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Mar. 20, 2024
STATE HEALTH PLANNING AND DEVELOPMENT AGENCY

Request No. EQR2024-004
Date Received March 20, 2024
Received By T. Ferguson

STATE HEALTH PLANNING AND DEVELOPMENT AGENCY

100 NORTH UNION STREET, SUITE 870MONTGOMERY,
ALABAMA 36104

REQUEST FOR DETERMINATION OF EXEMPTION STATUS FOR REPLACEMENT OF EXISTING EQUIPMENT

A filing fee in the amount of $ 5,382.05 has been submitted with this application.

Requestor Identification (Check one)

☐ Hospital ☐ Nursing Home ☑ Other (Specify) Freestanding Radiation Oncology Practice

A. Cullman Radiation Therapy Services P.C
Name of Requestor

1811 Parkway Circle	Cullman	Cullman
Address	City	County
Alabama	35058	256-737-2285
State	Zip	Phone Number

B.
Name of Facility/Organization (if different from A)

Address	City	County
State	Zip	Phone Number

C. Vincent T. Karolewics
Name of Legal Owner (if different from A or B)

1811 Parkway Circle	Cullman	Cullman
Address	City	County
Alabama	35058	256-708-5445
State	Zip	Phone Number

D. Lee Smith
Name and Title of Person Representing Proposal and With Whom SHPDA Should Communicate

1811 Parkway Circle	Cullman	Cullman
Address	City	County
Alabama	35058	256-737-2285
State	Zip	Phone Number

DESCRIPTION OF EQUIPMENT TO BE REPLACED

A. Manufacturer:

Varian

B. Serial Number:

H272201

C. Model:

Ex

D. Name of Equipment:

Linear Accelerator

DESCRIPTION OF PROPOSED NEW EQUIPMENT

Varian

H196552

TrueBeam

Linear Accelerator

E. Fair Market Value of Equipment at Present:
300,000.00

E. Cost of Equipment (include written price quote):
$2,152,821.00

F. Describe Use of Current Equipment:
The current machine is used for External Beam Radiation Therapy (EBRT), Intensity-Modulated Radiation Therapy (IMRT), Image-Guided Radiation Therapy (IGRT), Stereotactic Body Radiation Therapy (SBRT), and Stereotactic Radiosurgery (SRS).

G. Describe Use of Proposed Equipment:
The proposed machine will be used for External Beam Radiation Therapy (EBRT), Intensity-Modulated Radiation Therapy (IMRT), Image-Guided Radiation Therapy (IGRT), Stereotactic Body Radiation Therapy (SBRT), and Stereotactic Radiosurgery (SRS).

H. List any attachments or additional procedures associated with this new equipment not performed by old equipment:
None

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H. Can any procedures be performed with the proposed new equipment that cannot be performed with the replaced equipment? If yes, describe in detail:

No

I. Location of Existing Equipment (Include Room Number):

1811 parkway circle
Cullman AL, 35058

Ground floor in the "Accelerator Vault".

J. List specially trained or qualified Personnel necessary for operation of equipment:

Radiation Oncologist
Medical Physicist
Radiation Therapist

K. What use will be made of old equipment when replaced? (Trade in on new equipment, used as back up, parts, etc.)

The old accelerator has reached its end of life support threshold from the vendor. It will be disasembled and stored at an offsite location and used for parts.

L. List job titles of any additional Personnel that will be required to operate the new equipment.

No additional personnel required

M. Describe any renovation or new construction that will be necessary for the installation of the replacement equipment and cost.

Electrical and Cabinet upgrades. $60,000.00

N. Describe any new annual operating cost associated with this project such as maintenance contracts, salaries of new employees hired due to equipment, etc.

None

COST

A. Equipment Costs
Cost of equipment ONLY; do not list lease cost.
(Costs must be supported by price quote on manufacturer's stationary/letterhead). $ 2,152,821.00

B. Less Trade-In of Old Equipment -$ _____

C. Total Cost of Equipment $ 2,152,821.00

Calculation of fee for this Determination:

Multiply dollar amount in COST section (C. Total Cost of Equipment) by one percent (1%) (the application fee for a Certificate of Need);

- Non-Rural Hospitals:
  Twenty percent (20%) of the calculation obtained above.
- Rural Hospitals:
  Twenty-five percent (25%) of the calculation obtained above.

Include manufacturer's literature on old equipment, if available, and on the new equipment.

Include any other information pertinent to the determination.

The Executive Director may request any other information which is relevant to their decision.

CERTIFICATION

I certify that the information provided herein is true and correct and that there is no additional information which would be pertinent to this application which has not been provided. Further, I understand that any misrepresentation on this application or failure to include relevant information may void any favorable determination secured by such misrepresentation or omission.

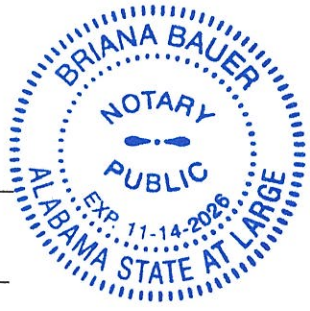
Signature of Applicant

Lee Smith
Printed Name of Applicant

Practice Administrator
Title of Applicant

Sworn to and subscribed before me this
20 day of March, 2024.

Briana Bauer
Notary Public (SEAL)



My Commission Expires 11.14.2026

Lee Smith

From: Frith, Mike <michael.frith@varian.com>
Sent: Monday, March 11, 2024 3:43 PM
To: Lee Smith
Subject: FW: Hardware v software order breakdown

I found it!

From: Frith, Mike
Sent: Thursday, February 8, 2024 9:19 AM
To: Lee Smith <LSmith@lifefirstoncology.com>
Subject: Hardware v software order breakdown

Lee,

I have reviewed your order (#2018-152434-2) in detail and have a breakdown for you.

Your total order was 2,901,540

The Truebeam linear accelerator (Hardware) was $2,152,821

The remaining components (software and services) total $748,719

If you need any additional information, please let me know.

Mike

Mike Frith
District Manager

Varian, a Siemens Healthineers company
3290 Northside Parkway,
Suite 400, Atlanta, GA 30327 United States
mike.frith@varian.com
M +337.445.8413
varian.com

varian
A Siemens Healthineers Company

analyzed for known threats. If a known threat is found, you will not be able to proceed to the destination. If suspicious content is detected, you will see a warning.

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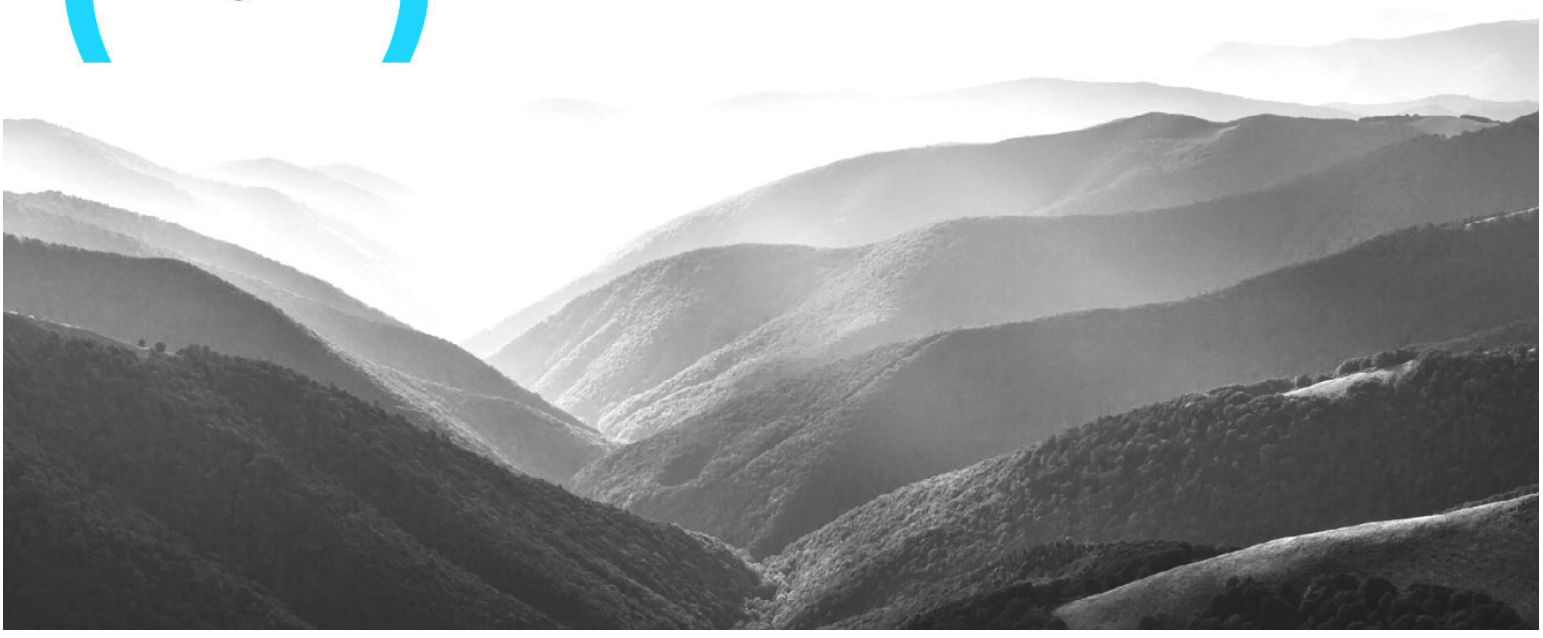
TrueBeam

Quotation Number - 2018-152434-2

This Pricing may not be shared with anyone outside of Lifefirst. This proposal is HIGHLY CONFIDENTIAL and may not be shared with any other entity besides the direct decision makers at Lifefirst. This includes any other hospital or outside consulting companies such as ECRI, MDBuyline, etc.

(Looking further)



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Cullman Radiation Therapy Services, P.C ("Customer")

Vincent Karolewics
1811 PARKWAY CIR
CULLMAN, Alabama 35058 United States
Tel : 256-737-2285
Fax : 256-737-2287
Email : onccntr@aol.com

VMS Inc, Oncology Systems

John Thomas
US District Sales Manager
Work from home
Atlanta,GA 30327 US
Tel : .
Email : john.thomas2@varian.com

Quote Information

Quotation Number :	2018-152434-2
Quotation Valid Until :	August 31, 2018
Customer Requested Delivery Date :	April 26, 2019
Quotation Date :	August 13, 2018

Sales

Incoterms :	US1: FOB: Origin
Payment Terms :	30 days net
Shipment :	80.00%
Acceptance :	20.00%

For orders equal or less than $75K, 100% upon shipment, net 30.

Quotation Total

Quotation Total : US $2,901,540.00

Terms and Conditions

This Quotation and Customer's access to and use of the Products and Services as indicated in this Quotation are subject to and governed by: (a) the Varian Terms and Conditions of Sale (Form RAD 1652) that can be viewed and are directly accessible at : https://www.varian.com/1652V_Apr_2017 and (b) any Schedules, Exhibits and/or additional terms (including third party terms) contained, attached, referenced or otherwise indicated in this Quotation that apply to the specific products or services indicated in this Quotation. Form RAD 1652 will not apply: (a) to Customer's access and use of Software-as-a-Service or Subscription Products and Services as indicated in the Quotation, which are subject to and governed by the Software-as-a-Service Terms and Conditions (Form RAD 10487 US) that can be viewed and are directly accessible at: https://www.varian.com/SAAS_Oct_2017 ; or (b) to the extent a separate written agreement (e.g. master agreement) is in effect between the Customer and Varian that expressly and specifically provides for and governs the purchase and sale of the specific products, software, support, and/or services set forth in this Quotation. Hard copies of Form RAD 1652 and Form RAD 10487 US will be provided to Customer upon written request.

For and on behalf of Customer

Authorized Representative : Vincent Karolewics
Title : Radiation Oncologist
Date : August 13, 2018

Varian Medical Systems, Inc.

Authorized Representative : John Thomas
Title : US District Sales Manager
Date : August 13, 2018

Offered Products (Sales)

Scalable TrueBeam	Included
Adhoc	Included
ARIA Radiation Oncology	Included
ARIA Radiation Oncology	Included
Interoperability	Included
ARIA Radiation Oncology	Included
Advantage Credits	Included
Adhoc	Included

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Item	Description	Qty
Section 1	Scalable TrueBeam	
1.1	**TrueBeam Base System 120 MLC** Treatment delivery system supporting X-Ray treatment delivery. Includes 120 leaf MLC with dual independent jaws, enhanced dynamic wedge, 6 MV X-ray treatment energy, 43 cm x 43 cm MV imager for radiographic, cine, and integrated imaging, Motion View CCTV camera system, treatment console with integrated audio and video systems, back pointer lasers, front pointer set and upper port film graticule to support basic quality assurance. Features: • Basic X-Ray treatment delivery technique package, including Static Photon, Photon Arc, and Dynamic Conformal Arc treatment delivery techniques • Intensity Modulated RadioTherapy (IMRT) treatment technique, including large field IMRT • Total Body Treatment technique package • 2D MV Radiographic and Cine Image Acquisition, 2D/2D Radiographic Image Review and match, Cine image review • Relative Portal Dosimetry Image and Integrated Image Acquisition • Matching of 2D radiographs to 3D reference images • Online addition of kV and MV imaging protocols to treatment fields, with automated generation of reference images • Online Physician Approval of Images at Treatment Console (compatible with ARIA® only) • Automated Machine Performance Check Testing, Online Machine Performance Check Review • Offline Machine Performance Check Review Prerequisites: • ARIA® oncology information system for radiation oncology v11.0 MR4.1 or higher, or compatible third-party oncology information system • Eclipse™ treatment planning system v11.0 MR3 or higher, or compatible third-party treatment planning system Customer Responsibilities: • Verify compatibility with third-party oncology information systems if applicable • Verify compatibility with third-party treatment planning systems if applicable • If using a scale other than IEC 60601 or IEC 61217 in the rest of the department, it may be necessary to change scales on all other machines. This may require additional purchases.	1
1.2	**TrueBeam Version 2.7**	1
1.3	**15/16 MV (BJR 11/17)** 40 cm x 40 cm maximum field size, dose rate range 0-600 MU/Min.	1
1.4	**10/10 MV (BJR 11/17)** 40 cm x 40 cm maximum field size, dose rate range 0-600 MU/Min.	1
1.5	**6/6 MV (BJR 11/17)** 40 cm x 40 cm maximum field size, dose rate range 0-600 MU/Min.	1
1.6	**18 MeV, 0-1000 MU/Min** 25 cm x 25 cm maximum field size, dose rate range 0-1000 MU/Min.	1
1.7	**15 MeV, 0-1000 MU/Min**	1

Item	Description	Qty
	25 cm x 25 cm maximum field size, dose rate range 0-1000 MU/Min.	
1.8	**12 MeV, 0-1000 MU/Min** 25 cm x 25 cm maximum field size, dose rate range 0-1000 MU/Min.	1
1.9	**9 MeV, 0-1000 MU/Min** 25 cm x 25 cm maximum field size, dose rate range 0-1000 MU/Min.	1
1.10	**6 MeV, 0-1000 MU/Min** 25 cm x 25 cm maximum field size, dose rate range 0-1000 MU/Min.	1
1.11	**IGRT Couch Top** Image Guided RadioTherapy (IGRT) carbon fiber treatment couch top, free of metal or other radiation-opaque materials. Features: • Indexed Immobilization® for compatible accessories • Couch top interface for mounting patient immobilization and quality assurance devices at the head of the couch • Lock bar for indexed positioning of equipment or immobilization devices on the couch top • Handrail for couch positioning, with hooks for temporary pendant placement during patient set up	1
1.12	**6X High Intensity Mode** 40 cm x 40 cm maximum field size, dose rate range 400-1400 MU/Min in 200 MU/min steps.	1
1.13	**Low-X Imaging Energy** Low-X imaging energy configuration, providing high soft tissue contrast when imaging in-line with the treatment beam.	1
1.14	**RapidArc Treatment Delivery** RapidArc® Treatment Delivery is a volumetric modulated arc treatment delivery technique Features: • Simultaneous modulation of MLC aperture shape, beam dose rate, and gantry angle and rotation speed during beam delivery • Supports dynamic jaw tracking and collimator rotation with supporting treatment planning system Prerequisites: • 120 Multi Leaf Collimator or HD120™ Multi Leaf Collimator • Eclipse™ treatment planning system v11.0 or higher • RapidArc treatment planning license	1
1.15	**kV Imaging System** kV Imaging system, providing 2D radiographic and fluoroscopic and 3D CBCT imaging capability. Features: • kV CBCT image acquisition, review, and match to 3D reference image	1

Item	Description	Qty
	• Radiographic image acquisition, with 2D/2D and 2D/3D image matching to reference image • Fluoroscopic image acquisition, with structure overlay on fluoroscopic images. • kV CBCT image acquisition with a long field of view, provided by merging multiple indexed CBCT images. Online data acquisition and viewing only.	
1.16	**Advanced Resp Motion Management System** Stereoscopic optical system for managing patient respiration motion during treatment delivery and imaging. Features: • Stereoscopic optical imager, including marker block for tracking patient respiration motion • Respiratory gated treatment delivery • Respiratory gated MV image acquisition and online review, respiration synchronized cine image acquisition and online review • Respiratory gated kV image acquisition and online review, respiration synchronized fluoroscopic image acquisition and online review	1
1.17	**Iterative CBCT** Iterative CBCT provides improved detectability of stationary or gating-immobilized soft tissue anatomy. Features: • Iterative CBCT license • Reconstruction computer with GPU hardware	1
1.18	**LAP Apollo Green Room Laser Kit** Features: • One Apollo Green Remote Controlled Ceiling Crosshair Laser • Two Apollo Green Remote controlled Lateral Crosshair Lasers • One Apollo Green Remote Vertical or Horizontal Controlled Sagittal Line Laser (selected prior to system production)	1
1.19	**Enhanced Beam Conformance Specification** The Enhanced Beam Conformance Specifications provide tight tolerances for key X-ray and electron beam energy performance specifications.	1
1.20	**Beam Conf. to Cust Ref Data - Electrons** The Electron Beam Conformance to Customer Reference Data provides on-site refinement of the Electron depth of ionization and field intensity performance to conform to customer reference system values. Prerequisites: • Enhanced Beam Conformance	1
1.21	**Beam Conf. to Cust Ref X-rays** The X-Ray Beam Conformance to Customer Reference Data provides on-site refinement of the X-ray D(10) depth of ionization and field intensity performance to conform to customer reference system values Prerequisites: • Enhanced Beam Conformance	1

Item	Description	Qty
1.22	**Additional MotionView CCTV Camera System** Additional set of two Motion View CCTV cameras and displays. Camera placement is at customer discretion. Features: • Two pan, tilt, zoom CCTV cameras • Two desktopLCD displays with built in camera controls • Adjustable viewing angle for patient privacy • Push button pan, tilt, zoom, and home position control Prerequisites: • Motion View camera system, provided with linac system.	1
1.23	**Main Circuit Breaker Panel** Main circuit breaker panel, interfacing to a single power input feed from the facility Mains. Circuit breakers provide independent over-current protection for equipment at the console and in the treatment room. UL and IEC/CE certified.	1
1.24	**Motion Management Interface** Motion management interface is an integrated interface for validated external devices that provide patient positioning, patient and target motion monitoring, and/or respiratory gating. The Motion management interface supports connection of up to four external devices, two of which may be used for respiratory motion management or high speed beam hold. Features: • 4-DoF or 6-DoF patient positioning capability for compatible validated devices and couch configurations • Integrated external device beam hold and image-based patient repositioning workflow • Patient-specific external device activation and patient plan verification	1
1.25	**INCL ED: UAB TrueBeam SRS/SBRT Clin Sch** The SRS &SBRT Delivery with Eclipse and Truebeam® clinical school is taught by a multi-disciplinary team from the University of Alabama at Birmingham, including subspecialty surgeons, radiation oncologists and medical physicists. This team installed the first clinical TrueBeam STx in the world and has extensive experience with RapidArc® and High Intensity Mode beams. The course content can be individually focused on specific sites (e.g. neuro or thoracic) depending upon the interests of those enrolled. This course is designed for radiation physicists, radiation oncologists, surgeons, and dosimetrists. Features: • Topics covered include: Commissioning and QA4D simulationRespiratory motion managementTriggered imagingRapidArc RadiosurgeryHigh Intensity Mode (flattening filter free @2400 MU/min)Clinical implementation of advanced procedures in CNS, H/N, lung, liver, spine, and prostateNavigation bronchoscopy for fiducial placement • Hands-on laboratory experiences that mimic the clinical process including mock tumor board, contouring, and treatment planning • Duration and Location: 3 day course at the Hazelrig-Salter Radiation Oncology Center, The University of Alabama at Birmingham, Birmingham, AL. Customer Responsibilities: • Customer is responsible for all travel expenses (airfare, hotel, rental car, meals and travel incidentals) Notes: • Offer is valid for up to 18 months after installation of product • Includes tuition and materials for 3 people • Non-transferable to other products and services and non-refundable • While this course is for 1 tuition, it is recommended that the customer purchase additional tuitions for the entire multi-disciplinary team of 3-4 individuals from the same site to attend the class together • If the clinical school is not available, Varian will make all reasonable efforts to find a suitable replacement • Eclipse is utilized extensively during the lab portion of the course so this clinical school is not ideal for institutions not planning to utilize Eclipse for treatment planning • This course is offered and exclusively controlled by University of Alabama Birmingham; Varian is not responsible for and has not reviewed the course topic, content or materials. The student will be required to sign an agreement that disclaims all liability for Varian with respect to the content and training • AMA, CAMPEP and MDCB Accreditation	1

Item	Description	Qty
1.26	**STD TRNG: TB Platform On-Site** The on-site review of the TrueBeam/Edge/VitalBeam components includes imaging and use cases for support of patient treatment for therapists. This support is to ensure that personnel who attended the classroom training are able to operate the TrueBeam Platform machine in a safe and effective manner in the clinical environment. Features: • Includes support for TrueBeam/Edge/VitalBeam • Offer is valid for 18 months after installation of product Prerequisites: • TrueBeam Platform classroom trainings Notes: • Training is non-refundable and non-transferable	1
1.27	**INCL ED: TB201 TB Platform Physicists** TrueBeam Physics and Administration: TrueBeam Physics and Administration course is designed for personnel (primarily Medical Physicists) responsible for the acceptance, commissioning, and QA program development of the TrueBeam in the clinical environment. It is recommended that the student attend the TrueBeam Physics and Administration course shortly before the installation of the TrueBeam. The course provides instruction of the basic delivery components, basic imaging components, and a general overview of the motion management system components. Machine commissioning, calibration, and QA of the machine are included. The course subject matter is presented from a clinical use perspective. Primary emphasis is on the overall commissioning, calibration, and QA of the TrueBeam and its components. Extensive hands-on laboratory exercises are included. Features: • Includes support for TrueBeam/Edge/VitalBeam • Includes Tuition and Materials for ONE person • Length: 4.5 days • Offer is valid for 18 months after installation of product Customer Responsibilities: • Customer is responsible for all travel expenses (airfare, hotel, rental car, meals and travel incidentals) Notes: • Training is non-refundable and non-transferable	1
1.28	**INCL ED: TB101 TB Platform Operations** TrueBeam Operations is a course designed for personnel (primarily Radiation Therapists) responsible for the routine operation and clinical use of the TrueBeam. It is recommended that students attend the TrueBeam Operations course shortly before clinical use and the commencement of patient treatments. The course provides instruction of the basic delivery components, basic imaging components, and a general overview of the motion management system components. The course subject matter is presented from a clinical use perspective. Primary emphasis is on the overall understanding of the TrueBeam function and operation to include imaging and respiratory gating. Extensive hands-on laboratory exercises are included. The attendees of this class will be provided tools to allow them to instruct other clinical staff upon their return. Features: • Includes support for TrueBeam/Edge/VitalBeam • Includes Tuition and Materials for ONE person • Length: 4 days • Offer is valid for 18 months after installation of product Customer Responsibilities: • Customer is responsible for all travel expenses (airfare, hotel, rental car, meals and travel incidentals) Notes: • Training is non-refundable and non-transferable	1

Item	Description	Qty
1.29	**INCL ED: CL222 Respiratory Gating** The Respiratory Gating course provides training for physicists and therapists, to obtain knowledge of principles and practices of respiratory gating in radiation oncology for clinical implementation. Features: • Includes support for TrueBeam Platform • Includes Tuition and Materials for ONE person • Length: 2 days • Offer is valid for 18 months after installation of product Customer Responsibilities: • Customer is responsible for all travel expenses (airfare, hotel, rental car, meals and travel incidentals) Notes: • Training is non-refundable and non-transferable	1
1.30	**NLS: English**	1
1.31	**PerfectPitch 6DoF Couch** Fully integrated 6-Degrees of Freedom (6DoF) couch system. Features: • Manual and automated positioning of the patient • Image-based 6DoF patient positioning with remote couch motion Prerequisites: • ARIA® Oncology Information System for Radiation Oncology v.11 or later	1
1.32	**Filtrine Water Chiller** A closed loop water cooling system, providing clean water at a constant flow, pressure, and temperature for cooling a high energy medical linear accelerator. Ideal for sites where a dependable source of clean water for cooling is not available.	1
1.33	**Power Cond., 3phase 50KVA** Transtector 50KVA, 3-phase power conditioning unit, providing transient protection, line power regulation, and Input and Output circuit breakers for over-current protection. UL and IEC/CE certified. Notes: • Supports voltage configurations from 208 to 600 VAC and in 50 or 60 Hz for US and ROW applications.	1
1.34	**Existing Baseframe 52" Fixed Floor** Use of existing baseframe may require modification.	1
Section 2	Adhoc	
2.1	**Remove/Dispose Existing Equipment** Remove/Dispose Existing Equipment	1

Item	Description	Qty

Section 3 ARIA Radiation Oncology

3.1 **ARIA T-Box** 1

The ARIA® T-Box is a software package intended to provide basic connectivity testing to a Hospital Information System or 3rd party treatment planning system in a non-clinical isolated evaluation environment. The T-Box may not be used clinically.

