SPECIFICATIONS FOR
TENDER #0171-1014
SUPPLY OF ONE UROLOGY TABLE COMPLETE WITH A DIGITAL X-RAY SYSTEM FOR WESTERN HEALTH

CLOSING DATE: 5 March 2010
CLOSING TIME: 11:00 AM (Newfoundland Time)
1.0 **General Provisions**

1.1 **Intent**

This invitation to Tender is intended to obtain One Urology Table Complete with a Digital Xray System for the Western Regional Health Authority (Western Health) at the Western Memorial Regional Hospital.

This Tender is concerned with the acquisition of One Urology Table Complete with a Digital Xray System for the Western Memorial Regional Hospital with consideration of the following:

- Ongoing service and maintenance support.
- All manuals, documents and initial supplies.
- The right to reproduce any printed materials supplied with the product for the purpose of using the product.
- Training and training manuals.
- Future enhancement availability.

1.1.1 Western Health reserves the right to order additional units at the same price for a period up to and including 31 December 2010. Other Health Boards within Newfoundland and Labrador may avail of this Tender as needed.

1.2 **Client Background**

Western Health was established in 2005 and is responsible for the delivery of Health and Community Services in the Western Region.
1.3 Vendor Response

1.3.1 Vendor’s tender must contain an Executive Summary which shall contain:
   a. A brief description of the product being quoted.
   b. The name, title and address of the Vendor’s representative responsible for the preparation of the Tender.

1.3.2 All prices quoted for goods and services must be specified in Canadian dollars, FOB Western Memorial Regional Hospital. All Tenders will be held to be valid for ninety (90) days following the Tender closing date.

1.3.3 Tenders must be received in full on or before the exact closing time and date indicated. **TENDERS RECEIVED AFTER THAT TIME WILL NOT BE CONSIDERED.**

1.3.4 All costs relating to the work and materials supplied by the Vendor in responding to this Invitation to Tender must be borne by the Vendor.

1.4 Release of Information

1.4.1 While Tender is Open:

   The names of individuals or companies who have picked up the tender documents will **not** be released.

1.4.2 At Tender Opening:

   Only the names of the bidders will be read out.

1.4.3 After Tender Opening:

   1. No further information will be released until after the contract is awarded.
   2. After award, only the name and bid price of the successful bidder will be made available.
   3. Information will be made available for a 90 day period only.
   4. Successful Awards will be posted on Web Site.
1.4.4 **FYI, Statements that are included as part of our Tender calls:**

While bidders are welcome to attend the public opening, please be advised that it is not our policy to release bid information. Only the names of the bidders will be released.

1.5 **Communication During Tendering**

1.5.1 All communications with Western Health with respect to this invitation to Tender must be directed in writing to the attention of:

Mr. John Piercey  
Regional Director, Materiels Management  
Western Health  
P.O. Box 2005  
Corner Brook, Newfoundland  
A2H 6J7  
Tel: (709) 637-5511  
Fax: (709) 634-2649  
Email: johnpiercey@westernhealth.nl.ca

1.5.2 Western Health may, during the assessment period, request meetings with the Vendors to clarify points in the Tender. No changes by the Vendor will be permitted after the Tender closing date.

1.5.3 Faxed Tender responses will be accepted with the condition that the original Tender documents are received at Western Health’s Materiels Management Department no later than **Five working days** following the Tender closing date.

1.5.4 All bids must be sent in a sealed envelope clearly marked with Tender Name and Number to: Materiels Management Department, Western Health, Western Memorial Regional Hospital, Lower Level, P.O. Box 2005, Corner Brook, NL A2H 6J7.

1.5.5 Bids submitted by electronic transmission (e-mail) will not be accepted.

1.5.6 Companies submitting fax Tenders are doing so at their own risk and the fax Tender must be at the public opening as specified in the Tender information. This Authority will not be responsible for in-house courier services if companies submit quotations by fax machine. The time stated on the fax Tender will become null and void since it is the responsibility of the company placing the Tender to have their Tender at the public opening, therefore, this Authority will not be responsible for any damages or liabilities.
1.5.7 In order to contribute to waste reduction and promote environmental protection, the Western Health will endeavour to acquire goods and services that support these principles, therefore, product(s) quoted should include:

- maximum level of post-consumer waste and/or recyclable content
- minimal packaging
- minimal environmental hazards
- maximum energy efficiency
- potential for recycling
- disposal costs
- must not reduce the quality of the product required or affect the intended use of the product
- must not significantly impact the acquisition cost

1.5.8 Are the quoted price(s) on this tender (where applicable) available to our employees?

Yes ☐  No ☐  N/A ☐

Administratively the Western Integrated Health Authority will not be involved in ordering, servicing, warranty and payment; the employee(s) would deal directly with the company.

