead of (the former text):

Item Number **4.5.1**

Offered system will be DICOM 3.0 compliant and this feature must be given with the system. One laser printer with at least 2400x600 dpi resolution and 15 pages/minute printing speed and 1 black/white video printer will be given.

Read (new text):

Item Number **4.5.1**

Offered system will be DICOM 3.0 compliant and this feature must be given with the system. One laser printer with at least 2400x600 dpi resolution and 15 pages/minute

printing speed **or one video printer** and 1 black/white video printer will be given.

Instead of (the former text):

Item Number **5.3.10.1**

Sector probe with transthoracic Adult, Paediatric or Newborn, Multi-frequency and/or broadband, single crystal and matrix, pure wave, XBT, Multi D matrix technology.

Read (new text):

Item Number **5.3.10.1**

Sector probe with transthoracic Adult **or** Paediatric or Newborn**;** Multi-frequency and/or broadband **or** single crystal **or** matrix **or** pure wave **or** XBT **or** Multi D matrix **or law lens or RS or IQ probe** technology.

Instead of (the former text):

Item Number **5.3.10.2**

Matrix or Volume sector probe which can do Adult, Paediatric or Newborn live 3D imaging.

Read (new text):

Item Number **5.3.10.2**

Matrix or Volume sector probe which can do Adult, Paediatric or Newborn live 3D imaging or real time 3D Transthorasic probe or it should have ability to connect to matrix TEE probe.

Instead of (the former text):

Item Number **5.3.19**

Offered system will have software to show deformation rate of heart tissue (strain%)

l/s strain rate. Strain feature will be used with color Doppler or 2D images (using TDI or speckle tracking technique. And additionally system will provide at least one of below features:

a) Color anatomic M-1VIOD imaging, anatomic M-MOD feature's being used with color tissue Doppler and having integrated real time strain imaging feature.

b) Gain setting can be continually adjusted automatically (Adaptive Gain Compensation) and having 2 Lateral Gain Controller (LGC).

c) Automatic myocardia edge detection feature (native tracing software, eSieCalcs)

d) Having Matrikx probe performance booster Dynamic MicroSlice feature and being able to show vein luminal walls in 3D. (Fly Thru)

Mapping direction of blood flow in cardiac cavities independently by probe during Doppler. (VFM: Vector Flow Mapping)

Read (new text):

Item Number **5.3.19**

Offered system will have software to show deformation rate of heart tissue (strain%)

l/s strain rate. Strain feature will be used with color Doppler or 2D images (using TDI or

speckle tracking technique. And additionally system will provide at least one of below features:

a) Color anatomic M-1VIOD imaging, anatomic M-MOD feature's being used with color tissue Doppler and having integrated real time strain imaging feature **or Real Time Anatomic M-MODE feature with up to 3 different region M Mode imaging (Single, Dual and Triple Anatomic M Mode) or proposed system should be compatible with XDClear probe.**

b) Gain setting can be continually adjusted automatically (Adaptive Gain Compensation) and having 2 Lateral Gain Controller (LGC).

c) Automatic myocardia edge detection feature (native tracing software, eSieCalcs)

d) Having Matrikx probe performance booster Dynamic MicroSlice feature and being able to show vein luminal walls in 3D. (Fly Thru)

Mapping direction of blood flow in cardiac cavities independently by probe during Doppler. (VFM: Vector Flow Mapping).

e) Having color angio or microV feature.

Instead of (the former text):

Item Number **5.3.21**

Related firm will connect adult and TEE probe to the offered system during demo and show that they are working. Firms which offer both adult and pediatric TEE examination with a single probe will show with a single probe that TEE imaging works. By this way hospital will be able to buy pediatric or adult TEE probe and use with the system. Probe price cannot be more than 20% of tender value of a device in this level.

Read (new text):

Item Number **5.3.21**

Hospital will be able to buy pediatric or adult TEE probe and use with the system. Probe price cannot be more than 20% of tender value of a device in this level.

Instead of (the former text):

Item Number **5.5.1**

Offered system will be DICOM 3.0 compliant and this feature must be given with the system. One laser printer with at least 2400x600 dpi resolution and 15 pages/minute printing speed and 1 black/white video printer will be given.

Read (new text):

Item Number **5.5.1**

Offered system will be DICOM 3.0 compliant and this feature must be given with the system. One laser printer with at least 2400x600 dpi resolution and 15 pages/minute printing speed **or one video printer** and 1 black/white video printer will be given.

Instead of (the former text):

Item Number **6.3.16**

To provide better image resolution and image integrity, the device shall have one of the following technologies: Agile Acoustic Amplifier Architecture or SieStream Core Architecture or N-Sight Imaging architecture or Multi-Core processing architecture or UltraBE or S- View Architecture or CPWG or High Density Beamforming etc.

Read (new text):

Item Number **6.3.16**

To provide better image resolution and image integrity, the device shall have one of the following technologies: Agile Acoustic Amplifier Architecture or SieStream Core Architecture or N-Sight Imaging architecture or Multi-Core processing architecture or UltraBE or S- View Architecture or CPWG or High Density Beamforming or SonicSoftware™etc.

Instead of (the former text):

Item Number **6.3.18**

All the probes used in the device must be able to work with triplex mode that can simultaneously indicate B-mod, Coloured Doppler and Spectral Doppler in real time.

Read (new text):

Item Number **6.3.18**

The probes proposed to be used with the system should work with B-mode, Color Doppler and triplex mode that can show Spectral Doppler real time.

Instead of (the former text):

Item Number **6.3.22**

Device monitor shall be of high resolution, "non-interlaced" and all direction rotatable LCD or LED TFT, and the dimension shall be at least 21 inches.

Read (new text):

Item Number **6.3.22**

Device monitor shall be of high resolution, "non-interlaced" and all direction rotatable LCD or LED TFT, and the dimension shall be at least 19 inches.

Instead of (the former text):

Item Number **6.3.23**

The control panel of the device shall have a minimum of 10 inch touch-screen to provide easy access to the menu by the users.

Read (new text):

Item Number **6.3.23**

The control panel of the device shall have a minimum of 8.9 inch touch-screen to provide easy access to the menu by the users.

Instead of (the former text):

Item Number **6.3.40**

The device shall have the ability to perform share wave elastography. Elastography function must be usable by convex and/or micro-convex and/or linear probes. As well as the visual analysis (colour codes indicating the hardness level of the lesion), elastography Imaging mode shall also contain a Quantification analysis program or Strain ratio measurement program. With the Quantification analysis program, it shall be possible to perform real time or post processing actions. With strain ratio measurement, it shall be possible to measure the ratio of the pixels changing places in the selected area, or in other words, the ratio of the tissue. This way, it shall be possible to relatively specify the hardness level between the two selected tissue areas and also monitor on the screen.

Read (new text):

Item Number **6.3.40**

The device shall have the ability to perform strain elastography. Elastography function must be usable by convex and/or micro-convex and/or linear probes. As well as the visual analysis (colour codes indicating the hardness level of the lesion), elastography Imaging mode shall also contain a Quantification analysis program or Strain ratio measurement program. With the Quantification analysis program, it shall be possible to perform real time or post processing actions. With strain ratio measurement, it shall be possible to measure the ratio of the pixels changing places in the selected area, or in other words, the ratio of the tissue. This way, it shall be possible to relatively specify the hardness level between the two selected tissue areas and also monitor on the screen.

Instead of (the former text):

Item Number **6.3.41**

As an option, it shall be possible to add Shearvvave Elastography function to the device against a payment. The elastography function shall work with convex and/or micro-convex and/or linear probes. It shall be possible to add this function without changing the UBB log of the device, without making any modification on the device and without changing the model name. The price of this optional function cannot exceed 10% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender.

Read (new text):

Item Number **6.3.41**

The item is hereby removed from the Technical Spesifications.

Instead of (the former text):

Item Number **6.3.48**

For the volume probe and biplane probes, this price cannot exceed 12% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender. These ratios do not include laparoscopic, pen, TEE probes. Applicant company shall provide a list of all probes conforming to the device during the contract phase.

Read (new text):

Item Number **6.3.48**

For the volume probe ,biplane probes,and Matrix or XMatrix or IQ probe technologies this

price cannot exceed 12% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender. These ratios do not include laparoscopic, pen, TEE probes. Applicant company shall provide a list of all probes conforming to the device during the contract phase.

Instead of (the former text):

Item Number **7.3.12**

The maximum frame rate of the device in B-Mode shall be at least 1000 frame/second. This article shall be certified by the original catalogue or Turkish language version prepared in accordance with original or by the document duly acquired by the contractor from the manufacturing company.

Read (new text):

Item Number **7.3.12**

The maximum frame rate of the device shall be at least 1000 frame/second. This article shall be certified by the original catalogue or Turkish language version prepared in accordance with original or by the document duly acquired by the contractor from the manufacturing company.

Instead of (the former text):

Item Number **7.3.28**

The device shall have detailed programs that can measure, calculate parameters of the B-Mod, M-Mod and Doppler mode.

