

VAMC WEST HAVEN, CT  
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VA NEW ENGLAND HEALTHCARE SYSTEM  
**STATEMENT OF WORK**  
Digital Portable Radiography



September 2013

# **VA NEW ENGLAND HEALTHCARE SYSTEM**

## **OBJECTIVE**

This document highlights the requirements, technical specifications, and services being requested by the Department of Veterans Affairs (VA) Medical Center(s) listed below for consideration towards purchase of a portable digital radiography unit; commonly referred to as a DR portable. The DR portable will either replace or be in addition to current portable radiography units. Offerors under this proposal shall provide all labor, material, parts, tools, software, project management and equipment necessary to furnish and install a fully functional DR portable in the following medical center(s).

- VA Boston Healthcare System's Jamaica Plain Campus
- VA Central Western Massachusetts Healthcare System's Northampton Medical Center
- VA Connecticut Healthcare System's West Haven Campus

## **DEFINITIONS**

The following are definitions to terms used within this document.

### **DEFINITIONS**

Detector	For the purposes of this statement of work the detector converts transmitted patient information (X-ray) into a digital signal. This imaging plate transmits this digital image to the processing unit without the requirement of an adjunct "reader" and is erased and charged in place. This imaging plate may be wired (tethered) or wireless.
VistA	Veterans Health Information Systems and Technology Architecture - is VA's award winning Health Information Technology (IT) system. It provides an integrated inpatient and outpatient electronic health record for VA patients, and administrative tools to help VA deliver the best quality medical care to Veterans. This serves as the VA's HIS/RIS.
DR Portable	A mobile radiography (X-ray) imaging system, normally battery powered, that uses a detector plate to acquire digital images of patient anatomy.

## **PROJECT MANAGEMENT**

This procurement will include training, configuration and networking of the DR portable and ancillary equipment purchased.

## **MEDICAL EQUIPMENT TECHNICAL SPECIFICATIONS**

The following technical specifications represent a minimum set of requirements. Offerors must reply outlining specifically how they meet the requirements for a DR portable in a format that is easy to interpret by a common lay person.

- Hardware
  - Generator
    - High frequency generator with automatic dose rate control
    - kVp range 40-125 kV (+/- 5% accuracy)
    - mAs accuracy (on battery) +/- 5%

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- $\leq 1\text{ms}$  shortest exposure time
    - $\geq 3\text{s}$  longest exposure time
  - Detector Size
    - 17cm X17cm field of view, high efficiency wireless detector (preferred)
      - If wireless option is not available, wired option may be substituted; cord length must be 20 feet or greater.
    - 14cm x 17cm field of view high efficiency wireless detector (acceptable option)
    - 5.9 million pixels or greater resolution
    - 180um pixel size or smaller
    - $\leq 8$  lbs in weight including battery. (3.6kg) wireless configuration -or-  $< 10$  lbs for wired detector configuration.
    - Provision for shock / crush damage protection (cover, bumper, etc)
  - X-ray Tube
    - 300 kHU or greater
    - .7/1.3 mm or better focal spot
    - Multi leaf tube collimation with light field accuracy  $\pm 5\%$
    - Collimator rotatable  $\pm 90$  degrees
  - Hardware
    - Adjustable motor drive (low speed/high speed)
    - Battery – storage capacity to provide 30+ average exposure and up to 1 hour of run time. (please state capability if other)
    - Charge level indicator (estimated time/exposure remaining preferred)
    - $\leq 12\text{hr}$  charge time from maximum discharge
    - Ability to make exposures on wall outlet connection
    - Standard wall outlet connection with retractable cord  $\geq 8$  feet in length
    - On board DR reconstruction and display capability
    - Display monitor 14.5” or greater
  - Compliant with all industry standards (FDA, ECI, etc)
- Software Solutions
    - Image Processing-
      - Rapid image display,  $< 5$  seconds preferred.
      - Compatible with worklist from VistA
      - Validation with VistA Imaging (on approved vendor list)
      - Image annotation
      - Ability to apply multiple image processing algorithms both pre and post-acquisition to allow for soft tissue and/or bone enhancement.
      - Ability to apply standard image editing functions, such as but not limited to; rotate, flip, zoom, window, level, etc.
      - Wireless transmission of images to PACS (preferred)
      - On board storage of image data for at least 200 studies
    - Monitoring of Dosage- The system must be able to supply a technology that allows for monitoring and tracking of radiation dose provided to a patient; DICOM structured reporting is preferred. DAP accuracy must be 99% reproducible with  $< 2\%$  deviation.
    - Dose Reduction- The device must have systems in place to facilitate regular protocol optimization and reduced radiation dose to the patient.

