

# Equipment Specifications

## Digital Radiography

VISN 19 – Muskogee, OK – 623

623-B96009

### A. REQUIREMENT OVERVIEW

A digital x-ray room is required for activation of the new Tulsa super-CBOC. Digital radiology image results can be analyzed immediately, edited, enlarged, the contrast and luminosity can be increased or decreased to obtain the best possible image of the anatomy under study and preserve it electronically. This technology will greatly affect the accuracy, patient experience and effectiveness of their diagnosis. This service will be a part of the Eastern Oklahoma VA Healthcare System (EOVAHCS) and will expand coverage and access to more Veterans across the state. It will need to integrate with Agfa IMPAX. DICOM RDSR integration is also required.

Facility	Quantity
EOVAHCS CBOC Tulsa activation	1

### B. TECHNICAL REQUIREMENTS

#### 1. System configuration

<input checked="" type="checkbox"/>	a. Fixed wall digital detector
<input checked="" type="checkbox"/>	b. Fixed table digital detector
<input checked="" type="checkbox"/>	c. Wireless digital detector
<input checked="" type="checkbox"/>	d. Additional smaller wireless digital detector

#### 2. Unit physical specifications

a. Minimum generator output power [kW]	50
b. Minimum number of generator phases	3
c. Minimum generator voltage range [kV]	40-150
d. Maximum radiographic mA exposure @ 100 kVp	10 mA to 1000 mA
e. Minimum fixed detector size [in x in]	14x17
f. Minimum wireless detector size [in x in]	14x17
g. Maximum wireless detector weight with battery installed [lbs]	10 lb
h. Maximum 2 <sup>nd</sup> wireless detector size [in x in]	10x12
i. Maximum 2 <sup>nd</sup> wireless detector weight [lbs]	7 lb
j. Minimum spatial resolution [lp/mm]	5
k. Maximum pixel size [μm]	100
l. Maximum time for image display [s]	< 3 sec



m. Minimum tube height from floor when used with wall stand [in]	10 in
n. Minimum image plate height from floor [in]	10 in
o. Minimum tilt of imaging surface [deg]	-20 to +90
p. Maximum table patient weight limit [lbs]	700 lb
q. Bucky tilt range [deg]	-20 to +90

### 3. Additional specifications

<input checked="" type="checkbox"/>	a. High-frequency generator with automatic dose rate control
<input checked="" type="checkbox"/>	b. Flat-panel wireless detector
<input checked="" type="checkbox"/>	c. Protective weight-bearing cover for wireless detector
<input checked="" type="checkbox"/>	d. Charging station for wireless detector (as required by vendor)
<input checked="" type="checkbox"/>	e. Grid attachments for wireless detector (as required by vendor)
<input checked="" type="checkbox"/>	f. Table holder for wireless detector
<input checked="" type="checkbox"/>	g. Mobile holder for wireless detector
<input checked="" type="checkbox"/>	h. Tube mount <div> <input checked="" type="radio"/> Overhead           <input type="radio"/> Floor-mounted         </div>
<input checked="" type="checkbox"/>	i. Bucky tracking for the table and wall stand
<input checked="" type="checkbox"/>	j. In-room protocol adjustment via tube head or other in-room mounted system
<input checked="" type="checkbox"/>	k. Ability to change between tabletop, upright bucky, or table bucky from tube head
<input checked="" type="checkbox"/>	l. Free-floating manual tabletop
<input checked="" type="checkbox"/>	m. Automatic parameter selection
<input checked="" type="checkbox"/>	n. Removable/adjustable patient hand grips
<input checked="" type="checkbox"/>	o. Dual energy imaging
<input checked="" type="checkbox"/>	p. Post-processing image enhancement for lines, soft tissue, etc.
<input checked="" type="checkbox"/>	q. Foot controls on each side of table

### 4. Workstation Requirements

<input checked="" type="checkbox"/>	a. Minimum number of acquisition workstations	1
<input checked="" type="checkbox"/>	b. Minimum acquisition workstation monitor size [in]	24
<input checked="" type="checkbox"/>	c. Minimum acquisition workstation hard drive size [GB]	1 TB
<input checked="" type="checkbox"/>	d. Minimum number processing workstations	1
<input checked="" type="checkbox"/>	e. Minimum processing workstation monitor size [in]	24
<input checked="" type="checkbox"/>	f. Minimum processing workstation hard drive size [GB]	1 TB
<input checked="" type="checkbox"/>	g. LCD touchscreen acquisition workstation monitor	



<input checked="" type="checkbox"/>	h. UPS for x-ray control/image recovery to bring the workstation down safely
<input checked="" type="checkbox"/>	i. Advanced graphics workstation(s)
<input checked="" type="checkbox"/>	j. Ability to send images directly from the control panel (no separate workstation required)

