PROCUREMENT OF EQUIPMENT FOR GENERAL HOSPITAL IN ARANDJELOVAC
(PROCUREMENT NO. IOP/60-2021/UHI)
19th April 2022

Clarification no. 6

Regarding the list of questions that the Employer, Public Investment Management Office Belgrade, No. 11 Nemanjina street, have received from the potential bidders, concerning the procurement procedure: **Procurement of equipment for General Hospital in Arandjelovac" IOP/60-2021/UHI,** we give you the following answers:

Question 1:

Lot 4: Radiology equipment, Line item nr. 1 – CT scanner, ID 21 requested: Spatial resolution: max 0.31 mm

Question 1: Do you accept to offer CT system with spatial resolution min. 0.33 mm, due to difference of 0.02 mm is hardly visible on image and does not represent substantial deviation? Accepting such minor deviation will allow more competition and wider spectrum of CT devices to be offered.

Answer: Spatial resolution is one of the most important characteristics which distinguishes higher quality CT systems, as lower it is fine and small details can be seen and help radiologist to make accurate diagnosis. Of course, that physical difference is in sub mm, but it makes huge quality difference in diagnosis. Purchaser defines it in such way that almost all known CT vendors can participate in this procurement.

Lot 4: Radiology equipment, Line item nr. 1 – CT scanner, ID 37 requested: Image Reconstruction speed: min 55 images per second

Question 2: In most of the complicate cases, like cardiac examination, around 1000 images can be reconstructed in less than 1 minute. In general examinations, each case contains 200-300 images, which means that 300 images can be reconstructed for 5,45 sec with requested speed of 55 images per second, and for 7.5 sec with reconstruction speed of 40 images per second. Differences of 2 sec in speed cannot be observed during clinical daily work. For sure reconstruction speed is very important for multiple procedures which are daily performed and trauma patients where any second faster diagnosis means sometimes lifesaving. But anyhow diagnosis depends on doctors, and 2 seconds differences for sure cannot be observed during making diagnosis and improved and speed up clinical decision.

Therefore, could you, please change request ID 37 as per following: Image Reconstruction speed: min 40 images per second? Accepting suggestion and such non substantial deviation in daily work will allow more competition in this procurement.

Answer: Image reconstruction speed is one of the most important characteristics which distinguishes higher quality CT systems, as higher it is, reconstructed diagnostic images will show much faster and help radiologist to make accurate diagnosis faster. Of course, that physical difference is in seconds, but it makes huge quality difference in diagnosis. Purchaser defines it in such way that almost all known CT vendors can participate in this procurement.

Lot 4: Radiology equipment, Line item nr. 1 – CT scanner, ID 45 requested: Simultaneous operation of at least 3 clients/workplaces for advanced post processing.

Question 3: It is not clear what you mean by simultaneous operation of at least 3 clients/workplaces for advanced post processing, while under ID 52 – 57, where are listed advanced applications, you are asking for only one licenses per each.

It is not clear how to perform simultaneous work on 3 clients/ workplaces (for example advanced application under ID 57 – Cardiology study package) with asked only one license, but on another hand under ID 51 (3D anatomy analysis and display tools (3D volume rendering, MIP, MPR, VRT)) that is possible to perform simultaneous postprocessing on 3 clients, because 3 licenses are asked.

Could you please modify ID - 45 or request at least 3 licenses per each advanced application listed under ID 52 – 57?

Answer: It is requested that from any of 3 clients radiologist can use all applications, but number of concurrent advanced licenses that radiologist can use at the same time from any of these 3 clients is defined for each requested application.

Question 2:

Lot 4: Radiology equipment, Line item nr. 1 – CT scanner, ID 46 requested: Client computers with monitors (2 monitors per workplace) with screen diagonal of at least 19 inches

Question 4: Using 19 monitors is obsolete in past several years, especially where clear images on big screen is on crucial importance for doctors for making diagnosis. Only one advantage of 19" monitors is lower price, but for intended purpose of making diagnosis, such price difference is minor. Of course, that each potential bidder will not be eliminated and discriminated for offering monitors bigger diagonal size, but if request stays as it is, it will not happen. To be competitive each potential bidder will offer the minimum required specification and save costs. The customer will receive 19" monitor.