- It shall be possible to perform the following measurements in the device.
- In B-Mode: Distance, circumference, area, angle, volume,
- In M-Mode: Depth, time, slope, heart beat ratio,

In Doppler Mode: time, speed, average speed, flow speed integral, pulsation index (PI), resistivity index (RI), Max Pressure Gradient, Mean Pressure Gradient. In the obstetric analysis package of the device, the following measurements shall be included as a minimum: Early gestation, Amniotic fluid index, Fetal Doppler, MA and EDD from LMP, EDD from Ultrasonography measurements, Cephalic index, BPD, HC, AC, FL, FL/AC ratio, HC/AC ratio, FL/BPD ratio, EFW, Fetal growth curve. At the end of the measurements, the device shall indicate whether fetal growth is within normal limits by marking inside the graphic. Obstetric program shall include a nuchal measurement program.

Read (new text):

Item Number **7.3.28**

The device shall have detailed programs that can measure, calculate parameters of the B-Mod, M-Mod and Doppler mode.

- It shall be possible to perform the following measurements in the device.
- In B-Mode: Distance, circumference, area, angle, volume,
- In M-Mode: Depth, time, slope, heart beat ratio,

In Doppler Mode: time, speed, average speed, flow speed integral, pulsation index (PI), resistivity index (RI), Max Pressure Gradient, Mean Pressure Gradient.

In the obstetric analysis package of the device, the following measurements shall be

included as a minimum: Early gestation, Amniotic fluid index, Fetal Doppler, MA and EDD from LMP, EDD from Ultrasonography measurements, BPD, HC, AC, FL, FL/AC ratio, HC/AC ratio, FL/BPD ratio, EFW, Fetal growth curve. At the end of the measurements, the device shall indicate whether fetal growth is within normal limits by marking inside the graphic. Obstetric program shall include a nuchal measurement program or it would be possible to add preset special for Early OB imaging.

Instead of (the former text):

Item Number **7.3.32**

It shall be possible to attach crystal-order matrix array or Xmatrix convex or Multi- D or Mono Crystal or IQ probes with at least 5000 sub-elements per cm^2, systems not allowing such attachment will be refused. The probe of the subject technology shall be shown over the original catalogue.

Read (new text):

Item Number **7.3.32**

It shall be possible to attach crystal-order matrix array or Xmatrix convex or Multi- D or Mono Crystal or minimum 5000 sub-elements per cm2 IQ probes, systems not allowing such attachment will be refused. The probe of the subject technology shall be shown over the original catalogue.

Instead of (the former text):

Item Number **7.3.34**

With the Matrix or 256 crystal probes to be attached to the device, it shall be possible to perform breast, vascular, neonatal and paediatric reviews, to perform chest, vascular, Musculoskeletal, Testicle, Thyroid reviews with Linear probes having Multi D or Mono-Crystal or IQ probe technology, and to perform abdominal, intestine, renal, vascular, obstetric and fetal echo reviews with Purewave probes. The presets required for these reviews have to be uploaded in the probes. The devices which only the TEE probe uses one of these technologies will not be accepted. At least one of the probes to be proposed shall have one of these technologies.

Read (new text):

Item Number **7.3.34**

With the Matrix or 256 crystal probes or Mono Crystal probes to be attached to the device, it shall be possible to perform breast, vascular, neonatal and paediatric reviews, to perform chest, vascular, Musculoskeletal, Testicle, Thyroid reviews with Linear probes having Multi D or Mono-Crystal or IQ probe technology, and to perform abdominal, intestine, renal, vascular, obstetric and fetal echo reviews with Purewave probes. The presets required for these reviews have to be uploaded in the probes. The devices which only the TEE probe uses one of these technologies will not be accepted. At least one of the probes to be proposed shall have one of these technologies.

Instead of (the former text):

Item Number **7.3.35**

In the proposed device, it shall be possible to add Real Time 3D (4D) imaging function that could work with volume probes. The price of this optional function cannot exceed 10% of

the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender.

Read (new text):

Item Number **7.3.35**

In the proposed device, it shall be possible to add Real Time 3D (4D) imaging function that could work with volume probes or support 3D imaging in B-mode, by linear and vaginal transducers. The systems by Volume vaginal transducers should support color mode in 3D imaging and volume probes should support the Sharewave Elastography. The price of this optional function cannot exceed 10% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender.

Instead of (the former text):

Item Number **7.3.36**

It shall be possible to connect 4D probes to the device.

Read (new text):

Item Number **7.3.36**

It shall be possible to connect 4D probes or Linear and vaginal Volume probes to the device.

Instead of (the former text):

Item Number **7.3.37**

In the proposed device, it shall be optionally possible to add, against a payment, a special program (STIC) or Volume (Organ Volume) calculation program (Vocal etc.) for reviewing fetal heart abnormalities during routine obstetric works. The price of this optional function cannot exceed 7% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender.

Read (new text):

Item Number **7.3.37**

In the proposed device, it shall be optionally possible to add, against a payment, a special program (STIC) or Volume (Organ Volume) calculation program (Vocal etc.) for reviewing fetal heart abnormalities during routine obstetric works or it should be possible to add Linear and vaginal volume transducers support Intuitive 3D navigation and Sharewave elastography ability. The price of this optional function cannot exceed 7% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender.

Instead of (the former text):

Item Number **7.3.38**

In the proposed device, it shall be optionally possible to add, against a payment, a program to be used for post-process actions in 4D applications that can simultaneously display at least nine images on a single screen as post process, where any of the images can be selected and post process actions can be performed on it (Tomographic Ultrasound Imaging, Multi Slice, Thick Slice etc.). The price of this optional function cannot exceed

3% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender.

Read (new text):

Item Number **7.3.38**

In the proposed device, it shall be optionally possible to add, against a payment, a program to be used for post-process actions in 4D applications that can simultaneously display at least nine images on a single screen as post process, where any of the images can be selected and post process actions can be performed on it (Tomographic Ultrasound Imaging, Multi Slice, Thick Slice etc.) or it shall be optionally possible in vaginal and linear volume probes save as 3D volume loops and can support review package with advanced 3D realtime post-processing in 3D B-mode and sharwave Eastography volume measurements. The price of this optional function cannot exceed 3% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender.

Instead of (the former text):

Item Number **7.3.39**

The proposed device shall have a function to send sound waves in different angles than linear and convex probes and a function to take a more detailed tissue information by merging the data coming from probes (Compound Imaging, Crossbeam, SonoCT, Sieclear, ApliPure, M View etc.). In this function, it shall be possible to send the sound waves in at least nine different angles with at least one of the linear or convex probes.

Read (new text):

Item Number **7.3.39**

The proposed device shall have a function to send sound waves in different angles than linear and convex probes and a function to take a more detailed tissue information by merging the data coming from probes (Compound Imaging, Crossbeam, SonoCT, Sieclear, ApliPure, M View , SuperCompound (Spatial Compounding), etc.). In this function, it shall be possible to send the sound waves in at least nine different angles with at least one of the linear or convex probes.

Instead of (the former text):

Item Number **7.3.40**

The system shall have a function that eliminates the artefacts in the image, reduces the speckle noise and increases resolution (Speckle Reduction Imaging or XRES yada Dynamic TCE or X View etc.).

Read (new text):

Item Number **7.3.40**

The system shall have a function that eliminates the artefacts in the image, reduces the speckle noise and increases resolution (Speckle Reduction Imaging or XRES yada Dynamic TCE or X View or SuperRes™ etc.).

Instead of (the former text):

Item Number **7.3.43**

In the proposed device, it shall be optionally possible to add, against a payment, share wave elastography function (Elasticity Imaging). As well as the visual analysis (colour codes indicating the hardness level of the lesion), elastography Imaging mode shall also contain a Quantification analysis program or Strain ratio measurement program. It shall be possible to perform elastography imaging with at least one linear, at least one convex and at least one endocavity probe, and it shall be possible to use strain ratio or quantification analysis program with at least 1 linear probe. The price of this optional function cannot exceed 7% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender.

Read (new text):

Item Number **7.3.43**

In the proposed device, it shall be optionally possible to add, against a payment, strain elastography function (Elasticity Imaging). As well as the visual analysis (colour codes indicating the hardness level of the lesion), elastography Imaging mode shall also contain a Quantification analysis program or Strain ratio measurement program. It shall be possible to perform elastography imaging with at least one linear, at least one convex and at least one endocavityprobe, and it shall be possible to use strain ratio or quantification analysis program with at least 1 linear probe. The price of this optional function cannot exceed 7% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender.

Instead of (the former text):

Item Number **7.3.56**

For the volume probe, biplane probes, and probes with matrix array or Xmatrix convex or Multi-D or Single Crystal or IQ technology, this price cannot exceed 12% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender. These ratios do not include laparoscopic, pen, TEE probes. Applicant company shall provide a list of all probes conforming to the device during the contract phase.