Features:
- ARIA RO Smart Space Package (Five (5) concurrent users)
- ARIA Disease Management Smart Space Package (Five (5) concurrent users)
- ARIA Oncology Imaging Smart Space Package (Five (5) concurrent users)
- Varian System database (One (1))
- DICOM RT (One (1))
- T-Box server hardware (One (1))
- On-Site Customer Installation

Prerequisites:
- IEM interface server (One (1)), if IEM is purchased.
- For detailed information on network, hardware and operating system requirements, please visit http://www.varian.com/hardwarespecs

Customer Responsibilities:
- ARIA compatible workstation in a properly networked environment (optional).
- If T-Box is to be used for HL7 connectivity evaluation, then IEM must be purchased separately.
- A Microsoft® Active Directory Domain Controller running on an independent server

Notes:
- ICD-10 usage disclaimer: ,
- In the United States only: ,

3.2 **Varian System DB Replacing 3r Party OIS** 1

The Varian System database is the core component of the Oncology Information System. The relational database serves as the repository for patient information and images imported to or captured by the database.

Features:
- Varian System Database license for one (1) site with system administration
- Data Segmentation license for one (1) Varian System database which provides features and tools for managing the configuration of ARIA® for sites that have more than one physical hospital, department or location to emulate in ARIA
- License Package for one (1) T-Box
- ARIA Unified Reporting Application (AURA) for ARIA OIS for Radiation Oncology for One (1) site

Prerequisites:
For the Varian System Database:
- If present: ,

Customer Responsibilities:
- Initiate use of Smart Connect application to allow remote monitoring and service support.
- A Microsoft® Active Directory Domain Controller running on an independent server
- Determine and enter department data to configure the system or provide Varian Professional Services with sufficient data to configure the system for them. (Professional services are optional and may be purchased separately)

Notes:
- ICD-10 usage disclaimer:

,
- The use of ICD-10 in this Product does not imply any endorsement by WHO of any specific product.
- The ICD-10 codes shall not be amended, abridged, translated, deleted or in any other way changed without the consent of WHO.
- The ICD-10 codes are for the internal use of the end user. They are not to be reproduced, transmitted or distributed outside of the user's organization in any form or by any means.

Item	Description	Qty
	• ICD-10 is distributed without warranty of any kind, either express or implied. In no event shall the World Health Organization be liable for damages, including any general, special, incidental, or consequential damages, arising out of the use of ICD-10. • In the United States only: • In the United States only: , • ARIA includes the ability to cross-map ICD-9 CM and ICD-10 CM codes in v15.0 and higher using web services linking to Intelligent Medical Objects (IMO). The user accepts that the IMO service delivered with ARIA is for a period ending on May 12, 2020, unless further extended by Varian. • The T-Box may not be used clinically.	
3.3	**ARIA RO Smart Space** The ARIA® for Radiation Oncology (RO) Smart Space provides basic demographic information, diagnosis, staging, radiation therapy data management, reporting, charge capture and workflow management tools for one (1) user. ARIA enables your treatment team to make informed, confident decisions for patients, and provides the tools required to effectively manage the administrative aspects of your department. Features: • ARIA RO Smart Space - One (1) license for one (1) concurrent user Prerequisites: • Varian System Database v15.0 or higher; • Varian system compatible server hardware and operating system in a properly networked environment. For detailed specifications, please visit www.varian.com/hardwarespecs • Microsoft® Windows operating system installed on workstations • Microsoft® Office 2013 or 2016. Customer Responsibilities: • The in-vivo interface is an additional purchasable option for ARIA Chart QA. • A Microsoft® Active Directory Domain Controller running on an independent server Notes: • ICD-10 usage disclaimer: , • In the United States only: ,	10
3.4	**ARIA Disease Mgmt Smart Space** The ARIA® Disease Management Smart Space is a component of the oncology information system that includes the comprehensive electronic medical record (EMR) capabilities that enable clinical staff members to evaluate, monitor, record and document patient health information throughout the entire treatment process. The Documents workspace allows clinical staff to create, display and store patient related documents within the electronic medical record (EMR) including Document Approval. Features: • One (1) license for one (1) concurrent user Prerequisites: • Varian System Database v15.0 or higher • ARIA RO Smart Space • Microsoft® Office 2013 or 2016 • Microsoft® Windows operating system installed on workstations • A properly networked environment (For detailed specifications, refer to the Network Configuration Guidelines at http://www.varian.com/hardwarespecs Customer Responsibilities: • A Microsoft® Active Directory Domain Controller running on an independent server Notes: • ICD-10 usage disclaimer: , • The use of ICD-10 in this Product does not imply any endorsement by WHO of any specific product. • The ICD-10 codes shall not be amended, abridged, translated, deleted or in any other way changed without the consent of WHO. • The ICD-10 codes are for the internal use of the end user. They are not to be reproduced, transmitted or distributed outside of the user's organization in any form or by any means. • ICD-10 is distributed without warranty of any kind, either express or implied. In no event shall the World Health Organization be liable for damages, including any general, special, incidental, or consequential damages, arising out of the use of ICD-10.	1

Item	Description	Qty
	• In the United States only: • In the United States only: , • ARIA includes the ability to cross-map ICD-9 CM and ICD-10 CM codes in v11MR5 and higher using web services linking to Intelligent Medical Objects (IMO). The user accepts that the IMO service delivered with ARIA is for a period ending on May 12, 2020, unless further extended by Varian.	
3.5	**Addl ARIA Disease Mgmt Smart Space** The ARIA® Disease Management Smart Space is a component of the oncology information system that includes the comprehensive electronic medical record (EMR) capabilities that enable clinical staff members to evaluate, monitor, record and document patient health information throughout the entire treatment process. The Documents workspace allows clinical staff to create, display and store patient related documents within the electronic medical record (EMR) including Document Approval. Features: • One (1) license for one (1) concurrent user Prerequisites: • Varian System Database v15.0 or higher • ARIA RO Smart Space • ARIA compatible workstation in a properly networked environment. • Microsoft® Windows operating system installed on workstations • Microsoft® Office 2013 or 2016. • Varian System compatible server hardware. • For detailed specifications, please visit http://www.varian.com/hardwarespecs Customer Responsibilities: • A Microsoft® Active Directory Domain Controller running on an independent server Notes: • ICD-10 usage disclaimer: , • The use of ICD-10 in this Product does not imply any endorsement by WHO of any specific product. • The ICD-10 codes shall not be amended, abridged, translated, deleted or in any other way changed without the consent of WHO. • The ICD-10 codes are for the internal use of the end user. They are not to be reproduced, transmitted or distributed outside of the user's organization in any form or by any means. • ICD-10 is distributed without warranty of any kind, either express or implied. In no event shall the World Health Organization be liable for damages, including any general, special, incidental, or consequential damages, arising out of the use of ICD-10. • In the United States only: • ARIA includes the ability to cross-map ICD-9 CM and ICD-10 CM codes in v15.0 and higher using web services linking to Intelligent Medical Objects (IMO). The user accepts that the IMO service delivered with ARIA is for a period ending on May 12, 2020, unless further extended by Varian.	5
3.6	**ARIA Oncology Imaging Smart Space** The Imaging Smart Space is a component of the Oncology Information System, ARIA®. This image management component of the system provides comprehensive image review to patient verify patient positioning using reference and treatment images. Enhancement and analysis tools for portal images (MV), kV and Cone Beam CT images acquired with the on-board imager are included. Features: • One (1) license for one (1) concurrent user Prerequisites: • Varian System database v15.0 or higher • ARIA RO Smart Space • Image server hardware • Microsoft® Windows operating system installed on workstations • ARIA compatible workstation in a properly networked environment • For detailed specifications, please visit http://www.varian.com/hardwarespecs Customer Responsibilities: • A Microsoft® Active Directory Domain Controller running on an independent server	3

Item	Description	Qty
3.7	**docs2EHR Import Scanned Docs to ARIA** Description The Docs2EHR software module utilizes the ARIA API and streamlines the process for scanning paper documents, and automatically assigns them to the correct patient's chart. Prerequisites: - ARIA v. 11 MR5 or higher - Scanning equipment to create PDF or image documents and save them to a folder OR - Faxing equipment to create PDF or image documents and save them to a folder Features: - It is possible to select only specific pages in a PDF/Image document before importing into ARIA - It is possible to re-order pages in a PDF/Image document before importing into ARIA - It is possible to merge pages from multiple PDF/Image documents before importing into ARIA - The corresponding patient can be selected directly from the ARIA database - Documents can be sent to ARIA either in pending or approved status	1
3.8	**eRx ARIA for Radiation Oncology Package** ePrescribing for ARIA® for Radiation Oncology allows prescribers to communicate with pharmacies under contract with third party SureScripts LLC for the purposes of sending electronic prescriptions, receiving electronic refill requests, and support of related monitoring. The terms and conditions agreement with the third party SureScripts LLC will apply to this product only and not to ARIA or any other Varian product or service. Features: • ePrescribing for ARIA for Radiation Oncology for one (1) database server. • Medi-Span Electronic Drug Database for five (5) concurrent users. • Remote training on the use of ePrescribing for ARIA for Radiation Oncology to: register and manage prescribing end-users, send e-prescriptions, respond to refill requests electronically, monitor clinical activity, and monitor message logs. Prerequisites: • Varian System Database v15.0 or higher • ARIA v15.0 or higher • ARIA Disease Mgmt Smart Space v15.0 or higher • ARIA for Radiation Oncology compatible server hardware and operating system in a properly networked environment. For detailed specifications, please visit www.varian.com/hardwarespecs • Internet access for remote monitoring and support via Smart Connect. • A signed copy of the e-Prescribing for ARIA for Radiation Oncology Software License Agreement (mandatory separate document) • Medispan drug screening database Customer Responsibilities: • Maintain subscription agreement in good standing with Zenith Transaction Services for Electronic Data Interchange (EDI) infrastructure & support • Initiate use of Smart Connect application to allow remote monitoring and service support. • A Microsoft® Active Directory Domain Controller running on an independent server Notes: • For more information concerning ONC certification please see: www.varian.com/ARIA/ROMU.	1
3.9	**eRx Controlled Substance for ARIA RO** ePrescribing for Controlled Substances for ARIA oncology information system (OIS) for Radiation Oncology (RO) allows prescribers to communicate with pharmacies under contract with SureScripts LLC (third party) for the purposes of sending electronic prescriptions for controlled substances, receiving electronic refill requests for controlled substances, and related monitoring. This product feature in ARIA interfaces directly with vendor DrFirst which in turn interfaces with SureScripts LLC. It is required that the customer agrees to terms and conditions imposed by DrFirst that applies only to the DrFirst product and not to ARIA or any other Varian products or services.	1

Item	Description	Qty
	Features: • Implements a workspace within ARIA Data Administration to register prescribers with DrFirst • Allows registered providers to write, approve and transmit electronic prescriptions for controlled substances to registered pharmacies • Allows registered providers to receive and reply to electronic refill requests for controlled substances • Supports related monitoring Prerequisites: • ARIA OIS for Radiation Oncology version 13.7 or higher • Existing Software Support Agreement (SSA) for ARIA OIS for RO • eRx ARIA for Radiation Oncology Package • Varian's SmartConnect to allow for remote access via the Internet for installation, updates, upgrades, monitoring, and service support via remote desktop administration (RDP) • Purchase of at least one Five Prescribers Package for eRx Controlled Substances for the desired number of prescribers in clinic Customer Responsibilities: • A copy of a Business Associates Agreement (BAA) will have to be signed by the customer; if the provided standard BAA is not accepted, amendments will have to be discussed with DrFirst directly. • As per 21 CFR Part §1311.115(b) the Token must be separate from the computer to which it is gaining access. The supported Symantec VIP Access Soft Token meets at least the criteria of FIPS 140–2 Security Level 1, as incorporated by reference in Section 1311.08, for cryptographic modules or one-time-password devices. • As per 21 CFR Part §1304.06(a2) Customer and each Authorized User understand and agree to review EPCS security logs and reports on a [daily, weekly, etc.] basis for any security incidents; • As per 21 CFR Part §1304.06(d) Customer and each Authorized User understand and agree to to report to the DEA any security incident and provide Varian with a copy of such report; • As per 21 CFR Part §1304.06(g) Customer and each Authorized User understand and agree to to retain all security incident reports on file for at least 2 years.	
3.10	**e-PCS for RO-Five Prescribers Per Year** This package consists of five licenses allowing five prescribers at an institution to sign up for use of ePrescribing for Controlled Substances for ARIA oncology information system (OIS) for Radiation Oncology (RO). ePrescribing for Controlled Substances for ARIA OIS for Radiation Oncology allows prescribers to communicate with pharmacies under contract with SureScripts LLC (third party) for the purposes of sending electronic prescriptions for controlled substances, receiving electronic refill requests for controlled substances, and related monitoring. This product feature in ARIA interfaces directly with DrFirst (third party) which in turn interfaces with SureScripts LLC. It is required that the customer agrees to terms and conditions imposed by DrFirst that applies only to the Dr First product and not to ARIA or any other Varian products or services. Features: • Allows registered providers to write, approve and transmit electronic prescriptions for controlled substances to registered pharmacies • Allows registered providers to receive and reply to electronic refill requests for controlled substances • Supports related monitoring Prerequisites: • ARIA OIS for Radiation Oncology version 13.7 or higher • Product feature “eRx Controlled Substances ARIA for Radiation Oncology” • Existing SSA for ARIA OIS for RO Customer Responsibilities: • Administrators will have to initiate and complete the registration process • Each individual prescriber will have to complete identity proofing and token registration	1
3.11	**2015 Edition QPP API Package** This 2015 Edition QPP API Package provides the Web Application Program Interfaces (API’s) required for the Centers for Medicare and Medicaid Services Quality Payment Program (QPP) Measure “Provide Patient Access”. The three Web APIs can be used by third party application to retrieve a unique Patient Identifier based on Patient identification such as first name, last name, gender and date of birth. Then use this identifier to get the Common Clinical Data Set (CCDS) for each specific Patient. The same set of APIs can be used for Medical and/or Radiation Oncology. The content of the CCDS can be filtered by date and/or Data Category. Features: • The 2015 edition QPP API Package includes the ONC Certified 2015 Edition Health IT Certification Criterion: • Patient Selection- Application Access (§170.315(g) (7))	1

Item	Description	Qty
	• Data Category Request- Application Access (§170.315(g) (8)) • Application access—all data request (§170.315(g) (9)) For more information please see: https://www.federalregister.gov/documents/2015/10/16/2015-25597/2015-edition-health-information-technology-health-it-certification-criteria-2015-edition-base#p-1060 • Supports HTTPS protocol • Supports Integrated Windows Authentication (IWA) • Supports REST programing paradigm • Supports JSON and XML Prerequisites: • ARIA® oncology information system for radiation oncology v15.5 • Each customer site is required to generate an API Key on Varian Medical Systems MyVarian.com site installed in ARIA Customer Responsibilities: • In order to use these Web APIs, the customer need to develop his own application and/or work with a third party software application vendor. (Varian will not coordinate any of this work). • API calls must conform to the what is described in the QPP API Technical Specifications - P1022632-001 posted on www.varian.com/ARIA/ROQPP. Notes: • This package can only be used to read from ARIA. For security purposes: • HTTPs encryption protocol has to be used between the ARIA Database Server and the Client Application • An API Key has to be passed in the HTTPs header to ensure correct authentication • Valid ARIA user has to be passed for authentication / authorization.	
3.12	**STD TRNG: ARIA** Training is included with the purchase of ARIA. Training plan details will be provided by the training management team as part of your product implementation process. • Offer is valid for 18 months after installation of product. Training is not transferable with other products and services	1
3.13	**STD TRNG: ARIA RO EMR** Training will be included as part of the implementation plan if Clinical Assessment and Dynamic Document training has not been provided to this site. • Offer is valid for 18 months after installation. Training is not transferable with other products and services	1
3.14	**STD TRNG: docs2EHR** Training is included with the purchase of docs2EHR. Training plan details will be provided by the training management team as part of your product implementation process. • Offer is valid for 18 months after installation of product. Training is not transferable with other products and services	1
3.15	**STD TRNG: eRX ARIA** Training is included with the purchase of eRX ARIA for Radiation Oncology. Training plan details will be provided by the training management team as part of your product implementation process. • Offer is valid for 18 months after installation of product. Training is not transferable with other products and services	1
3.16	**STD TRNG: eRx Controlled Substance** Varian Electronic Prescribing for Controlled Substances is a standard remote training.	1

Item	Description	Qty

Features:
Training plan details will be provided by the training management team as part of your product implementation process.

The Customer Release Note will be presented.

The training session will include:
- Onboarding of Providers to enroll for EPCS
- Overview of Prescribing of Controlled substances functionality via ARIA OIS
- Overview of audit functionality and reporting
- Overview of troubleshooting
- The remote training will consist of a demonstration of how to utilize this software for sending an controlled substance e prescription as well as provide answers to any additional questions.
- The training will be provided in two separate sessions. One as part of the initial onboarding and the second session after the provider has completed the identify proofing and received his information via FedEx.

Prerequisites:
- Organization must have Eprescribing configured and set up on system
- Organization must have purchased available licenses
- Organization must be registered for EPCS
- Provider must be enrolled in Sure Scripts
- Providers must have a token software installed on a separate device from their ARIA application
- Provider must be enrolled with Dr. First

Customer Responsibilities:
- This remote training will be conducted using your system.
- Viewing the Webinar session and review of the E-Prescribe Workbook must be completed prior to your Department's remote training .
- The customer resources involved in this training should include: the System Administrator(s), Nurse, Provider, Pharmacist and other staff as appropriate.
- The site requirements for this training session include: Phone, computer with internet connection, projector and speaker phone (if attending in conference room).
- Prior to this upgrade please review all product release notes. These can be found at www.myvarian.com

Section 4 ARIA Radiation Oncology

4.1 **Multi-Site License** 1

4.2 **ARIA RO Smart Space** 10

The ARIA® for Radiation Oncology (RO) Smart Space provides basic demographic information, diagnosis, staging, radiation therapy data management, reporting, charge capture and workflow management tools for one (1) user. ARIA enables your treatment team to make informed, confident decisions for patients, and provides the tools required to effectively manage the administrative aspects of your department.

Features:
- ARIA RO Smart Space - One (1) license for one (1) concurrent user

Prerequisites:
- Varian System Database v15.0 or higher;
- Varian system compatible server hardware and operating system in a properly networked environment. For detailed specifications, please visit www.varian.com/hardwarespecs
- Microsoft® Windows operating system installed on workstations
- Microsoft® Office 2013 or 2016.