1.6 Tender Acceptance

1.6.1 Any acquisitions resultant from this invitation to Tender shall be subject to the Public Tendering Act.

1.6.2 The Tenders shall be opened in the Private Dining Room at The Western Memorial Regional Hospital on the scheduled date and time.

1.6.3 Any Tender may be accepted in whole or in part. The lowest Tender may not necessarily be accepted and Western Health reserves the right to cancel the Tender call. Western Health shall not be held responsible or liable for the payment of any costs that are incurred by the bidder in preparing a Tender in response to this invitation to Tender.

1.7 Warranty

1.7.1 The Vendor shall warrant that the product supplied to Western Health shall equal the published specifications.
1.7.2 The Vendor shall provide no less than a 1-year warranty on the system. The Vendor agrees to provide free of charge all parts and labour necessary to repair the system during the first year of operation.

1.7.3 Vendor shall indicate the warranty start date ________________.

1.7.4 Vendor shall indicate the individual who will be providing the service and the nearest service location.

______________________  _____________________

1.7.5 Is a board replacement program available and at what cost?
Yes ☐ No ☐
Cost: _____________

2.0 Product Specifications

Medical Device License Number for the product tendered _____________

General Description

A multifunctional examination unit with a digital X-ray system is required for diagnostic and therapeutic intervention in urology, particularly for the following areas of application:

➢ Urological X-ray diagnosis (urogenital tract)
➢ Endo-urology
➢ Minimally invasive surgery

The device has to have a connection interface for endoscopy. Repositioning of the patient should not be necessary during an examination. Optimal image quality in connection with low dose rate should be guaranteed.

The tender must include delivery, installation, official approval, acceptance test by an authorized inspector according to X-ray Ordinance and safety acceptance of a functioning system until handover to user, including the accessories required for operation.
2.1 **System**

2.1.1 **Requests**

- Good access to the patient for percutaneous interventions in the urogenital area.
  
  Yes _____ No _____ Comment ___________________________

- Selectable left-hand or right-hand version of the X-ray system.
  
  Yes _____ No _____ Comment ___________________________

- Height-adjustable, tiltable patient table with high load capacity of 500 lbs and also suitable for obese patients.
  
  Yes _____ No _____ Comment ___________________________

- Longitudinal and transverse travel of radiolucent tabletop. Please indicate limits.
  
  Yes _____ No _____ Comment ___________________________

- Trendelenburg table tilt.
  
  Yes _____ No _____ Comment ___________________________

- Longitudinal travel of X-ray system (tube/image intensifier). Please state travel limits.
  
  Yes _____ No _____ Comment ___________________________

- Park position of the X-ray tube with collimator system for unrestricted patient positioning.
  
  Yes _____ No _____ Comment ___________________________

- System protected against penetration of liquids and against corrosion.
  
  Yes _____ No _____ Comment ___________________________
2.1.2 Examination Room

- Positioning of tableside control suitable to workflow with imaging and system functions.

  Yes _____  No _____  Comment ___________________________

- Foot switch for fluoroscopic and radiographic release of X-ray system and/or multifunctional foot switch for control functions such as lift/lower, tilt, longitudinal/transverse tabletop movement, longitudinal movement of X-ray system (tube/image intensifier), LIH image storage, switchover between X-ray endoscopic image sources.

  Yes _____  No _____  Comment ___________________________

- Automatic image storage of X-ray images, manual storage of fluoroscopy images (LIH = Last image hold).

  Yes _____  No _____  Comment ___________________________

2.1.3 Control Area

- Operation of the digital imaging system with monitor, keyboard, mouse.

  Yes _____  No _____  Comment ___________________________

- Fluoroscopic, radiographic release of the X-ray system.

  Yes _____  No _____  Comment ___________________________

- Remote control of system movements.

  Yes _____  No _____  Comment ___________________________

2.1.4 Description

- Model ________________________
  Manufacturer ________________________

- Optional right-hand or left-hand version of the basic unit.