Read (new text):

Item Number **7.3.56**

For the volume probe or biplane probes, and probes with matrix array or Xmatrix convex or Multi-D or Single Crystal or IQ technology or mono crystal, this price cannot exceed 12% of the unit price acquired by updating the tender unit price cost over the Turkish Statistical Institute's Price Index on the date of tender. These ratios do not include laparoscopic, pen, TEE probes. Applicant company shall provide a list of all probes conforming to the device during the contract phase.

Instead of (the former text):

Item Number **8.2.39** High Level Intensive Care Incubator

The system shall be able to display the below given parameters over its own screen integrated to the incubator or over an external device with a TFT LCD screen. For devices without this system, each device shall be supplied with a Pulse Oximeter device that bears the following features.

- The oxygen saturation inside the baby's abdomen (provided as a standard)
- Baby's pulse (provided as a standard)
- Perfusion Index, in numeric (provided as a standard)
- Perfusion index (PI) shall be numerically measured between 0.02% and 20%.

Read (new text):

Item Number **8.2.39** High Level Intensive Care Incubator

The system shall be able to display the below given parameters over its own screen integrated to the incubator or over an external device with a TFT LCD screen. For devices without this system, each device shall be supplied with a Pulse Oximeter device that bears the following features.

- The oxygen saturation inside the baby's blood (provided as a standard)
- Baby's pulse (provided as a standard)
- Perfusion Index, in numeric (provided as a standard)
- Perfusion index (PI) shall be numerically measured between 0.02 and 20.

Instead of (the former text):

General Specifications

LOT 10 – HIGH LEVEL VENTILATOR - ADULT

Read (new text):

General Specification

LOT 10 – MEDIUM LEVEL VENTILATOR – ADULT

Instead of (the former text):

Item Number **10.2.9**

The device must operate in the ventilation modes specified in the subclauses. Each ventilation mode must be selectable on the same screen.

a) Volume-targeted ventilation modes: VC or IPPV or CMV

b) Pressure-targeted ventilation modes: In addition to the Pressure Control mode, BIPAP or Bi-Level or Bi-Vent or Bi-phasic or DuaPAP or Duolevel or DualPAP or Dyn-BILEVEL

c) APRV or APRV / Bi-Vent

d) Closed loop ventilation modes: Pressure controlled/assisted ventilation modes where the pressure control/ upport level can be automatically set by the device to reach the target tidal/minute volume; PC-CMV-VG or PRVC or ASV

e) Volume support

f) Autoflow or SIMV (PRVC) or SIMV (APV)

g) Spontaneous ventilation modes: CPAP-PS or CPAP-ASB or Spontaneous

h) Combined ventilation modes: SIMV (VC) + PS and/or SIMV (PCI + PS)

i) Endotracheal and tracheostomy "Tube ResistanceCompensation" (TRC/ATC/ARC/TC) shall be available in the device. On this count, the user can directly adjust the tube diameter and compensation percentage or the device shall have the feature of circuit compliance compensation that can be turned on and off.

Read (new text):

Item Number **10.2.9**

The device must operate in the ventilation modes specified in the subclauses. Each ventilation mode must be selectable on the same screen.

a) Volume-targeted ventilation modes: VC or IPPV or CMV

b) Pressure-targeted ventilation modes: In addition to the Pressure Control mode, BIPAP or Bi-Level or Bi-Vent or Bi-phasic or DuaPAP or Duolevel or DualPAP or Dyn-BILEVEL

c) APRV or APRV / Bi-Vent

d) Closed loop ventilation modes: Pressure controlled/assisted ventilation modes where the pressure control/ upport level can be automatically set by the device to reach the target tidal/minute volume; PC-CMV-VG or PRVC or ASV

e) Volume support

f) Autoflow or SIMV (PRVC) or SIMV (APV)

g) Spontaneous ventilation modes: CPAP-PS or CPAP-ASB or Spontaneous

h) Combined ventilation modes: SIMV (VC) + PS and/or SIMV (PCI + PS)

i) Endotracheal and tracheostomy "Tube Resistance Compensation" (TRC/ATC/ARC/TC) shall be available in the device. So that, the user can directly adjust the Tube Resistance Compensation and diameter, compensation percentage or the device shall have the feature of circuit compliance compensation that can be turned on and off.

Instead of (the former text):

Item Number **10.2.11**

At least one of the following features must be added to the device when requested, the issuance of a catalogue confirmation regarding the matter shall be sufficient for acceptance and inspection. This feature to be added shall not exceed 30% of the unit price obtained through the update of unit price based on Turkish Statistical Institute Price Index.

a) Ventilation feature by means of which EtCO2 and SPO2 SPCO 2 measurement can be continuously made in ventilation mode, the ideal ventilation parameters can be set with the software uploaded and PEEP level and oxygen level inhaled by the user at certain intervals can automatically set, or

b) The feature of expiratory lung volume (EELV) with single or sequential measurements in the lungs and of the identification of the changes in measured PEEP value together with the effect of FRC values through this, and the automatic PEEP titration feature and indirect calorimetry feature that optimizes the ideal PEEP level for the patient, or

c) The feature by means of which the patient's respiratory cycle is initiated at any time upon request of the patient by measuring the diaphragm Electrical Activity (EDI) signals of the patient with a catheter in spontaneously-breathing patients and respiration rate and tidal volume is controlled by the patient and the respiratory cycle is completed by providing patient-ventilator compliance, or

d) The software of the ventilator by means of which the patient is kept in the comfort zone of normal ventilation and the information is provided as regards whether the patient is ready to disconnect from the device by performing trend follow-up of the PEEP values, Pmax, EtCO2 parameter correlation and the number of respirations of the patient so that the patient can automatically prepare for weaning, and the mod to provide

respiratory support to spontaneous respiratory patients in proportional to respiratory rate, or

e) Ventilation feature by means of which breath type and respiration rate of the patients are calculated according to changing respiratory needs of patients and changing respiratory needs of patient are calculated according to breath timing, and accordingly, the ventilator support is changed in a way to meet these needs of the patient and the support level to prevent patient fatigue is automatically calculated with breathing work (WOB) feedback.

Read (new text):

Item Number **10.2.11**

At least one of the following features must be added to the device when requested, the issuance of a catalogue confirmation regarding the matter shall be sufficient for acceptance and inspection. This feature to be added shall not exceed 30% of the unit price obtained through the update of unit price based on Turkish Statistical Institute Price Index. There should be at least one scientific study that has been examined with the propsed device in at least one of the following features (as it is named by the tenderer) and published at the scientific journals within SCI/SCI-E.

a) Ventilation feature by means of which EtCO2 and SPO2 SPCO 2 measurement can be continuously made in ventilation mode, the ideal ventilation parameters can be set with the software uploaded and PEEP level and oxygen level inhaled by the user at certain intervals can automatically set, or

b) The feature of expiratory lung volume (EELV) with single or sequential measurements in the lungs and of the identification of the changes in measured PEEP value together with the effect of FRC values through this, and the automatic PEEP titration feature and indirect calorimetry feature that optimizes the ideal PEEP level for the patient, or

c) The feature by means of which the patient's respiratory cycle is initiated at any time upon request of the patient by measuring the diaphragm Electrical Activity (EDI) signals of the patient with a catheter in spontaneously-breathing patients and respiration rate and tidal volume is controlled by the patient and the respiratory cycle is completed by providing patient-ventilator compliance, or

d) The software of the ventilator by means of which the patient is kept in the comfort zone of normal ventilation and the information is provided as regards whether the patient is ready to disconnect from the device by performing trend follow-up of the PEEP values, Pmax, EtCO2 parameter correlation and the number of respirations of the patient so that the patient can automatically prepare for weaning, and the mod to provide respiratory support to spontaneous respiratory patients in proportional to respiratory rate, or

e) Ventilation feature by means of which breath type and respiration rate of the patients are calculated according to changing respiratory needs of patients and changing respiratory needs of patient are calculated according to breath timing, and accordingly, the ventilator support is changed in a way to meet these needs of the patient and the support level to prevent patient fatigue is automatically calculated with breathing work (WOB) feedback.

Instead of (the former text):

Item Number **10.2.17**

In the pressure-controlled ventilation mode, the inspiratory pressure or peak pressure must be at least 50 cmH20.

Read (new text):

Item Number **10.2.17**

In the pressure-controlled ventilation mode, the inspiratory pressure or peak pressure must be adjustable in the range of 1-90 cmH20.

Instead of (the former text):

Item Number **10.2.31**

The device must have a coloured, touchscreen display of at least 12 "(twelve) in nominal size. The selected ventilation mode shall be made via this screen, any kind of setting shall be made via rotary knob or touchscreen. In addition, this screen shall be removed from the device and installed onto pendant or columns, and this installation (including engineering, labour, transportation, accommodation etc.) shall be made free of charge when requested. The screen size is small and the external screens used to enlarge the screen will not be accepted.