Therefore, we are suggesting to change ID- 46 as per following: Client computers with monitors (2 monitors per workplace) with screen diagonal of at least 24 inches.

Answer: This request will be accepted, so from now technical specification ID-46 will be: Client computers with monitors (2 monitors per workplace) with screen diagonal of at least 24 inches.

Lot 4: Radiology equipment, Line item nr. 1 – CT scanner, ID 57 requested: cardiology study package (Scoring calcifications of coronary blood vessels, cardiac calcium plaque burden quantification and coronary artery disease risk assessment) at latest one license

Question 5: under ID 57 there is not requested any application for cardiac function evaluation, but only for Ca Scoring and coronary artery disease assessment and quantification. Cardiology system consists of heart and blood vessels, including coronary artery and other vascularity, but not ONLY coronary artery.

In order that system has intended use for cardiac examination, could you please add in request ID 57 – Cardiology Study package, at least the following cardiac applications: Cardiac

function, evaluation of left ventricular function, including volumetry and myocardial wall segmentation, visualization of hypodense and/or hyperdense myocardial areas, evaluation of right ventricular function.

It is clear, that each potential bidder will not be eliminated and discriminated for offering whole cardiac package including all these applications listed above related to the heart evaluation, even they are not requested, but if requirement stays without it, customer will receive ONLY assessment of coronary blood vessels, without ANY heart evaluation. Each potential bidder will offer the minimum required specification and save costs to be competitive in this procurement.

Answer: Requested specification is defined considering objective needs, type of cardiac pathology that can be diagnosed in small sized general hospital. After emergency cardiac CT and in case of need of further diagnostic and treatment, patient will be triage after such examination and transport to specialized nearby institutes and tertiary institutions. Of course, offer which include more than requested minimum technical specifications will be evaluated as valid.

Question 3:

1.In Technical Specification Requested for LOT 4, Item 2, Digital Mammography System, specification number 10: ID10 "Specific paddle and AEC for implants"

As implants are used for any size and shape of breast, when mammography is performed, it is important to have as many different types of compresion paddles as possible in order to optimally cover all types of breast. In order to achieve that our manufacturer claims that any compression paddle delivered with our system can be used for breasts with implant. There is no "specific paddle for implants", as all our paddles can be used for breasts with implants. The operater will simply choose the best fit.

Q: Is it acceptable for Purchaser to offer mammography unit with set of paddles that all not limited in use for breasts with implant?

Answer: It is acceptable to offer as suggested.

2.In Technical Specification Requested for LOT 4, Item 2, Digital Mammography System, specification number 12: ID12 "Motorized gantry vertical movement min. 70-140 cm"

Q: Is it acceptable for Purchaser to offer Motorized gantry movement range from 70,5cm-141cm?

Answer: It is acceptable to offer with suggested feature of lower gantry height. Technical specification number 12 will be as follows: Motorized gantry vertical movement min. 70,5 - 140 cm.

3.In Technical Specification Requested for LOT 4, Item 2, Digital Mammography System, specification number 32: ID32 "DICOM 3.0 (Send / Receive, Query / Retrieve, Storage Commitment, Print, Worklist, MPPS)"

One of the most important issues on diagnostic procedures with X-ray radiation is a Dose that patient receives during the procedure. There is an obligation of manufacturers to explicitly indicate the Radiation Dose patient received on the equipment after each exam. This

information is also communicated over DICOM protocols and tags. It is very important (for control of overall radiation that some patient received) that radiation received during each exam is evidented and stored.

Q: In order to have specification that will satisfy all up to date radiation dose requirements, please change technical request to:

ID32 "DICOM 3.0 (Send / Receive, Query / Retrieve, Storage Commitment, Print, Worklist, MPPS, Radiation Dose)"

Answer: On all systems it is common and standard function that dose is displayed for each image in DICOM header. There is no need to change ID-32.

4.In Technical Specification Requested for LOT 4, Item 2, Digital Mammography System, specification number 37: ID37 "Pixel size (2D and 3D mode) max. 100 μm"

As this specification is of crucial importance nowadays, giving the most valuable advantage to the early breast cancer diagnostics, making it possible for the radiologist to discover almost all small cancers (the lower the pixel size, accordingly the resolution – the better the visualisation of small cancers). Also, when reading the mammogram, the radiologist importantly compare the 2D and 3D images in order to better evaluate eventual suspect lesions. When doing that, it is of outmost importance to have the same resolution on both images (2D and 3D).