  Yes _____  No _____  Comment ___________________________
• Tilting range of patient table.
  ____________________(+…degrees) ____________________(-…degrees)

• Tilting speed.
  ____________________(degrees/s)

2.1.5 Patient Positioning

• Length of the tabletop.
  ____________________(cm)

• Width of the tabletop.
  ____________________(cm)

• Length including extension.
  ____________________(cm)

• Tabletop material.
  _______________________________(material)

• Radiation absorption at 100kV / HWD 3.7 mmAl (acc. to IEC 60601-1-3)
  - Tabletop ____________________(mmAl)
  - Top unit cover ____________________(mmAl)
  - Set of padding ____________________(mmAl)

• Radiation absorption at 100kV / HWD 2.7 mmAl (acc. to 21 CFR 1020)
  - Tabletop ____________________(mmAl)
  - Top unit cover ____________________(mmAl)
  - Set of padding ____________________(mmAl)

• Max. table load.
  ___________________________(kg/lbs)

• Longitudinal Table Top travel speed.
  ____________________________(cm/s)

• Transverse travel speed.
  ____________________________(cm/s)
2.1.6 **Symmetrical Patient Access**

- Unrestricted symmetrical patient access to both sides of the tabletop in the urogenital area.

  Yes _____  No _____  Comment ___________________________

- Free space for percutaneous interventions in the kidney area with simultaneous possibility of X-ray control on both sides of the tabletop in the urogenital area.

  Yes _____  No _____  Comment ___________________________

- Speed of table lifting/lowering.

  ____________ (cm/s)

2.1.7 **Functions of the Tableside Control Unit**

- Call-up of digital image processing functions.

  Yes _____  No _____  Comment ___________________________

- Triggering of all motor-driven unit movements (table lift/tilt, table longitudinal/transverse, movement of X-ray system).

  Yes _____  No _____  Comment ___________________________

- Setting of radiation limiter.

  Yes _____  No _____  Comment ___________________________

- ON/OFF switch for light localizer.

  Yes _____  No _____  Comment ___________________________

- Memory buttons for storage of table positions.

  Yes _____  No _____  Comment ___________________________

- Number of storable positions.

  ____________ (quantity)

- Indicate which positions can be stored.

  - Tabletop position longitudinal/transverse
  - Position of X-ray system
2.1.8 Foot switch in the examination room for fluoroscopy and radiography.

Yes _____  No _____  Comment ___________________________

2.1.9 System foot switch in the examination room with the following functionality:

- Table movements (table longitudinal/transverse, lift, tilt).

Yes _____  No _____  Comment ___________________________

- Longitudinal movement of X-ray system (tube/image intensifier).

Yes _____  No _____  Comment ___________________________

- Switchover between X-ray/endoscopic image sources on color TFT display (reference image).

Yes _____  No _____  Comment ___________________________

- Separate hand held remote for all table movements accessible at head of table.

Yes _____  No _____  Comment ___________________________

2.1.10 Operating Panel in the Control Room

- Radiation release (FL/radiography) with radiation indicator.

Yes _____  No _____  Comment ___________________________

- ON/OFF system switch.

Yes _____  No _____  Comment ___________________________

2.1.11 Functions of Remote Control

- Call-up of digital image processing functions at the tableside control unit.

Yes _____  No _____  Comment ___________________________
• Triggering of all motor-driven unit movements (table lift/tilt, table longitudinal/transverse, movement of X-ray system).

  Yes _____  No _____  Comment ___________________________

• Changeover of image intensifier formats (zoom).

  Yes _____  No _____  Comment ___________________________

• Setting of radiation limiter.

  Yes _____  No _____  Comment ___________________________

• ON/OFF switch for light localizer.

  Yes _____  No _____  Comment ___________________________

• Memory buttons for storage of table positions.

  Yes _____  No _____  Comment ___________________________

• Number of storable positions.

  ____________ (quantity)

• Indicate which positions can be stored.
  - Tabletop position longitudinal/transverse
  - Position of X-ray system
  - Collimator setting

2.1.12 X-ray System (Tube, Image Intensifier)

• Motor-driven park position for the X-ray tube for unrestricted patient positioning.

  Yes _____  No _____  Comment ___________________________

• Travel distance X-ray tube in park position.

  ________________ (cm)

• I.I. housing with collision protection.

  Yes _____  No _____  Comment ___________________________

• Source-image intensifier distance (SID) without cassette option.

  ________________ (cm)
2.2 **Generator**

2.2.1 **Requests**

- High-frequency X-ray generator with multipulse voltage waveform 80 kW capacity at 100 kV according to IEC 601-2-7, suitable for pulsed operation.

  Yes _____  No _____  Comment ____________________________

- Integrated automatic exposure control.