Read (new text):

Item Number **10.2.31**

The device must have a coloured, touchscreen display of at least 12 "(twelve) in nominal size. The selected ventilation mode shall be made via this screen, any kind of setting shall be made via rotary knob or touchscreen. In addition, when necessary this screen shall be removed from the device by the user and installed onto pendant or columns, and this exercise (including engineering, labour, transportation, accommodation etc.) shall be made by the contractor for free of charge when requested and in line with the request by user. The screen size is small and the external screens used to enlarge the screen will not be accepted.

Instead of (the former text):

Item Number **10.2.43**

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Read (new text):

Item Number **10.2.43**

A user guide and user guide CD in Turkish must be provided with each device.

Instead of (the former text):

Item Number **11.2.2**

The device shall operate at 220 V 50 Hz mains voltage and shall not be affected by +/- 10% voltage fluctuations.

Read (new text):

Item Number **11.2.2**

The device must operate at 220 V 50 Hz mains voltage and must not be affected by +/- 10% voltage fluctuations. Furthermore it must be equipped an internal battery of minimum 30 minutes against any blackout risk.

Instead of (the former text):

Item Number **12.2.6**

In the ventilator, the following parameters must be set at minimum specified intervals;

a) Tidal volume: 50 - 2000 mI (Lower limit ≤50 mI, upper limit≥ 2000 mI).

b) Respiratory frequency: 5-60 breaths/minute (Lower limit ≤5 / min, upper limit≥ 60 / min).

e) Inspiration time: 0.3-3.0 seconds (Lower limit ≤0.3 sec, upper limit ≥3.0 sec) or I:E ratio at least 1:4-3:1

d) PEEP/CPAP: 0/closed - 20 cmH2O

e) Pressure Control Pressure (PCV / Pinsp): must be at least 5 cmH2O or below, at most 55 cmH2O or above (Lower limit ≤ 5 cmH2O, upper limit ≥55 cmH2O).

f) Spontaneous Pneumatic Pressure Support (PSV Pressure): must be at least 2 cmH2O or below, at most 35 cmH2O or above (Lower limit ≤2 cmH2O, upper limit ≥35 cmH2O).

g) FiO2: must be at least 40% or below and at most 100%.

h) Flow Rate must be at least 100 litres/min.

i) Pressure Trigger: [≤-9 cmH2O, ≥0.1 cmH2O] or flow triggering: [≤1 L / min. ≥ 9 L / min].

j) Flow Type: Shall be Square and / or Descending Wave Type or automatic.

Read (new text):

Item Number **12.2.6**

In the ventilator, the following parameters must be set at minimum specified intervals;

a) Tidal volume: 50 - 2000 mI (Lower limit ≤50 mI, upper limit≥ 2000 mI).

b) Respiratory frequency: 5-60 breaths/minute (Lower limit ≤5 / min, upper limit≥ 60 / min).

e) Inspiration time: 0.3-3.0 seconds (Lower limit ≤0.3 sec, upper limit ≥3.0 sec) or I:E ratio at least 1:4-3:1

d) PEEP/CPAP: 0/closed - 20 cmH2O

e) Pressure Control Pressure (PCV / Pinsp): must be at least 5 cmH2O or below, at most 55 cmH2O or above (Lower limit ≤ 5 cmH2O, upper limit ≥55 cmH2O).

f) Spontaneous Pneumatic Pressure Support (PSV Pressure): must be at least 2 cmH2O or below, at most 35 cmH2O or above (Lower limit ≤2 cmH2O, upper limit ≥35 cmH2O).

g) FiO2: must be lower level 40% or below and upper level 100%.

h) Flow Rate must be at least 100 litres/min.

i) Pressure Trigger: [≤-9 cmH2O, ≥0.1 cmH2O] or flow triggering: [≤1 L / min. ≥ 9 L / min].

j) Flow Type: Shall be Square and / or Descending Wave Type or automatic.

Instead of (the former text):

Item Number **12.2.25**

With every contract;

a) 3 adult-type and 3 paediatric-type reusable respiratory and current sensors and/or 3 expiratory valve systems or cassettes and

b) One original carrying bag, 3,5 lt oxygen cylinder and regulator clock, patient bed or stretcher mounting apparatus shall be provided

c) At least two meters of oxygen hose and two retaining clips are required, and connectors, if present, shall be provided for low-flow oxygen input.

Read (new text):

Item Number **12.2.25**

With every contract;

a) 3 adult-type and 3 paediatric-type reusable respiratory and current sensors and/or 3 expiratory valve systems or cassettes and

b) One original carrying bag, 3,5 lt oxygen cylinder or **two 2 lt oxygen cylinder** and regulator clock, patient bed or stretcher mounting apparatus shall be provided

c) At least two meters of oxygen hose and two retaining clips are required, and connectors, if present, shall be provided for low-flow oxygen input.

Instead of (the former text):

Item Number **13.2.1**

.In the system, the image intensifier X-ray tube shall be mounted on a C-arm stative, 2 (two) monitors and the memory unit shall be on a separate cart stand.

Read (new text):

Item Number **13.2.1**

.In the system, the image intensifier X-ray tube shall be mounted on a C-arm stative, 2 (two) monitors shall be on a separate cart stand.

Instead of (the former text):

Item Number **13.2.4**

Pulsed fluoroscopy shall be able to be performed up to 7.5 pulses/ second in the system.

Read (new text):

Item Number **13.2.4**

Pulsed fluoroscopy shall be able to be performed at least up to 7.5 pulses/ second in the system.

Instead of (the former text):

Item Number **13.2.7**

The system shall be able to connect to PACS, RIS and HIS, so shall cover all components of the DICOM 3.0 communication protocols (send / receive, store, storage commitment worklist (HIS / RIS) shall comply with the MPSS standard) and these shall be included in the system.The 'worklist' function which shall be able to get the patient data from the PACS system and remove the manual entry of patient information in order to transfer image to the PACS.

Read (new text):

Item Number **13.2.7**

The system shall be able to connect to PACS, RIS and HIS, so shall cover all components of

the DICOM 3.0 communication protocols (send / receive, store, storage commitment worklist (HIS / RIS) shall comply with the **MPPS** standard) and these shall be included in the system.The 'worklist' function which shall be able to get the patient data from the PACS system and remove the manual entry of patient information in order to transfer image to the PACS.

Instead of (the former text):

Item Number **13.2.8**

The DSA option, which includes pixel shift or remask or masking, landmark, roadmark or roadmap or subtraction modes, shall be added to the system when requested.

Read (new text):
Item Number **13.2.8**
The DSA option, which includes pixel shift or remask or masking, landmark **or peak opacification**, roadmark or roadmap or subtraction modes, shall be available as an option.

Instead of (the former text):

Item Number **13.2.9**

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Read (new text):
Item Number **13.2.9**
The proposed device must have at least two of the following characteristics and the companies must show in the original catalog or demo.
a) C-Arm dept (immersion etc.) should be at least 72 cm, C-arm rotation (total angulation rotation etc.) should be at least ± 225 degrees (total of at least 450 degrees), SID should be at least 101 cm, C-Arm free space should be at least 79 cm.
b) The device should be able to reach at least 24mA in pulsed fluoroscopy mode and at least 25mA in digital radiography or single image mode.
c) The monitor of the device must be able to close on each other during transport. The monitors must be positioned and rotated at least 180 degrees.
d) The device should have an asymmetrical parallel collimator. Asymmetrical Parallel collimators should move independently from each other and collimator leaves should be able to rotate at least 360 degree independently from each other.
e) The fluoroscopy voltage in continuous and pulsed mode shall be at least 36 kV to 110 kV.
f) There shall be two integrated touchscreen control panels at both sides of the workstation (C-arm cart), where the live image can be displayed.

Instead of (the former text):
Item Number **13.4.2**
The patient intake depth of the C-arm shall be at least 66 cm.

Read (new text):
Item Number **13.4.2**
The patient intake depth of the C-arm shall be at least **61 cm.**

Instead of (the former text):
Item Number **13.4.7**
The C-arm rotation shall be at least 380 ° in total.

Read (new text):
Item Number **13.4.7**
The C-arm rotation shall be at least **360 °** in total.

Instead of (the former text):
Item Number **13.4.8**
The orbital movement of C-arm shall be at least 120°.

Read (new text):
Item Number **13.4.8**
The orbital movement of C-arm shall be at least **115 °.**

Instead of (the former text):

Item Number **13.5.1**

The x-ray generator shall be at least 2.0 kW power and at least 30 kHz high frequency or constant potential type.

Read (new text):
Item Number **13.5.1**
The x-ray generator shall be at least 2.0 kW power and at least **20 kHz** high frequency or constant potential type or the x-ray machine will be at least 2.0 kW power and the microprocessor controlled DC converter type.

Instead of (the former text):

Item Number **13.5.3**

In the continuous fluoroscopy current range, the lower value shall be max.0.2 mA and the higher value shall be at least 15 mA.In the pulsed lower fluoroscopy current range, the lower value shall be max.3 mA and the higher value shall be at least 20 mA.