Q: Is it acceptable for Purchaser to fortify it's request and redefine this technical specification to: ID37 "Pixel size (both for 2D and 3D mode) max. 70 μm"

Answer: There will be no change in technical specification, as it is totally restricted for almost all vendors. Of course, system with suggested specification will be evaluated as valid offer.

5.In Technical Specification Requested for LOT 4, Item 2, Digital Mammography System, specification number 38: "DQE @ 0,5 lp/mm min. 65%"

As stating or asking for DQE as impportant characteristic of imaging system doesn't make sense without stating MTF (Modular Transfer Function) fact being that only two of them together giving information about the quality of the system, our suggestion is that slight changes of the DQE are not significant for the overall quality of the system, esspecially if it is clinically proven, and if Public Health England's NHS claims for our detector that "The detector performance, as indicated by MTF, NNPS and DQE curves, was satisfactory".

Q: Is it acceptable for the Purchaser to change this specification to:

ID38: "DQE @ 0,5 lp/mm min. 60%"

See Answer to Question no. 7. (After detailed analysis we will partially accept suggestion, so ID 38 will be like following: DQE@ 0,5 lp/mm min. 62%).

6.In Technical Specification Requested for LOT 4, Item 2, Digital Mammography System, specification number 44: "SSD 2 TB"

As we have far bigger capacity then asked, is it acceptable for Purchaser to offer HDD 8 TB instead SSD 2 TB, as the difference in technology has it's advantages and flaws on both sides?

As in Clarification-no.-2-IOP"

Answer: It is acceptable to offer with suggested features. Technical specification number 44 will be as follows: SSD min. 512GB and additional HDD min. 1TB or HDD min. 2TB

Question 4:

Lot 1 – Medical equipment

Position 1 - Trolley for instruments
In the light of the crisis involving the increase in price of stainless steel, is it possible that we submit an offer for a trolley whose dimensions deviate slightly from the requested ones, particularly, instead of 80 x 65 x 95 cm, to offer 80 x 50 x 70 cm?

Answer: Yes. It is possible to submit an offer for a trolley with the dimensions 80 x 50 x 70 cm.

Position 20 - Pulse oximeter

1. A small fingertip pulse oximeter
- Would it be acceptable to offer a handheld pulse oximeter with the detachable SpO2 sensor?

Answer: Yes. It is acceptable to offer A small handheld pulse oximeter with the detachable SpO2 sensor.

2. Touch screen option and Bluetooth
- Since most manufacturers cannot meet this function, please modify this request to: "Must have display to present the measured value".

Answer: The purchaser accepts the change and it now reads: "Must have display to present the measured value"

4. Evolution to non-invasive respiration rate
- Is it acceptable that the offered device can measure SpO2, Pulse, Perfusion index and signal quality?

Answer: Yes. It is acceptable that the offered device can measure SpO2, Pulse, Perfusion index and signal quality.

5. Hemodynamic variability from the Pleth must be available.
- Is it necessary for the offered device to have this parameter or it can be upgradeable?

Answer: This parameter must be upgradeable optional parameter.

Question 5:

Lot 4: Radiology equipment, Line item nr. 3 – Mobile digital X Ray unit with C-Arm and FPD, ID 2 requested: SID min. 105cm

Question 1: Do you accept to offer system with SID 102 cm, due to difference of 3cm does not represent substantial deviation and doesn't have any clinical impact on daily system operation? Accepting such minor deviation will allow more competition and wider spectrum of C arms to be offered.

Answer: It is acceptable to offer with suggested features. Technical specification ID 2 will be as follows: SID min. 102cm

Lot 4: Radiology equipment, Line item nr. 3 – Mobile digital X Ray unit with C-Arm and FPD, ID 3 requested: Orbital rotation min. 160°

Question 2: Do you accept to offer system with orbital rotation min. 150°, due to difference of 10° does not represent substantial deviation and do not limiting system for all examinations? Accepting such minor deviation will allow more competition and wider spectrum of C arms to be offered.

