

**Functional Requirements for Cardiac Ultrasound
For Nebraska-Western Iowa VA Healthcare System (Station 636)
Obligation Number 618-B69079**

This cardiac ultrasound equipment will be used at a Medical Center for inpatient and outpatient clinics to include procedures such as transesophageal echocardiogram (TEE), transthoracic echocardiogram (TTE), dobutamine stress echocardiogram (DSE) and catheterization lab procedures.

Technical Requirements:

1. Capable of processing multiple data stream simultaneously built for 2D, 3D, MPR
2. All image modes available on a single transducer
 - a. 2D
 - b. 3D
 - c. M-mode
 - d. Harmonic image
3. Doppler Display
 - a. Frequency
 - b. Velocity
 - c. Power
4. Digital calipers
5. Selectable dynamic range
6. Adjustable transmit focus
7. Dynamic receive focus
8. Pan/Zoom
9. Split screen
10. Image storage on acquisition unit
11. Image auto-optimization based on gain and contrast
12. Equalization of Doppler
13. Programmable protocols
14. 3 active transducer ports
15. Tissue tracking/velocity
16. Anatomical-M PW/HPRF
17. Live 3D quantification tool that calculates the volumes of the LV and LA simultaneously, as well as an LV EF and Stroke Volume in less than 30 seconds
18. Ability to image the microbubbles found within the myocardium when using contrast agents to assess LV microvasculature
19. DICOM 3.0 print, store, commit and modality worklist
20. Interface capabilities to currently installed Xcelera system (provide references)

Transducers/Probe Types:

1. Preferred to be compatible with existing transducer/probe types:
 - a. 2 MHz pencil probe
 - b. 1-5 MHz matrix transducer
 - c. 2-7 MHz TEE transducer
2. Cardiac Phased Array

3. Cardiac non-imaging probe
4. TEE transesophageal probe
 - a. 2D and 3D Dynamic elevational focusing
 - b. 7 to 2 MHz extended operating frequency range
 - c. 3D zoom
 - d. Electrocautery suppression
 - e. Electronic rotatable array from 0-180 degrees

Each vendor is to respond with transducers that meet the criteria listed above. Please also include all other transducers offered by your company in the optional section on the quotes.

Analysis Packages:

1. Cardiac
2. Contrast
3. Card Coronary

Support and other Documentation to Provide:

1. Provide the weight of the unit
2. Provide the physical size (height, width and depth)
3. Provide DICOM Conformance Statement
4. Provide completed pre-procurement Assessment and MDS2 Document
5. Provide information about your company's support structure during the warranty period (i.e. a listing of Field Service Engineer locations and availability, support 800 phone numbers, remote support, etc.)
6. Please provide version/platform long-range plan
7. References for sites that have successfully interfaced with different vendor Cardiac PACS systems
8. Provide 2 copies of product service manuals (1 hard copy and 1 digital copy)

Training

1. On-site
 - a. Clinical applications **during GO LIVE** - minimum of 4 days (8 hrs each day) – for each site.
 - b. Training should include both Technologists and Physicians
2. Follow up
 - a. Applications training to be provided after technologists have hands-on experience with the system - between **3-4 months** following GO LIVE - minimum of 2 days (8 hrs each day)– for each site.
 - b. Applications training to be provided after technologists have hands-on experience with the system – between **6-9 months** after GO LIVE - - minimum of 2 days (8 hrs each day)– for each site.
3. One Biomedical Technical training per unit – tuition and travel (including rental cars, lodging and food costs)

Trade-in:

Option 1 **ALL Hard Drives will be retained by the VA.**

Ultrasound:

EE: 2983153

Manufacturer: Philips

Model: IE33

S/N: 02X3K5

Acq. Year: 2009

TEE Probe:

EE: 2993386
Manufacturer: Philips
Model: X7-2T
S/N: 03C2CP
Acq. Year: 2008

OTHER Probes:

EE: 3014312
Manufacturer: Philips
Model: S5-1
S/N: 037K7N
Acq. Year: 2012