Read (new text):
Item Number **13.5.3**
In the continuous fluoroscopy current range, the lower value shall be **max.0.25 mA** and the higher value shall be at least **5.4 mA**.In the pulsed lower fluoroscopy current range, the lower value shall be max.3 mA and the higher value shall be at least **7 mA**.

Instead of (the former text):

Item Number **13.5.4**

The system shall have digital boost or digital spot or digital radiography or digital exposure or single image mode, the mA value shall be at least 15mA in this mode which will work separately from the fluoroscopy.

Read (new text):
Item Number **13.5.4**

The system shall have digital boost or digital spot or digital radiography or digital exposure or single image mode, the mA value shall be at least **7mA** in this mode, which will work separately from the fluoroscopy.

Instead of (the former text):
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Read (new text):
Item Number **13.5.6**
X-ray generator should be a single tank or monobloc. The tube and generator should be on the C-arm system, separated systems will not be accepted.

I**nstead of (the former text):**
-
Read (new text):
Item Number **13.5.7**
The tube or the X-ray generator used in the offered system shall be manufactured by the C-arm manufacturer.

Instead of (the former text):
Item Number **13.6.2**
In the systems with X-ray tube double focus, the size of small focus shall be no more than 0.6 mm and the size of the large focus shall be **at least 1.4 mm**.For single-focus systems, the size of the focus shall be 0.6 mm.

Item Number **13.6.2**

In the systems with X-ray tube double focus, the size of small focus shall be no more than 0.6 mm and the size of the large focus shall be no more than 1.4 mm.For single-focus systems, the size of the focus shall be 0.6 mm.

Instead of (the former text):
Item Number **13.6.3**

The device's anode heat capacity shall be at least 48.000 HU, the anode cooling capacity shall not be less than 13.000 HU / min.

Read (new text):
Item Number **13.6.3**
The device's anode heat capacity shall be at least **46.000 HU**, the anode cooling capacity shall not be less than 13.000 HU / min.

Instead of (the former text):
Item Number **13.6.5**
The system shall be in compliance with the dosing area measurement system and the dosing device (DAP METER -Dose Area Product Meter) shall be present. With the purpose of statistical data, the dose value that the patient has received shall be attached to the DICOM file of patient, be viewed, be displayed on film, and stored in the memory.

Read (new text):
Item Number **13.6.5**
The system shall be in compliance with the dosing area measurement system **and the system**

shall provide Dose Area Product on displays or the dosing device (DAP METER -Dose Area Product Meter) shall be present. With the purpose of statistical data, the dose value that the patient has received shall be attached to the DICOM file of patient, be viewed, be displayed on film, and stored in the memory.

Instead of (the former text):
Item Number **13.8.3**

The device shall have at least HR x HR CCD or CMOS camera with high resolution.

Read (new text):
Item Number **13.8.3**
The device shall have at least **1K x 1K CCD** or CMOS camera with high resolution.

Instead of (the former text):
Item Number **13.8.4**
The image intensifier shall have at least 2 fields.

Read (new text):
Item Number **13.8.4**
The image intensifier shall have at least **3** fields.

Instead of (the former text):
Item Number **13.9.2**
The memory capacity of the device shall be at least 150.000 images.

Read (new text):
Item Number **13.9.2**
The memory capacity of the device shall be at least **15.000** images.

Instead of (the former text):
Item Number **13.9.4**
The system shall have special software that increases the image quality. The device shall be equipped with ODDC (Object Detected Dose Control) or EASY (Enhanced Acquisition System) which can make dose adjustment by detecting the object and movement or the feature that reduce the motion blur by means of dynamic motion detection, or the feature that enable to provide sharp and low dose images by adjusting contrast and brightness automatically (IDEAL = intelligent Dose Efficiency Algorithm). Firms shall show this feature in their original catalog.

Read (new text):
Item Number **13.9.4**
The system shall have special software that increases the image quality.The device shall be equipped with ODDC (Object Detected Dose Control), or EASY (Enhanced Acquisition System) which can make dose adjustment by detecting the object and movement, or **the feature that maintains the optimum image quality with dynamic recursive filter with adaptation to motion and asymmetrical double leaf collimator,** or the feature that enable to provide sharp and low dose images by adjusting contrast and brightness automatically (IDEAL = intelligent Dose Efficiency Algorithm).Firms shall show this feature in their original catalog.

Instead of (the former text):
Item Number **13.9.18**
A UPS that can feed the workstation of the system for at least 10 minutes shall be given.

Read (new text):

Item Number **13.9.18**
There should have an integrated UPS that can feed the workstation of the system or an UPS that can feed the workstation of the system for at least 10 minutes shall be given.

Instead of (the former text):
Item Number **13.10.1**
The system shall have at least two 18 "diagonal size LCD or TFT monitors and they shall be able to rotate +/- 90 degrees around themselves or be covered on top of each other.

Read (new text):
Item Number **13.10.1**
The system shall have at least two 18 "diagonal size LCD or TFT monitors and they shall be able to rotate +/- 90 degrees around themselves, **or shall have a viewing angle of 160 degrees (vertical and horizontal),** or be covered on top of each other.

Instead of (the former text):
Item Number 13.13.1
The device shall have a minimum warranty of 2 (two) years. Throughout the warranty period, production, installation, material and workmanship faults shall be rectified by the selling company and faulty parts that cannot be repaired will be replaced with new ones. No charges will be asked for maintenance, repair and spare parts throughout the warranty period.

Read (new text):
Item Number **13.13.1**
The device shall have a minimum warranty of 2 (two) years. Throughout the warranty period, production, installation, material and workmanship faults shall be rectified by the selling company and faulty parts that cannot be repaired will be replaced with new ones. No charges will be asked for maintenance, repair and spare parts throughout the warranty period. **(excluding usage errors i.e; contact with liquid, crushing or fractures, cosmetic impairments and environmental conditions related errors)**

Instead of (the former text):
Item Number **13.12.1**

For patient and user safety, when the system is in the upright position (the image intensifier is at the top and the tube is at the bottom) the vertical radiation scattering shall not exceed 2.0 mGy / h at 0 cm - 50 cm or 1.0 mGy / h at 50 cm - 100 cm at shooting at a distance of 30 cm away from the image intensifier and at maximum power according to the IEC standard or with standard 20-25 cm water-conjugated phantom, 70-80 kV voltage and 2-14 mA current or when the image intensifier at the top, tube is at the bottom, the image intensifier shall not exceed 2.3 mGy / hour at the 110 kV voltage, 3 mA current, and at 10 cm height from the floor.

Read (new text):
Item Number **13.12.1**
For patient and user safety, when the system is in the upright position (the image intensifier is at the top and the tube is at the bottom) the vertical radiation scattering shall not exceed 2.0 mGy / h at 0 cm - 50 cm or 1.0 mGy / h at 50 cm - 100 cm at shooting at a distance of 30 cm away from the image intensifier and at maximum power according to the IEC standard or with standard 20-25 cm water- conjugated **or acrylic** phantom, 70-80 kV voltage and **2-4 mA** current or when the image intensifier at the top, tube is at the bottom, the image intensifier shall not exceed 2.3 mGy / hour at the 110 kV voltage, 3 mA current, and at 10 cm

height from the floor.

Instead of (the former text):
Item Number **13.12.2**
-

Read (new text):
Item Number **13.12.2**
The device should have, CE and ÜTS document.

Instead of (the former text):
Item Number **13.14.1.2.**
The hospital administration shall provide the electrical system up to the panel of the device and the panel belongs to the device and the system after the panel shall be provided and installed by the contractor.

Read (new text):
Item Number **13.14.1.2**
The item is hereby removed from the technical specifications.

Instead of (the former text):
Item Number **13.14.1.3**
During the installation, the necessary channel and cabling works in the foot walls and ceiling, lighting of the control room and device room, and the other decoration works shall be done by the contractor. In addition, settling the device at the location where to be placed most appropriately, preparation of the suitable place, any additional work of deficient work shall be done without any additional work fee by the Contractor Company.

Read (new text):
Item Number **13.14.1.3**
The item is hereby removed from the technical specifications.

Instead of (the former text):
Item Number **13.14.1.4**
A suitable table and 2 rotary type adjustable seats shall be provided for the X-ray control room in which the system will be installed.

Read (new text):
Item Number **13.14.1.4**
The item is hereby removed from the technical specifications.

Instead of (the former text):
13.14.1.5 In order to cool the room where the devices shall be installed, 24.000 BTU power split air conditioner shall be provided for the room, installed and delivered in working condition by the contractor.

Read (new text):
Item Number **13.14.1.5**
The item is hereby removed from the technical specifications.

Instead of (the former text):
Item Number **13.14.3.1**
Qualified trainings that ensure to be able to use all functions of the system and to intervene to the possible failures shall be given by the Application Specialists for a minimum of 3 (three) days. These trainings shall be given 3 times during the guarantee period. Application Specialists shall also have the TCESIS Clinical Support Personnel certificate. These documents shall be submitted in the tender file as notarized.

