

# Equipment Specifications

## Linear Accelerator Radiotherapy System

### VISN 8/Miami VA Healthcare System

546-B90016

## A. REQUIREMENT OVERVIEW

Miami VA Radiation Oncology would like to purchase a Linear Accelerator for the service to replace its Clinac IX. The new Linear Accelerator will allow for treatment delivery to be done two to eight times faster than the current Clinac IX. The Linear Accelerator will feature the latest state of the art technology to allow for a highly precise, noninvasive means of utilizing high-energy X-rays in the treatment of tumors. Additionally, the beam shaping device allows for precise tumor targeting while sparing adjacent critical organs. Miami VA Radiation Oncology department would like the latest technology in Linear Accelerator to treat our patients. The new should be able to have Beam Matching which allows for patients to be transferred from one to another without having to re-plan and run additional quality assurance checks. This process takes a minimum of a day and will result in treatment interruption. Having a beam matched machine means the Veterans do not experience any treatment interruptions due to a down machine.

Facility	Quantity
Miami VA Radiation Oncology	1

## B. TECHNICAL REQUIREMENTS

### 1. Unit physical specifications

Photon energy range [MV]	6 - 15
b. Electron energy range [MeV]	6 - 20
c. Minimum wavelength [m]	0.33
d. Minimum microwave power [MW]	6
e. Gantry rotation range [deg]	0 - 360
f. Minimum source-to-axis distance [cm]	80
g. Minimum beam bending [deg]	270
h. Collimation rotation range [deg]	0 - 360
i. X-ray field size range [cm x cm]	0 - 40
j. Electron field size range [cm x cm]	6x 6 to 25 x 25
k. Number of leaves (for multileaf)	120
l. Maximum field size (for multileaf) [mm x mm]	40 x 40
m. Minimum leaf size at isocenter [mm]	5
n. Distance from collimator to isocenter [cm]	35.5
o. Table height range from floor [cm]	78
p. Table longitudinal movement range [cm]	130
q. Table lateral movement range [cm]	50



r. Maximum patient weight for table [kg]	550 lbs
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2. Treatment modes

<input checked="" type="checkbox"/>	a. Radiotherapy
<input checked="" type="checkbox"/>	b. Radiosurgery
<input checked="" type="checkbox"/>	c. Stereotactic Radiosurgery (SRS)
<input checked="" type="checkbox"/>	d. Stereotactic Body Radiotherapy (SBRT)

3. Additional specifications

<input checked="" type="checkbox"/>	a. Auto-positioning
<input checked="" type="checkbox"/>	b. Solid-state detector
<input checked="" type="checkbox"/>	c. kV generator for image-guided radiation therapy (IGRT)
<input checked="" type="checkbox"/>	d. Multileaf collimators (MLC) for intensity modulated radiotherapy (IMRT) treatments
<input checked="" type="checkbox"/>	e. Real-time leaf position monitoring
<input checked="" type="checkbox"/>	f. Arc therapy (unit can provide treatment during gantry rotation)
<input checked="" type="checkbox"/>	g. Virtual wedge
<input checked="" type="checkbox"/>	h. Accelerator type Traveling-wave and Standing-wave
<input checked="" type="checkbox"/>	i. Tracking/grating systems for adjusting the treatment to accommodate for tumor motion
<input checked="" type="checkbox"/>	l. Lung tracking
<input checked="" type="checkbox"/>	m. OIS interface
<input checked="" type="checkbox"/>	n. Clinical efficiency products
<input checked="" type="checkbox"/>	o. Respiratory gating
<input checked="" type="checkbox"/>	p. Quality assurance tools/software
<input checked="" type="checkbox"/>	r. Beam repositioning after asymmetry is detected
<input checked="" type="checkbox"/>	s. Beam-steering circuitry to automatically compensate for changes in the angle or position of the beam cause by gantry or collimator rotation
<input checked="" type="checkbox"/>	t. High-intensity mode
<input checked="" type="checkbox"/>	u. Flattening filter-free mode
<input checked="" type="checkbox"/>	v. Dosimetry system
<input checked="" type="checkbox"/>	w. Safety interlock to prevent radiation in the event of system failure



4. Security/Connectivity Requirements

<input checked="" type="checkbox"/>	a. OEM-supported operating system
<input checked="" type="checkbox"/>	b. Latest DICOM print, store, commit, and modality worklist
<input checked="" type="checkbox"/>	c. Encrypted hard drive

5. 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. Version/platform long-range plan

## C. TRAINING REQUIREMENTS

1. Clinical Training

<input checked="" type="checkbox"/>	a. On-site clinical applications training for [4] technologists during go-live
<input checked="" type="checkbox"/>	b. On-site follow-up clinical applications training for [10] 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).
<input checked="" type="checkbox"/>	d. 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



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## F. TRADE-IN

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| <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	546
Manufacturer	Varian
Model	Clinac IX
EE/Asset Number	57163
Serial Number	3979