Answer: It is not acceptable. Wider orbital rotation enables much more freedom in C-arm positioning and imaging from almost any C-arm and operating table position.

Lot 4: Radiology equipment, Line item nr. 3 – Mobile digital X Ray unit with C-Arm and FPD, ID 10 requested: Maximum output power min. 2.4 kW

Question 3: Do you accept to offer system with maximum output power 2.3 kW because difference of 0.1 kW will not affect daily patients' throughput, neither image quality? Accepting such minor deviation will allow more competition and wider spectrum of C arms to be offered.

Answer: It is acceptable to offer with suggested features. Technical specification ID 10 will be as follows: Maximum output power min. 2.3 kW

Lot 4: Radiology equipment, Line item nr. 3 – Mobile digital X Ray unit with C-Arm and FPD, ID 11 requested: kV range for pulsed fluoroscopy and digital radiography min. 40-120 kV

Question 4: Do you accept to offer system with kV range for pulsed fluoroscopy and digital radiography 40-110 kV because difference in high voltage between 110kV and 120kV, (anyhow is NOT required 130, or 140kV) does not have any impact on image quality, and such small deviation will be substituted with wide spectrum of mA settings?

Answer: It is not acceptable. Much higher kV enables quality imaging of obese patients which are more and more often in today surgery.

Lot 4: Radiology equipment, Line item nr. 3 – Mobile digital X Ray unit with C-Arm and FPD, ID 12 requested: mA range for pulsed fluoroscopy min. 0.5mA - 20 mA

Question 5: Do you accept to offer system with almost same mA range for pulsed fluoroscopy, but shifted to higher mA, from 3mA – 25mA? For higher image quality is better to have higher mA value settings, for example, 23, 24, 25, than lower value, like, 0.5, 1 mA etc.

Answer: It is partially acceptable suggestion. Technical specification ID 12 will be as follows: mA range for pulsed fluoroscopy min. 3mA - 20 mA.

Lot 4: Radiology equipment, Line item nr. 3 – Mobile digital X Ray unit with C-Arm and FPD, ID 30 requested: Detector matrix min. 2.000 x 2.000 pixels

Question 6: Do you accept to offer system with detector matrix 1360 x 1360 pixels? Larger matrix size maintained the spatial resolution can caused an increase in image noise, when compared to smaller matrix size.

Answer: It is not acceptable. Higher matrix resolution means much higher quality imaging.

Lot 4: Radiology equipment, Line item nr. 3 – Mobile digital X Ray unit with C-Arm and FPD, ID 39 requested: Image archive on USB in min. DICOM, JPEG and AVI format, with DICOM viewer software

Question 7: Do you accept to offer system with Image archive on USB in min. DICOM, TIFF and AVI format, with DICOM viewer software?

Answer: It is partially acceptable suggestion. Technical specification ID 39 will be as follows: Image archive on USB in min. DICOM, JPEG or TIFF and AVI format, with DICOM viewer software

Question 6:

- In the Section III. - Evaluation and Qualification Criteria, (f) Technical Capability, for the Service capacity for lots 1, 3 and 4 the Purchaser asked for the following proof that the Service company is registered in Serbia:

- Excerpt from register of the relevant authority, which proofs that BIDDER is registered with the competent body, or entered in the appropriate register.

We kindly ask the Purchaser to confirm that Documentary evidence (Excerpt from register of the relevant authority) needs to be provided for the Service Company and not for the Bidder?

- In the description of additional conditions for Lot 2 and 5 there is a sentence on the page 44: „This provision applies to all lots"

We kindly ask the Purchaser to confirm that all Additional conditions for Lot 2 – Complementary hospital service (furniture, laundry and kitchen) and Additional conditions for Lot 5 – IT Equipment – strictly refer to the Lots 2 and 5.

Answer: Yes, we confirm that Additional conditions for Lot 2 – Complementary hospital service (furniture, laundry and kitchen) and Additional conditions for Lot 5 – IT Equipment strictly refer to the Lots 2 and 5.