Read (new text):
Item Number **13.14.3.1**
Qualified trainings that ensure to be able to use all functions of the system shall be given by the Application Specialists for a minimum of 3 (three) days. These trainings will be repeated up to 3 (three) times for each device if requested during the warranty period. Application Specialists shall also have the TCESIS Clinical Support Personnel certificate. These documents shall be submitted in the tender file as notarized.

Instead of (the former text):
Item Number **14.2.4:**
-

Read (new text):
Item Number **14.2.4:**

The device should have at least one of the following mobility enhancements.

a) The device should have a pantograph arm feature. For this purpose, the height of the focal point of the X-ray tube shall be adjustable from at least 47 cm to 213 cm or wider and horizontal movement range of the arm shall be adjustable from 40 cm to 124 cm or wider. The detector should have at least one carry handle integrated with the detector for easy and safe handling. Detector which contains a separate holder will not be accepted.

b) The wireless detector of the device should be maximum 2.8 kg including the battery. However, the system must have two independent batteries for driving and shooting. The device should be able to go for 20 km with full charge. The device must be able to move within 4 seconds after it is turned on, and it must be ready to be towed within 25 seconds

Instead of (the former text):
Item Number **14.2.5:**
-

Read (new text):
Item Number **14.2.5**
The device should have FDA, CE and ÜTS document.

Instead of (the former text):
Item Number **14.4.5**
The minimum exposure time shall be no longer than 20 ms.
Read (new text):
Item Number **14.4.5**
The minimum exposure time shall be no longer than **4 ms.**

Instead of (the former text):
Item Number **14.4.7**
The weight of the device shall be maximum 380 kg.

Item Number **Read (new text):**
Item Number **14.4.7**
The weight of the device shall be maximum **575 kg.**

Instead of (the former text):
Item Number **14.5.3**
The anode heat capacity of the device shall be at least 107.000 HU.

Read (new text):
Item Number **14.5.3**
The device shall have a **rotating anode tube**. The anode heat capacity of the device shall be at least **120.000 HU.**

Instead of (the former text):
Item Number **14.5.4**
The heat capacity of the x-ray tube shall be at least 800.000 HU.

Read (new text):
Item Number **14.5.4**
The heat capacity of the x-ray tube **with a rotating anode** shall be at least **1.000.000 HU.**

Instead of (the former text):
Item Number **14.5.5**
The horizontal and vertical mobility of the tube carrier arm shall allow it to be adjusted without moving the device. For this purpose, the height of the focal point of the X-ray tube shall be adjustable from at least 50 cm to 210 cm at the desired height and the horizontal movement of the arm shall be extended at least up to 120 cm.

Read (new text):
Item Number **14.5.5**
The horizontal and vertical mobility of the tube carrier arm shall allow it to be adjusted without moving the device. For this purpose, the height of the focal point of the X-ray tube shall be adjustable from at least **53 cm to 202 cm** at the desired height and the horizontal movement of the arm shall be extended at least up to 120 cm.

Instead of (the former text):
Item Number **14.7.3**
There shall be generator unit and independent batteries or integrated battery that ensures the motorized movement of the device, and the device shall be capable of at least 80 shooting with full shooting battery at the device maximum mAs value and these shall be proven in the technical documentation.

Read (new text):
Item Number **14.7.3**
There shall be generator unit and independent batteries or integrated battery that ensures the motorized movement of the device. The device shall be capable of at least 80 shooting with full shooting battery at the device maximum mAs value or **at least 180 shooting with 70 kV / 20 mAs** and these shall be proven in the technical documentation.

Instead of (the former text):
Item Number **14.7.7**
The device shall be able to move in forward and backward directions as an engine control, and be able to pass at least 60 cm wide in the transport position. Additionally, device shall have a brake mechanism that can immediately stop the device in an emergency.

Read (new text):
Item Number **14.7.7**
The device shall be able to move in forward and backward directions as an engine control, and be able to pass at **maximum 67 cm wide** in the transport position. Additionally, device shall have a brake mechanism that can immediately stop the device in an emergency.

Instead of (the former text):
Item Number **14.8.5**
The device shall have a memory capacity of at least 10.000 images.

Read (new text):
Item Number **14.8.5**
The device shall have a memory capacity of at least **4.000** images.

Instead of (the former text):
14.9.5
The resolution of the digital detector shall be at least 2280 x 2800 pixels. The spatial resolution shall be at least 3.3 Ip / mm.

Read (new text):
Item Number **14.9.5**
The resolution of the digital detector shall be at least 2280 x 2800 pixels. The spatial resolution shall be at least **3 Ip / mm.**

Instead of (the former text):
Item Number **14.9.7**
Pixel depth shall be at least 14 bits.

Read (new text):
Item Number **14.9.7**
Pixel depth shall be at least **16 bits.**

Instead of (the former text):
Item Number **14.9.14**
The detector battery shall be in a capacity that can capture at least 950 images when fully charged.

Read (new text):
Item Number **14.9.14**
The detector battery shall be in a capacity that can capture at least **525** images when fully charged.

Instead of (the former text):
Item Number 14.10.1
The device shall have a minimum warranty of 2 (two) years. Throughout the warranty period, production, installation, material and workmanship faults shall be rectified by the selling

company and faulty parts that cannot be repaired will be replaced with new ones. No charges will be asked for maintenance, repair and spare parts throughout the warranty period. **(excluding usage errors, environmental conditions related errors)**

Read (new text):
Item Number **14.10.1**
The device shall have a minimum warranty of 2 (two) years. Throughout the warranty period, production, installation, material and workmanship faults shall be rectified by the selling company and faulty parts that cannot be repaired will be replaced with new ones. No charges will be asked for maintenance, repair and spare parts throughout the warranty period. **(excluding usage errors i.e; contact with liquid, crushing or fractures, cosmetic impairments and environmental conditions related errors)**

Instead of (the former text):
Item Number **14.11.1.2**
The hospital administration shall provide the electrical system up to the panel of the device and the panel belongs to the device and the system after the panel shall be provided and installed by the contractor."

Read (new text):
Item Number **14.11.1.2**
The item is hereby removed from the technical specifications.

Instead of (the former text):
Item Number **14.11.1.3**
During the installation, the necessary channel and cabling works in the foot walls and ceiling, lighting of the control room and device room, and the other decoration works shall be done by the contractor. In addition, settling the device at the location where to be placed most appropriately, preparation of the suitable place, any additional work of deficient work shall be done without any additional work fee by the Contractor Company

Read (new text):
Item Number **14.11.1.3**
The item is hereby removed from the technical specifications.

Instead of (the former text):
Item Number **14.11.1.4**
A suitable table and 2 rotary type adjustable seats shall be provided for the X-ray control room in which the system will be installed.

Read (new text):
Item Number **14.11.1.4**
The item is hereby removed from the technical specifications.

Instead of (the former text):
Item Number **14.11.1.5**
In order to cool the room where the devices shall be installed, 24.000 BTU power split air conditioner shall be provided for the room, installed and delivered in working condition by the contractor.

Read (new text):
Item Number **14.11.1.5**

The item is hereby removed from the technical specifications.

Instead of (the former text):
Item Number **14.11.1.6**
TAEK (Turkey Atomic Energy Authority" licence fee shall be borne by the contractor.

Read (new text):
Item Number **14.11.1.6**
The item is hereby removed from the technical specifications.

Instead of (the former text):
Item Number **14.11.1.7**
The installation of the device shall be completed according to the specification by the company free of charge and system shall be delivered in working condition.

Read (new text):
Item Number **14.11.1.7**
The item is hereby removed from the technical specifications.

Instead of (the former text):
Item Number **14.11.3.1**
Qualified trainings that ensure to be able to use all functions of the system and to intervene to the possible failures shall be given by the Application Specialists for a minimum of 3 (three) days. These trainings shall be given 3 times during the guarantee period. Application Specialists shall also have the TCESIS Clinical Support Personnel certificate. These documents shall be submitted in the tender file as notarized.

Read (new text):
Item Number **14.11.3.1**
Qualified trainings that ensure to be able to use all functions of the system shall be given by the Application Specialists for a minimum of 3 (three) days. These trainings will be repeated up to 3 (three) times for each device if requested during the warranty period. Application Specialists shall also have the TCESIS Clinical Support Personnel certificate. These documents shall be submitted in the tender file as notarized.