  Yes _____  No _____  Comment ____________________________

- Tube load monitoring.

  Yes _____  No _____  Comment ____________________________

- User-programmable exposure data and microprocessor-controlled tube current and tube voltage during the exposure.

  Yes _____  No _____  Comment ____________________________

- Setting of exposure data, as a function of the permissible tube load.

  Yes _____  No _____  Comment ____________________________

- mAs post-indication with automatic exposure control.

  Yes _____  No _____  Comment ____________________________

- Fluoroscopy mean value display.

  Yes _____  No _____  Comment ____________________________

- Dose reduction (describe).

  Yes _____  No _____  Comment ____________________________

2.2.2 **Description**

- Model ________________________
- Manufacturer ____________________
• High –voltage wave-form.
  Yes _____ No _____ Comment ________________________________

• Generator output.
  ________________ (max. mA at kV / kW)

• Tube voltage adjustable in steps.
  ________________ (quantity)

• Adjustable kV range.
  ________________ (kV)

Please indicate range and steps.
  ______________________________________________________________

• Setting range mAs product.
  ________________ (mAs)

Please indicate range and steps.
  ______________________________________________________________

• State kV and mA range with continuous fluoroscopy.
  ________________ (kV)
  ________________ (mA)

• Data transfer possible from fluoroscopy.
  Yes _____ No _____ Comment ________________________________

• State rotating anode starting unit radiography rotation.
  ________________ (Hz)

• State rotating anode starting unit fluoroscopy rotation.
  ________________ (Hz)

• Troubleshooting through service PC.
  Yes _____ No _____ Comment ________________________________

• Output of area dose product, body entry dose, fluoroscopic time, the current kV and mA fluoroscopic values on the monitor.
  Yes _____ No _____ Comment ________________________________
2.3 X-ray Tube Assembly

2.3.1 Requests

• X-ray tube assembly with rotating anode tube.
  Yes _____  No _____  Comment ___________________________

• Tube unit consisting of protective housing and X-ray tube for 150 kV nominal voltage.
  Yes _____  No _____  Comment ___________________________

• Double-focus rotating anode tube with high heat storage capacity and high load capacity with small focal spot.
  Yes _____  No _____  Comment ___________________________

• Prepared for installation of a thermal monitoring system.
  Yes _____  No _____  Comment ___________________________
2.3.2 Description

- X-ray tube assembly type:
  
  Model ________________________
  Manufacturer ________________________

- Nominal voltage.
  _________________ (kV)

- Power input according to IEC (hot tube).
  _________________ (kW)

- Nominal power input (cold tube).
  _________________ (kW)

- Focal spot size (small/large focus).
  _________________ (nominal values)

- Anode angle.
  _________________ (degrees)

- Anode diameter.
  _________________ (mm)

- Anode rotation.
  _________________ (r.p.m.)

- Heat storage capacity of anode.
  _________________ (kHU (kj))

- Heat storage capacity of X-ray tube assembly.
  _________________ (kHU (kj))

- Heat dissipation of anode.
  _________________ (kHU/min)

- Load capacity of the X-ray tube – continuous and short-time.
  _________________ (Watt) _________________ (Watt)

- Maximum power of Fluoro.
  _________________ (Watt)

- Leakage radiation (125 kV; 2000 W; 1 m)
  _________________ (mGy/h)
• Intrinsic filtration (Al equivalent).
  __________________ (mm Al)

2.4 X-ray Image Intensifier Unit

2.4.1 Requests

• X-ray image intensifier unit with maximum resolution image intensifier tube and high dynamics for digital fluoroscopy and digital fluororadiography and very high quantum absorption, with integrated round multiline grid. Please describe.

  Yes _____ No _____ Comment ________________________________


2.4.2 Description

• Model ______________________
  Manufacturer ______________________

• Nominal diameter of possible image intensifiers (acc. to IEC 1262-1).
  ____________________ (cm)

2.4.2 Image Transfer Characteristics

• Acc. to IEC and DIN, resolutions at 2% contrast, typical values without noise limit.

  Yes _____ No _____ Comment ________________________________

  • Zoom steps.

  Yes _____ No _____ Comment ________________________________

  • Nominal diameter of Image Intensifier (acc. to zoom steps).

  Yes _____ No _____ Comment ________________________________

  • Resolution of the monitors (image type DR as a function of the I.I. diameter), minimum values.