Question 7:

Question 5 is regarding the Answer to Question no. 8, in the Clarification no. 5, as of 12.04.2022:

In Technical Specification Requested for LOT 4, ltem 2, Digital Mammography System, specification number 38: "DQE@ 0,5 lp/mm min. 65%"
As stating or asking for DQE as important characteristic of imaging system doesn't make sense without stating MTF (Modular Transfer Function) fact being that only two of them together giving information about the quality of the system, our suggestion is that slight changes ofthe DQE are not significant for the overall quality of the system, especially if it is clinically proven, and if Public Health England' s NHS claims for our detector that "The detector performance, as indicated by MTF, NNPS and DQE curves, was satisfactory".
Is it acceptable for the purchaser to offer a system with "DQE @ 0,5 lp/mm min. 62%"?
Answer:

There will be no change in technical specification. DQE (Detective quantum efficiency) is the main feature that determine the efficiency of converting X-ray signal to useful electrical signal and is common in radiology terminology. If DQE is higher, it means less dose to get useful electrical signal and as result best image quality.
Question:

We would like to agree partially with your explanation statement, but as we indicated in first question considering the DQE, there is more:

The Public Health England is national organization that "protect and improve the nation's health,... through world-leading science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services." and "provide government, local gover

nment, the NHS, Parliament, industry and the public with evidence-based professional, scientific and delivery expertise and support."

They have performed (it is part of their common responsibilities to evaluate different equipment in order to help NHS with purchasing decisions) Technical evaluation of Hologic 3Dimensions digital mammography system, and issue a detailed report.

In Executive Summary of that report, they claimed that:

"The purpose of the evaluation was to determine whether the Hologic 3Dimensions, operating in 2D mode, meets the main standards in the NHS Breast Screening Programme (NHSBSP) and European protocols, and to provide performance data for comparison against other systems.

The MGD was found to be well below the remedial level. For a 53mm equivalent standard breast, the MGD was 1.37mGy using Auto-Filter AEC mode, compared with the remedial level of 2.5mGy. The image quality, as measured by threshold gold thickness, was better than the achievable level.

The Hologic 3Dimensions meets the requirements of the NHSBSP standards for digital mammography systems operating in 2D mode."

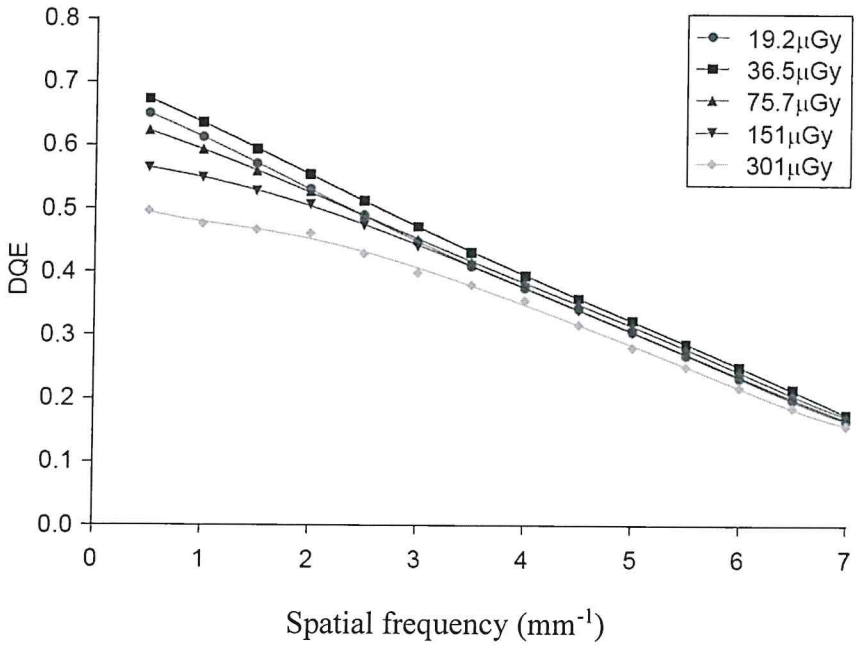
So, the main parameter used in this evaluation that clearly speeking about the quality of the Digital Mammography System is relationship between MGD and Image Quality. In other words, how good quality image you get for certain radiation dose (MGD). DQE as a technical parameter was used in this evaluation, but NOT as a main, or definitely not as the only parameter important for evaluation of quality of the system.