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- 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.

### **EDUCATION/TRAINING TO BE PROVIDED**

The following is a list of education and training options that each medical center may be interested in purchasing along with their scanner. Offerors are encouraged to list out their education and training options that can be provided.

- Clinical Education
  - At least one (1) week of onsite training for the technologist from each medical center with options for additional training (i.e. 2 weeks on-site to be used in the next 2-3 years). (*Option*)
  - On-going Clinical education for technologist(s) from each medical center via on-line, webinar, etc. (*Option*)
  - Clinical phone applications support for the technologist(s) from each medical center.
- Clinical or Biomedical Engineering Training- Biomedical Engineering training for one (1) Biomedical Engineering Support Specialists (technicians) from each medical center at Offeror's training location to include travel and accommodations with options for additional training. (*Option*)

### **NETWORKING CAPABILITIES**

The Offeror's product must be able to meet the following network capabilities.

- Must be on the VistA Imaging Approved DICOM Modality Interfaces list. [VA DICOM Website](#)
- Must have the ability to interface with hospital Picture Archiving and Communication System (PACS) and third (3<sup>rd</sup>) party post-processing workstations, specifically Carestream's PACS product.

The Offeror is required to submit the following documentation along with their proposal.

- A complete Manufacturer Disclosure Statement for Medical Device Security (MDS<sup>2</sup>) form. See attachment A.
- A complete VA Directive 6550 Pre-Procurement Assessment form. See attachment A.

### **SERVICE**

- VPN/Remote Access – The vendor shall provide, at no additional charge, 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.

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The system shall provide Vendor Remote Diagnostics via VPN. Vendor shall utilize the VA national Site-to-Site VPN, or the vendor shall work with the Office of Cyber and Information Security and the Boston VAMC Information Security Officer to establish a Client-Based VPN.

- Service and Operator Manuals – The vendor shall provide the following documentation for the proposed system:
  - Two (2) copies of operator's instruction manuals per unit purchased
  - Two (2) copies of complete technical service manuals including detailed troubleshooting guides, necessary diagnostic software, service keys, schematic diagrams, and parts lists
  - Two (2) copies of a system manager's manual outlining back-up procedures, managing privilege group limits, routine tasks, etc.

### **EVALUATION CRITERIA**

Offerors will be evaluated on the following factors. There is no specific ranking for any factors listed.

- General System Offering (Functional Capabilities and Technical Performance as Outlined Above and Additional Features Listed)
- Radiation Dose Monitoring and Reduction Capability
- Training Plan (both Clinical and Technical)
- Anticipated Reliability and Serviceability
- Past Performances
- Human Factors Design (i.e. Ease of Use, Intuitive Operation, Capabilities, and Workflow Efficiencies)
- Implementation Management and Schedule
- Installation of the Scanner into the Current Space
- Price

It is understood that every Offeror's product(s) may differ from the specifications outlined in this document. As such, Offerors are encouraged to propose these variances. It is required that each Offeror clearly identify how they meet the specifications listed above. It is also required that, whenever a variance from these specifications occurs, the proposed item meets or exceeds the specified characteristics or level of performance. The Offeror shall also identify each product line item that differs from the specifications and list its associated cost.

### **FURTHER CONSIDERATION**

Offeror's are provided the opportunity to obtain further details from the VA New England Healthcare System in order to better tailor the product quote(s). All requests for information derived from any Offeror will be shared with each Contracted vendor per the National Acquisition centers supplied vendor list for this modality.

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## ATTACHMENT A

The following document is required to be completed for all products contained within the proposal.