  Yes _____ No _____ Comment ________________________________
• Visual resolution capacity as a function of the I.I. diameter – mean and minimum values.
____________________ (LP/mm)

• Visual resolution capacity as a function of the I.I. diameter at the edge of the image (90%), minimum values.
____________________ (LP/mm)

• Conversion factor, minimum value, mean value.
____________________ (cd/m²)
____________________ (x)
____________________ (s/µGy)

• Contrast ratios (10% area) acc. to IEC 1262-6, minimum value, mean value.
Yes _____  No _____  Comment ___________________________

• Quantum absorption (DQE) (acc. to IEC 1262-5), minimum value, mean value.
___________________ (%)  

2.4.3 **Scattered Radiation Grid (Image Intensifier)**

• Centered fixed, round multiple line grid.
Yes _____  No _____  Comment ___________________________

• Grid ratio.
____________________ (r)

• No. of leafs.
____________________ (L/cm)

• Source-image distance (SID).
____________________ (cm)

2.5 **X-ray Television System**

2.5.1 **Requests**

• X-ray television system with image intensifier.
Yes _____  No _____  Comment ___________________________
• 1k x 1k/ 10 bit matrix.
  Yes _____  No _____  Comment ___________________________
• TV system with CCD image acquisition sensor.
  Yes _____  No _____  Comment ___________________________
• Adjustable noise reduction.
  Yes _____  No _____  Comment ___________________________
• Automatic gain control.
  Yes _____  No _____  Comment ___________________________
• Self-test and self-calibration.
  Yes _____  No _____  Comment ___________________________

2.5.2 **Description**

• Model ________________________
  Manufacturer ________________________
• Camera technology.
  Yes _____  No _____  Comment ___________________________
• Acquisition matrix.
  ________________________ (Matrix)
• Dynamic range CCD camera.
  ________________________ (dB)
• Automatic gain control (AGC)
  Yes _____  No _____  Comment ___________________________
• Self-test.
  Yes _____  No _____  Comment ___________________________
2.6 TFT Displays

2.6.1 Requests

Examination Room

- Swivel-mounted color TFT displays, placed suitable for workflow.
  Yes _____ No _____ Comment ___________________________

- TFT displays (live/reference) in the examination room on a space-saving, spring-articulated arm.
  Yes _____ No _____ Comment ___________________________

- Display of X-ray, live and reference images.
  Yes _____ No _____ Comment ___________________________

- Display of endoscopic images on the TFT displays in the examination room.
  Yes _____ No _____ Comment ___________________________

Control Room

- For diagnosis and operation of the digital imaging system one color TFT display.
  Yes _____ No _____ Comment ___________________________

- Adjustment of a second TFT display to show reference images.
  Yes _____ No _____ Comment ___________________________

2.6.2 Description

Examination Room

- Number of color TFT displays.
  ________________ (quantity)

- Monitor suspension possible.
  Yes _____ No _____ Comment ___________________________
• Spring-articulated arm with 2 color TFT displays.
  Yes _____  No _____  Comment ______________________________________

• Color TFT display size minimum 19".
  ___________________ (inch/cm)

• Resolution matrix of the color TFT displays.
  ___________________ (pixels)

• Maximum luminance (typ.) of color TFT displays.
  ___________________ (cd/m²)

Control Room

• Number of TFT displays.
  ___________________ (quantity)

• Color TFT display size minimum 19".
  ___________________ (inch/cm)

• Resolution matrix of color TFT displays.
  ___________________ (pixels)

• Maximum luminance (typ.) of color TFT displays.
  ___________________ (cd/m²)

2.7 Accessories (In Scope of Delivery)

2.7.1 Description

• Tabletop extension.
  Yes _____  No _____  Comment ______________________________________
  Length __________________ (cm)
  Max. Load Capacity __________________ (kg)
  Weight __________________ (kg)

• Elbow support for examiner.
  Yes _____  No _____  Comment ______________________________________

• Tableside operating panel (repluggable).
  Yes _____  No _____  Comment ______________________________________
• Control Panel in control room.
  Yes _____  No _____  Comment ___________________________

2.8 **Accessories (Optional)**

2.8.1 **Description**

• Measuring instrument for dose area product.
  Yes _____  No _____  Comment ___________________________

• Data printer for X-ray protocol.
  Yes _____  No _____  Comment ___________________________

• Support for lower leg and foot (2).
  Yes _____  No _____  Comment ___________________________

• Holder for plastic drain bag.
  Yes _____  No _____  Comment ___________________________

• Plastic drain bag.
  Yes _____  No _____  Comment ___________________________

• Patient arm rest.
  Yes _____  No _____  Comment ___________________________

• Holder for tableside control.
  Yes _____  No _____  Comment ___________________________