Instead of (the former text):
Item Number **15.3.1**
The device shall include a fully-independent working full mammography unit, digital imaging and assessment system, lead-glass screen and digital archiving system.The device shall comprise of the following units and as well as being separated, these units can also be unified or integrated.All the purchased system components shall conform to each other and work together.The main components have been listed below:

- Mammography device
- Gantry
- Irradiation head
- Compaction mechanism
- Flat panel detector
- High frequency tube current generator
- Statif
- Mammography accessories
- Compression and decompression pedal and gantry colon
- Face protection

- Axillar compression plate or an equivalent compression plate
- Spot compression plate
- Magnification plate
- Perforated and/or open compression plates (for 2D biopsy localization)
- Data collection work station
- Image assessment work station
- Radiation-protective equipment
- User manuals and technical documents
- Uninterrupted power supply
- Tomosynthesis software and, if necessary, hardware (Optional)

Read (new text):

Item Number **15.3.1**
The device shall include a fully-independent working full mammography unit, digital imaging and assessment system, lead-glass screen and digital archiving system.The device shall comprise of the following units and as well as being separated, these units can also be unified or integrated.All the purchased system components shall conform to each other and work together.The main components have been listed below:

- Mammography device
- Gantry
- Irradiation head
- Compaction mechanism
- Flat panel detector
- High frequency tube current generator
- Statif
- Mammography accessories
- Compression and decompression pedal and gantry colon
- Face protection
- Axillar compression plate or an equivalent compression plate
- Spot compression plate
- Magnification plate
- Perforated and/or open compression plates (for 2D biopsy localization)
- Data collection work station
- Image assessment work station
- Radiation-protective equipment
- User manuals and technical documents
- Uninterrupted power supply
- **Tomosynthesis software and, if necessary, hardware**

Instead of (the former text):

Item Number **15.5.6.10**

The station shall be used for the purpose of assessing of the acquired digital images, comparing of the devices, post processing and other similar actions.

Read (new text):
Item Number **15.5.6.10**
The station shall be used for the purpose of assessing of the acquired digital images, post processing and other similar actions.

Instead of (the former text):

Item Number **15.5.7.1. …**

b) System should have HTC (High Tramsmisson Cellular Grid) cellular honeycomb grid and should be able to receive at least 15 projections as raw data with at least 15 degrees of exposure in highest resolution mode.

Read (new text):

Item Number **15.5.7.1. …**

b) System should have HTC (High Tramsmisson Cellular Grid) cellular honeycomb grid and should be able to receive **maximum** 15 projections as raw data with **maximum** 15 degrees of exposure in highest resolution mode.

Instead of (the former text):

Item Number **15.5.8.3**

Split air conditioners that allow the system to work under all conditions shall be provided with the device.

Read (new text):
Item Number **15.5.8.3**
For each mammography system 1 (one) split air conditioner that allow the system to work under all conditions shall be provided with the device.

Instead of (the former text):
Item Number **15.7.2.3**
-

Read (new text):
Item Number **15.7.2.3**
The device should have, CE and UBB documents.

Instead of (the former text):
Item Number **15.5.2.8**
In order to ensure dose reduction in tube anode, thick and/or dens breasts, anodes produced from a single material shall have Tungsten, and anodes produced from two materials shall have “Tungsten and Molibden” or “Rodyum and Molibden” or “Tungsten and Rhenium.

Read (new text):
Item Number **15.5.2.8**
In order to ensure dose reduction in tube anode, thick and/or dens breasts, the device should have dual tracks anode materials. Anodes produced from two materials shall have “Tungsten and Molibden” or “Rodyum and Molibden” or “Tungsten and Rhenium”.

Instead of (the former text):

Item Number **15.7.3.1**

Trainings that teach the use of all functions of the system and first intervention against any possible breakdowns shall be provided by Application Experts for a minimum period of 3 (three) days. These trainings will be given for a total of 3 times throughput the warranty period. Application Managers are required to possess TCESIS Clinical Assistance Personnel certificate. These documents shall be notarized and attached to the tender file.

Read (new text):
Item Number **15.7.3.1**
Trainings that teach the use of all functions of the system and first intervention against any possible breakdowns shall be provided by Application Experts for a minimum period of 3 (three) days. Application Managers are required to possess TCESIS Clinical Assistance Personnel certificate. These documents shall be notarized and attached to the tender file.

Instead of (the former text):

Item Number **15.5.6.11**
Image assessment work stations shall have the following hardware functions as a minimum:

- At least dual core 2.40 Ghz central processing unit
- At least 32 GB memory (RAM)
- To provide data twinning against hardware faults, a hard disc with RAID 1 etc. disc twinning technology and at least a 500 GB capacity,
- USB, CD-R and/or DVD-R driver and printer
- A RAID 1 external storage device separate than the work station and connected to the station with firewire with a capacity of at least 10 TB

Read (new text):
Item Number **15.5.6.11**
Image assessment work stations shall have the following hardware functions as a minimum:

- At least dual core 2.40 Ghz central processing unit
- At least 32 GB memory (RAM)
- To provide data twinning against hardware faults, a hard disc with RAID disc twinning technology and at least a 500 GB capacity,
- USB, CD-R and/or DVD-R driver and printer
- At least raid enabled 10Tb image storage capacity on the workstation

Instead of (the former text):
Item Number 15.6.1
The device shall have a minimum warranty of 2 (two) years. Throughout the warranty period, production, installation, material and workmanship faults shall be rectified by the selling company and faulty parts that cannot be repaired will be replaced with new ones. No charges will be asked for maintenance, repair and spare parts throughout the warranty period. **(excluding usage errors, environmental conditions related errors)**

Read (new text):
Item Number **15.6.1**

The device shall have a minimum warranty of 2 (two) years. Throughout the warranty period, production, installation, material and workmanship faults shall be rectified by the selling company and faulty parts that cannot be repaired will be replaced with new ones. No charges will be asked for maintenance, repair and spare parts throughout the warranty period. **(excluding usage errors i.e; contact with liquid, crushing or fractures, cosmetic impairments and environmental conditions related errors)**

Instead of (the former text):

Item Number **16.2.29**

The device shall have a Blood Pressure Monitor to measure the patient's tension.

Read (new text):

Item Number **16.2.29**

The device shall have a Blood Pressure Monitor to measure the patient's tension. This monitor must be touch sensitive.

Instead of (the former text):

Item Number **17.2.3**

The time info shall be monitored on the main screen of the monitor.

Read (new text):

Item Number **17.2.3**

The time info shall be monitored on the main screen of the monitor. The monitor shall has the internal battery that ensures the monitor to sustain its all functions for at least 1 (one) hour.

Instead of (the former text):

Item Number **17.2.5**

Patient entry on the monitor shall be possible with electronic keyboard. Patient's name, surname, protocol / file number, age or date of birth, height, weight, etc. shall be able to be entered. There shall be a program for creating calculation and titration table in the monitor.

Read (new text):

Item Number **17.2.5**

Patient entry on the monitor shall be possible with electronic keyboard. Patient's name, surname, protocol **or** file number **or ID or** age or date of birth, height, weight, etc. shall be able to be entered. There shall be a program for creating calculation and titration table in the monitor.

Instead of (the former text):

Item Number **17.2.7**

The standard parameter module to be provided with the monitor shall have the ability to measure the ECG, SPO 2, IBP parameters for at least one hour, even if it is disconnected from the device owing to its internal battery. The display, processor, or module slot of the monitor shall be in unified or separate structure. In order to provide ease of use in the intensive care environment, the module slot shall be able to be angled both towards front

and side of the monitor if the monitor is unified, or if it is seperate, the module slot or pot unit of the parameter modules shall be able to be positioned seperately from the monitor screen.

Read (new text):

Item Number **17.2.7**

Monitor shall be able to measure heart rate from ECG, SpO2 and IBP parameters.

Instead of (the former text):

Item Number **17.2.9**

The monitor shall be able to display all of the physiological parameters listed below.

I. ECG / heart rate.

II. ST segment analysis.

III. Respiratory rate.

IV. EtCO2

V. SpO2

VI. NIBP (Non-invasive blood pressure).

VII. At least 3 channels IBP (invasive blood pressure).

VIII. Two channels body heat.

IX. Cardiac output.

Read (new text):

Item Number **17.2.9**

The monitor shall be able to display all of the physiological parameters listed below.

I. ECG / heart rate.

II. ST segment analysis.

III. Respiratory rate.

IV. EtCO2

V. SpO2

VI. NIBP (Non-invasive blood pressure).

VII. At least **2** channels IBP (invasive blood pressure).

VIII. Two channels body heat.

IX. Continuous cardiac output or PICCO.

Instead of (the former text):

Item Number **17.2.10**

The monitor shall have a modular, medical grade, TFT color LCD screen at least 15 inches and a resolution of 1024x768. The display of the monitor shall be touch-sensitive and all adjustments shall be made easily and quickly by the touch display and touch membrane keys or the rotary key.

Read (new text):

Item Number **17.2.10**

The monitor shall have a modular, medical grade, TFT color LCD screen at least 15 inches and a resolution of 1024x768. The display of the monitor shall be touch-sensitive and all adjustments shall be made easily and quickly by the touch display **or** touch membrane keys or the rotary key.

Instead of (the former text):

Item Number **17.2.13**

On all devices to be offered EtCO2, CO (Cardiac Output) software module inputs shall be standard. Measurements shall be possible if the required cable and accessory kits are received.

Read (new text):

Item Number **17.2.13** General Specifications

On all devices to be offered EtCO2, CCO (Continuous Cardiac Output) or PICCO software and module inputs shall be standard. Measurements shall be possible if the required cable and accessory kits are received.