Customer Responsibilities:
- The in-vivo interface is an additional purchasable option for ARIA Chart QA.
- A Microsoft® Active Directory Domain Controller running on an independent server

Notes:
- ICD-10 usage disclaimer: ,
- In the United States only: ,

Item	Description	Qty
4.3	**ARIA Disease Mgmt Smart Space** The ARIA® Disease Management Smart Space is a component of the oncology information system that includes the comprehensive electronic medical record (EMR) capabilities that enable clinical staff members to evaluate, monitor, record and document patient health information throughout the entire treatment process. The Documents workspace allows clinical staff to create, display and store patient related documents within the electronic medical record (EMR) including Document Approval. Features: • One (1) license for one (1) concurrent user Prerequisites: • Varian System Database v15.0 or higher • ARIA RO Smart Space • Microsoft® Office 2013 or 2016 • Microsoft® Windows operating system installed on workstations • A properly networked environment (For detailed specifications, refer to the Network Configuration Guidelines at http://www.varian.com/hardwarespecs Customer Responsibilities: • A Microsoft® Active Directory Domain Controller running on an independent server Notes: • ICD-10 usage disclaimer: , • The use of ICD-10 in this Product does not imply any endorsement by WHO of any specific product. • The ICD-10 codes shall not be amended, abridged, translated, deleted or in any other way changed without the consent of WHO. • The ICD-10 codes are for the internal use of the end user. They are not to be reproduced, transmitted or distributed outside of the user's organization in any form or by any means. • ICD-10 is distributed without warranty of any kind, either express or implied. In no event shall the World Health Organization be liable for damages, including any general, special, incidental, or consequential damages, arising out of the use of ICD-10. • In the United States only: • In the United States only: , • ARIA includes the ability to cross-map ICD-9 CM and ICD-10 CM codes in v11MR5 and higher using web services linking to Intelligent Medical Objects (IMO). The user accepts that the IMO service delivered with ARIA is for a period ending on May 12, 2020, unless further extended by Varian.	1
4.4	**Addl ARIA Disease Mgmt Smart Space** The ARIA® Disease Management Smart Space is a component of the oncology information system that includes the comprehensive electronic medical record (EMR) capabilities that enable clinical staff members to evaluate, monitor, record and document patient health information throughout the entire treatment process. The Documents workspace allows clinical staff to create, display and store patient related documents within the electronic medical record (EMR) including Document Approval. Features: • One (1) license for one (1) concurrent user Prerequisites: • Varian System Database v15.0 or higher • ARIA RO Smart Space • ARIA compatible workstation in a properly networked environment. • Microsoft® Windows operating system installed on workstations • Microsoft® Office 2013 or 2016. • Varian System compatible server hardware. • For detailed specifications, please visit http://www.varian.com/hardwarespecs Customer Responsibilities: • A Microsoft® Active Directory Domain Controller running on an independent server Notes: • ICD-10 usage disclaimer: , • The use of ICD-10 in this Product does not imply any endorsement by WHO of any specific product. • The ICD-10 codes shall not be amended, abridged, translated, deleted or in any other way changed without the consent of WHO. • The ICD-10 codes are for the internal use of the end user. They are not to be reproduced, transmitted or distributed outside of the user's organization in any form or by any means.	5

Item	Description	Qty
	• ICD-10 is distributed without warranty of any kind, either express or implied. In no event shall the World Health Organization be liable for damages, including any general, special, incidental, or consequential damages, arising out of the use of ICD-10. • In the United States only: • ARIA includes the ability to cross-map ICD-9 CM and ICD-10 CM codes in v15.0 and higher using web services linking to Intelligent Medical Objects (IMO). The user accepts that the IMO service delivered with ARIA is for a period ending on May 12, 2020, unless further extended by Varian.	
4.5	**ARIA Oncology Imaging Smart Space** The Imaging Smart Space is a component of the Oncology Information System, ARIA®. This image management component of the system provides comprehensive image review to patient verify patient positioning using reference and treatment images. Enhancement and analysis tools for portal images (MV), kV and Cone Beam CT images acquired with the on-board imager are included. Features: • One (1) license for one (1) concurrent user Prerequisites: • Varian System database v15.0 or higher • ARIA RO Smart Space • Image server hardware • Microsoft® Windows operating system installed on workstations • ARIA compatible workstation in a properly networked environment • For detailed specifications, please visit http://www.varian.com/hardwarespecs Customer Responsibilities: • A Microsoft® Active Directory Domain Controller running on an independent server	2
4.6	**STD TRNG: ARIA Multi-site** Training is included with the purchase of ARIA. Training plan details will be provided by the training management team as part of your product implementation process. • Offer is valid for 18 months after installation. Training is not transferable with other products and services	1
4.7	**STD TRNG: ARIA RO EMR** Training will be included as part of the implementation plan if Clinical Assessment and Dynamic Document training has not been provided to this site. • Offer is valid for 18 months after installation. Training is not transferable with other products and services	1
Section 5	Interoperability	
5.1	**Information Exchange Manager (IEM) RO** Information Exchange Manager™ (IEM) for Radiation Oncology (RO) Interface Engine Server License The IEM Interface Engine is the essential core of logic and business rules that manages all messages and implemented interfaces to external hospital or clinic systems, billing systems and/or integration engines. It matches, filters, and/or manipulates messages based on configurable logic to support clinical business rules. It assimilates data into the appropriate Oncology Information Systems database(s) to eliminate redundant data entry and provide a comprehensive view of the oncology patient record. Licenses: Information Exchange Manager (IEM) for Radiation Oncology (RO) for ONE (1) interface server. Prerequisites: • ARIA which is at the same release level as ARIA Information Exchange Manager (IEM)	1

Item	Description	Qty
	• Information Exchange Manager-compatible server hardware (for a detailed description of hardware requirements, please refer to: www.varian.com/aria); • Varian's Smart Connect to allow for remote access for installation, updates, upgrades, monitoring, and service support. Note: sites not allowing remote connection must purchase additional on-site service and configuration with their interfaces; and • HL7 compliant third party systems (i.e. HIS, Billing, Labs or other systems). Custom interfaces are required to support non-HL7 third party systems. Features: • The IEM Interface Engine supports standard HL7 messaging, conforming to HL7 versions 2.2, 2.3 or 2.4. In the event that messages are non-HL7 compliant, a custom conversion program may be written to convert the inbound message into HL7 for processing. Other custom conversion programs can be written to convert outbound HL7 messages to non-HL7 formats for processing by third party systems; • All the systems to be interfaced must reside on the same network as the IEM Interface Engine server and Oncology Information System server(s), or have networking capability; • Software version number will be the latest at the time of shipment; and • The user cannot install any third party software on the IEM Interface Engine Server or the Oncology Information System database server(s). Notes: • All interfaces must be quoted in addition to this Interface Engine Server License, in accordance with the needs of the customer; and • To ensure that all requested interface projects are successful, the following methodology is adhered to for each interface: a),Analysis of the requirements and production of a design document and project plan. b),Review and signoff of the design document and project plan. c),Vendor installation, setup and test of HL7 component or development of custom segment (if required). d),Mapping of codes (if applicable). e),Development of a custom interface (if required). f),Configuration / setup of the test and production environments at the customer site. g),Test the communications at the customer site. h),Test the interface at the customer site. i),Customer training (up to two hours done remotely by the interface team). j),Acceptance testing and verification of results in the test environment at the customer site. k),Signoff of the test results. l),Migration of the interface into the production environment. Customer Responsibilities: • The customer must have the ability to filter out non-oncology patient messages when required; • The prices do not include any additional hardware, software (such as HL7 components) or changes required to the other 3rd party systems, consulting services required from any other 3rd party, or any changes that may be required to any Varian software. It is the customer's responsibility to determine any and all additional costs from the other vendors; • Customer participation is required in every interface project. Participation could be but is not limited to assisting in analyzing data, reviewing and signing off specifications, resolve data flow issues, reviewing and signing off test results. In addition, when required, the customer will also be responsible for getting participation from the other vendors; • After the interface(s) are implemented, customer must a) monitor the interface log on an ongoing, regular basis, and b) test the interface(s) when new releases of the software are installed. Up to two hours of training on monitoring the interface log(s) is included with this item; • The customer is responsible for providing a LAN and WAN network with sufficient capacity to support the traffic between the Oncology Information System database server(s) and the IEM Interface Engine and the third party systems interfaced; and • The customer is responsible for providing a secure high speed internet connection to allow access for remote for installations, upgrades, monitoring, and service support via Varian's Smart Connect. Customers who choose to not provide remote access must purchase additional on-site installation and configuration services.	
5.2	**ADT into ARIA RO HL7** ARIA for Radiation Oncology- ADT (Admission, Discharge, Transfer) into Radiation Oncology (HL7) Interface Software License This interface will process inbound patient demographic data (HL7 ADT) from an HL7-compliant system into ARIA. As new patients are added or existing patient demographic information changes in a 3rd party system, an HL7 ADT message is generated. This message is then sent to the IEM Interface Engine, processed, and the demographic information is updated in the ARIA database. In addition this interface includes one Provider (MFN) Inbound Interface to process updates and create new entries in the ARIA for Radiation Oncology registry. Licenses: One (1) ADT (Patient Demographics) and One (1) MFN (Provider) Inbound to ARIA for Radiation Oncology interface license from any HL7 compliant vendor.	1

Item	Description	Qty
	Prerequisites: • IEM Interface Engine Server License. • HL7 compliant 3rd party system. Features: • Can be configured to auto-insert patient records into ARIA with no human interaction required. • Can be configured to auto-update patient information already in ARIA. This option allows/requires a human to select patient records for insertion into ARIA. This process may be augmented with the optional Query/Response interface to ask the HIS for the patient record. • Can be configured to perform functions based on certain messages received. • Can filter and match messages based on a variety of patient keys. • Keeps patient status, addresses, next of kin and other demographic information up to date. • One MFN inbound interface will process data into the ARIA Database. • Populates referring physician tables in ARIA; and • Names, addresses and multiple phone numbers are supported. Notes: • This includes the creation of detailed specifications, configuration and testing of sample data, and implementation of this interface; and • This interface is typically used to populate the provider table in ARIA. It may also be used to update those data on a periodic basis; • Data for physicians who will be Oncologists in the ARIA system can not be uploaded using this interface; and • Pricing includes creation of detailed specifications, configuration and testing of sample data, and implementation of this interface. Customer Responsibilities: • In order to initially populate the ARIA database with ADT information, the sending system will need to trigger an HL7 ADT message for all active patients currently in their database. It is the customer's responsibility to coordinate this work with the existing registration system technical staff. • Other responsibilities are outlined under the Information Exchange Manager Interface Engine License	
5.3	**Billing Out of ARIA RO HL7** ARIA for Radiation Oncology Interface - Billing out of Radiation Oncology (HL7) Interface to deliver clinic activity information from ARIA to one external billing system. The Information Exchange Manager can support many billing interfaces concurrently, but one is required for each billing system interfaced. ARIA generates charge-related information in response to daily activities performed by the staff. Once this information is approved in ARIA, the Interface Engine will gather the data and send out HL7 messages to the billing system at predefined scheduled times. Licenses: One (1) Billing out of ARIA for Radiation Oncology interface license to any HL7 compliant vendor. Prerequisites: • IEM Interface Engine Server License Features: • Multiple billing interfaces can run concurrently; • Billing runs can be scheduled at any time. • Billing interfaces can be configured to select professional, technical, and global charge types • Billing runs can be setup to select charges for specific hospitals and departments. Notes: • Standard billing codes (CPT/HCPCS) will be used. • Pricing includes the creation of detailed specifications, mapping of billing codes, configuration and testing of sample data, and implementation of this interface. Customer Responsibilities: • The responsibilities are outlined under the Information Exchange Manager License.	1
Section 6	ARIA Radiation Oncology	
6.1	**Bar Code Scanner** The Metrologic MS9540 VoyagerCG Bar Code Scanners (USB) model is provided. The bar code reader reads bar codes up to 9.8" wide, which is excellent for medium to high volume scanning. It can be used with any workstation and Patient Explorer and Queue for patient selection via bar coded labels.	2

Item	Description	Qty

Features:
- Drivers included
- For presentation scanning, VoyagerCG® comes with a stand and in-stand-auto-detection technology.
- USB Connection
- Compatible with all Windows, DOS, and Macintosh programs
- Features a patented automatic infrared activation and can decode all standard 1D bar codes, including RSS codes

6.2 **Label Printer** 2

The Zebra LP2824 model Label Printer is provided. The LP2824 is a direct thermal printer capable of a resolution of 203/dpi. Ideal for low to mid volume label applications.

Features:
- USB Connectivity
- A 5" (127 mm) media roll capacity and clear media window optimize productivity, while a maximum print speed of 4" (102 mm) per second enables fast job processing.
- Windows® drivers (95, 98, Me, NT4.0, NT2000, XP)
- Windows printer utilities
- Size: 3.6'W x 6.8"H x 7.5"D
- Maximum label and linear width: 2.2" (56mm)

6.3 **XMedius Fax Package for ARIA RO** 1

This software and hardware meets the recommended specifications for ARIA for Medical Oncology v.8.8 and higher and ARIA for Radiation Oncology v10.0 and higher.

Faxing capability to send documents (patient documentation) to outside recipients (such as referring physicians - multiple recipients supported). The package includes AudioCodes hardware (to convert from digital to analog signal) and XMedius software. The XMedius fax server solution provides a seamless solution to fax documents with a secure and real-time delivery utilizing FoIP (Faxing over IP) technology.
This package supports the outbound faxing of up to 1300 pages/day. If faxing of significantly more pages will be required customers will need to purchase an additional XMedius software license.

Varian currently provides state-of-the-art Fax system for the outbound faxing for ARIA for Radiation or Medical Oncology.

Prerequisites:
- ARIA Medical Oncology v.8.8 and higher OR ARIA Radiation Oncology v10.0 and higher
- Microsoft Word 2007 and higher for ARIA RO

Customer Responsibilities:
- One analog telephone line (POTS) to be connected to the AudioCodes hardware device for sending of faxes over the POTS (Plain Old Telephone System) line.
- A server for hosting the XMedius Fax Software with Microsoft Word 2007 or higher preinstalled. The software is supported on the IEM server but is not currently supported on an 'ARIA DB Server' or 'ARIA Combo Server'.
  Notes: Varian reserves the right to upgrade the equipment to the current system available at time of shipment.

One XMedius Fax System is supported.

The Fax System is configured for the use of ARIA for Medical Oncology and/or Radiation Oncology. Shared use of the Fax System with other 3rd party applications or products is not supported by Varian. Customers may engage Sagemcom (http://xmediusfax.sagemcom.com/) to inquire about modules and support for general faxing using the XMedius product.

The XMedius Fax solution is provided with 1 year of support, customers must engage Sagemcom or an Authorized Reseller for any renewal of the Maintenance Agreement.

Varian will not be responsible for service and support for any customer purchased hardware or software. For a detailed description of hardware and software recommendations, please refer to the Varian website: www.varian.com / ARIA / Hardware Specifications.

Item	Description	Qty
Section 7	Advantage Credits	
7.1	**Advantage Contract Credits** Advantage Credits can be utilized for Varian's Professional Services, such as consulting, on-site applications training, education, and third-party services including physics services and clinical schools that are purchased through Varian. For further details, please reference the attached Terms and Conditions.	
7.2	**CONSULT: Hr Rate RO Consulting Services** (Qty: 320, Credit per Qty: 1.0) Consulting Services are used in a variety of instances within Oncology Centers. Advisement can be provided for new or existing process workflow definition, paperless process flow (including the ARRA/HITECH initiative), new product implementation, or to streamline existing workflow with enhanced Varian product utilization. Based on the hours purchased a Statement of Work will be provided. A minimum of 24 hours must be purchased. Customer will be deemed to have accepted the Consulting Services after thirty (30) days from the completion date, unless Varian has received written notice of rejection within the thirty (30)-day period. Notwithstanding the foregoing, the Consulting Services will be deemed to be accepted by Customer after 18 months from the quotation signature date.	320.0
7.3	**Product Apps Sp ARIA RadONC (per hour)** (Qty: 64, Credit per Qty: 1.0) Additional ARIA Radiation Oncology onsite training is available for previously trained Varian products. Sold and delivered by hours.	64.0
Section 8	Adhoc	
8.1	**Allowance** humediQ	1

Summary of Advantage Contract Credits Quoted Above

Section 7

Year 3 Total	64.0
Year 5 Total	320.0
Total Credits	384.0

Quotation Total

Quotation Total	US $2,901,540.00

DrFirst.com, Inc.

EPCS Gold APPLICATION CUSTOMER TERMS

For purposes of the three sections of these Customer Terms, (together the "**Agreement**"), DrFirst.com, Inc. shall be referred to as "**DrFirst**" or "**Business Associate**," and _____ shall be referred to as "**Customer**" or "**Covered Entity**." The "**Effective Date**" is the date of execution, as shown on the sales agreement ("Sales Agreement"). These Customer Terms are in addition to any terms and conditions executed by Customer and Varian Medical Systems, Inc. ("Varian") regarding the purchase of a subscription to the Application for use with Varian products.

Table of Contents:

I. EPCS APPLICATION SERVICES PROVIDER (ASP) TERMS OF AGREEMENT

1. LICENSE. Subject to the terms and conditions contained in this Agreement, Customer's execution of the Business Associate Agreement attached hereto as Exhibit 1 ("BAA") and Customer's payment to Varian of all applicable license fees, DrFirst hereby grants to Customer (i) a non-exclusive, non-transferable (except as specified herein), right to access the features and functions of the EPCS Gold Application ("Application") during the license term specified in Customer's order with Varian ("Term"), solely through the portal incorporated with the Varian product(s); and (ii) a non-exclusive, non-transferable (except as specified herein) and non-sublicenseable license to make a reasonable number of copies of the Application Documentation solely for Customer's internal use in connection with access and use of the Application. Application Documents include written materials pertaining to the Application that DrFirst provides to the Customer (either directly or via Varian) including but not limited to operating manuals, user guides, training course materials, computer-based training modules, software and Application specifications, and technical manuals.

2. BUSINESS ASSOCIATE AGREEMENT (BAA). Customer and DrFirst shall sign the BAA as required by relevant law. The BAA shall be incorporated herein by reference.

3. TERMS OF USE. All Customer personnel authorized to use the Application must properly register with DrFirst and agree to the terms of DrFirst's standard Terms of Use agreement, which will be accessible via Varian's products and which shall be accepted and recorded electronically. Customer and its's authorized users of the Application shall secure written or electronic patient consents for electronic prescription and data usage.

4. TERMINATION. DrFirst may terminate or rescind Customer's access to the Application; such remedy shall be in addition to any and all other remedies available to DrFirst, in the event that Varian does not receive payment of the applicable license fees from Customer. Except as provided above, in the event of a material breach of this Agreement by either party, the non-breaching party may terminate this Agreement thirty (30) days after breaching party's receipt of written notice and the breaching party has not cured or taken reasonable steps to cure the breach within the notice period. Varian shall be a third party beneficiary to this

Agreement and may enforce Customer's obligations on behalf of DrFirst.

5. INTELLECTUAL PROPERTY. DrFirst retains all right, title, and interest in the Application, the Application Documentation, the DrFirst Brand and all related materials, including all copies thereof in any form or medium, whether now known or existing or hereafter developed, and further including all copyrights, patents, trade secrets, trademarks or trade names therein. All goodwill arising in or from the DrFirst Brand shall inure solely to DrFirst's benefit. Except to the extent granted herein, Customer acquires no rights in any of the foregoing.

6. GENERAL USAGE RESTRICTIONS. Customer shall not use the Application for any purposes other than allowing its personnel to make electronic prescriptions, except with the prior written consent of DrFirst. Customer will not (i) copy or duplicate the Application; (ii) decompile, disassemble, reverse engineer, or otherwise attempt to obtain or perceive the source code from which any component of the Application is compiled or interpreted,; (iii) modify the Application, the Application Documentation, or the DrFirst Brand, or create any derivative product from any of the foregoing, except with the prior written consent of DrFirst; (iv) act as a service bureau of the Application or otherwise run the Application for any-third party; or (v) except as contemplated hereunder and otherwise expressly permitted in this Agreement, assign, sublicense, sell, resell, lease, rent or otherwise transfer or convey, or pledge as security or otherwise encumber Customer's rights under the license granted by DrFirst. Customer acknowledges that nothing in this Agreement will be construed to grant Customer any right to obtain or use the source code from which any component of the Application is compiled or interpreted, and that this Agreement grants certain rights to access the Application, as hosted by DrFirst, but nothing herein may be construed to require delivery of a copy of the Application or to grant Customer any right to obtain such a copy.

7. ACCOUNT INFORMATION. A unique user I.D. and password will be provided to each authorized end user. You are responsible for the addition of new users and the removal of inactive users.

8. SUPPORT AND SERVICE LEVEL TARGETS. Varian will contract with Customer with respect to service level targets and support as part of Customer's agreement with Varian. Customer shall place all support calls to Varian and if the matter requires escalation, Varian will escalate the matter to DrFirst.

9. CONFIDENTIAL INFORMATION. The Parties acknowledge that during the performance of this Agreement, each Party will have access to certain of the other Party's Confidential Information or Confidential Information of third parties that the disclosing Party is required to maintain as confidential. "Confidential Information" shall mean all written or oral information, disclosed by either Party to the other, related to the operations of either Party or a third party, whether or not identified or marked as confidential information that by the nature of the information or the circumstances surrounding disclosure ought reasonably to be treated as confidential. Confidential Information includes, without limitation, the specifications of the product licensed herein as well as any other proprietary information such as business plans, technical data, specifications, documentation, contracts, presentations, business methods, product functionality, services, data, customer information, competitive analysis, databases, formats, methodologies, applications, developments, inventions, processes, payment, designs, drawings, algorithms, formulas, trade secrets, or other information related to engineering, marketing, or finance. Both Parties agree that all items of Confidential Information are proprietary to the disclosing Party or such third party, as applicable, and shall remain the sole property of the disclosing Party or such third party. Each Party further agrees as follows: (i) to use the Confidential Information only for the purposes described herein; (ii) that such Party will not reproduce the Confidential Information and will hold in confidence and protect

the Confidential Information from dissemination to, and use by, any third party; (iii) that neither Party will create any derivative work from Confidential Information disclosed to such Party by the other Party unless such work is contemplated by this Agreement; (iv) to restrict access to the Confidential Information to such of its personnel, agents, lawyers, accountants, and consultants, if any, who have a need to have access for purposes of performing such Party's obligations hereunder and who have been advised to treat such information in accordance with the terms of this Agreement.

10. REPRESENTATIONS. (a) Each Party hereby represents and warrants (i) that it is duly organized, validly existing, and in good standing under the laws of its jurisdiction of incorporation; (ii) that the execution and performance of this Agreement will not conflict with or violate any provision of any law having applicability to such Party; and (iii) that this Agreement, when executed and delivered, will constitute a valid and binding obligation of such Party and will be enforceable against such Party in accordance with its terms. (b) Customer further represents and warrants (i) that it has the right to disclose and provide to DrFirst any data provided through use and access of the Application, and (ii) that Customer's use of and access to the Application complies with applicable laws and regulations, including, without limitation, any applicable provisions of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the rules and regulations promulgated thereunder. (c) DrFirst represents and warrants that the Application is and shall be in compliance with the relevant provisions of the Drug Enforcement Agency's Electronic Prescriptions of Controlled Substances Final Rule as codified in 21 CFR Parts 1300, 1304, 1306, and 1311 (the "DEA Regulations"). (d) Customer acknowledges and agrees that it shall be responsible for obtaining any third party approvals, certifications or other evidence of compliance with the relevant provisions the DEA Regulations if necessary or applicable.

11. DISCLAIMER. EXCEPT AS EXPRESSLY SET FORTH HEREIN, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, DRFIRST DISCLAIMS ANY AND ALL PROMISES, REPRESENTATIONS AND WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, DATA ACCURACY, TITLE, AND NON-INFRINGEMENT. DRFIRST DOES NOT WARRANT THAT THE APPLICATION WILL MEET CUSTOMER'S REQUIREMENTS OR THAT THE OPERATION OF THE APPLICATION WILL BE UNINTERRUPTED OR ERROR-FREE, OR THAT ALL ERRORS WILL BE CORRECTED. It is understood that some of the data in the data feed may be subject to state and federal laws and regulations, including the Health Insurance Portability and Accountability Act ("HIPAA") as well as the Health Information Technology for Clinical and Economic Health Act ("HITECH"), and Customer agrees to comply with all such laws and regulations governing its use of the data.

12. LIMITATIONS AND EXCLUSIONS OF LIABILITY. EXCEPT WITH RESPECT TO LIABILITY ARISING OUT OF DRFIRST'S NEGLIGENCE OR WILLFUL MISCONDUCT OR IN CONNECTION WITH A BREACH OF AN OBLIGATION OF CONFIDENTIALITY OR A VIOLATION OF LAW, IN NO EVENT WILL DRFIRST BE LIABLE TO CUSTOMER FOR ANY INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES, REGARDLESS OF THE NATURE OF THE CLAIM, INCLUDING, WITHOUT LIMITATION, LOST PROFITS, COSTS OF DELAY, ANY FAILURE OF DELIVERY, BUSINESS INTERRUPTION, COSTS OF LOST OR DAMAGED DATA OR DOCUMENTATION, OR LIABILITIES TO THIRD PARTIES ARISING FROM ANY SOURCE, EVEN IF DRFIRST HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION UPON DAMAGES AND CLAIMS IS INTENDED TO APPLY WITHOUT REGARD TO WHETHER OTHER PROVISIONS OF THIS AGREEMENT HAVE BEEN BREACHED OR HAVE PROVEN INEFFECTIVE. EXCEPT WITH RESPECT TO LIABILITY ARISING OUT OF DRFIRST'S NEGLIGENCE OR WILLFUL MISCONDUCT OR IN CONNECTION WITH A BREACH OF AN OBLIGATION OF CONFIDENTIALITY OR A VIOLATION OF LAW, THE CUMULATIVE LIABILITY OF DRFIRST TO CUSTOMER FOR ALL CLAIMS ARISING FROM OR RELATING TO THIS AGREEMENT, INCLUDING, WITHOUT LIMITATION,

ANY CAUSE OF ACTION SOUNDING IN CONTRACT, TORT, OR STRICT LIABILITY, WILL NOT EXCEED THE TOTAL AMOUNT OF ALL LICENSE FEES PAID TO DRFIRST BY CUSTOMER DURING THE TWELVE (12)-MONTH PERIOD PRIOR TO THE ACT, OMISSION, OR EVENT GIVING RISE TO SUCH LIABILITY. THIS LIMITATION OF LIABILITY IS INTENDED TO APPLY WITHOUT REGARD TO WHETHER OTHER PROVISIONS OF THIS AGREEMENT HAVE BEEN BREACHED OR HAVE PROVEN INEFFECTIVE. Customer acknowledges and understands that the disclaimers and limitations of liability set forth in these terms form an essential basis of the agreement between the Parties, that the Parties have relied upon such disclaimers and limitations of liability in negotiating the terms and conditions in this Agreement, and that absent such disclaimers, exclusions and limitations of liability, the terms and conditions of this Agreement would be substantially different.