• Monitor table (control area).
  Yes _____  No _____  Comment ___________________________

• Endoscopy shelf.
  Yes _____  No _____  Comment ___________________________

Load Capacity __________________ (kg/lbs)
• Interface for S-Video input signal of X-ray/Endoscopic image sources.
  Yes _____  No _____  Comment ________________________________

• Interface for FBAS/Composite input signal of X-ray/Endoscopic image sources.
  Yes _____  No _____  Comment ________________________________

• Interface for RGB input signal of external video sources (for example endoscopy).
  Yes _____  No _____  Comment ________________________________

• Interface for DVI input signal of external video sources (for example endoscopy).
  Yes _____  No _____  Comment ________________________________

• Interface for HD-SDI input signal of external video sources (for example endoscopy).
  Yes _____  No _____  Comment ________________________________

• Interface for FBAS/Composite output signal of X-ray images (for example in an external video urodynamic system or in an external printer).
  Yes _____  No _____  Comment ________________________________

• Control panel in control room.
  Yes _____  No _____  Comment ________________________________

2.9 Digital Real-Time Image Acquisition and Processing System

2.9.1 Requests

Digital Fluoroscopy (DFL)
• High-definition, digital fluoroscopy with 30 F/sec and progressive (non-interlaced) scanning, in 1k x 1k/10 bit matrix size for high spatial and contrast resolution, image refresh rate 72 Hz, progressive for flicker-free image display.
  Yes _____  No _____  Comment ________________________________
• Image improvement by moving weighted averaging and digital real-time filtration.

Yes _____  No _____  Comment ________________________________

• Display of the last fluoroscopic image after X-radiation off (LIH), storage of LIH images, and single fluoroscopic images has to be possible.

Yes _____  No _____  Comment ________________________________

• For various fluoroscopic modes (e.g. continuous FL, pulsed FL), the relevant fluoroscopic programs have to be available. It must be possible to save these fluoro programs as default setting in the organ programs and to change them at the unit side.

Yes _____  No _____  Comment ________________________________

• Using dose-saving fluoroscopic modes such as pulsed fluoroscopy has to be possible optionally.

Yes _____  No _____  Comment ________________________________

• Radiation free positioning of the primary collimator by using graphical display in LIH-image at the image monitor has to be possible optional.

Yes _____  No _____  Comment ________________________________

Digital Fluoro-Radiography (DFR)

• Routine diagnosis with digital image recording for single images and serial exposures, in 1k x 1k/10 bit matrix size with up to 8 f/sec.

Yes _____  No _____  Comment ________________________________

Organ Programming

• Organ programming (exposure and processing parameters) for single image mode and serialography, including takeover of the exposure parameters from the preceding fluoroscopy (0-point technique) must be possible.

Yes _____  No _____  Comment ________________________________
- Organ program (system-dependent) for selection of complete exposure data, such as dose, frame rate, free kV selection or characteristic curves, pulse width preselection and image processing data such as black/white inversion, windowing, edge enhancement and optional automatic adaptive image processing.

  Yes _____  No _____  Comment ____________________________

Documentation

- Possibility to print X-ray images at a standard PostScript paper printer.

  Yes _____  No _____  Comment ____________________________

Image Storage

- Permanent image storage of up to 15,000 images in 1k x 1k / 10 bit matrix size with direct access must be possible.

  Yes _____  No _____  Comment ____________________________

- The images shall immediately be retrievable for viewing and image comparison.

  Yes _____  No _____  Comment ____________________________

Networking

- The system must be GE PACS/DICOM 3.0 compatible/compliant.

  Yes _____  No _____  Comment ____________________________

- The system must include and support the following DICOM 3.0 interfaces: All DICOM licenses must be included in quote.

  ➢ DICOM print/store.

  Yes _____  No _____  Comment ____________________________

  ➢ DICOM Modality worklist management.