As the whole report (NHS Breast Screening Programme Equipment Report: Technical Evaluation of Hologic 3Dimensions digital mammography system in 2D mode (publishing.service.gov.uk)) has almost 40 pages, so I will extract just few relevant informations:

In Chapter 2.9 Physical measurements of the detector performance

They measured the modulation transfer function (MTF), normalised noise power spectrum (NNPS) and the detective quantum efficiency (DQE) of the system. The Results were presented in a Chapter 3.7 Detector performance as follows:

Figure 19 shows the DQE averaged in the 2 orthogonal directions for a range of incident air kerma to the detector. The MTF and DQE measurements were interpolated to show values at standard frequencies in Table 15.



Here, it is clearly visible that DQE is above 65% for 0.5 lp/mm, but for the 19.2μGy and 36.5μGy functions. At the same time in the Table 15. Average of orthogonal directions of MTF and DQE measurements at spatial frequencies up to the Nyquist frequency, they show the *average* DQE for 75.5μGy, that is 62% for 0.5 lp/mm.

The message of this claim is that DQE is just one of the parameters that define the quality of the detector and accordingly the mammography system, even that it defines it, but explicitly under some other parameters that *are not expressed* in the Technical Specification Request of the Purchaser.

On the other hand, the Report itself (we all have to understand that such reports are of the highest possible standard of proficiency and independency from ANY manufacturer and can be used as absolute truth!) uses two other parameters that are consider valid and useful not only for evaluation whether such systems are appropriate for use in National Health System of Great Britain, and their National Breast Cancer Screening, but also fully appropriate for comparison among the systems of different manmufacturers, as they usually make such reports for all available on the market.

So, please, allow me to extract more from the Report:

This is what they have found concerning the first main parameter of the quality of the system describing the Dose optimisation:

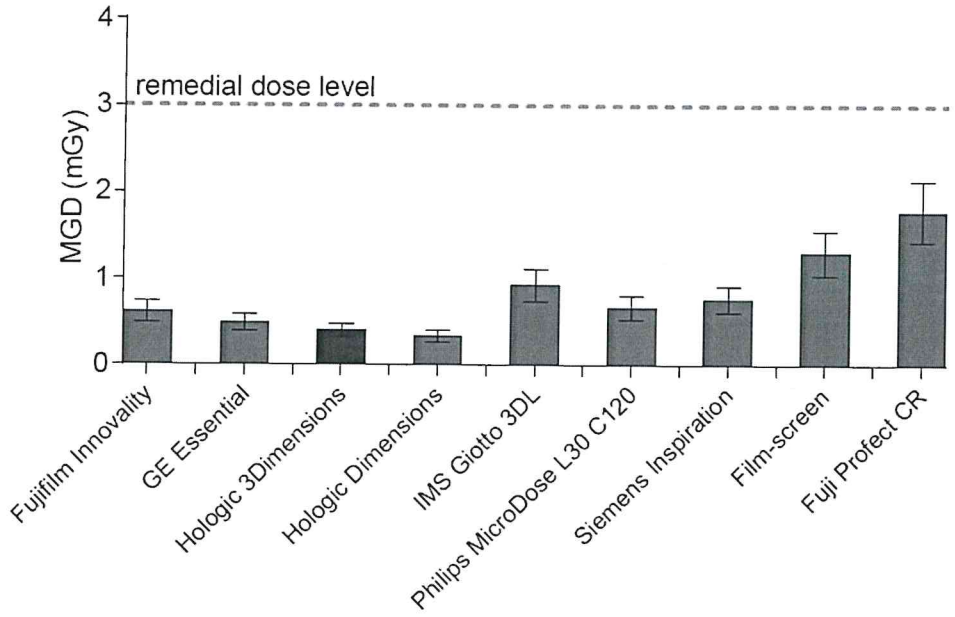


Figure 13. MGD for a 60mm equivalent breast to reach minimum acceptable image quality standard for 0.1mm detail. (Error bars indicate 95% confidence limits.)