13. MISCELLANEOUS. If any provision of this Agreement is invalid or unenforceable for any reason in any jurisdiction, such provision shall be construed to have been adjusted to the minimum extent necessary to cure such invalidity or unenforceability. The invalidity or unenforceability of one or more of the provisions contained in this Agreement shall not have the effect of rendering any such provision invalid or unenforceable in any other case, circumstance, or jurisdiction, or of rendering any other provisions of this Agreement invalid or unenforceable whatsoever. No waiver under this Agreement shall be valid or binding unless set forth in writing and duly executed by the Party against whom enforcement of such waiver is sought. Any such waiver shall constitute a waiver only with respect to the specific matter described therein and shall in no way impair the rights of the Party granting such waiver in any other respect or at any other time. Any delay or forbearance by either Party in exercising any right hereunder shall not be deemed a waiver of that right. This agreement shall be governed in accordance with the laws of the State of California, without regard to conflicts of law principles thereof or to the United Nations Convention on the International Sale of Goods. For purposes of all claims brought under this agreement, each of the parties hereby irrevocably submits to the non-exclusive jurisdiction of the state courts of the State of Maryland. Under no circumstances, shall this agreement or a part thereof be subject to the Uniform Computer Information Transaction Act. All U.S. Government authorized users acquire the Application and the Application Documentation with only those rights set forth therein.

[End of ASP Terms of Agreement]

BUSINESS ASSOCIATE AGREEMENT

1. RECITALS

This Business Associate Agreement ("Agreement") is made and entered into as of the _____ ("Effective Date") by and between DrFirst.com, Inc. (the "Business Associate," as further defined below), whose address is 9420 Key West Avenue, Suite 230, Rockville, MD 20850, and _____ **(**the "Covered Entity," as further defined below), whose address is _____ (collectively, the "Parties).

WHEREAS, _____ is a "Covered Entity" as defined under the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), as amended by the regulations promulgated pursuant to the Health Information Technology for Economic and Clinical Health ("HITECH") Act (Division A, Title XIII and Division B, Title IV of Public L. 111–5) (which was part of the American Recovery and Reinvestment Act of 2009 ("ARRA")),, and DrFirst.com, Inc. is a "Business Associate" as defined under HIPAA;

WHEREAS, in connection with the Master Agreement entered into between Business Associate and Covered Entity on _____ to provide certain services to or on behalf of Covered Entity ("Service Agreement"), Covered Entity may provide Business Associate with Protected Health Information or may require Business Associate to create, use, maintain, or transmit Protected Health Information on behalf of Covered Entity;

WHEREAS, the Parties enter into this Agreement for the purpose of ensuring compliance with HIPAA and relevant implementing regulations, including the Privacy Rule (defined below), the Security Rule (defined below), and the Breach Notification Rule (defined below);

NOW THEREFORE, in consideration of the mutual promises and covenants herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

2. DEFINITIONS AND INTERPRETATION

2.1 Definitions Generally.

2.1.1 "Breach" shall have the meaning given to such term in 45 C.F.R. § 164.402.

2.1.2 "Breach Notification Rule" shall mean the rule related to breach notification for Unsecured Protected Health Information at 45 C.F.R. Parts 160 and 164.

2.1.3 "Electronic Protected Health Information" or ("EPHI") shall have the same meaning given to such term under the Security Rule, including, but not limited to, 45 C.F.R. § 160.103 limited to the information created or received by Business Associate from or on behalf of Covered Entity.

2.1.4 "Privacy Rule" shall mean the Standards for Privacy of Individually Identifiable Health Information, codified at 45 C.F.R. Parts 160 and Part 164, Subparts A and E.

2.1.5 "Protected Health Information" or "PHI" shall have the meaning given to such term under the Privacy and Security Rules at 45 C.F.R. § 160.103, limited to the information created or received by Business Associate from or on behalf of Covered Entity.

2.1.6 "Security Rule" shall mean the Security Standards for the Protection of Electronic Protected Health Information, codified at 45 C.F.R. § 164 Subparts A and C.

2.1.7 Other capitalized terms used but not otherwise defined in this Agreement shall have the same meaning as those terms in the Privacy, Security or Breach Notification Rules.

2.2 Inconsistencies. In the event that the provisions of this Agreement are inconsistent with HIPAA or its implementing regulations or any binding interpretation thereof, said conflict will be resolved in favor of the Regulations. To the extent that any such conflicts are nonetheless permitted under the Regulations, the provisions of this Agreement will prevail.

2.3 State Law and Preemption. Where any provision of applicable State law is more

stringent or otherwise constitutes a basis upon which the Regulation is preempted, state law controls and the Parties agree to comply fully therewith.

2.4 Third-Parties. Except as expressly provided for in the Regulations and/or within the terms contained herein, this Agreement does not create any rights in third parties.

3. PERMITTED USES AND DISCLOSURES BY THE BUSINESS ASSOCIATE

3.1 Permitted Uses. Except as otherwise limited in the Service Agreement, this Agreement or as Required By Law, the Business Associate may use or disclose PHI received by the Business Associate as necessary to perform functions, activities or services for or on behalf of the Covered Entity as specified in the Service Agreement and including but not limited to:

3.1.1 Facilitating the processing of administrative, clinical and financial healthcare transactions;

3.1.2 Treatment of patients of the Covered Entity;

3.1.3 Establishing and maintaining Business Management Programs;

3.2 Data Aggregation. Except as otherwise limited in this Agreement, the Business Associate may use PHI to provide data aggregation services to the Covered Entity to the fullest extent permitted by the Privacy Rule, the Service Agreement and any applicable provisions in this Agreement.

3.3 De-Identification. The Business Associate may de-identify PHI received or created pursuant to the Service Agreement consistent with 45 C.F.R. § 164.514 .

3.4 Other Permitted Uses. The Business Associate may use PHI to facilitate the management and administration of the Business Associate or to carry out legal responsibilities thereof.

3.5 Permitted Disclosures. The Business Associate may disclose PHI to facilitate the management and administration of the Business Associate or to carry out legal responsibilities, if:

3.5.1 Required By Law; and/or

3.5.2 Business Associate obtains reasonable assurances from the person to whom the PHI is disclosed that: (i) the PHI will remain confidential and used or further disclosed only as Required By Law or for the purpose for which it was disclosed to the person; and (ii) Business Associate will be notified of any instances of which the person is aware in which the confidentiality of the PHI is breached or suspected to have been breached.

3.6 Report Violations of Law. The Business Associate may use PHI to report violations of law to appropriate Federal and State authorities, consistent with 45 C.F.R. § 164.502(j)(1).

4. PRIVACY RULE OBLIGATIONS OF THE BUSINESS ASSOCIATE

4.1 Limitations on Disclosures. The Business Associate agrees to not use or disclose PHI other than as permitted or required by this Agreement, the Service Agreement, or as Required by Law. The Business Associate shall not use or disclose PHI in a manner that would violate the Privacy Rule if done by the Covered Entity, unless expressly permitted to do so pursuant to the Privacy Rule, the Service Agreement, and this Agreement

4.2 Safeguards Against Unauthorized Use. The Business Associate agrees to use appropriate safeguards to prevent the use or disclosure of PHI other than as provided for by the Service Agreement and this Agreement or as Required by Law.

4.3 Reporting and Mitigation. The Business Associate agrees to report to the Covered Entity any unauthorized use or disclosure of PHI in violation of this Agreement and to mitigate, to the extent practicable, any harmful effect that is known to the Business Associate of a use or disclosure of PHI by the Business Associate in violation of the requirements of this Agreement.

4.4 Agreements With Subcontractors. The Business Associate agrees to ensure, consistent with 45 C.F.R. § 164.502(e)(1)(ii), that any Subcontractor that creates, receives, maintains, or transmits PHI on behalf of the Business Associate agrees in writing to the same restrictions and conditions that apply to the Business Associate in the Service Agreement and this Agreement with respect to the PHI.

4.5 Obligations on Behalf of the Covered Entity. To the extent the Business Associate carries out an obligation of the Covered Entity's under the Privacy Rule, the Business Associate must comply with the requirements of the Privacy Rule that apply to the Covered Entity in the performance of such obligation.

4.6 Access to PHI. The Business Associate shall provide access, at the request of the Covered Entity, and in the time and manner reasonably designated by the Covered Entity, to PHI in a Designated Record Set, to the Covered Entity or, as directed by the Covered Entity, to an Individual or a third party designated by the Individual, in order to meet the requirements under the Privacy Rule at 45 C.F.R. § 164.524.

4.7 Amendment of PHI. The Business Associate shall make PHI contained in a Designated Record Set available to the Covered Entity (or an Individual as directed by the Covered Entity) for purposes of amendment per 45 C.F.R. § 164.526. The Business Associate shall make any amendment(s) to an Individual's PHI that the Covered Entity directs or agrees to pursuant to the Privacy Rule, at the request of the Covered Entity, and in the time and manner reasonably designed by the Covered Entity. If an Individual requests an amendment of PHI directly from the Business Associate or its Subcontractors, the Business Associate shall notify the Covered Entity in writing promptly after receiving such request. Any denial of amendment of PHI maintained by the Business Associate or its Subcontractors shall be the responsibility of the Covered Entity.

4.8 Accounting of Disclosures.

4.8.1 The Business Associate shall document disclosures of PHI and information related to such disclosures as would be required for the Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528. At a minimum, such information shall include: (i) the date of disclosure; (ii) the name of the entity or person who received PHI and, if known, the address of the entity or person; (iii) a brief description of the PHI disclosed; and (iv) a brief statement of the purpose of the disclosure that reasonably informs the Individual of the basis for the disclosure, or a copy of the Individual's authorization, or a copy of the written request for disclosure.

4.8.2 The Business Associate shall provide to Covered Entity information collected in accordance with Section 4.8.1 of this Agreement, to permit the Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528. In the event that the request for an accounting is delivered directly to the Business Associate or its Subcontractors, the Business Associate shall provide a copy of such request to the Covered Entity, in writing, promptly after the Business Associate's receipt of such request.

4.9 Retention of Protected Health Information. Notwithstanding Section 8.3 of this Agreement, the Business Associate and its Subcontractors shall retain all PHI throughout the term of the Service Agreement and shall continue to maintain the information required under Section 4.8.1 of this Agreement for a period of six (6) years after termination of the Service Agreement.

4.10 Minimum Necessary. The Business Associate shall only request, use and disclose the Minimum Necessary amount of PHI necessary to accomplish the purpose of the request, use or disclosure.

4.11 Availability of Information. The Business Associate agrees to make internal practices, books, and records relating to the use and disclosure of PHI received from, or created or received by the Business Associate on behalf of the Covered Entity available to the Covered Entity, or to the Secretary, in a time and manner designated by the Covered Entity or the Secretary, for the purposes of the Secretary determining the

Covered Entity's compliance with the Privacy Rule.

5. SECURITY RULE OBLIGATIONS OF THE BUSINESS ASSOCIATE

5.1 Compliance with the Security Rule. The Business Associate agrees to comply with the Security Rule with respect to Electronic Protected Health Information and have in place reasonable and appropriate administrative, physical, and technical safeguards to protect the confidentiality, integrity, and availability of EPHI and to prevent the use or disclosure of EPHI other than as provided for by the Service Agreement and this Agreement or as Required by Law.

5.2 Subcontractors. The Business Associate shall ensure that any Subcontractor that creates, receives, maintains, or transmits EPHI on behalf of the Business Associate agrees in writing to comply with the Security Rule with respect to such EPHI.

5.3 Security Incident/Breach Notification Reporting. The Business Associate shall report any successful Security Incident promptly upon becoming aware of such incident.

6. BREACH NOTIFICATION RULE OBLIGATIONS OF THE BUSINESS ASSOCIATE

6.1 Notification Requirement. To the extent the Business Associate accesses, maintains, retains, modifies, records, stores, destroys, or otherwise holds, uses or discloses Unsecured PHI, it will, following discovery of the Breach of such information, notify the Covered Entity of such Breach.

6.2 Content of Notification. Any notice referenced above in Section 6.1 of this Agreement will include, to the extent known to the Business Associate, the identification of each individual whose Unsecured PHI has been, or is reasonably believed by the Business Associate to have been accessed, acquired, or disclosed during such Breach. Business Associate will also provide to the Covered Entity other available information that the Covered Entity is required to include in its notification to the individual pursuant to the Breach Notification Rule.

7. OBLIGATIONS OF THE COVERED ENTITY

7.1 Notification Regarding Limitations and Restrictions on Disclosure. The Covered Entity shall notify the Business Associate of any limitation(s) in its Notice of Privacy Practices of Covered Entity which may affect the Business Associate's use or disclosure of PHI in accordance with the Privacy Rule.

7.2 Notification of Changes to Limitations and Restrictions on Disclosure. The Covered Entity shall notify Business Associate of any changes in, or revocation of, permission by Individual to use or disclose PHI, to the extent that such changes may affect Business Associate's use or disclosure of PHI.

7.3 Limitations and Restrictions on Disclosure Arising Under Third-Party Agreements. The Covered Entity shall further notify the Business Associate of any restriction to the use or disclosure of PHI that the Covered Entity has agreed to which may affect the Business Associate's use or disclosure of PHI in accordance with the Privacy Rule.

7.4 Requests by the Covered Entity. The Covered Entity shall not request the Business Associate to use or disclose PHI in any manner that would be prohibited to the Covered Entity under the applicable Regulations.

8. TERM AND TERMINATION

8.1 Term. The term of this Agreement shall be effective as of the Effective Date and shall terminate when all of the PHI provided to the Business Associate, or created or received by the Business Associate on behalf of the Covered Entity, is destroyed or returned to the Covered Entity; or in the event that it is not feasible to return or destroy said PHI, protections are extended to such information with the termination provisions herein provided or as permissible by the applicable Regulations.

8.2 Termination for Cause. Upon the Covered Entity's knowledge of a material breach by the Business Associate of this Agreement, the Covered Entity shall provide an opportunity for the Business Associate to cure the breach or terminate this Agreement if the Business Associate does not cure the breach or end the violation

within thirty (30) days after receipt of written notice from the Covered Entity.

8.3 Disposition of PHI Upon Termination. Except as otherwise provided in this Section, upon termination of this Agreement for any reason, the Business Associate shall return or destroy all PHI received from the Covered Entity, or created or received by the Business Associate on behalf of the Covered Entity. This provision shall also be applicable to any PHI in the possession of Subcontractors of the Business Associate. In the event that the Business Associate determines that returning or destroying the PHI is infeasible, the Business Associate shall provide to the Covered Entity notification of the conditions that make return or destruction infeasible. Upon mutual agreement of the Parties that return or destruction of PHI is infeasible, the Business Associate shall extend the protections of this Agreement to such PHI and limit further uses and disclosures of PHI to those purposes that make the return or destruction infeasible, for so long as the Business Associate maintains such PHI.

8.4 Retention of Certain Information. The Business Associate shall retain no copies of the aforementioned PHI; however, the Covered Entity understands and agrees that information relating to individual prescription transactions submitted by use of the services provided under the Service Agreement will be retained as necessary by the Business Associate for purposes of financial reporting, insurance claims, and other legal and business purposes.

8.5 INDEMNIFICATION. In the event that there is a breach of privacy with respect to PHI under this BAA, the party causing the breach will indemnify the other party and its officers and directors for all actual damages, costs and attorneys' fees caused by the breach, including but not limited to the actual costs of providing patient notice as a result of the breach.

9. MISCELLANEOUS

9.1 Regulatory References. Any references in this Agreement to any law, rule or regulation shall be interpreted to include the section as in current effect or as may from time to time be amended and for which compliance is required.

9.2 Amendments. The Parties agree to take such action as is necessary to amend this Agreement from time to time as is necessary for the Covered Entity and the Business Associate to comply with the requirements of the Privacy, Security, or Breach Notification Rules, as well as HIPAA and the HITECH Act; however, all amendments to any of the provisions contained herein shall be made in writing.

9.3 Survival. The respective rights and obligations of Business Associate under Article VI of this Agreement shall survive the termination of this Agreement.

9.4 Entire Agreement. This Agreement is the entire agreement between the Parties with regard to its subject matter and shall supersede any prior agreement.

Varian ePrescribing For ARIA For Radiation Oncology Software License Agreement

This Varian e-Prescribing For ARIA For Radiation Oncology Software License Agreement is entered and agreed by Varian Medical Systems, Inc. of Palo Alto, California ("Varian") and the customer, the name and address of which appear at the end of this document in the signature block ("Customer") effective as of the date of the last signature on the signature lines at the end of this document (this "EP Agreement").

I. INTRODUCTION

WHEREAS, third party Surescripts, LLC ("Surescripts") is the sole entity in the United States authorized by the government to provide electronic prescription ("ePrescription") services to product manufacturers for use by their customers and by their customers' end users who write prescriptions.

AND WHEREAS, Varian was required to enter an agreement with Surescripts so that it could provide ePrescribing capabilities to Varian's customers in Varian's ePrescribing For ARIA For Radiation Oncology Software product ("ePrescribing Software Product");

AND WHEREAS, Surescripts has certified Varian's ePrescribing Software Product for ePrescription use.

AND WHEREAS, Customer desires to license Varian's ePrescribing Software Product for ePrescription use in the United States;

AND WHEREAS, Customer understands that it must comply with Surescript's requirements in order to utilize ePrescribing capabilities within the United States;

AND WHEREAS, Customer and Varian understand and agree that this EP Agreement shall apply solely to Varian's ePrescribing Software Product and to no other product or service provided by Varian to Customer;

AND WHEREAS, Customer and Varian understand and agree that Varian's ePrescribing Software Product shall also be governed by Varian's terms and conditions as referenced in Section M.2. below;

NOW THEREFOR, Varian and Customer agree as follows:

II. TERMS AND CONDITIONS FOR USE OF THE VARIAN E-PRESCRIBING SOFTWARE PRODUCT

A. DEFINITIONS

"Applicable Law" means any and all applicable federal, state, local, common law, rules, regulations, directives and guidelines, including but not limited to HIPAA and related regulations; the Health Information Technology for Economic and Clinical Health Act ("HITECH") and related regulations; the Anti-Kickback provisions of the Social Security Act and related regulations; the federal Physician Self-Referral Prohibition provisions of the Social Security Act and related regulations; and state and federal pharmacy laws and regulations.

"End User" means a physician or other health care provider employed by, under contract with or performing health care services on behalf of Customer and which individual physician or health care provider is duly licensed or registered with the appropriate Governmental authority to issue prescription orders, and who has been provided instruction by Customer in accordance with the terms and conditions of this EP Agreement regarding the transmission of Prescription Routing message through the Varian ePrescribing Software Product and the Surescripts Network.

"Government" or "Governmental" shall mean any local, state, or federal governmental authority.

"Prescription Routing" means the transmission of an electronic prescription representation, in the format and with the content required for processing through the Surescripts Network, of (i) a prescription order issued by a duly licensed practitioner (such as a physician, nurse practitioner or physician's assistant), (ii) a request for a refill order issued by a pharmacy, (iii) any other message type supported by the NCPDP SCRIPT standard, or (iv) other message types only as determined by Varian.

"Surescripts" means Surescripts, LLC, a Delaware limited liability company and owner of the Surescripts Network.

"Surescripts Contracted Parties" means any party with which Surescripts has contracted to provide data to and/or from users of the Surescripts Network via Prescription Routing. Surescripts Contracted Parties include, but are not limited to, pharmacies.

"Surescripts Network" means the proprietary Surescripts technology for Prescription Routing.

"Varian ePrescribing Software Product" means Varian's Software Product that, through technical integration and this EP Agreement, provides access to the Surescripts Network.

B. AUTHORITY OF CUSTOMER AND END USERS

Customer represents and warrants that it is a hospital, clinic, medical practice, and/or other licensed healthcare facility or healthcare group from which and/or on behalf of which End Users will be provided access to the Surescripts Network through the Varian ePrescribing Product. Customer understands that its right to access the Varian ePrescribing Software Product is conditioned on its agreement to abide by, and require all of its End Users to abide by, all of the terms and conditions in this EP Agreement. Customer will ensure that all access to the Varian ePrescribing Software Product by both it and its End Users will be in full compliance with this EP Agreement. Customer shall act in a manner consistent with this EP Agreement and all Applicable Laws now or hereafter imposed and Customer will require its End Users to agree to do so as well. Customer agrees that it will only designate an End User as an authorized user of the Varian ePrescribing Software Product after first: (i) confirming that he or she meets the definition of an "End User" as defined above by obtaining a written certification from each End User to that effect; and (ii) entering into a written agreement with each End User binding him or her to terms and conditions consistent with those contained in this EP Agreement. Customer hereby certifies that all of its End Users will have entered into such agreement and will have provided certification of their status as an End User prior to accessing the Varian ePrescribing Software Product.

/ / /

C. ACCESS TO THE SURESCRIPTS NETWORK THROUGH THE VARIAN ePRESCRIBING SOLUTION

1. Varian agrees to provide Customer with the Varian ePrescribing Software Product in accordance with the terms and conditions set forth in this EP Agreement. Unless otherwise set forth in this EP Agreement, Varian will not be required to provide, and Customer will be solely responsible for, any equipment, devices, Internet access or telecommunication services required or necessary for Customer's (or any End User's) utilization of the Varian ePrescribing Software Product. Notwithstanding anything to the contrary in this EP Agreement, Customer shall have the right to use the Varian ePrescribing Software Product pursuant to the terms of this EP Agreement with respect to any End User, but Customer shall not be required to use the Varian ePrescribing Software Product or to make it available to any particular End User.

2. Customer must obtain Varian's authorization for each specific site from which the Varian ePrescribing Software Product will be accessed and Customer will provide information (including all relevant demographic information) about each such site in the format required by Varian. Customer must identify an administrator or similar person who must obtain any applicable training and assume responsibility for the accuracy and integrity of the data provided to Varian. Customer will provide first-line support for its End Users with regard to the Varian ePrescribing Software Product and designate a primary point of contact for escalating all support issues to Varian. Customer will ensure that all End Users are properly registered and authorized before accessing the Varian ePrescribing Software Product. Varian will provide periodic notification to Customer of updates to the Varian ePrescribing Software Product and Customer will ensure that that information is available to its End Users, as appropriate.

3. Customer acknowledges and agrees that the pharmacies, benefits providers and other Surescripts Contracted Parties participating in the Surescripts Network ("Network Participants") are subject to change without notice at any time. Varian makes no representations or warranties about the number or identity of Network Participants, even if any Network Participant participates in the Surescripts Network with other technology solution providers, other prescribers or otherwise.

D. TERM AND TERMINATION

1. Customer may use the Varian ePrescribing Software Product on a month-to-month basis. Varian reserves the right to terminate Customer's license to use the Varian ePrescribing Software Product upon thirty (30) days prior written notice, with or without cause.

2. Notwithstanding the foregoing or anything to the contrary in this EP Agreement, Varian may terminate this EP Agreement and/or may immediately require that the Customer terminate use of the Varian ePrescribing Software Product: (i) twenty (20) days after notice of material breach of this EP Agreement when that breach remains uncured at that time; (ii) by any End User, if required to do so by Surescripts, based on Surescripts' determination that sufficient evidence establishes that that individual End User is not duly licensed or authorized to issue prescription orders; or (iii) by any End User, if required to do so by Surescripts, based on Surescripts' determination that sufficient evidence establishes that that End User otherwise acted in a manner that would constitute a material breach of this EP Agreement, if that action had been taken by the Customer. In the event of a dispute as to whether sufficient evidence exists to terminate use of the Varian ePrescribing Software Product by Customer or an End User pursuant to the preceding sentence, Customer may send a written notice to Varian that

must be received by Varian within three (3) days of the date Customer received notice from Varian of Surescripts' determination to terminate an End User or Customer pursuant to the preceding sentence, requesting that Varian institute dispute resolution procedures with Surescripts under Varian's agreement with Surescripts to resolve the dispute at Customer's reasonable expense. Customer understands and agrees that Varian has no ability to provide ePrescribing services independent of Surescripts and that the result of the dispute resolution procedures between Varian and Surescripts will be final and binding. If undisputed, Varian may deliver a written notice of the breach or violation to the Customer, and the termination of the End User's rights shall take effect two (2) days thereafter. The parties to this EP Agreement may agree to terminate this EP Agreement upon mutual consent at any time.