  Yes _____  No _____  Comment ____________________________
DICOM Send/receive.
Yes _____  No _____  Comment ___________________________

DICOM Query/retrieve.
Yes _____  No _____  Comment ___________________________

DICOM Modality Performed Procedure Step.
Yes _____  No _____  Comment ___________________________

DICOM Transfer.
Yes _____  No _____  Comment ___________________________

- The system must have DICOM Verification Service Class (VSC).
  Yes _____  No _____  Comment ___________________________

- The system must have DICOM Storage Service Class (Both SCU & SCP).
  Yes _____  No _____  Comment ___________________________

- The system must have DICOM Storage Commitment Service Class (Storage Commitment SC).
  Yes _____  No _____  Comment ___________________________

- The system must be capable of interfacing with Meditech HIS/RIS.
  Yes _____  No _____  Comment ___________________________

- The system must be able to fully integrate with GE PACS.
  Yes _____  No _____  Comment ___________________________

- Vendor must provide DICOM conformance statement upon request.
  Yes _____  No _____  Comment ___________________________
• All costs associated with connectivity of system to GE PACS and HIS/RIS is the responsibility of the vendor (interface, licenses, software and hardware).

Yes _____  No _____  Comment ____________________________

Image Processing

• The system has to enable the following image processing modes:
  ➢ Brightness/contrast
    Yes _____  No _____  Comment ____________________________
  ➢ Commentary line
    Yes _____  No _____  Comment ____________________________
  ➢ Free annotation in the image
    Yes _____  No _____  Comment ____________________________
  ➢ Edge enhancement
    Yes _____  No _____  Comment ____________________________
  ➢ Harmonization (detail contrast enhancement (Digital Density Optimization (DDO)))
    Yes _____  No _____  Comment ____________________________
  ➢ Positive/negative inversion
    Yes _____  No _____  Comment ____________________________
  ➢ Left/right marking
    Yes _____  No _____  Comment ____________________________
  ➢ Zoom, roaming
    Yes _____  No _____  Comment ____________________________
  ➢ Angle/distance measurement
    Yes _____  No _____  Comment ____________________________
➤ Horizontal/vertical image reversal
Yes _____  No _____  Comment ____________________________

➤ Manual/automatic shutter
Yes _____  No _____  Comment ____________________________

➤ Image marking for documentation
Yes _____  No _____  Comment ____________________________

➤ Store/delete image
Yes _____  No _____  Comment ____________________________

➤ Paging up and down in the images
Yes _____  No _____  Comment ____________________________

➤ Monitor split
Yes _____  No _____  Comment ____________________________

➤ Store/recall reference image
Yes _____  No _____  Comment ____________________________

2.9.2 **Description**

- **Type**
  ______________________

- **Manufacturer**
  ______________________

- **Air conditioning required.**
  Yes _____  No _____  Comment ____________________________

- **Image data back-up in case of power failure.**
  Yes _____  No _____  Comment ____________________________

**Fluoroscopy**

- **Mode of digital high-definition fluoroscopy frames.**
  ______________________ (scanning fps)
• Matrix size.
  ___________________ (pixel)

• Gray scale resolution.
  ___________________ (bit)

• Noise reduction by moving weighted averaging.
  Yes _____  No _____  Comment ________________________________

• Digital real-time filtration programmable.
  Yes _____  No _____  Comment ________________________________

• LIH (storage of the last fluoroscopic image).
  Yes _____  No _____  Comment ________________________________

• State dose reduction by pulsed fluoroscopy.
  Yes _____  No _____  Comment ________________________________

• Possible pulse frequencies:
  Number  ________________
  Values  ________________ (p/sec)

• Matrix size.
  ___________________ (pixel)

• Gray scale resolution.
  ___________________ (bit)

Radiography

• Matrix size.
  ___________________ (pixel)

• Gray scale resolution.
  ___________________ (bit)

• Number and values of possible frame rates.
  Number  ________________
  Values  ________________ (f/sec)
Image Display

- Flicker-free display for radiography/fluoroscopy.
  Yes _____ No _____ Comment _________________________

- Image refresh rate.
  __________________ (Hz)

- Progressive Scanning.
  Yes _____ No _____ Comment _________________________

- Paging up/down in the images.
  Yes _____ No _____ Comment _________________________

- Simultaneous display of several images for overview.
  Yes _____ No _____ Comment _________________________

- Max. number of such images.
  __________________ (number)

- Image display on reference monitor in examination room.
  Yes _____ No _____ Comment _________________________

- Image display on reference monitor in control room.
  Yes _____ No _____ Comment _________________________

- Reference image pool.
  Yes _____ No _____ Comment _________________________

- Max. number of images in the pool.
  __________________ (number)

- Automatic electronic collimation.
  Yes _____ No _____ Comment _________________________

  Yes _____ No _____ Comment _________________________
Image Processing

- Manual setting of contrast and brightness (window).
  Yes _____ No _____ Comment _____________________________

- Windowing effective on.
  ____________________ (gray scales)

- Harmonization (detail contrast enhancement, digital density optimization (DDO)).
  Yes _____ No _____ Comment _____________________________