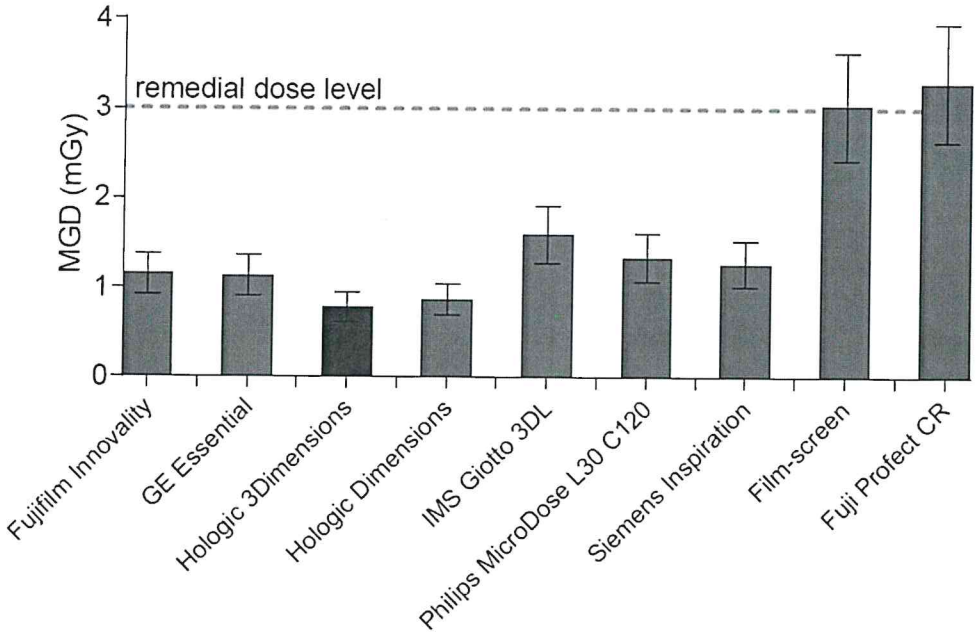


Figure 14. MGD for a 60mm equivalent breast to reach achievable image quality standard for 0.1mm detail. (Error bars indicate 95% confidence limits.)

As you can easily see, the lower the column of each diagram, the better the system is.

Our suggestion is either to erase the requested parameter in Technical Specification Requested for LOT 4, ltem 2, Digital Mammography System, specification number 38: "DQE@ 0,5 lp/mm min. 65%", or simply to accept our suggestion: "DQE@ 0,5 lp/mm min. 60%.

Answer: After detailed analysis we will partially accept suggestion, so ID 38 will be like following: DQE@ 0,5 lp/mm min. 62%.

Question 8:

Lot 4: Radiology equipment, Line item nr. 2 – Digital mammography system, ID 4 requested: kV range: min. 23-49 kV, with 1 kV steps

Question 1: Do you accept to offer system with kV range 23-49 kV because such deviation will be substituted with wider spectrum of mA settings and higher mAs values than required? Accepting such deviation will allow more competition and wider spectrum mammography systems to be offered.

Answer: It is already requested as it is suggested in question. No change in technical specification.

Lot 4: Radiology equipment, Line item nr. 2 – Digital mammography system, ID 7 requested: Anode heat capacity: min. 300 kHU

Question 2: Do you accept to offer system with anode heat capacity 160kHU, but with tube unit heat storage capacity 2,43 MHU? With such tube capacity system is not limited for all necessary examinations.

Answer: It is not acceptable, as anode heat capacity is main parameter with any imaging modality which determines higher patient troughput without tube overheating. No change in technical specification.

Lot 4: Radiology equipment, Line item nr. 2 – Digital mammography system, ID 16 requested: 2 set of footswitches on both side of the gantry

Question 3: Do you accept to offer system with one foot and one hand switch? Accepting such suggestion will allow more competition and wider spectrum of mammography systems to be offered.

Answer: It is common request for any mammography system. They should provide up/down gantry movement and collimation up/down. No change in technical specification.

Lot 4: Radiology equipment, Line item nr. 2 – Digital mammography system, ID 28 requested: Touch screen console

Question 4: Could you please exclude this request due to all necessary generator and exposure parameters, like exposure techniques, kV, mAs, target/filter combination, Status of focus size, Status of compression paddle, Breast thickness in mm, Grid position, Auto Decompression, AEC segmentation, Low dose mode etc. can be controlled via acquisition workplace?