Instead of (the former text):

Item Number **17.2.16**

At least, alarm information which has been occured in the last 24 hours or ST measurements and numerical and graphical trends shall be able to be stored and analyzed retrospectively on the device. In addition, the hemodynamic parameter module with at least 1-hour battery to be given as standard shall have trend capability.

Read (new text):

Item Number **17.2.16**

At least, alarm information which has been occured in the last 24 hours or ST measurements and numerical and graphical trends shall be able to be stored and analyzed retrospectively on the device.

Instead of (the former text):

Item Number **17.2.23**

At least two of the following items (from the original software and hardware specifications of the clinical protocols) shall be included as standard in the offered devices.

i. DINAMAP NIBP
ii. EK-Pro arrhythmia algorithm
iii. INIBP
iv. ECI arrhythmia analysis.
v. Protocol Watch
vi. EASI and STAR Algorithm
vii. CNAP S mart Pod
viii. TruST.
ix. CM (Charting Mode)

x. Multiview Arrhythmia.

Read (new text):

Item Number **17.2.23**

At least one of the following technological specifications which is stated in a,b,c,d items (from the original software and hardware specifications of the clinical protocols) shall be included as standard in the offered devices.

a. DINAMAP NIBP ve Ek-Pro Aritmi Analizi.
b. iNIBP ve ECl aritmi analizi.
c. Sequence modu, Horizon Trend, EASI ve STAR Algoritm
d. CNAP Smart Pod ve TruST.

Instead of (the former text):

Item Number **17.2.25**

..... i. The SpO2 measurement feature shall be able to measure SpO2 in patients with perfusion at a rate of at least 0.02 - 20%, in patients with on move and low perfusion. The perfusion index parameter on the monitor screen shall be displayed numerically in the 0.02-20% range....

Read (new text):

Item Number **17.2.25**

… i. The SpO2 measurement feature shall be able to measure SpO2 in patients with perfusion at a rate of at least 0.02 - 20%, in patients with on move and low perfusion.…

Instead of (the former text):

Item Number **17.2.29**

The invasive blood pressure (IBP) measurement features of the monitor shall be as follows;

i. The measurement range shall be between -40 and 300 mmHg.
ii. 3 (three) channel IBP shall be able to be measured on the device. With measurements made from these channels ART, PA, CVP, RAP, LAP, ICP pressures shall be able to be monitored. Pressure labels shall be user-replaceable.
iii. IBP channels shall be monitored on common or separate channels.
iv. The IBP reset feature shall be on the touch screen or the device.
v. There shall be adjustable lower and upper alarm limits for systolic, diastolic and mean pressure.
vi. Invasive blood pressure values shall be displayed both in wave form and numerically.
vii. Pulse (HR) measurement over the IBP parameter shall be at least 30 - 250 beats / min.

Read (new text):

Item Number **17.2.29**

The invasive blood pressure (IBP) measurement features of the monitor shall be as follows;

i. The measurement range shall be between -40 and 300 mmHg.

ii. **2 (two)** channel IBP shall be able to be measured on the device. With measurements made from these channels ART, PA, CVP, RAP, LAP, ICP pressures shall be able to be monitored. Pressure labels shall be user-replaceable.

iii. IBP channels shall be monitored on common or separate channels.

iv. The IBP reset feature shall be on the touch screen or the device.

v. There shall be adjustable lower and upper alarm limits for systolic, diastolic and mean pressure.

vi. Invasive blood pressure values shall be displayed both in wave form and numerically.

vii. Pulse (HR) measurement over the IBP parameter shall be at least 30 - 250 beats / min.

Instead of (the former text):

Item Number **17.2.33**

The following accessories shall be provided with each device to be received;

- Original ECG patch coord …2 pcs.

- Original 5 or 6-lead ECG cable (including interconnection cable or pod if necessary)….. 2 pcs.

- Original SpO2 patch coord ……2 pcs.

- Original SpO2 finger probe, reusable, adult, clip, silicone…. 2 pcs.

- Original SpO2 finger probe, reusable, pediatric, clip…. 2 pegs.

- Original SpO2 finger probe, disposable, newborn ….10 pcs.

- Original NIBP hose, reusable ….2 pcs.

- Original NIBP sleeve, reusable, in 3 different sizes (newborn, pediatric, adult, obese)…2 for each

- Original Skin temperature probes …2 pcs.

- Original esophageal temperature probes …2 pcs.

- Wall or pendant assembly pedestals ….1 pcs.

- Required original accessories according to EtCO2 measurement method;

a. If it is Mainstream or reasuble, airway adapter ….5 pcs.

b. If it is Sidestream, sampling line … .50 pcs.

c. If it is Sidestream, water traps ….15 pcs.

2 (two) Mainstream measurement sensors (cables) shall be provided along with each devices according to the EtCO2 measurement method.

Read (new text):

Item Number **17.2.33**

The following accessories shall be provided with each device to be received;

- Original ECG patch coord …**1 pcs.**

- Original **3 or 5 or 6**-lead ECG cable (including interconnection cable or pod if necessary)….. **1 pcs**.

- Original SpO2 patch coord ……**1 pcs**.

- Original SpO2 finger probe, reusable, adult, clip **or** silicone…. 2 pcs.

- Original SpO2 finger probe, reusable, pediatric, clip **or silicone**…. **1pcs**

- Original SpO2 finger probe, disposable, helical, newborn ….**10 pcs.**

- Original NIBP hose, reusable ….**1 pcs.**

- Original NIBP sleeve, reusable, overall 3 sizes from the following types in line with the delivery list: newborn **or infant** or pediatric or adult or obese)

- Original Skin temperature probes …**1 pcs.**

- Original esophageal temperature probes …**1 pcs.**

- Wall or pendant assembly pedestals ….**1 pcs.**

- Required original accessories according to EtCO2 measurement method;

  a. If it is Mainstream or reasuble, airway adapter ….**1 pcs.**

  b. **If it is Mainstream and disposable, airway adapter …. 10 pcs.**

  c. If it is Sidestream, sampling line … .200 pcs.

  d. If it is Sidestream, water traps ….60 pcs.

1 (one) Mainstream measurement sensor (cable) shall be provided along with each devices according to the EtCO2 measurement method.

Instead of (the former text):

Item Number 18.2.4.10

Unit combination shall be painted with preventive electrostatic oven-drying paint against corrosion.

Read (new text):

Item Number 18.2.4.10

Unit combination shall be painted with preventive electrostatic or acrylic oven-drying paint against corrosion.

Instead of (the former text):

Item Number 18.2.5.7

It shall be possible to bring the chair back to its original position with the click of a single button.

Read (new text):

Item Number 18.2.5.7

It shall be possible to bring the chair back to its zero position with the click of a single button

Instead of (the former text):

Item Number 18.2.7.1

Spittoon bowl shall be produced from ceramic, porcelain, enamel or opal glass and easy to remove and wipe.

Read (new text):

Item Number 18.2.7.1

Spittoon bowl shall be produced from ceramic, porcelain, enamel or opal glass and easy to wipe.

Instead of (the former text):

Item Number 18.2.7.5

The cup-holder and spittoon washing pipes on the spittoon shall be removable for cleaning purposes.

Read (new text):

Item Number 18.2.7.5

The cup-holder and spittoon washing pipes on the spittoon shall be easy accessible for cleaning purposes.

Instead of (the former text):

Item Number 18.2.9.7

Front part of the reflector shall have a transparent, removable and wipeable protector.

Read (new text):

Item Number 18.2.9.7

Front part of the reflector shall have a transparent and wipeable protector

Instead of (the former text):

Item Number 18.2.9.10

Chair programs; shall be possible to be commanded from 3 different points, namely tablet main panel, foot pedal and assistant command panel.

Read (new text):

Item Number 18.2.9.10

Chair programs; shall be possible to be commanded from 2 different points, namely tablet main panel, and assistant command panel. Additionally chair movements shall be possible to be commanded from foot pedal

Instead of (the former text):

Item Number 18.3.11

The type of patient to be shot in the control pocket should be selectable as fat, thin and medium; The area to be shot on the election shall be selected as an incisor, premolar and molar

Read (new text):

Item Number 18.3.11

The type of patient to be shot in the control pocket should be selectable as fat, thin or medium; The area to be shot on the election shall be selected as an incisor, premolar and

molar

Instead of (the former text):

Item Number 18.3.13

The x-ray time to be given in the control box shall be determined. The exposure time shall be in seconds, the minimum time is 0.02s, and the maximum time is 3,2s.

Read (new text):

Item Number 18.3.13

The x-ray time to be given in the control box shall be determined

Instead of (the former text):

Item Number 18.3.18

The device shall have a thermoswitch system that prevents possible radiofrequency leakage from timing errors

Read (new text):

Item Number 18.3.18

The device shall have a thermoswitch system or automatically interrupt system that prevents possible radiofrequency leakage from timing errors

Instead of (the former text):

Item Number 18.3.25

The device shall have at least 100 kHz high frequency generator

Read (new text):

Item Number 18.3.25

The device shall have at least 50-60 Hz high frequency generator