E. AUDIT RIGHTS

At its own expense, Varian may perform audits of Customer as Varian reasonably deems appropriate to ensure compliance by Customer with the terms and conditions of this EP Agreement. These audits may include, but are not limited to, usage by Customers and its End Users of appropriate versions of the Varian ePrescribing Software Product; provided that (i) Varian will not audit Customer more than once per calendar year, and (ii) all Varian audits shall be conducted during the regular business hours of Customer and in a manner designed to minimize any disruption to Customer's business. Notwithstanding the foregoing, in the event that Varian determines that Customer has not complied with the terms and conditions of this EP Agreement as a result of an audit, Varian may conduct another audit between sixty (60) and ninety (90) days later to ensure that Customer has come into compliance.

F. ELIGIBLE VERSIONS; RESTRICTIONS ON USE AND ACCESS

1. Customer understands that the Varian ePrescribing Software Product provides access to the Surescripts Network. Customer may access the Varian ePrescribing Software Product only on behalf of its End Users. Customer and its End Users must use only the version(s) of the Varian ePrescribing Software Product that Varian indicates have been certified by Surescripts and which have not been decertified by Surescripts. Customer and its End Users may use a version of the Varian ePrescribing Software Product before it is certified, if the prior version utilized was certified and had not been decertified. This EP Agreement does not cover, and Varian is not in any way responsible for, access to the Surescripts Network by Customer or End Users outside of the Varian ePrescribing Software Product pursuant to this EP Agreement. Notwithstanding anything in this EP Agreement to the contrary, Varian retains the right to notify Customer in writing that a version of the Varian ePrescribing Software Product is no longer available for use due to decertification by Surescripts or otherwise at any time and Customer must then cease all use of that software version by Customer and its End Users immediately. Further, Varian may suspend or terminate the use of the Surescripts Network on behalf of Customers and its End Users if they are using a version of the Varian ePrescribing Software Product that is not then currently certified by Surescripts.

2. Customer shall not: (i) use or allow use of the Varian ePrescribing Software Product or the Surescripts Network in any manner which would allow the general public access to it; (ii) authorize any use of the Varian ePrescribing Software Product or the Surescripts Network for the benefit of any person or entity who or that is not an End User; or (iii) use or allow use of the Varian ePrescribing Software Product or the Surescripts Network for any purpose other than for

Prescription Routing. Customer shall be responsible for causing its End Users to agree in writing with the foregoing.

3. The following shall be referred to as the "Commercial Messaging Rules." Neither Customer nor Customers' End Users shall use any means, program, or device, including, but not limited to, advertising, instant messaging, and/or pop up ads (collectively, "MPD"), nor permit any other person to use any MPD in order to influence or attempt to influence, through economic incentives or otherwise, the Prescribing Decision (as defined below), of a prescriber at the Point Of Care (also as defined below), if: (i) that MPD is triggered by, initiated by, or is in specific response to, the input, selection, and/or act of a prescriber or his/her agent prescribing a pharmaceutical or selecting a pharmacy for a patient; and (ii) that prescription will be delivered *via* the Surescripts network. "Prescribing Decision" means a prescriber's decision to prescribe a certain pharmaceutical or direct the patient to a certain pharmacy. "Point Of Care" shall mean the time that a prescriber or his/her agent is in the act of prescribing a pharmaceutical for a patient. Customer will require End Users to agree to comply with the provisions of this Section through a written agreement between a Customer and each of its End Users. Notwithstanding the above, Customer or End Users may: (A) show information regarding a payer's formulary and benefit plan design, including patient lowest cost options, on/off tier, prior authorization, step therapy, coverage status and co-pay information; and/or (B) deliver or have delivered to End Users clinical alerts that are sourced from payers and/or are attributed to generally recognized and reputable sources providing clinical information to the prescriber, even if, in the event of either (A) or (B), that information influences the patient or prescriber's choice of pharmacy or other prescribing decisions. In addition, in the event of either (A) or (B) above, Customer must: (i) allow the End User to access all pharmaceuticals known through generally available sources used in the industry, and all pharmacies, including all retail and mail service pharmacy options available; and (ii) not preclude a physician or patient from selecting any particular pharmacy or pharmaceutical. Any custom lists created and maintained by an End User within the Varian ePrescribing Software Product, including but not limited to: (i) an End User's most often prescribed medication lists; (ii) an End User's most often used pharmacy list; and (iii) an End User's most often used SIGs (*i.e.,* instructions for the use of medications), would not be considered a violation of this Section. Any violation of this Section shall be deemed a material breach of this EP Agreement, and Varian shall have a right of termination.

4. Customer hereby irrevocably grants to Varian the right to transmit all directory and related information requested or required by Surescripts relating to Customer and/or End Users ("Information"). Customer will require that all End Users agree to this use of Information in a written agreement with Customer. Notwithstanding anything in this EP Agreement to the contrary, Customer acknowledges that Surescripts possesses rights to use all information relating to Customer and End Users within the Surescripts Network, whether provided by Varian, Customer or otherwise, including all root, identity, and location-related information, but solely for purposes of fulfilling Surescripts' obligations under its EP Agreement with Varian and subject to Applicable Law.

G. DATA USE:

1. Customer hereby authorizes Varian and Surescripts to disclose information received from Customer or End Users for the purpose of (and only to the extent necessary for) operating Varian's or Surescripts business and providing the services described in this EP Agreement, but only in accordance with all Applicable Laws, or pursuant to a valid order issued by a duly authorized court or Government authority. In no event will Varian or Surescripts sell or in any

other way use data transmitted by Customers or End Users through the Varian ePrescribing Software Product or the Surescripts Network for any commercial or other purpose not stated in this EP Agreement, nor will it permit the sale of any Customer and/or End User Information or data by any third party.

2. Customer hereby authorizes Varian and Surescripts to utilize, transfer, or disclose aggregated information, including, but not limited to, summary statistics, which has been de-identified in accordance with 45 C.F. R. § 164.514 such that it does not identify an individual and cannot be used to identify an individual, Customer or any End User for any purpose ("Aggregated Data"). Except for disclosure to Surescripts in connection with providing the Varian ePrescribing Software Product, Varian will not sell or in any other way provide Aggregated Data to any third party for any commercial or other purpose not stated in this EP Agreement, nor will it permit the sale of any Aggregated Data by any third party.

3. Contemporaneously with the execution of this EP Agreement, the parties shall enter into, or have entered into, a HIPAA Business Associate EP Agreement.

4. Varian acknowledges and agrees that any uses by Varian of Prescription Routing data transmitted under this EP Agreement (or any rights claimed by Varian in that data) shall arise solely from this EP Agreement with Customer and from applicable patient consents or authorizations between patients and Customer and/or End Users, as applicable.

5. Customer acknowledges and agrees that any uses by Customer of Prescription Routing data transmitted under this EP Agreement (or any rights claimed by Customer or its licensors in such data) shall arise solely from Customer's written contracts with End Users and applicable patient consents or authorizations. Subject to the foregoing, Customer shall not use or disclose information received from Varian or Surescripts for any purpose other than transmitting that information to the designated End User, Varian and/or Surescripts.

H. WARRANTY DISCLAIMERS

1. The Varian ePrescribing Software Product and the Surescripts Network is provided "as is" and without warranties. Varian does not warrant that the Varian ePrescribing Software Product or the Surescripts network will meet Customer's requirements or that they will operate without interruption or be error free.

2. Varian shall use due care in processing all message transmissions submitted to it by Customer and agrees that it will, at its expense, use commercially reasonable efforts to correct, as promptly as practicable, any errors to the extent that those errors are due to the malfunction of Varian computers, operating systems, or programs, or by the errors of Varian employees or agents. Correction shall be limited to identifying errors and retransmitting the message or messages affected by errors of that kind. Varian shall not be responsible in any manner for errors or failures of proprietary systems and programs of third parties, nor shall Varian be liable for errors or failures of Customer's software or operational systems not caused by Varian. Should there be any failure in performance or errors or omissions with respect to the information being transmitted, Varian's sole responsibility and Customer's exclusive remedy shall be for Varian to use commercially reasonable efforts to correct that failure in performance or errors or omissions. THE WARRANTIES SET FORTH IN THIS SECTION 8 ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, AND CUSTOMER HEREBY WAIVES ALL OTHER WARRANTIES, EXPRESS, IMPLIED, OR STATUTORY INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR USE FOR A PARTICULAR

PURPOSE. Customer shall make no representations or warranties regarding the Varian ePrescribing Software Product or the Surescripts Network that are inconsistent with the representations and warranties provided by Varian under this EP Agreement.

I. FORCE MAJEURE

Varian shall not be liable for failure to provide the Varian ePrescribing Software Product to the extent that that failure is due to any cause or condition beyond its reasonable control. Causes or conditions of this nature shall include, but shall not be limited to, acts of God or of the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, shortages of labor or materials, freight embargoes, unusually severe weather, electrical power failures, telecommunication or Internet backbone outages, failure of Customer's Internet access provider or other similar causes beyond Varian's control, and Varian shall have no liability for losses, expenses or damages, ordinary, special or consequential, resulting directly or indirectly from causes of this nature. If Varian's failure to provide the Varian ePrescribing Software Product is caused by the default of its subcontractor, and if that default arises out of causes beyond the control of both Varian and its subcontractor, then Varian shall not be liable unless the supplies or services to be furnished by its subcontractor were obtainable from other sources in sufficient time to permit Varian to fulfill its obligations under this EP Agreement.

J. INDEMNITY

1. Except to the extent arising solely from the gross negligence or willful misconduct of Varian as determined by a trier of fact, and subject to the limitations set forth below, Customer shall indemnify and save Varian and its licensors harmless from and against any and all loss, damage, or expense (or claims of damage or liability) asserted against Varian by third parties and arising directly out of:

(a) any breach of this EP Agreement by Customer;

(b) any loss of connectivity to the Surescripts Network due to the following, (i) acts or omissions of Customer inconsistent with the terms and conditions of this EP Agreement, (ii) incorrect information provided to Varian by Customer or End Users, or (iii) arising out of the use of that incorrect information when furnished by Varian to Customer, End Users or to other third persons at Customer's request; or

(c) any errors or omissions with respect to the prescription information transmitted by Customer to Varian.

2. Except to the extent arising solely from the gross negligence or willful misconduct of Customer as determined by a trier of fact, Varian shall indemnify and save harmless Customer from and against any and all loss, damage or expense (or claims of damage or liability) asserted against Customer by third parties (including End Users, but excluding Surescripts) and arising out of:

(a) any breach of this EP Agreement by Varian, including but not limited to any breach of any representation or warranty by Varian contained in this Section;

(b) any violation of law or public policy (including, but not limited to, the Act, the Federal Anti-Kickback Statute codified at 42 U.S.C. 1320a-7b and 42 U.S.C. 1320a-7a(7) and similar state laws) caused by Varian or the use or operation of the Varian ePrescribing Software Product;

(c) any loss of connectivity to the Varian ePrescribing Software Product due to acts or omissions of Varian inconsistent with the terms and conditions of this EP Agreement; or

(d) any errors or omissions with respect to the prescription information transmitted by Varian to Surescripts, so long as the alleged error or omission did not exist at the time the prescription information was received by Varian from Customer as determined by a trier of fact.

K. LIMITATION OF LIABILITY

1. EXCEPT AS SPECIFICALLY SET FORTH IN THIS AGREEMENT, IN NO EVENT SHALL VARIAN OR SURESCRIPTS BE LIABLE TO CUSTOMER OR ANY THIRD PARTIES (INCLUDING, BUT NOT LIMITED TO, END USERS) FOR ANY CLAIM, LOSS, OR DAMAGE, OR ANY SPECIAL OR CONSEQUENTIAL DAMAGES OR OTHERWISE, EVEN IF THAT PERSON OR PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL VARIAN BE LIABLE FOR ANY CLAIM, LOSS, LIABILITY, CORRECTION, COST, DAMAGE, OR EXPENSE CAUSED BY IT OR ITS LICENSORS' PERFORMANCE OR FAILURE TO PERFORM UNDER THIS AGREEMENT WHICH IS NOT REPORTED TO VARIAN WITHIN TWENTY (20) DAYS AFTER CUSTOMER FIRST BECAME AWARE, OR REASONABLY SHOULD HAVE BECOME AWARE, OF THAT FAILURE TO PERFORM.

2. The Varian ePrescribing Software Product and the Surescripts Network are not intended to serve as a replacement for: (i) a written prescription where an electronic prescription is not approved as by the appropriate Governmental authorities or where that written prescription is required for record keeping purposes, or (ii) applicable prescription documentation. Use of the Varian ePrescribing Software Product and the Surescripts Network is not a substitute for a health care provider's standard practice or professional judgment. Any decision with regard to the appropriateness of treatment, or the validity or reliability of information, is the sole responsibility of a patient's health care provider.

3. Neither party may institute an action in any form arising out of or in connection with this EP Agreement more than two (2) years after the cause of action has arises.

L. PROPRIETARY INFORMATION

Customer acknowledges that information about the Varian ePrescribing Software Product and the Surescripts Network may be confidential and proprietary. All information of this nature may only be used for purposes consistent with this EP Agreement and is subject to the non-disclosure obligations set forth in the Terms and Conditions of Sale (1652_) between the parties referenced on Customer's quotation.

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M. GENERAL

1. Customer understands and agrees that this EP Agreement governs the Varian ePrescribing Software Product, and no other product or service provided by Varian to Customer.

2. Customer understands and agrees that in addition to this EP Agreement, its license and use of the Varian ePrescribing Software Product and related services are governed by Varian Terms and Conditions of Sale (1652_) including any related exhibits, schedules, addenda, and other attachments, including the Professional Services Schedule and/or a separate Professional Services Agreement. In the event of any conflict or inconsistency between this EP Agreement and the terms of these or any other agreements between Varian and Customer, the terms and conditions of this EP Agreement shall prevail with respect to the Varian ePrescribing Software Product, but not with respect to any other product or service provided by Varian.

Varian	Customer
Name: Varian Medical Systems, Inc.	Name:_____
	_____
	(Write In Full Name Of Customer)
Address: 3100 Hansen Way, Palo Alto, CA 94304	Address:_____
	_____
	(Write In Full Address Of Customer)
By:_____	By:_____
(Varian Signature)	(Customer Signature)
Title:_____	Title:_____
(Write in title of Varian Signatory)	(Write in title of Customer Signatory)
Date:_____	Date:_____

RAD 10180 4/11

VARIAN
medical systems

ADVANTAGE CREDITS SUPPLEMENTAL TERMS AND CONDITIONS

(FORM RAD 10442)

These Advantage Credits Supplemental Terms and Conditions ("Supplemental Terms") modify and supplement the Varian Terms and Conditions of Sale (Form RAD 1652, current version issued with the Quotation) (the "Terms and Conditions of Sale"). The terms of the applicable Varian Quotation ("Quotation"), its attachments, including the Terms and Conditions of Sale, are incorporated herein by this reference, and together with these Supplemental Terms and any applicable Third Party Terms (as defined in the Quotation) (collectively referred to as the "Agreement") will apply and govern the use by Customer of Advantage Credits.

1.0 General

The Varian Advantage Credit Program (the "Program") offers customers the ability to purchase Advantage Credits in advance that can be applied toward designated Varian Professional Services including certain consulting (e.g. specified and limited implementation and optimization services), on-site training, educational courses and a limited number of services provided by designated third party service providers, including clinical schools and physics commissioning services. Advantage Credits provide flexibility for the Customer to apply them interchangeably for those designated services available under the Program without having to modify the underlying Quotation and related purchase order. However, Varian must be notified in advance and in writing of any requested changes to selected services.

2. Expiration Schedule

Advantage Credits expire according to the following schedule:

Type of Order	Expiration Date
Advantage Credits only (no Varian products)	24 months from date of order
Advantage Credits with one or more Varian products	24 months from first date of product/service acceptance
Multiyear agreement	End of the term of agreement

3.0 Scopes of Work

Varian or its third party service providers may, at their discretion, set forth in a written Scope of Work (SOW) a description of the services to be provided by Varian or the third party service provider. If the services that will be purchased with Advantage Credits are defined within the Quotation, Varian will offer the specific services listed for the amount of Advantage Credits indicated. If Advantage Credits in the Quotation are "Undefined", Varian will indicate the number of Advantage Credits required for a particular service at the time the Customer wants to use them.

4.0 Third Party Service Providers

4.1 Certain services are provided by and through third party service providers that are not affiliated with Varian, namely clinical schools and physics services (e.g. commissioning). Varian disclaims any warranty or performance obligations related to any third party service provider and will act solely as a pay agent, to collect fees for services from Customer and to pay fees for such services to the third party service provider. Customer has the final decision to purchase services through Varian third party service providers or to select another service provider outside of the Quotation and Varian does not make any recommendations to use third party service providers.

4.2 **Changes to Third Party Service Providers by Customer.** Customer shall have a one-time right to request in writing that a third party service provider be replaced with an alternate provider that is participating in the Program. If Varian, at its sole discretion, approves the request, Customer shall be subject to any related termination fees and additional costs incurred by Varian or the third party service provider and other terms and conditions indicated in the SOW and/or

Quotation. Customer, the third party service provider, and if applicable, its subcontractors, shall have full responsibility for services as defined in the Quotation or SOW, as applicable, and Varian shall have no responsibility, obligation and/or liability whatsoever for those services. The third party service provider shall not be construed to be a subcontractor, employee, or agent of Varian. Varian will forward any requests for warranty work that it receives from Customer to the third party service provider. Except as otherwise provided in this section of the Quotation, the Terms and Conditions of Sale shall apply to this section just as it applies to all other parts of the Quotation.

4.3 **Changes to Third Party Service Providers by Varian.** Varian reserves the right, at its sole discretion, to change, from time to time, its list of third party providers that participate in the Program.

5.0 Performance of Services

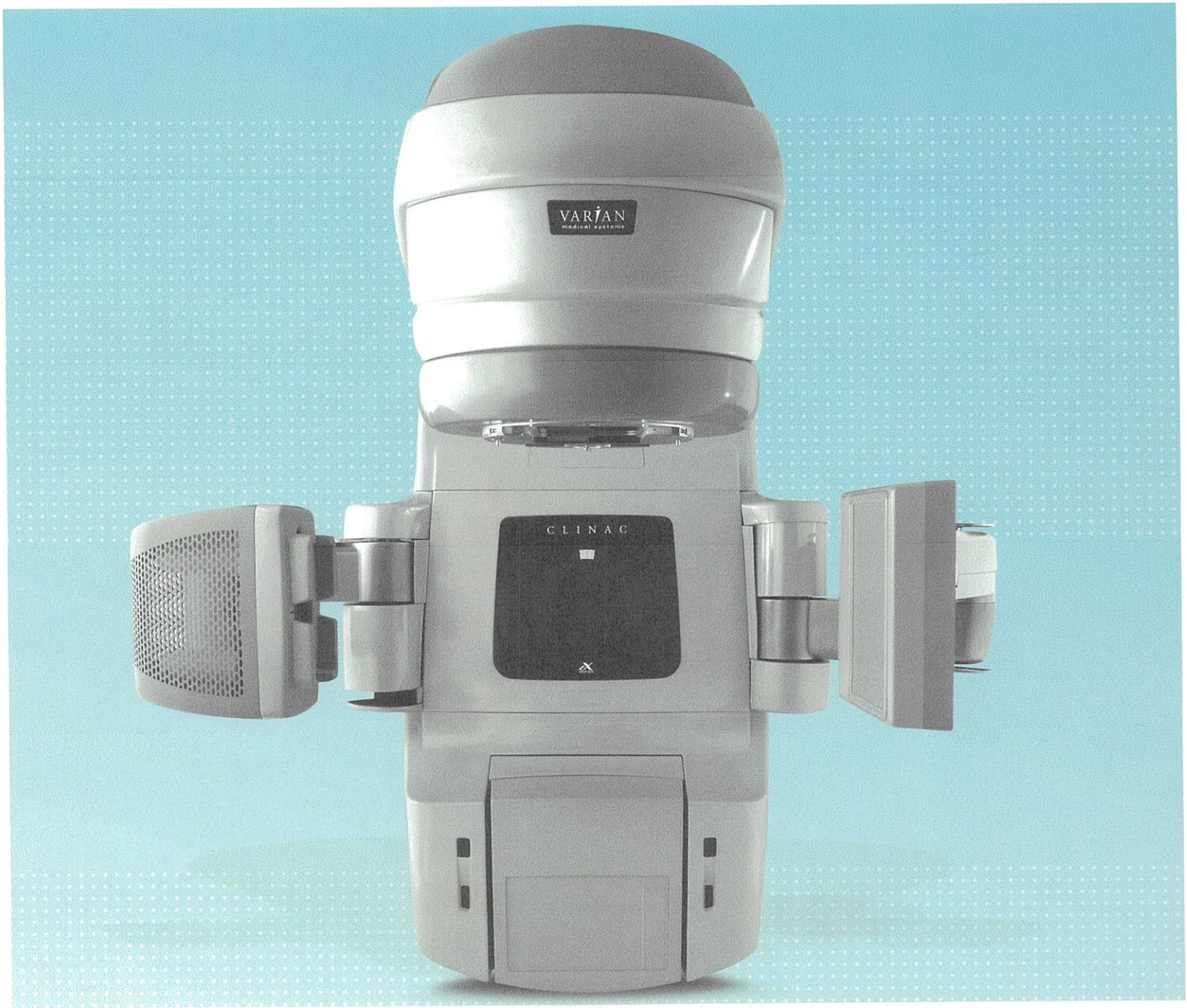
All services shall be performed by Varian or the third-party service provider under permits, licenses, authority, supervision, and control of Customer and its staff, including licensed physicists, physicians, and other qualified healthcare professionals. Customer and its staff shall have the requisite permits (including applicable certificates of need), licenses, and authority to oversee and have such services performed on Customer's behalf.

6.0 Service Offerings

Varian reserves the right, at its sole discretion, to change the designated services which are offered under the Program at any time without prior notice. Varian will work with Customer to offer a mutually acceptable alternative or apply affected credits toward other offerings within the Program.

CLINAC iX ACCELERATOR

INNOVATIVE TECHNOLOGY THAT GROWS WITH YOU



SPECIFICATIONS

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medical systems

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SPECIFICATIONS

Introduction

This specification sheet provides information for the Clinac® iX linear accelerators.

1.0 Photon Beams

1.1 Energy: Up to three photon beams may be selected in accordance with the beam combinations listed in Table 1. The base Clinac iX configuration features a single photon energy. See High-Intensity Mode configuration table in section 36 under Additional Options for available HIM beam configuration.