Answer: It is much convinient way to control the system via touch screen console than with traditional acquisition workplace with keyboard. No change in technical specification.

Lot 4: Radiology equipment, Line item nr. 2 – Digital mammography system, ID 57 requested: Upgradeability to contrast-enhanced stereo biopsy

Question 5: Due to such feature is not subject of this procurement, bidders are obliged to offer just possibility to further upgradability, we are suggesting you to exclude it from minimal technical requirements to allow more competition and wider spectrum of mammography systems to be offered.

Answer: It is one of the most advanced features in digital mammography and vendors must have it commercialy available at the moment of submiting the offer. In case it is not requested right know, means that systems will be purchase without any obligation from manufaturer that it will ever have it commercially available for upgrade. No change in technical specification.

Question 9:

Lot 4: Radiology equipment, Line item nr. 5 – Digital X-ray machine (ceiling, 2 flat panels), ID 4 requested: mAs range 0.25 mAs to 500 mAs or more.

Question 1: Do you accept to offer system with much wider mAs range, but shifted to higher mAs, from 0.5 – 800 mAs? For image quality is better to have higher mAs value settings, and difference between 0,25 and 0.5 mAs does not represent substantial deviation. Accepting suggestion of the potential bidder will allow more competition and wider spectrum digital X ray systems to be offered.

Answer: It is acceptable. ID 4 will be like following: mAs range 0.5 mAs to 500 mAs or more.

Lot 4: Radiology equipment, Line item nr. 5 – Digital X-ray machine (ceiling, 2 flat panels), ID 9 requested: Motorized or manual longitudinal movement of X-ray tube support minimum 4000mm.

Question 2: Could you please provide drawings of the room planned for installation digital X ray machine, (ceiling with 2 flat panels)?

Answer: End user will provide drawings to succesfull Bidder. Room adaptation is requested and is not the obligation of the bidder. No change in technical specification.

Lot 4: Radiology equipment, Line item nr. 5 – Digital X-ray machine (ceiling, 2 flat panels), ID 11 requested: Rotation of X-ray tube along the vertical axis min. ± 180°.

Question 3: Do you accept to offer system with rotation of X-ray tube along the vertical axis in range -154/+180°, because such range is enough for providing all necessary examinations? Accepting such minor deviation will allow more competition and wider spectrum of digital X ray machine to be offered.

Answer: It is not acceptable. System with rotation of X-ray tube along the vertical axis min. ± 180° provides imaging from every possible position without any restriction. No change in technical specification.

Lot 4: Radiology equipment, Line item nr. 5 – Digital X-ray machine (ceiling, 2 flat panels), ID 41 requested: DQE at 0 lp/mm min 65%

Question 4: Do you accept to offer system with DQE at 0,5 lp/mm 70% because all producer are having different measurements, some of them are measures DQE at 0lp/mm, some at 0,5 etc.?

Answer: It is acceptable. ID 41 will be like following: DQE at 0 or 0,5 lp/mm min 65%

Lot 4: Radiology equipment, Line item nr. 5 – Digital X-ray machine (ceiling, 2 flat panels), ID 45 requested: Resolution: min. 3000x3000 pixels.

Question 5: Do you accept to offer system with: Resolution: min. 2860 x 2874 pixels, because it is enough for excellent image quality and small difference in pixel numbers do not have significant clinical impact?

Answer: It is acceptable. ID 45 will be like following: Resolution: min. 2860x2874 pixels

Lot 4: Radiology equipment, Line item nr. 5 – Digital X-ray machine (ceiling, 2 flat panels), ID 45 requested: Min 23" monitor screen

Question 6: Do you accept to offer system with monitor of 19" on acquisition workstation, because every producer has their monitors adopted for images and studies visualization on acquisition workplace, and could not be exchanged with another, unapproved?

Answer: It is not acceptable. Bigger monitor provides much better visualisation of all tools and images on acqusition workstation. No change in technical specification.

Lot 4: Radiology equipment, Line item nr. 2 – Digital mammography system, ID 26 requested: Special processing algorithm for implant imaging

Question 7: Do you accept to offer system with several different processing algorithm, which can be applied to implant imaging?

Answer: It is acceptable to offer suggested solution.

Public Procurement Committee

Marija Stanisavljević