

# Equipment Specifications

## Positron Emission Tomography (PET)/Computed Tomography (CT)

VISN 7 / Ralph H Johnson VA Medical Center

[534-B92036]

### A. REQUIREMENT OVERVIEW

The Ralph H. Johnson VA Medical Center is seeking to procure one PET/CT camera to be utilized in the Radiology Department. The purpose of the PET/CT is to perform scans on oncology, cardiology, and neurology patients to initially detect disease, determine the spread or remission of disease, and evaluate abnormalities in order to determine a treatment plan for the specific patient.

Facility	Quantity
Ralph H Johnson VA Medical Center	1

### B. TECHNICAL REQUIREMENTS

#### 1. Unit physical specifications

a. Minimum number of slices	64 row, 128 slice
b. Minimum slice thickness [mm]	0.625 mm
c. Minimum gantry aperture [cm]	70 cm
d. Minimum gantry tilt [degrees]	30 degrees
e. Minimum detector width [mm] (CT)	40 mm
f. Minimum detector axial field of view [cm] (PET)	20 cm
g. Minimum detector transaxial field of view [cm] (PET)	70 cm
h. Minimum diagnostic scan field of view [cm] (CT)	50 cm
i. Minimum table height range from floor [cm]	100 cm (Vertical)
j. Maximum patient weight supported [kg]	225 kg
k. Minimum 360° rotation time [s] – Vendors are encouraged to propose the fastest 360° rotation available.	0.35 s
l. Minimum number of detectors (PET)	540 blocks
m. Minimum time of flight resolution [ps]	375 ps
n. Minimum time of flight coincidence window [ns]	4.5 ns
o. Minimum processing workstation monitor(s) dimensions [in]	19 in



p. Minimum reading workstation medical-grade monitor(s) dimensions [in]	19 in
q. Minimum number of reading workstations	2
r. Minimum resolution on reading workstations	1280 x 1024
s. Workstation Operating System	Windows 10 or above at time of delivery
t. Maximum square footage of area for equipment and control room	Approximately 630 sq feet

## 2. Additional specifications

<input checked="" type="checkbox"/>	a. Time of Flight PET system with list mode reconstruction
<input checked="" type="checkbox"/>	b. High-definition PET reconstruction
<input checked="" type="checkbox"/>	c. Full 3D iterative reconstruction technique
<input checked="" type="checkbox"/>	d. Wide view option for transaxial field of view coverage
<input checked="" type="checkbox"/>	e. Two meter scan option
<input checked="" type="checkbox"/>	f. Motion management for reduction of motion artifacts
<input checked="" type="checkbox"/>	g. CT capable of acting as stand alone unit
<input checked="" type="checkbox"/>	h. Capable of axial or helical scans of the same anatomy at two different x-ray energies
<input checked="" type="checkbox"/>	i. Reduction of radiation dose for superficial tissues
<input checked="" type="checkbox"/>	j. Automatic and continuous correction of x-ray beam shape to block unused x-ray
<input checked="" type="checkbox"/>	k. Reconstructive algorithms for soft tissue, standard, detail, chest, bone, bone plus, lung, ultra, edge and edge plus
<input checked="" type="checkbox"/>	l. Fully integrated PET and CT user interface
<input checked="" type="checkbox"/>	m. 4D (respiratory gating) for PET and CT
<input checked="" type="checkbox"/>	n. ECG cardiac gating for PET and CT
<input checked="" type="checkbox"/>	o. PET/CT image review server or thin client
<input checked="" type="checkbox"/>	p. LAP Laser wall mount monitor
<input checked="" type="checkbox"/>	q. Cardiac trigger monitor that displays a minimum of two simultaneous ECG vectors along with the patient's heart rate
<input checked="" type="checkbox"/>	r. UPS to maintain total system functionality for 10 minutes without facility power
<input checked="" type="checkbox"/>	s. MedRad contrast injector and interface
<input checked="" type="checkbox"/>	t. RTP flat tabletop
<input checked="" type="checkbox"/>	u. Patient comfort table pads
<input checked="" type="checkbox"/>	v. Compatibility with radiopharmaceuticals, including FDG
<input checked="" type="checkbox"/>	w. Head holder/stabilizer
<input checked="" type="checkbox"/>	x. Fusion processing
<input checked="" type="checkbox"/>	y. Digital detector
<input checked="" type="checkbox"/>	z. Capability to integrate with dose tracking system: [Nexodose]
<input checked="" type="checkbox"/>	aa. Patient video monitoring