## 5. Software Requirements

<input checked="" type="checkbox"/>	a. Stitching – ability to stitch multiple long-axis images with options for automated and manual process
<input checked="" type="checkbox"/>	b. Bone suppression – ability to suppress overlaying bone such as ribs on chest images
<input checked="" type="checkbox"/>	c. Ability to apply multiple image processing algorithms both pre- and post-acquisition to allow for soft tissue and/or bone enhancement
<input checked="" type="checkbox"/>	d. Dose monitoring – the system must be able to supply a technology that allows for monitoring and tracking of radiation dose provided to a patient
<input checked="" type="checkbox"/>	e. Dose reduction – the system must have systems in place to facilitate regular protocol optimization and reduced radiation dose to the patient
<input checked="" type="checkbox"/>	f. Repeat rate – ability to track repeat/retake data to include such items as technologist (required unique identifier), reason for repeat, patient dose, exam type, etc. The data should be exportable to Excel or other databases for tracking, trending, and combining with data from other imaging sources within the facility.
<input checked="" type="checkbox"/>	g. Security – ability to protect sensitive patient data using unique user authentication

## 6. Security/Connectivity Requirements

<input checked="" type="checkbox"/>	a. OEM-supported operating system
<input checked="" type="checkbox"/>	b. Latest DICOM print, store, commit, radiation dose structured report (RDSR), and modality worklist
<input checked="" type="checkbox"/>	c. Encrypted hard drive
<input checked="" type="checkbox"/>	d. PACS compatibility – AGFA IMPAX

## 7. Added Value

Specifications listed below are not required, but preferred. Vendors who do not include the below specifications in the submitted offer will not be docked or excluded from consideration. Specifications listed below will be evaluated based on added value.

<input checked="" type="checkbox"/>	a. If Windows OS, runs on Windows 10.
<input checked="" type="checkbox"/>	b. Post-warranty remote diagnostic service program

## C. TRAINING REQUIREMENTS

### 1. Clinical Training

<input checked="" type="checkbox"/>	a. On-site clinical applications training for 2 technologists during go-live
<input checked="" type="checkbox"/>	b. On-site follow-up clinical applications training for 2 technologists once technologists have hands-on experience with the system
<input checked="" type="checkbox"/>	c. Technologists who complete the clinical applications training shall receive continuing education credits (CMEs).

### 2. Biomedical Technician Training

**Please reference the “Instructions to Offers” section 2.8.g for further information about the type of information to provide by equipment type not by specific request. Please also reference the “Instructions to Offers” section 7.3.3. for response format.**

Technical training information to include detailed information about the curriculum and length of the biomedical technical training required for each equipment type.

Although the NAC will not award this training along with the equipment, it is imperative that the customer is informed that this training is available. Vendors must demonstrate that they can provide any required off-site training, therefore off-site training should be quoted as an optional item. Off-site training will be purchased at the time of need via a modification (if the original order remains open) or via a separate order. No travel expenses for any VA employees will be included in any HTME equipment or training order.

## D. SERVICE REQUIREMENTS

1. VPN/Remote Access – The vendor shall provide any and all equipment service programs, such as remote diagnostics, during the warranty period. The vendor shall provide post-warranty remote diagnostic service program as an “Add Option” with the offer. The system shall provide vendor remote diagnostics via VPN. The vendor shall either utilize the VA national site-to-site VPN or work with the Office of Cyber and Information Security and the VAMC Information Systems Security Officer to establish a client-based VPN.
2. Service and Operator Manuals – The vendor shall provide the following documentation for the proposed systems:
  - a. Two (2) copies of operator instruction manuals (one (1) electronic and one (1) physical copy)
  - b. Two (2) copies of a service manuals (one (1) electronic and one (1) physical copy)\*Vendors can include the physical copy as a priced line item in their quote as applicable.
3. Minimum Warranty – The system and accessories shall be covered under the manufacturer’s warranty and shall include all parts and labor for one year following acceptance by the VAMC. This warranty must include PMs as required by the manufacturer. The manufacturer’s factory-trained field service representatives shall perform installation and maintenance during the warranty period.

Vendors are encouraged to include any offerings for service, warranty, and training that may exceed the minimum requirements, to include information on their service support structure during and after the warranty



period. Vendors who do not include any added value offerings for service, warranty, and training will not be docked or excluded from consideration. However, any such offerings will be evaluated based on added value.

## E. OTHER INFORMATION/DOCUMENTATION REQUESTED

**Please reference the “Instructions to Offers” section 2.8a-h for further information about the type of information to provide by equipment type not by specific request. Please also reference the “Instructions to Offers” section 7.3.3. for response format.**

1. Completed pre-procurement assessment form (6550 Appendix A)
2. Completed Manufacture Disclosure Statement for Medical Device Security (MDS2) form
3. Federal Information Processing Standard (FIPS) 140-2 certification
4. Product brochures
5. Technical specification sheets, to include dimensions and weight of the system
6. Typical drawings (pdf version of the CAD drawings)
7. Technical training- Biomedical: information to include detailed information about the curriculum and length of the biomedical technical training required for each equipment type.
  - Although the NAC will not award this training along with the equipment, it is imperative that the customer is informed that this training is available. Vendors must demonstrate that they can provide any required off-site training, therefore off-site training should be quoted as an optional item. Off-site training will be purchased at the time of need via a modification (if the original order remains open) or via a separate order. No travel expenses for any VA employees will be included in any HTME equipment or training order.
8. Support information to include your company’s support structure during and after the warranty period
  - On-line or telephonic applications support and availability (include third party coverage)
  - A listing of field service engineer locations and availability
  - A listing of part depots

## F. TRADE-IN

- |  |                                       |
|--|---------------------------------------|
| <input checked="checked" type="checkbox"/> | a. VA has no trade-in units to offer. |
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