Table 1: Available X-ray Beam Energy Combinations (MV)

Beam I	Optional Beam II BJR 17/BJR 11	Optional SRS Beam[6]	Optional High-Intensity Mode 6X[5,6]	Optional High-Intensity Mode 10X[5,7]
4	10/10	N/A	N/A	N/A
6	10/10	6	Yes	Yes
6	16/15	6	Yes	No
6	23/18	6	Yes	No
6	25/20	6	Yes	No
8	16/15	N/A	N/A	N/A
8	23/18	N/A	N/A	N/A

Table 2: X-ray Beam Performance

Nominal Energy (MV) BJR 17	Nominal Energy (MV) BJR 11	D_{max} (cm)[1]	% Depth Dose at 10 cm Depth[1]	Flatness[2]	Symmetry[3]
4	4	1.20 ± 0.20	63.0 ± 1.0	± 3.0 %	2.0 %
SRS6	SRS6	1.60 ± 0.15	66.9 ± 1.0	± 3.0 %	2.0 %
6	6	1.60 ± 0.15	67.2 ± 1.0	± 2.5 %	2.0 %
6 HI	6 HI	1.50 ± 0.15	64.3 ± 1.0	Footnote 8	2.0%
8	8	2.0 ± 0.15	71.0 ± 1.0	± 2.5 %	2.0 %
10	10	2.40 ± 0.15	74.1 ± 1.0	± 2.5 %	2.0 %
10 HI	10 HI	2.34 ± 0.15	71.8 ± 1.0	Footnote 8	2.0 %
16	15	2.90 ± 0.15	77.4 ± 1.0	± 2.5 %	2.0 %
23	18	3.30 ± 0.15	80.2 ± 1.0	± 2.5 %	2.0 %
25	20	3.50 ± 0.15	82.0 ± 1.0	± 2.5 %	2.0 %

[1] Depth of ionization applies to 10 x 10 cm^2 field size measured at 100 cm Target-Skin Distance (TSD).

[2] Flatness is defined as the maximum variation from the mean dose delivered within the central 80% Full Width Half Maximum (FWHM) region measured at 100 cm TSD at a depth of 10 cm. The mean is the average of the maximum and minimum points within the central 80% FWHM region. The specification of ± 2.5% applies to both the radial and transverse axes of all square field sizes from 20 x 20 cm^2 to 40 x 40 cm^2, inclusive. A specification of ± 3.0% applies to all square field sizes between 10 x 10 cm^2 and 20 x 20 cm^2.

[3] Symmetry is defined as the maximum difference between the X-ray dose delivered to any two points which are equidistant and symmetrical about the central axis and within the central 80% FWHM region measured at 100 cm TSD at a depth of 10 cm. This specification applies to the radial and transverse axes of all square field sizes from 10 x 10 cm^2 to 40 x 40 cm^2.

[4] Beam matching between 6 MV Beam I and the optional SRS 6 MV beam is provided and defined as follows:

[4.1] The depth of D_{max} along the central axis in a water phantom at 100 cm TSD is within ± 1.5 mm of the average of the two beams. The relative dose at 10 cm depth on the central axis in a water phantom at 100 cm TSD is within ± 0.5% of the average of the two beams.

[4.2] The dose at any point within the central 80% of the field along the major axes, normalized to the central axis, is within ± 1 percentage point of the average of the two beams. This specification applies to beams at 10 cm depth and field dimensions of 10 x 10 cm^2 and above.

[5] Refer to section 27 for details.

[6] One of the two modes can be selected: the SRS Beam or the Optional High-Intensity Mode 6X

[7] Optional High-Intensity Mode 10X replaces the Optional BEAM II

[8] The High-Intensity Modes specifications refer to the Field Intensity instead of Flatness. Refer to Section 36 for details

1.2 Dose Rate: For Beam I and optional Beam II, the dose rate can be selected in fixed steps of 100 MU/min up to a maximum dose rate of 300, 400, or 600 MU/min. For the optional SRS 6 MV Beam, the dose rate is 800 MU/min. Refer to section 5.0 under Additional Options for further information. An optional low dose rate mode is also available. Refer to section 6.0 under Additional Options for further information.

Photon Energy (BJR17)	Photon Dose Rate (MU/min)
4 MV (optional)	50, 100, 150, 200, 250
6 -25 MV (standard)	100, 200, 300
6-25 MV (optional)	100, 200, 300, 400
6-25 MV (optional)	100, 200, 300, 400, 500, 600
SRS 6 MV (optional)	800
6-25 MV (optional)	5, 10, 15, 20, 40, 60, 80
An "MU" is defined for these specifications as one centiGray delivered to a tissue-equivalent material at D_{max} and 100 cm SSD, with a 10 x 10 cm^2 field size.	

1.3 Maximum Field Intensity at D_{max}: The intensity at the depth of maximum buildup (D_{max}) does not exceed 109% of the central axis intensity anywhere in the measurement plane of any field size.

1.4 Leakage: The X-ray absorbed dose does not exceed 0.1% of the absorbed dose at the isocenter measured anywhere in the patient plane outside of the maximum useful beam. The neutron dose equivalent (Sievert) does not exceed 0.2% of the X-ray absorbed dose (Gray) at the isocenter.

The patient plane is defined as a circular plane with a radius of 2 m, centered on and perpendicular to the axis of the beam at isocenter. The X-ray measurements may be averaged over an area not to exceed 100 cm^2. In all other directions, the X-ray absorbed dose 1 m from the path of the electrons between the electron gun and the target or electron window does not exceed 0.1% of the absorbed dose at isocenter.

1.5 Collimator Transmission: The X-ray transmission of the upper and lower movable collimator does not exceed 0.5%.

1.6 Spot Size: The electron spot size is less than 3 mm in diameter at the X-ray target.

1.7 Penumbra: Less than 4.0 mm at leaf end. Penumbra is defined as 20-80% leaf end, measured using 10 cm x 10 cm field size, 6 MV at D_{max}, 100 cm SAD.

* For additional IEC performance specifications for the MLC, please refer to 1000056876-01 Clinac IEC accompanying documents 60976 Functional Performance Characteristics V 9.0.

1.8 Field Size: The field size is continuously variable from 0.5 x 0.5 cm^2 to 40 x 40 cm^2 as measured at 100 cm TSD. Field sizes larger than 35 x 35 cm^2 are limited to a 49.5 cm diagonal (the diameter of the circle defined by the primary collimator at 100 cm TSD). The field size is defined as the distance along the radial and transverse axes between the points of 50% density on an X-ray film taken at 100 cm TSD with minimum buildup. The optional SRS 6 MV beam field size is limited to a maximum of 15 x 15 cm^2.

1.9 Upper and Lower Independent Collimators:
Asymmetrical collimation is provided for upper and lower sets of collimators.

1.9.1 Independent, asymmetrical Upper Collimator travel range: 30 cm (-10 cm to +20 cm relative to central axis)

1.9.2 Independent, asymmetrical Lower Collimator travel range: 22 cm (-2 cm to +20 cm relative to central axis)

2.0 Electron Beams

2.1 Clinac iX offers a range of electron energy choices. Clinac iX comes with four (4), five (5), or six (6) electron beams that can be selected in accordance with the specifications and combinations listed in Table 2. The specifications apply to a 15 x 15 cm^2 electron applicator and 100 cm TSD.

2.2 Dose Rate:

Electron Dose Rate (MU/min)
100, 200, 300 (standard) 100, 200, 300, 400 (optional) 100, 200, 300, 400, 500, 600, 1000 (optional) 888 AT 1.6 M (OPTIONAL FOR 6 MEV AND 9 MEV)
An optional high electron dose rate is available at 6 MeV and 9 MeV electron energies. Refer to section 1.1 in Additional Options for further information.

2.3 Field Sizes: A set of five electron applicators is provided, with selection from 6 sizes: 6 x 6 cm^2, 6 x 10 cm^2, 10 x 10 cm^2, 15 x 15 cm^2, 20 x 20 cm^2, and 25 x 25 cm^2. Field sizes are defined at the isocenter plane, 5 cm from the final field-defining aperture. Hardware is provided to facilitate the fabrication of custom final field defining apertures.

Electron Energy Groups

Table 1: Electron Energy Groups

4-Electron Groups (standard)	Nominal Electron Energy (MeV)	5-Electron Groups (optional)	Nominal Electron Energy (MeV)	6-Electron Groups (optional)	Nominal Electron Energy (MeV)
Group I Group II Group III	4, 6, 9, 12 6, 9, 12, 15 6, 9, 12, 16	Group I Group II Group III Group IV	6, 9, 12, 15, 18 4, 6, 9, 12, 15 6, 9, 12, 16, 20 4, 6, 9, 12, 16	Group I Group II Group III	4, 6, 9, 12, 15, 18 6, 9, 12, 15, 18, 22 4, 6, 9, 12, 16, 20

Table 2: Electron Beam Performance

	Depth of Ionization[1]				Depth of Dose Value		Flatness[3]	Symmetry[4]
Nominal Energy	90%	80%	50%	30%	85%/2 (cm)[2]	80% (cm)		(MU/min)
4MeV	0.89 ±0.1 cm	1.00 ±0.07 cm	1.26 ±0.1 cm	≤2.00	0.61	1.00	±7%	2%
6 MeV	1.71 ±0.1 cm	1.90 ±0.07 cm	2.32 ±0.1 cm	≤2.60	.93	1.95	±4.5%	2%
9 MeV	2.68 ±0.1 cm	2.95 ±0.07 cm	3.52 ±0.1 cm	≤3.90	1.45	3.00	±4.5%	2%
12 MeV	3.77 ±0.1 cm	4.15 ±0.07 cm	4.91 ±0.1 cm	≤5.40	2.02	4.25	±4.5%	2%
15 MeV	4.67 ±0.1 cm 3	5.20 0.07 cm	6.19 ±0.1 cm	≤6.80	2.57	5.35	±4.5%	2%
16 MeV	4.87 ±0.1 cm	5.45 ±0.07 cm	6.52 ±0.1 cm	≤7.30	2.67	5.60	±4.5%	2%
18 MeV	5.29 ±0.1 cm	6.09 ±0.07 cm	7.41 ±0.1 cm	≤8.15	3.04	6.40	±4.5%	2%
20 MeV	5.52 ±0.1 cm	6.57 ±0.07 cm	8.16 ±0.1 cm	≤9.30	3.26	6.90	±4.5%	2%
22 MeV	5.59	6.82	8.65	≤10.00	3.37	7.20	±4.5%	2%

[1] Depth of Ionization values apply to 15 x 15 cm² applicator field size. Electron measurements are made at 100 cm TSD and a nominal 5 cm gap between the bottom of the open field aperture and the water surface. Measurements are defined with a 0.1 cm³ PTW ionization chamber, or equivalent.

[2] D85%/2 is the depth at which flatness and symmetry are specified. Values are defined at 100 cm TSD using a 15 x 15 cm² electron applicator field size. No inverse square corrections are assumed.

[3] Flatness is defined as the maximum variation from the mean electron ionization within the central 80% FWHM region. The mean is the average of the maximum and minimum points within the central 80% FWHM region. This specification applies to square electron applicator field sizes from 10 x 10 cm² to 25 x 25 cm² measured on the radial and transverse axes. A specification of ±5% is applied to 6 MeV for 10 x 10 cm² applicator field size. The diagonal flatness specification for the above applicator field sizes is ±5%, except 4 MeV. The 4 MeV flatness specification applies only to the radial and transverse axes.

[4] Symmetry is defined as the maximum difference between the ionization delivered to any two points that are equidistant and symmetrical about the central axis and within the central 80% FWHM region. This specification applies to the plane normal to the central axis and to square electron applicator field sizes from 10 x 10 cm2 to 25 x 25 cm2, except 4 MeV. The 4 MeV specification applies only to the radial and transverse axes.

2.4 X-ray Contamination: For nominal energies up to 10 MeV, the X-ray contamination is less than or equal to 2%. For nominal energies greater than 10 MeV, the X-ray contamination is less than or equal to 5%. This specification is defined in water with a 100 cm TSD, at a depth of 10 cm beyond the depth of the 10% isodose line, with a 15 x 15 cm^2 electron applicator.

2.5 Patient Plane Leakage: Electron leakage is less than or equal to 2% of the absorbed dose on central axis. This specification is defined in air, at 100 cm TSD with 1 cm buildup, in an area 4 cm outside the 50% isodose line.

2.6 Applicator Side Plane Leakage: The leakage does not exceed 9% of central axis ionization at D_{max}. This specification is defined along a plane coincident to the side of the electron applicator, measuring 10 cm up from the bottom of an applicator.

3.0 Accelerator System Features

3.1 RF Power Source: Varian's high-efficiency klystron is operated in linear amplifier mode and driven by a solid-state oscillator, with power and frequency automatically locked to required operating levels.

3.2 Electron Gun: The unique triode design of the electron gun allows exact and safe control of electron beam levels in the accelerator. It provides the ability to rapidly and precisely vary output dose rate and turn the beam on or off. This capability is especially important in dynamic dose delivery, where high-speed beam gating and elimination of dark current during beam-off time periods is important. The gun is demountable, resulting in minimum system downtime during replacement.

3.3 Standing Wave Accelerator: The Varian sidecoupled cavity accelerator structure has been developed for optimum use of RF power and narrow output spectrum at the design energy for the guide. Spectrum characteristics, with and without use of an energy switch, have been matched to the transport requirements of the downstream bend magnet to ensure high dose rate capability.

3.4 Patented Non-Contacting Energy Switch: In each of the X-ray treatment modes where this is utilized, the switch functions to change the ratio of electric fields between two sections of the accelerator guide. This is done in such a way as to ensure a tight energy spectrum over a wide range of photon energies, with consequent high output capability and stable operation.

3.5 Solenoid: A full-length magnetic solenoid assures high electron beam transmission through the accelerator structure, resulting in reduced stray-radiation and efficient use of RF power.

3.6 Bend Magnet: This patented 270° bend magnet is fully achromatic, with one-to-one imaging for superior transport and control of the beam from the accelerator. The magnet is also equipped with energy slits fixed at ±3%, enabling output beams of consistently high quality and precise dosimetry.

3.7 Radial and Transverse Steering Systems: These systems ensure basic beam alignment in all modes, as well as gantry orientation. Ion chamber sensors, in conjunction with the steering coils and servo electronics, maintain beam symmetry changes to within 2% under all conditions.

4.0 Dosimetry System

The following specifications apply for both independent dosimetry channels:

4.1 Reproducibility with Energy: Precision of the dosimetry measurement system for each energy is ±1% or ±1 MU, whichever is greater, at a fixed dose rate.

4.2 Dose Calibration Linearity versus Total Dose:

The linearity is as follows:

- 1% for 20-999 MU
- 2% for 10-20 MU
- 3% for 5-10 MU

4.3 For photon Beam I and optional Photon Beam II, doses up to 999 MU can be delivered. For the optional SRS 6 MV Beam, doses up to 6,000 MU per field can be delivered. For all electron beams, doses up to 999 MU (4,000 MU optional) can be delivered. For photon arc beams, doses up to 999 MU (1,999 MU optional) can be delivered.

4.4 Reproducibility of Dose vs. Gantry Angle: The precision of the dosimetry system is ±1.5% at any gantry angle from 0 to 360 degrees.

4.5 Reproducibility with Dose vs. Dose Rate: The dose rate dependence of the dosimetry system with variations in dose rate from minimum to maximum is less than ±1% or ±1 MU, whichever is greater.

4.6 Beam-Off Interlocks: The radiation beam automatically terminates in the event of any of the following:

- Monitor Units 1 complete
- Monitor Units 2 complete
- Treatment time complete
- Radial symmetry exceeds 2%
- Transverse symmetry exceeds 2%
- Excess dose rate
- Excess dose per pulse
- Excess dose per degree
- Loss of ion chamber bias voltage
- Under dose rate

5.0 Mechanical Features

5.1 Gantry

5.1.1 Rotation Range: ±185° from the vertical

5.1.2 Target to Axis Distance: 100 ±0.2 cm

5.1.3 Mechanical and radiation isocenter accuracy - Standard beam isocenter accuracy (Optional Fine beam isocenter accuracy available, see Additional Options section 37)

5.1.3.1 ≤1 mm radius sphere for gantry and collimator axes without Retractable Beam Stopper

5.1.3.2 ≤2mm radius sphere for gantry, collimator and couch axes without Retractable Beam Stopper

5.1.4 Position Indicators

5.1.4.1 Scale Conventions

5.1.4.1.1 IEC Scale convention per IEC Publication IEC 60601-2-1

5.1.4.1.2 IEC 1217 Scale convention per IEC Publication IEC 61217

5.1.4.1.3 Varian Scale

5.1.4.2 Digital Readouts

- Accuracy: ±0.5°
- Resolution: 0.1°

5.1.4.3 Mechanical Scales:

- Accuracy: ±1.0°
- Resolution: 1.0°

5.1.5 Target to Surface Distance Indicators

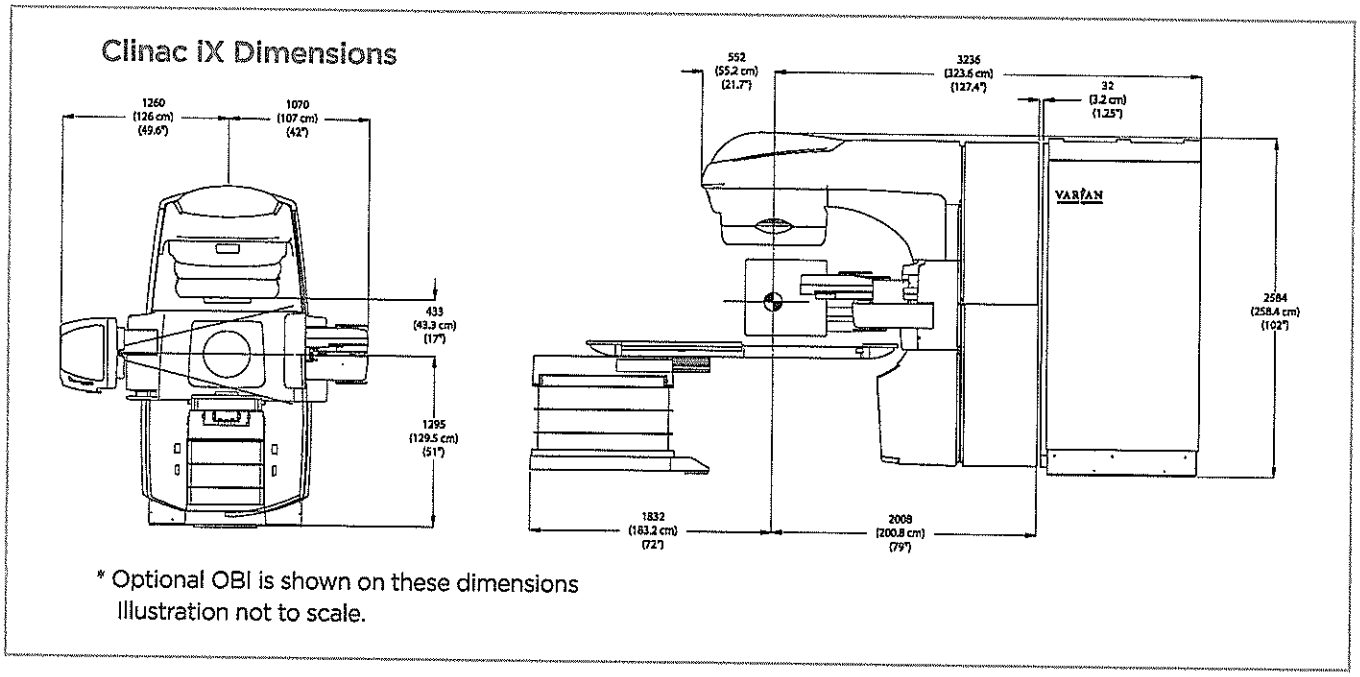
5.1.5.1 Optical Distance Indicator:

- Accuracy: ±0.1 cm at 100 cm
  ±0.5 cm at 70 cm and 156 cm
- Resolution: 0.5 cm

5.1.5.2 Mechanical Front Pointer:

- Range: 70-110 cm
- Accuracy: ±0.1 cm at 100 cm
- Resolution: 0.2 cm

5.1.6 Isocenter Height (nominal): 129.5 cm



* Optional OBI is shown on these dimensions
Illustration not to scale.

5.2 Collimator

5.2.1 Extended Rotation Range: ± 165°

5.2.2 Position Indicators (gantry and console)

5.2.2.1 Digital Readouts:

- Accuracy: ± 0.5°
- Resolution: 0.1°

5.2.2.2 Mechanical Scales:

- Accuracy: ± 1.0°
- Resolution: 1.0°

5.3 Field Size Collimation

5.3.1 Range: The field size is continuously variable from 0.5 x 0.5 cm^2 to 40 x 40 cm^2 as measured at 100 cm TSD. Field sizes larger than 35 x 35 cm^2 are limited to a 49.5 cm diagonal (the diameter of the circle defined by the primary collimator at 100 cm TSD). The field size is defined as the distance along the radial and transverse axes between the points of 50% density on an X-ray film taken at 100 cm TSD with minimum buildup.

5.3.2 Position Indicators

- Accuracy: ± 0.2 cm
- Resolution: 0.1 cm

5.3.3 Light and X-ray Field Coincidence: The field-defining light coincides to within 1.5 mm of the 50% isodensity line on an X-ray film. This is defined at 100 cm TSD with minimum buildup for any field size.

5.4 Exact® Couch with Indexed Immobilization® and the IGRT Couch Top

5.4.1 The Exact Couch is standard with Clinac CX accelerators. (Specifications and standard vs. optional accessories for the Exact Couch are provided on specification sheet RAD 1951A.)

5.4.2 Specifications and standard versus optional accessories for Exact IGRT couch top are provided in Specifications Sheet RAD 2661.

5.4.3 Motion Controls

The hand pendants and the couch side panels provide a variable speed control.

- Two Hand Pendants control both Clinac CX and Exact Couch
  All axes of the Exact Couch can be moved simultaneously through the pendants
- Two Couch Side Panels

5.5 Compact stand assembly

5.5.1 Single access and through-door viewing of all gas and water system status indicators

6.0 4D Integrated Treatment Console

The 4D Integrated Treatment Console provides a streamlined front end to the Clinac iX delivery system. The console integrates use of the Clinac iX accelerator, Millennium™ MLC (MLC 80 and MLC 120), and MV imager into one application on a single workstation. For image-guided radiotherapy using kV images, the console is used in combination with the On-Board Imager® kV imaging system workstation. The 4D Integrated Treatment Console uses a DICOM RT interface to communicate with the ARIA® oncology information system and other information system databases.

7.0 Accessories

The following accessories are included as standard with Clinac iX and the Exact Couch:

7.1 Collimator Accessories:

- Interface Mount
- Accessory Mount
- Port Film Graticule
- 4-Way Wedge Set (four wedges 15°, 30°, 45°, 60°)
- Five Electron Applicators: A set of five electron applicators is provided, with selection from 6 sizes: 6 x 6 cm^2, 6 x 10 cm^2, 10 x 10 cm^2, 15 x 15 cm^2, 20 x 20 cm^2, and 25 x 25 cm^2.
- Custom Aperture Fabrication Hardware
- Mechanical Front Pointer (holder and 4 rods)
- Drilled Star or solid block trays (Qty 10-0.635 cm thickness)

7.2 Accessory Spare Parts Kit

ADDITIONAL OPTIONS

1.0 Treatment Procedures

1.1 High Dose Total Skin Electron Mode: The Clinac iX accelerator is capable of delivering electron treatments at high dose rates for the purpose of total body skin irradiation with electrons. The dose rate at 1.6 m is 888 MU/min, corresponding to nominally 2,500 MU at isocenter. This mode is available in 6 MeV or 9 MeV.

1.1.1 X-ray contamination at calibration point is <1%.

1.1.2 Symmetry at isocenter is ±2%.

1.1.3 Integrated dose monitor: 1 to 9,000 MU.

1.1.4 Exposure time: 0.1 to 99.9 min.

1.2 Total Body Electron Mode: Delivers 9,000 MU at isocenter with all normal machine safety and dosimetry interlocks operational, and delivers standard energies at standard dose rate ranges.

1.2.1 Special TBE accessory tray is provided.

1.2.2 All beams are calibrated at machine isocenter.

1.2.3 Integrated dose: 1 to 9,000 MU.

1.2.4 Exposure time: 0.1 to 99.9 min.

1.3 Total Body Photon X-ray Mode:

Delivers 9,000 MU at isocenter with all normal machine safety and dosimetry interlocks operational, and delivers standard energies at standard dose rate ranges. Special TBI accessory tray is provided.