<input checked="" type="checkbox"/>	bb. Capable of detecting small lesions of at least 4 mm
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3. Quality assurance and safety tools/instruments

	Description	Qty
<input checked="" type="checkbox"/>	a. VQC (Volumetric Quality Control) Phantom	1
<input checked="" type="checkbox"/>	b. Daily QA/QC and Annual QA/QC phantoms (example ACR phantom for CT)	1
<input checked="" type="checkbox"/>	c. MDP (Main Disconnect Panel) to disconnect system power on first loss of incoming power	1
<input checked="" type="checkbox"/>	d. Wall mounted remote emergency off push button	1

4. Software application options

<input checked="" type="checkbox"/>	a. Dose Reduction Software or capability
<input checked="" type="checkbox"/>	b. Metal artifact reduction software
<input checked="" type="checkbox"/>	c. Ability to view parameters of prior exams and compare prior parameters to current exams
<input checked="" type="checkbox"/>	d. Small lesion detection
<input checked="" type="checkbox"/>	e. Tumor Tracking with auto tumor segmentation
<input checked="" type="checkbox"/>	f. Customizable work lists
<input checked="" type="checkbox"/>	g. Automatically push saved results to a DICOM host
<input checked="" type="checkbox"/>	h. Follow-up comparison tumor evaluation software
<input checked="" type="checkbox"/>	i. Cardiac non-quantitative (i.e. conventional cardiac PET/CT) and quantitative (myocardial flow reserve and absolute myocardial blood flow) software
<input checked="" type="checkbox"/>	j. Alignment software

5. Workstation specifications

<input checked="" type="checkbox"/>	a. Minimum acquisition workstation medical-grade monitor size [in]	19 in
<input checked="" type="checkbox"/>	b. Minimum acquisition workstation hard drive size [TB]	2 TB
<input checked="" type="checkbox"/>	c. Minimum number of processing/reading workstations	2
<input checked="" type="checkbox"/>	d. Minimum image storage [TB]	2 TB
<input checked="" type="checkbox"/>	e. Minimum processing/reading workstation medical-grade monitor size [in]	19 in
<input checked="" type="checkbox"/>	f. Minimum processing/reading workstation hard drive size [TB]	2 TB
<input checked="" type="checkbox"/>	g. Acquisition/console hardware	
<input checked="" type="checkbox"/>	h. LCD monitor(s)	
<input checked="" type="checkbox"/>	i. Keyboard/mouse	
<input checked="" type="checkbox"/>	j. Workstation UPS (as defined by vendor)	



- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| <input checked="" type="checkbox"/> | k. Software application licensure |
|-------------------------------------|-----------------------------------|

Vendors are encouraged to propose the recommended number of monitors for each workstation.

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 – [VistaRAD]   |

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. Additional year(s) of warranty                  |
| <input checked="" type="checkbox"/> | b. Post-warranty remote diagnostic service program |
| <input checked="" type="checkbox"/> | c. Large image storage capacity on workstations    |
| <input checked="" type="checkbox"/> | d. High resolution on reading workstation monitors |
| <input checked="" type="checkbox"/> | e. Version/platform long-range plan                |

## C. TRAINING REQUIREMENTS

1. Clinical Training

- |                                     |   |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | a. Pre-installation clinical applications training for 2 technologists, to include tuition  |
| <input checked="" type="checkbox"/> | b. On-site clinical applications training for 2 technologists during go-live  |
| <input checked="" type="checkbox"/> | c. On-site follow-up clinical applications training for 2 technologists once technologists have hands-on experience with the system |
| <input checked="" type="checkbox"/> | d. On-site clinical applications training during go-live for 10 physicians  |
| <input checked="" type="checkbox"/> | e. Off-site training for 2 technologists  |
| <input checked="" type="checkbox"/> | f. Technologists who complete the clinical applications training shall receive continuing education credits (CMEs).                 |
| <input checked="" type="checkbox"/> | g. Vendors shall be responsible for accommodating different personnel shifts for clinical applications training during go-live.     |

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="" type="checkbox"/>	a. In instances where sanitization of ePHI compromises the OS and/or application software, or requires the removal of internal storage media, the vendor accepts the equipment "as is" and can elect at their own discretion to contract with the original equipment manufacturer (OEM) to restore the system.
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The following equipment is available for trade-in. Please reflect any credits provided for trade-in equipment in the proposal.

Station	534
Manufacturer	GE
Model	Discovery VCT PET/CT
EE/Asset Number	172039
Serial Number	843789PET1