1.3.1 All beams are calibrated at machine isocenter.

1.3.2 Integrated dose: 1 to 9,000 MU.

1.3.3 Exposure time: 0.1 to 99.9 min.

2.0 Auto Field Sequencing

Auto Field Sequencing (AFS), for use with the 4D Integrated Treatment Console (refer to 4D Integrated Treatment Console Product Brief, RAD 2768A for information and specifications), is optional with the Clinac iX accelerator, and provides automated delivery of multiple coplanar and non-coplanar fields. With this time saving feature, Clinac iX automatically acquires the mode up signal and machine setup information from the 4D Integrated Treatment Console, and then allows the operator to remotely move the gantry, jaws, collimator, and Exact Couch axes (with purchase of optional Remote Couch Motion capability) between coplanar and noncoplanar treatment fields. This feature eliminates the need to go back into the treatment room to alter the machine setup between treatment fields. AFS works in concert with the Millennium MLC to deliver both static and dynamic plans efficiently and smoothly. (Refer to Auto Field Sequencing, RAD 6045.)

3.0 Dynamic Treatment Procedures

3.1 Standard Photon Arc Mode and optional Electron Arc Mode: The Clinac iX accelerator is capable of delivering the following dose over a preset gantry rotation of up to 360 degrees or any fraction thereof. MU per degree (MU/DG) is automatically computed based on the preset total dose and the preset arc segment.

Photon Beam I	0.30 MU to 20 MU per degree
Photon Beam II (optional)	0.30 MU to 20 MU per degree
SRS 6 MV Beam (optional)	0.30 MU to 60 MU per degree
All electron beams	0.30 MU to 20 MU per degree
High-Intensity Mode	0.30 MU to 60 MU per degree

31.1 Precision: During Arc treatment, the position of the gantry deviates no more than 0.5 degrees from the desired instantaneous gantry angle, and the dose deviates no more than 0.20 MU from the desired instantaneous total dose, as specified by the user-preset total dose and arc segment.

If these tolerances are exceeded, the dose delivery is suspended and the gantry position is targeted to the position dictated by the actual dose delivered. When the gantry is again within 0.5 degrees of the desired position, the treatment will resume. The Dose Position Interlock (DPSN) is asserted if the gantry is not positioned within 0.5 cm of the desired position within 3 seconds.

The DPSN will terminate the beam immediately if the position deviates 3.0 degrees or more from the desired position, or the dose delivered exceeds 0.45 MU for dose rates less than 600 MU/min (0.54 MU for dose rate 600 MU/min and 0.72 MU for dose rates greater than 600 MU/min, applies to version 7.8 and above).

3.1.2 Arc Dose Rate: The dose rate during a dynamic arc treatment is automatically modulated between zero and the ceiling dose rate selected in Physics Mode.

3.1.3 Arc Direction: The Clinac iX may be programmed to perform arc therapy in either a clockwise or counterclockwise direction.

3.2 Enhanced Dynamic Wedge (EDW) Mode: Optional EDW can be used with either Beam I or optional Beam II. EDW utilizes Y-jaws to create wedge shaped dose distributions. Enhanced Dynamic Wedges of 10, 15, 20, 25, 30, 45, and 60 degrees are included, with up to 30 cm (wedge direction) by 40 cm field sizes. (Refer to Enhanced Dynamic Wedge Specification, RAD 1880C.)

4.0 Dynamic MLC Techniques

Intensity-modulated radiation therapy (IMRT) and conformal arc therapy are optional advanced dynamic procedures in which the leaves of the optional Millennium MLC move during treatment. Refer to MLC Dynamic Control Specification, RAD 5610B for additional information and specifications.

4.1 Arc Dynamic MLC allows delivery of MLC fields as a function of gantry arc angle, also known as conformal arc therapy. An MLC shape change every 2° is supported. The MLC shape is interpolated between the 2° control points.

4.2 Dose Dynamic MLC allows delivery of MLC fields as a function of percent dose delivered, also known as IMRT. Both dynamic IMRT (i.e., sliding window) and segmental IMRT (i.e., step-and-shoot) techniques are supported. Combinations of the two IMRT techniques also are supported. In addition, Dose Dynamic MLC enables treatment delivery with electronic compensation, in which MLC leaf motion simulates the dosimetric effect of a physical compensator.

5.0 Stereotactic Mode

The Clinac iX accelerator is capable of delivering stereotactic treatments at high dose rates and with remote couch motion. This mode is available with purchase of the optional SRS 6 MV photon beam. Both cone and MLC-based treatment delivery is supported. Beam flatness, symmetry, and other specifications can be found in Table 2, Photon Beams, on page 2.

5.1 Dose Rate: 800 MU per min at D_{max}

5.2 Maximum dose per field: 6,000 MU

5.3 Maximum field size: 15 x 15 cm^2

5.4 Maximum dose per degree for arc treatments: 60 MU per degree

5.5 Stereotactic Motion Disable

5.5.1 Mechanical couch locks

5.5.2 Electrical disable for gantry and couch

6.0 Low Dose Rate (LDR)

The Low Dose Rate option allows dose rate selection of 5, 10, 15, 20, 40, 60, 80 MU per min in addition to the standard dose rate set of 100-600 MU per min. The option is available for Beam I and optional Beam II.

Reproducibility vs. Dose Rate

- ≤10 MU/min: ±10%
- 15-20 MU/min: ±5%
- ≥40 MU/min: ±2%

Reproducibility vs. MU

- ≤10 MU: ±3%
- 15-20 MU: ±2%
- ≥20 MU: ±1%

7.0 Extended Programmable MU

Increases the maximum number of MU which can be associated and delivered for a single field (or subfield) for a static gantry IMRT delivery, up to 1999 MU.

8.0 Treatment Command Center

Ergonomic command center configuration places all control modules, monitors, and user interaction devices within easy reach of the operator. Direct access application selection simplifies the workspace by reducing the number of input devices (e.g., keyboard and mouse), while allowing continuous viewing of all applications.

9.0 In-Room Display

A high-resolution, flat screen, color display monitor is included for in-room display of Clinac iX accelerator parameters and patient-specific information.

10.0 Clinac iX Treatment Console Area Packaging

Compact packaging and cable management of Varian-provided workstations, control modules, and other ancillary devices for easy site preparation and enhanced treatment console area space management. A variety of packaging configurations are available for optimal utilization of the available space.

11.0 Millennium 80 Multileaf Collimator (MLC 80)

The MLC 80 offers 1.0 cm leaf resolution at isocenter for a 40 cm x 40 cm field. The Millennium MLC operates in static, dynamic, and conformal arc modes. The static mode provides efficient beam shaping for 3D conformal radiation therapy. The dynamic mode enables IMRT with both step-and-shoot and sliding window delivery. The conformal arc mode enables conformal arc therapy in which the leaves always conform to the outer boundary of the target as the gantry rotates around the patient.

Refer to the MLC specifications table on page 12 for detailed information.

12.0 Millennium 120 Multileaf Collimator (MLC 120)

The MLC 120 offers 0.5 cm leaf resolution at isocenter for the central 20 cm of the 40 cm x 40 cm field. The Millennium MLC operates in static, dynamic, and conformal arc modes. The static mode provides efficient beam shaping for 3D conformal radiation therapy. The dynamic mode enables IMRT with both step-and-shoot and sliding window delivery. The conformal arc mode enables conformal arc therapy in which the leaves always conform to the outer boundary of the target as the gantry rotates around the patient.

Refer to the MLC specifications table on page 12 for detailed information.

Millennium 80 and 120 Multileaf Collimators (MLC 80, MLC 120)

All scale references below are per IEC 61217

Performance Specifications	Specification	
	MLC 80	MLC 120
MLC leaf end position accuracy at all leaf positions relative to the collimator axis[1] MLC leaf end position reproducibility at all leaf positions relative to the collimator axis[1]	±1 mm ±0.5 mm	±1 mm ±0.5 mm
Descriptive Specifications	**Specification**	
	MLC 80	**MLC 120**
Number of leaves	80	120
Central high resolution leaf width (central 20 cm, leaf width projected at isocenter)	10 mm	5 mm
Outboard leaf width (outer 20 cm, leaf width projected at isocenter)	10 mm	10 mm
Maximum static field size[3]	40 cm x 40 cm	40 cm x 40 cm
Maximum static aperture field size[3]	30 cm x 40 cm	30 cm x 40 cm
Maximum IMRT field size[3]	34 cm x 40 cm	34 cm x 40 cm
Maximum leaf retract position	20.1 cm from centerline	20.1 cm from centerline
Maximum leaf extend position	-20.0 cm over beam centerline	-20.0 cm over beam centerline
Maximum displacement between adjacent leaf ends at a single carriage position	15 cm	15 cm
Average leaf transmission[2]	< 2.5%	< 2.5%
Maximum interleaf leakage[2]	< 3.0%	< 3.0%
Maximum combined collimator leakage (jaws and MLC closed), all energies[6]	< 0.02%	< 0.02%
Mean leakage-area product per Gy delivered[7]	< 0.15 mGy-m^2	< 0.15 mGy-m^2
Maximum carriage speed	Variable from 0 to 1.2 cm/sec	Variable from 0 to 1.2 cm/sec
Maximum leaf speed	Variable from 0 to 2.5 cm/sec	Variable from 0 to 2.5 cm/sec
Relative leaf accuracy, leaf end to leaf end	0.25 mm	0.25 mm
Minimum static leaf gap (leaf end to leaf end)	0.0 mm	0.0 mm
Minimum dynamic leaf gap (leaf end to leaf end)	0.5 mm	0.5 mm
Leaf end penumbra at D_{max}[4,5]	< 4.0 mm	< 4.0 mm
Leaf interdigitation	Yes	Yes
Independent leaf and carriage motion	Yes	Yes

1 Projected at the isoplane.

2 Leakage specified as percentage of total dose per field or dose segment, measured with jaws fully retracted, using 4 MV through 10 MV energy configurations and 6X and 10X High Intensity energy configurations. Significant reduction in interleaf transmission is provided with static jaw shielding outside the treatment aperture or dynamic jaw tracking of aperture.

3 Maximum physical field size, projected at the isoplane.

4 Penumbra defined as 20-80% leaf end, measured using 10 cm x 10 cm field size, 6 MV at Dmax, 100 cm SAD.

5 For additional IEC performance specifications for the MLC, please refer to 1000056876-01 Clinac IEC accompanying documents 60976 Functional Performance Characteristics V 9.0.

6 Maximum combined collimator leakage includes MLC and jaws and is measured for all energies. Mean leakage is 0.01%.

7 Mean leakage-area product represents integral leakage dose over the combined aperture area defined by the MLC and jaws. Leakage area product is calculated based on using 1 Gy dose output, a 5 cm radial MLC aperture and a jaw aperture of 10.4 cm x 11.6 cm.

13.0 Large Field IMRT (LFIMRT):

Allows the maximum allowable IMRT field to be delivered as a single planned field.

14.0 Custom Coding

Custom Coding provides Clinac iX system recognition of the presence of one or more beam-shaping accessories. Accessory recognition includes confirmation of the presence of a beam-shaping accessory in one of four possible accessory positions and identification of the type of accessory. Standard Varian beam-shaping accessories (e.g., 30-degree wedges) are identified by name. Custom beam-shaping accessories (e.g., blocks in Varian-provided block trays or custom final field defining apertures for electron applicator systems) are identified by a custom code for that accessory.

15.0 PortalVision aS500-II MV Imaging System

The PortalVision™ aS500-II is an MV imaging system that allows for verification of patient setups, treatment portals, and Portal Dosimetry.

The amorphous silicon detector has an active imaging area of 40 cm x 30 cm with a pixel resolution of 512 x 384. Image acquisition is supported before, during, and after treatment.

Match and Review IGRT software is included for image analysis.

A motorized, robotic arm is used to position and hold the detector.

Refer to PortalVision aS500-II Specification, RAD 2600B for information and specifications.

16.0 PortalVision aS1000 MV Imager

The PortalVision™ aS1000 is an MV imaging system that allows for verification of patient setups, treatment portals, and Portal Dosimetry.

The amorphous silicon detector has an active imaging area of 40 cm x 30 cm with a pixel resolution of 1024 x 768. Image acquisition is supported before, during, and after treatment.

Match and Review IGRT software is included for image analysis.

A motorized, robotic arm is used to position and hold the detector.

Refer to PortalVision aS1000 Specification, RAD 2553A, for information and specifications

17.0 MV Image Based IGRT

The MV-repositioning option offers 2D/2D Match and Marker Match (orthogonal paired images) using Digitally Reconstructed Radiographs (DRRs) or simulator images as reference and remote arm options for easy and safe operation. Uses remote couch motions for easy patient repositioning.

18.0 On-Board Imager kV Imaging System

The On-Board Imager provides high-quality kV images in the treatment room for target localization, patient positioning, and motion management. Refer to On-Board Imager Specification, RAD 9502G, for information and specifications. The following clinical capabilities are supported:

- Online setup correction based on either a kV-kV or kV-MV pair of radiographs
- Automated and manual alignment of a pair of radiographs to their reference images
- Acquisition of gated radiographs
- Online setup correction based on radiopaque markers
- Pretreatment verification of gated treatment portals using kV fluoroscopy
- Remote couch motion to correct patient setups
- Acquisition of Cone-beam CT (CBCT) scans

19.0 Remote Couch Motion

Control of couch motion at the treatment console for

- Corrective motions: small translations (in x, y, and z) and small rotation of the couch to fine-tune patient setups
- Planned motions: large rotations of the couch to sequence between non-coplanar fields and arcs

20.0 Real-time Position Management (RPM) System

The RPM system enables passive, real-time monitoring of patient respiration for the purpose of intrafraction motion management. Two gating systems are provided. Each system includes an infrared tracking camera, external marker block, and RPM system workstation. The RPM system supports gated treatment delivery and image acquisition on Clinac iX accelerators, gated simulation on compatible simulators (not all simulators are supported), and gated CT acquisition on compatible third-party CT scanners (not all CT scanners are compatible). Depending on the capabilities of the CT scanner, the RPM system supports both retrospective and prospective gating of CT scans. Refer to Real-time Position Management™ Specification, RAD 5616A for additional information.

21.0 LaserGuard Collision Detection System

LaserGuard™ monitors the MLC collimator face with a plane of infrared light that emanates from a device located within the gantry. Any object that intrudes into this area, called the protection zone, triggers an emergency stop of all accelerator motion.

Refer to Auto Field Sequencing with LaserGuard Specification, RAD 6046 for information and specifications.

22.0 Portal Dosimetry

Portal Dosimetry enables use of the MV imager to record the intensity patterns of IMRT and RapidArc® radiotherapy technology fields for pretreatment quality assurance of IMRT planning and delivery.

Refer to RAD 2559C.

Portal Dosimetry includes integrated image acquisition mode for recording of IMRT and RA fields and image viewing and analysis software. (*Use of the image analysis software is optimized when the reference dose image is calculated as dose to amorphous silicon. Currently, only the Eclipse™ treatment planning system offers this capability.)

Portal Dosimetry does not support High-Intensity Mode. Portal Dosimetry for RapidArc requires aS1000.

23.0 Silhouette® Edition

Clinac iX configuration that fits into an existing vault with a minimum room size of 16 feet (4.9 m) width by 19 feet (5.8 m) length. A variety of configuration and artistic panel options are available for creation of a customized radiation therapy treatment environment.

24.0 Laser Alignment System

- Wall and ceiling laser kits for patient positioning are available in red, blue and green color options
- A diode back pointer line laser is available

25.0 CCTV Camera System

This two-camera CCTV system is used for monitoring patient activity inside of the treatment room and patient activity from outside the room at the treatment console.

26.0 Patient Intercom System

The Patient Intercom System is used for audio communication with the patient in the treatment room from the treatment console area.

27.0 Retractable Beam Stopper

Transmission and leakage beyond the edge of the beam stopper, for field sizes up to 35 x 35 cm^2, does not exceed 0.1%. With larger fields, leakage over a limited region beyond the diagonals can exceed this value to a maximum of approximately 0.3% for a 40 x 40 cm^2 field.

28.0 Factory Beam Data Set

The optional Factory Beam Data Set is provided in hard copy and ASCII file formats. The data include physical wedge profiles, machine mechanical parameters, and representative beam data. Clinac iX accelerators are expected to match the data set per the Basic Beam Matching specifications in Section 5.0. The data set is not a substitute for the commissioning process but an aid to speed that process as well as data entry to treatment planning systems. The factory data are representative of the Clinac iX accelerator manufacturing standard, not the specific machine delivered.

29.0 SmartConnect Technology

All Clinac iX systems are SmartConnect® ready. SmartConnect remote access technology connects the Clinac iX accelerator with Varian Customer Support for expert assistance and online remote analysis. Diagnostic and Morning Checkout Logs can be viewed remotely and transferred to Varian for report generation and trend analysis.

30.0 RapidArc Radiotherapy Technology Treatment Delivery

RapidArc generates IMRT quality dose distributions in a single optimized arc providing optimized treatment conformity. Dose per degree can be varied per degree of gantry motion.

Includes Extended Programmable MU option:

- Standard beams: Up to 7200MU
- 6X - SRS: up to 9999 MU

(Refer to MLC Dynamic Control Specifications, RAD 5610B)

31.0 Gated RapidArc

Gated RapidArc treatment has the capability to simultaneously modulate aperture shape, dose rate, and gantry speed continuously through 360 degrees of gantry rotation, while triggering beam-hold to limit the beam-on time to those points in the respiratory cycle where the target volume is within acceptable motion limits during an arc beam delivery.

32.0 Motion Management Interface

The Motion Management Interface allows external devices to "gate the beam delivery" and/or initiate requests for "couch shifts". (Refer to RAD 10155)

33.0 ISOCAL

ISOCAL is a geometry calibration application that measures the treatment isocenter and the kV/MV rotation centers and their projections on the imagers over a 360° gantry rotation. It is used to correct subtle isocenter misalignments between the treatment plan, MV and kV Imagers. It uses a phantom with marker inserts of known geometry and a collimator plate insert. (Refer to RAD 10171)

34.0 Delta Couch Shift

Delta Couch is a system capability that allows the automatic application of predefined shifts to the couch position axes. Either Eclipse or 4D Integrated Treatment Console can provide the couch shifts that will be displayed on the In-Room monitor.

35.0 Integrated Conical collimator Verification and Interlock system

The Integrated Conical collimator Verification & Interlock system (ICVI) provides a robust and verifiable method of mounting and electronically verifying conical collimators. ICVI correlates the physically inserted conical collimator with the requirements of the treatment plan. An incorrect cone size triggers an interlock for increased patient safety. The ICVI includes 7 conical collimators of the following sizes: 4, 5, 7.5, 10, 12.5, 15 and 17.5 (all sizes in millimeters).

Fine beam Isocenter Accuracy is required for ICVI on Clinac iX.

36.0 High-Intensity Mode (HIM)

The 6X and 10X High Intensity energies have the same linear accelerator electron energies as their flattened beam counterparts, 6 MV and 10 MV, but their bremsstrahlung energy spectra are lower. The "6" indicates that the same accelerator electron energy for High Intensity is used as the electron energy for 6 MV standard/filtered beam energy. The following tables and graphs contrast the High Intensity beams with their flattened beam counterparts.

36.1 Available beam combinations for HIM

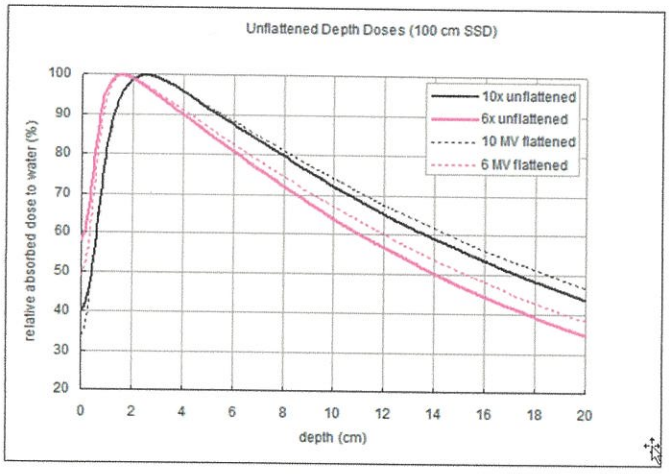
Beam I	Beam II	Beam III
6X	6X HIM	10X
6X	6X HIM	10X HIM
6X	6X SRS	10X HIM
6X	6X HIM	Any other single high energy

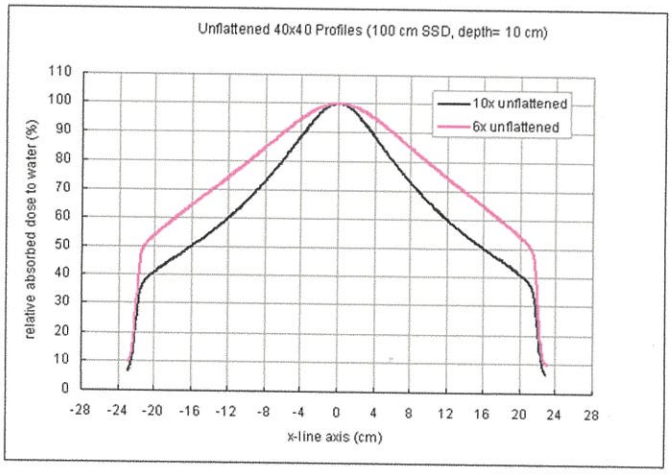
36.2 6 MV Flat Field Energy vs. 6X High Intensity Energy

Parameter	6MV Standard Flat Field	6X High Intensity
Bremsstrahlung target	Tungsten	Tungsten
Flattening filter	Copper	None
Maximum Dose rate on beam axis, at D_{max} (cGy/min)	600	1400
Mean electron energy on target	6.1	6.1
Dose at depth 10 cm (%)	67.2	64.3

36.3 10 MV Flat Field Energy vs. 10X High Intensity Energy

Parameter	10MV Standard Flat Field	10X High Intensity
Bremsstrahlung target	Copper	Tungsten
Flattening filter	Copper	None
Maximum Dose rate on beam axis, at D_{max} (cG y/min)	600	2400
Mean electron energy on target	10.5	10.5
Dose at depth 10 cm (%)	74.1	71.8





36.4 High-Intensity X-ray Energy Configurations

Performance Description	Specification							
	6X				10X			
D_{max} (cm)[1,7]	1.50 ± 0.15				2.34 ± 0.15			
% Depth dose at 10 cm Depth[1]	64.3 ± 1.0				71.8 ± 1.0			
Field intensity at 10 cm depth[6, 8]	± 2 cm	± 4 cm	± 6 cm	± 18 cm	±2 cm	± 4 cm	± 6 cm	± 18 cm
% dose (10 x 10 cm²)[2, 3]	97.5 ± 2.0	90.5 ± 2.0	-	-	95.5 ± 2.0	85.5 ± 2.0	-	-
% dose (40 x 40 cm²)[2, 3]	-	-	90.0 ± 2.0	59.5 ± 2.0			80.0 ± 2.0	45.0 ± 2.0
Symmetry (%)[4]	2.0				2.0			
Minimum dose rate (MU/min)[5, 7]	140				400			
Maximum dose rate (MU/min)[5, 7]	1,400				2,400			
Maximum field size	40 x 40 cm²				40 x 40 cm²			

[1] Depth of ionization applies to a 10 x 10 cm² field size measured at 100 cm source-to-surface distance (SSD).

[2] Relative dose and symmetry are specified at 100 cm SSD using 10 x 10 cm² and 40 x 40 cm² field sizes.

[3] Nominal field intensity distributions for high intensity X-ray energies are measured as shown in figures 3 and 4 below.

[4] Symmetry is defined as the maximum difference between the X-ray dose delivered to any two points which are equidistant and symmetrical about the central axis and within the central 80% FWHM region, measured at a depth of 10 cm.

[5] Dose output (MU) is defined as 1 cGy delivered to tissue-equivalent material at D_{max} and 100 cm SSD, with a 10 x 10 cm² field size. Measurement of dose output under conditions different than those defined herein may result in a higher or lower dose output than specified.

[6] Field intensity is relative to the central axis dose normalized to 100%.

[7] Maximum and minimum dose rates are specified at D_{max} and central axis. Dose rate will fall off lateral to the central axis in accordance with the lateral fall off of the field intensity.

[8] The % dose (30 x 30 cm²) is:
- for 6X at 4 cm (94.5 ± 2)%; at 14 cm (66.0 ± 2)%
- for 10X at 4 cm (88.5 ± 2)%; at 14 cm (53.0 ± 2)%

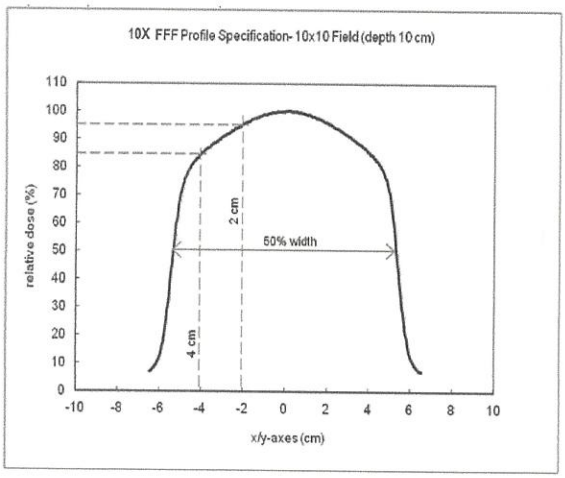


Figure 3: 10X FFF profile specification - 10 x 10 field (depth= 10 cm)

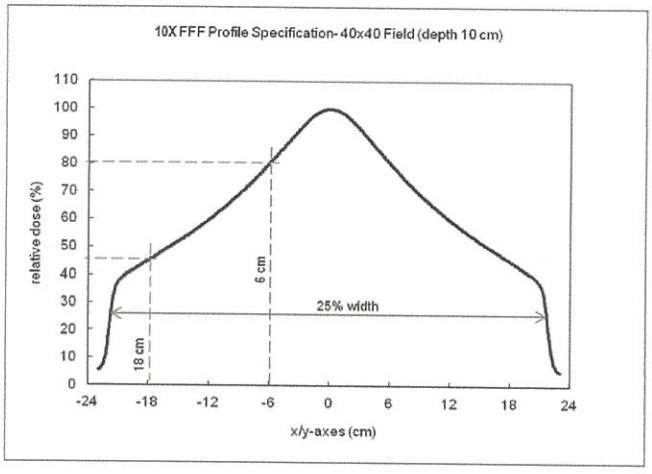


Figure 4: 10X FFF profile specification - 40 x 40 field (depth= 10 cm)

36.5 High-Intensity X-ray Energy Dosimetry System Specifications.

The following performance specifications apply to both the 6x and 10x energy configurations, unless noted otherwise

Performance Specifications	Specification
Reproducibility with energy: Dose output per monitor unit repeatability[1, 2]	± 1% or ± 1 MU
Dose output per monitor unit linearity vs. total dose[1] *(Note: diff spec for 6X 140 to 1400 and 10X 400-2400)*	6x: 1% for 50MU and above 10x: 1% for 100MU and above
Reproducibility of Dose versus Dose rate from minimum to maximum[1]	± 1% or 1MU whichever is greater
Reproducibility of Dose output per monitor unit vs. gantry angle	± 1.5%

[1] Measured with gantry at 0 per IEC 61217.

[2] Whichever is greater.

References

[1] Commissioning of Photon beams of a Flattening Filter-Free Linear Accelerator and the Accuracy of Beam Modeling using an Anisotropic Analytical Algorithm, Hrbacek, J., Lang, S., Klock, S., Int. J. Radiation Oncology Biol. Phys., 2011, in press.

[2] Dosimetric characteristics of unflattened 6 MV photon beams of a clinical linear accelerator: a Monte Carlo study, Appl Radiat Isot, 2007; 65(9).

37.0 Fine Beam Isocenter Accuracy

(52 inch base frame required)

37.1 Not available with Retractable Beam Stopper

37.2 <0.5 mm radius sphere for gantry and collimator

37.3 <0.75 mm radius sphere for gantry, collimator, and couch axes

Specifications subject to change without notice.

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Inspired by you, built by Varian


trueBEAM

Harnessing the latest innovations for the fight against cancer

Advances in radiation therapy are accelerating, creating new options for treatment and new sources of optimism in the fight against cancer. However, translating innovations into better outcomes for patients and clinics requires more than piecemeal adoption of new solutions. It requires an integration of capabilities on multiple levels.

The high-precision TrueBeam® radiotherapy system is uniquely capable of integrating hardware, software, treatment regimens, safety features, third-party solutions, new innovations, and support. The result is designed so that care teams can harness transformative technology and collaborate more effectively—so clinics can expand treatment options, grow their business, and accelerate new healthcare initiatives.

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Hardware

Software

Treatment Regimens

Partner Solutions

Comprehensive Support

New Innovations

Safety Features

Integrated capabilities for integrated care

It all comes together here.

TrueBeam has proven its capabilities in treating a broad range of cancer cases with exceptional speed and accuracy in top clinics around the world. However, its value extends far beyond its features and functions.

By bringing together diverse capabilities and resources, the TrueBeam system enables clinicians to focus on patients and treatments rather than systems and technologies. And that is designed to make it possible for clinics to deliver more comprehensive and effective care.

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Innovation, collaboration, outcomes… they're all connected

By serving as the focal point of multi-layered integration, the TrueBeam system facilitates the kind of innovation and collaboration that results in new treatment options for patients, new opportunities for clinics, and new advances in the fight against cancer. The net result is better outcomes for all stakeholders: patients, clinicians, researchers, and administrators.

Hardware, software, and safety features that work well individually—and better together.

Agile Architecture Controlled by Maestro

- Open, extensible architecture
- Maestro control system orchestrates components
- Synchronizes dosage, motion, and imaging for fast, efficient treatment

Fast, Accurate Imaging System

- Improved imaging of soft tissue targets through reduced motion artifacts
- Faster cone-beam CT (CBCT) acquisitions for breath-hold treatments than prior versions
- Improved visibility for certain targets with large motion

Flexible, High-Performance Beam Generation

- 0-8 electron energies and 7 photon energies
- High intensity modes
- Ability to tailor treatment with higher precision than prior versions

Gated RapidArc® Radiotherapy Technology to Account for Tumor Movement

- Expands RapidArc radiotherapy treatments to moving tumors
- Faster treatments of tumors that move with respiration
- Monitors patient treatment with triggered imaging

IDENTIFY™ system[1]

- Has three high precision stereo vision cameras with sub-millimeter accuracy[2] and with a refresh rate of 5-10 frames/second[3]
- Supports a non-invasive, markerless technique to track the surface of a patient in real time during treatment
- Accommodates a variety of treatments and techniques including stereotactic radiosurgery (SRS), stereotactic body radiotherapy (SBRT), and deep inspiration breath hold (DIBH)

HyperArc® High-Definition Radiotherapy

- High-quality, easy delivery of non-coplanar stereotactic radiosurgery (SRS) treatments
- Automated and simplified operations
- Safe, efficient, and accurate
- Designed for patient safety, treatment efficiency, and accuracy

Eclipse™ Treatment Planning System and RapidPlan® Knowledge-Based Planning

- Designed to increase physician productivity
- Customize plans leveraging advanced clinical expertise
- Develop plans for virtually every type of radiotherapy

PerfectPitch™ 6 Degrees of Freedom (6DoF) Couch

- More flexibility in patient setups
- Adds pitch and roll axes
- Potential to treat more patients with higher accuracy

Applied Intelligence Systems for Deeper Insights

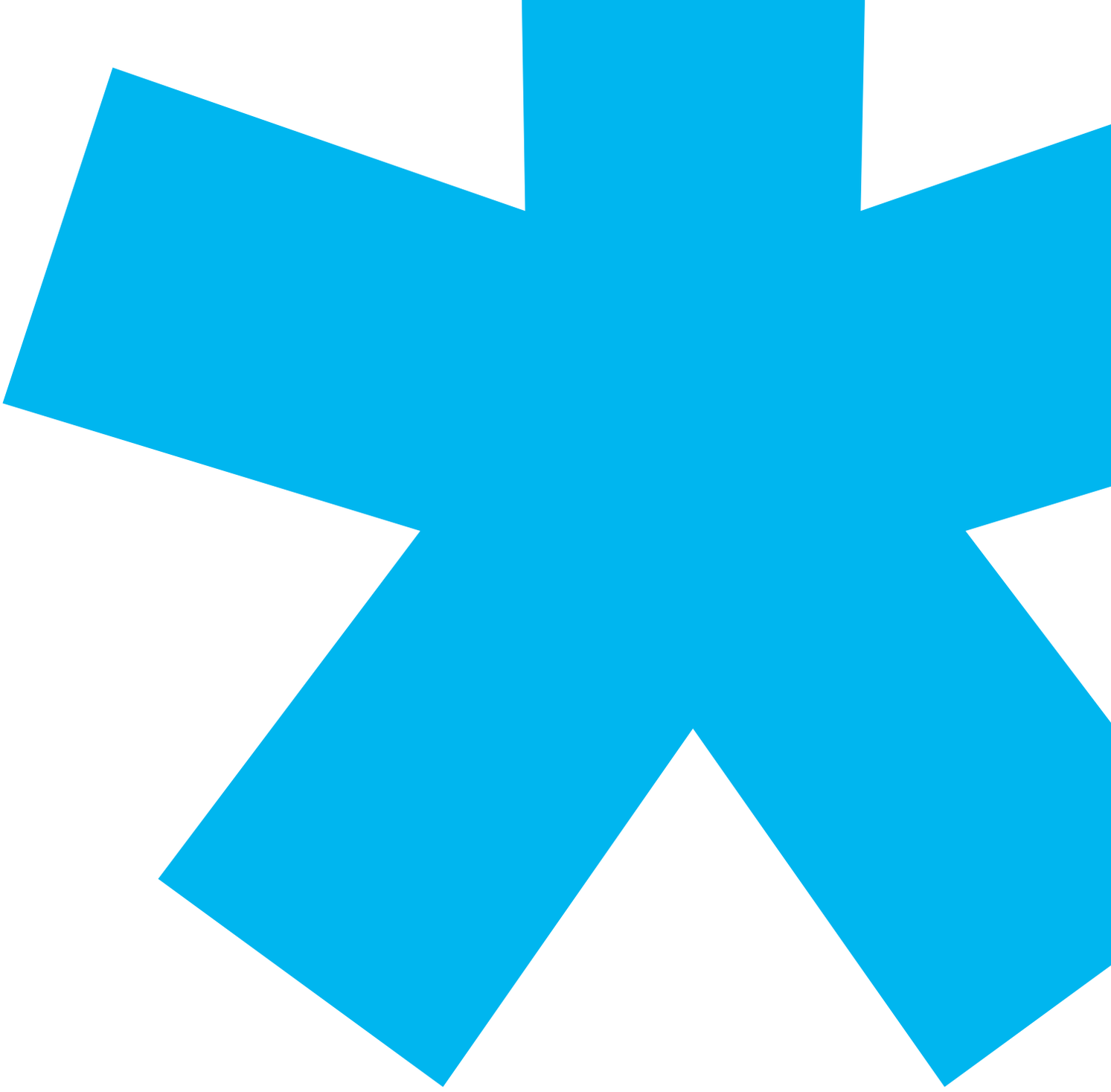
- Mine your data for actionable intelligence
- Consolidate scans and treatment plans for new insights
- Transition to data-based decision-making

ARIA® Oncology Information System

- Compare acute responses to treatment and long-term clinical outcomes
- Develop disease-specific clinical protocols
- Make confident decisions with rule-based decision support

Safety Capabilities to Enhance Confidence

- Simple, automated operation
- Multiple layers of safety built in
- Constant accuracy checks



An innovative ecosystem of oncology solutions.

We are elevating cancer care through ingenuity.

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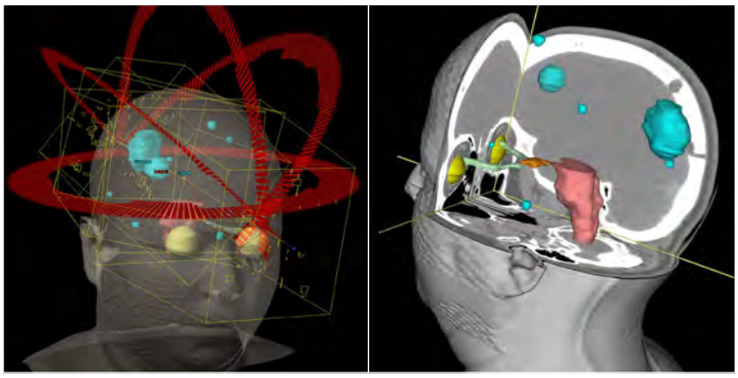
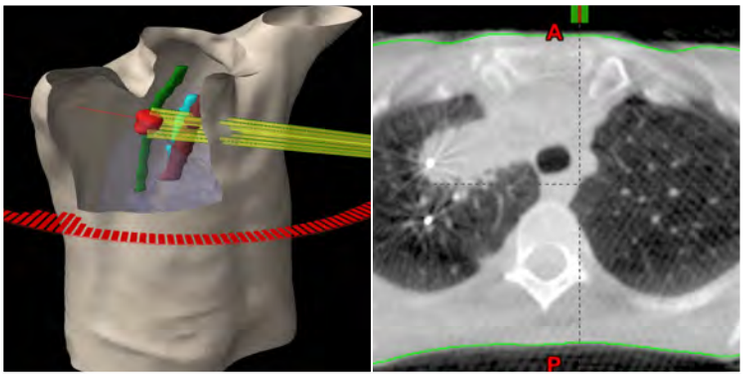
trueBEAM

More choices for a wider range of cancer cases

The depth and breadth of technology integration in the TrueBeam platform is designed to enable clinicians to treat a wider array of cancer cases using a diverse range of radiation therapies.

Clinical cases in head and neck cancers, lung, breast, prostate, liver, and more are addressed by TrueBeam using SRS, stereotactic body radiation therapy (SBRT), HyperArc, volumetric modulated radiation therapy (VMAT), intensity-modulated radiation therapy (IMRT), image-guided radiotherapy (IGRT) and RapidArc radiotherapy.



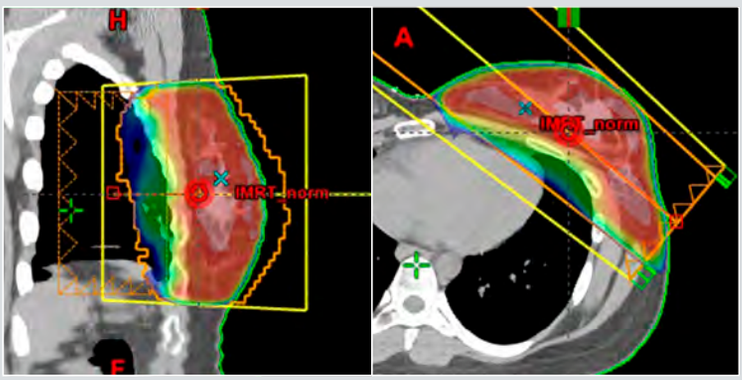


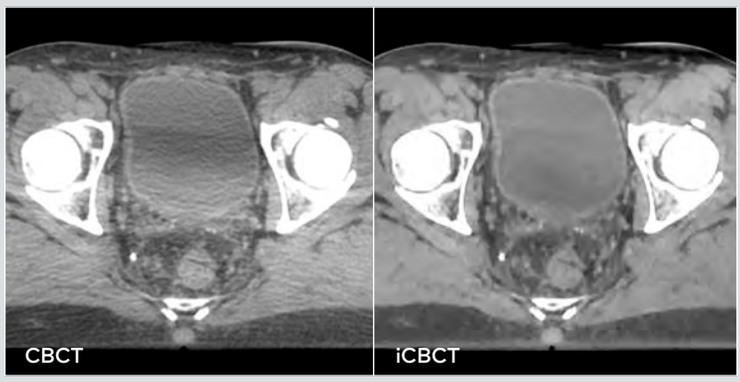
Multiple Brain Metastases

- HyperArc high-definition radiotherapy enables single-click delivery of fully automated non-coplanar cranial SRS treatments. New algorithms in treatment planning allow collision-free single isocenter delivery with steep dose gradients
- Leveraging the Eclipse treatment planning infrastructure, HyperArc allows planning of single and multiple metastases as well as primary brain tumors
- The HD120™ multileaf collimator sculpts the dose with high conformity while sparing surrounding tissue and/or organs at risk
- The PerfectPitch 6 DoF couch allows precise patient positioning based on 3D image guidance

Lung

- Online 4D CBCT allows you to visualize target motion in 3D, verifying target motion is as expected from the treatment plan. Automated acquisition of multiple 3D CBCT data sets, all synchronized with respiration, allows 3D patient setup using a specific respiration phase, an averaged motion image, or a maximum intensity projection image
- With gated CBCT, image acquisition occurs during the planned beam-on time only, reducing image artifacts due to motion, and allowing visualization of the target under planned treatment delivery conditions
- Short arc CBCT allows fast 3D CBCT image acquisition within a single breath hold
- The Visual Coaching Device provides patients with active feedback on their respiration, allowing respiration stabilization for free breathing gated treatment delivery, and consistent breath-hold motion extent for breath-hold treatment





Breast

- Delta couch shift supports initial patient setup using a single stable tattoo mark, with a pre-programmed automated shift to the treatment isocenter
- Eclipse IMRT tools, such as field-in-field planning, help create treatment plans designed to minimize radiation exposure of heart and lung tissue
- Real-time respiratory gating supports deep inspiration breath-hold treatments for left lung, allowing reduction of treatment margins due to target motion and minimizing exposure of heart tissue

Prostate

- Intrafraction motion during treatment delivery can be detected using fully automated radiographic imaging, with image acquisition triggered on monitor unit, time, or gantry angle increments
- Auto beam hold tracks implanted fiducial positions during triggered image acquisition, automatically asserting a beam hold when a fiducial is detected to be out of position
- On-demand imaging allows you to initiate kV, MV, and CBCT images at any time during the treatment
- Iterative CBCT reconstruction is designed to provide unparalleled image quality, enhancing bony anatomy and soft tissue visualization

Open to innovation from multiple sources

No one knows where the next innovation in cancer treatment will come from. One thing is certain: great ideas come from everywhere, and great ideas should be shared. The more open you are to integration, the sooner your patients and your clinic will benefit.

Varian is committed to cultivating an environment that connects you in multiple dimensions. To the integrated features and functions of the TrueBeam system. To the added value of our full suite of oncology solutions. To the complementary innovations of our vibrant partner ecosystem. To the latest research and breakthrough concepts in development. And to the entire oncology community—from diagnosis to survivorship.

TrueBeam Developer Mode: Endless Collaborative Research Opportunities

The Developer Mode option allows for broad experimentation in a non-clinical environment. This expanded access is designed to give clinicians and physicists an efficient and effective means to innovate with new treatment and imaging techniques in a research mode. Advanced manipulation of mechanical and dose axes puts the dynamic beam, imaging, and gating features of the TrueBeam system at the fingertips of researchers.

Collaborative Ecosystem: Expanding the Reach

TrueBeam further extends clinical options by integrating with solutions, technologies, and innovations from our strong and growing ecosystem of third-party companies, including Epic electronic medical records systems, the Cerner Patient Observer™ system, Brainlab ExacTrac Dynamic®, VisionRT AlignRT®, and C-Rad Catalyst HD devices and more.

Comprehensive service, collaborative support

Varian provides responsive service that helps keep your TrueBeam system online, your clinicians productive, and your patient satisfaction scores high. You get the right parts and the most up-to-date software, installed and maintained the right way by Varian-trained professionals — virtually anywhere in the world. We combine a full range of capabilities, including:

Knowledge and Experience

Varian service professionals receive up-to-date classroom instruction, on-the-job training, and advanced workflow tools, and give you exclusive access to Varian product engineers and system designers.

SmartConnect® Plus

Remote equipment monitoring automatically alerts Varian to potential issues, proactively diagnoses the issue, and can expedite repairs before problems escalate.

Proprietary Processes

We maintain detailed, tested protocols for maintaining your equipment in the most efficient way — while keeping patients and staff safe.

Planned Maintenance Program

Regularly scheduled parts maintenance and replacement can help you potentially avoid catastrophic failures.

OEM Parts

The exclusive use of Varian parts helps ensure proper design, pre-testing, and integration with all system components.

Software Upgrades

We provide software and security updates that protect hospital and patient data.

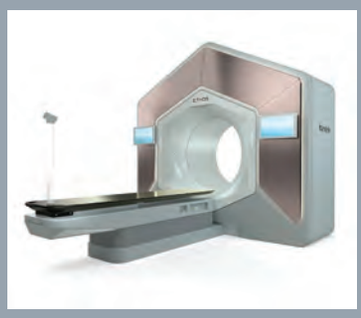
Professional Services Tailored to Your Requirements

Varian's Professional Services organization delivers a wide range of programs tailored to your needs, helping you achieve higher clinical availability, more efficient workflows, safer use of technology, faster treatment times, and a more relaxed patient experience.

More options for your patients

more opportunities for your clinic

TrueBeam®/VitalBeam® Systems
Treatment Procedures with Ease, Speed, and Accuracy



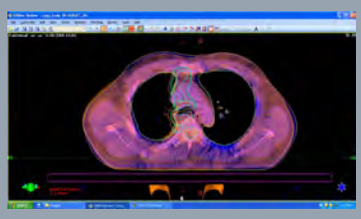
Halcyon®
Intuitive Treatment System

Ethos®
An Adaptive Intelligence™ Solution

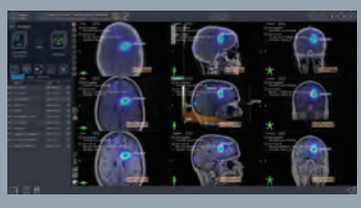
Edge® System
Dedicated Full-Body Radiosurgery Platform

ProBeam®
Proton Therapy Systems

BRAVOS® Afterloader System
Product Suite for Planning and Delivery



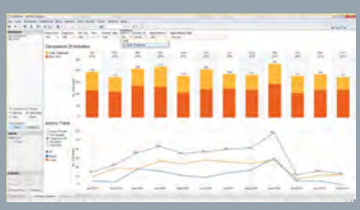
Eclipse™
Treatment Planning System



Velocity™
Oncology Imaging Informatics System

ARIA®
Oncology Information System

Noona®
Patient Outcomes Management Solution



InSightive™
Oncology Analytics

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Imagine a world without the fear of cancer

Varian Medical Systems has been a pioneer in the field of oncology for more than 70 years. During this time, we have introduced innovative treatment techniques, equipment, and software that have been used to treat tens of thousands of cancer patients worldwide. Today we offer products and services to advance the entire treatment process. Our work creates a community of those affected by cancer, so we can unite around our common goal to fight this disease.

(we do.)

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Expanding the boundaries of hope

1. Not available in every market. Please check availability with your sales representative.
2. Based on Varian IDENTIFY Specification Sheet RAD10699B. Varian Medical Systems, Inc. 2021.
3. Based on Varian IDENTIFY Specification Sheet RAD10699B. Based on 10 cm x 10 cm region of interest (ROI). Varian Medical Systems, Inc. 2021.
4. Product features described in this document relate to TrueBeam version 3.0.

Intended Use Summary

Varian Medical Systems' linear accelerators are intended to provide stereotactic radiosurgery and precision radiotherapy for lesions, tumors, and conditions anywhere in the body where radiation treatment is indicated.

Important Safety Information

Radiation treatments may cause side effects that can vary depending on the part of the body being treated. The most frequent ones are typically temporary and may include, but are not limited to, irritation to the respiratory, digestive, urinary or reproductive systems, fatigue, nausea, skin irritation, and hair loss. In some patients, they can be severe. Treatment sessions may vary in complexity and time. Radiation treatment is not appropriate for all cancers.

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