- Variable admixture (grading).
  _________________ (%)

- Black/white inversion.
  Yes _____ No _____ Comment _____________________________

- Edge enhancement.
  Yes _____ No _____ Comment _____________________________

- On-line image filtration.
  Yes _____ No _____ Comment _____________________________

- On-line noise reduction.
  Yes _____ No _____ Comment _____________________________

- Image enlargement (zoom).
  _________________ (state x-times)

- Roaming.
  Yes _____ No _____ Comment _____________________________

- Graphics functions.
  Yes _____ No _____ Comment _____________________________

- Subsequent text entry for each image possible.
  Yes _____ No _____ Comment _____________________________
• Subsequent commentary line for each image possible.
Yes _____ No _____ Comment ________________________________

• Image flip horizontal/vertical.
Yes _____ No _____ Comment ________________________________

Marking and Measuring

• Angle and distance measurement.
Yes _____ No _____ Comment ________________________________

• Right/left marking.
Yes _____ No _____ Comment ________________________________

Image/Patient Data Management

• Number of patients who can be entered in the patient list.
  ________________ (quantity)

• Takeover of patient/examination data from a radiological information system.
Yes _____ No _____ Comment ________________________________

• Query for special search criteria.
Yes _____ No _____ Comment ________________________________

• Subsequent modification/extension of patient data possible.
Yes _____ No _____ Comment ________________________________

DICOM MPPS

• Modality performed procedure step for sending a message back to HIS/RIS (exam status, patient info).
Yes _____ No _____ Comment ________________________________
• Automatic listing of patients.
Yes _____ No _____ Comment ____________________________

• In chronological order possible.
Yes _____ No _____ Comment ____________________________

• In alphabetical order possible.
Yes _____ No _____ Comment ____________________________

• Documentation on paper printer possible.
Yes _____ No _____ Comment ____________________________

• Documentation of images possible.
Yes _____ No _____ Comment ____________________________

• Documentation of patient lists possible.
Yes _____ No _____ Comment ____________________________

• Documentation of exposure parameters possible.
Yes _____ No _____ Comment ____________________________

• Transfer of images/scenes/folders to image nodes (DICOM), in the background.
Yes _____ No _____ Comment ____________________________

• Automatic transfer after the examination.
Yes _____ No _____ Comment ____________________________

**Organ Programming**

• Organ program can be set individually by user.
Yes _____ No _____ Comment ____________________________
• Pre-defined organ programs for DR/cassette specific for application available.

Yes _____  No _____  Comment ___________________________

• Dose setting automatic or test shots.

Yes _____  No _____  Comment ___________________________

• Organ program can be overwritten for next examination (override)

Yes _____  No _____  Comment ___________________________

• Exposure data programmable in organ programs.

Yes _____  No _____  Comment ___________________________

• Maximum number of organ programs.

__________________ (state number)

2.10 Information Systems Interface

Does your equipment have the ability to interface with the Meditech Magic Health Information System?  If yes:

• Must be able to interface to Meditech Magic 5.4 and higher using a HL7 interface. Upon request, Western Health will provide prospective bidders with Meditech’s “HL7 Other Vendor Patient Monitor to Meditech Nursing” specification document (current version 2.3, Ref. R301) or similar documents for other Meditech modules.

• Must provide an overview of which Meditech modules your system interfaces with, the data fields which flow through the interface and whether it is uni or bidirectional,

• Should provide a Meditech MAGIC reference site that is LIVE with this interface.

• Must identify any additional vendor costs associated with implementation of the interface.

Does your equipment require, or have the capability of, residing on Western Health’s data network?  If yes:

• Must use true TCP/IP for system communications. Systems must be able to run in an IP routed environment and must not depend on bridging traffic between sites.

• Must identify # of IP addresses required by the system.
If remote access into WRHA network is required in order to provide support for the system, it must have strong security controls. Describe your network requirements and security mechanisms for remote access (outside the Corporate WAN).

Provide an overview of any user tools (e.g. web-based portal) available to Western Health for monitoring the status of the equipment and for potentially modifying or servicing same.

3.0 Presentation / Training / Service

3.1 Presentation

A presentation of the Tender and / or a demonstration of the product / system shall be provided, if requested, at the Vendor’s expense.

3.2 Training

3.2.1 The Vendor shall provide on-site training to staff in the use of the Urology Table Complete with a Digital Xray System. All costs associated with this training shall be included in the total Tender price. The length of such training shall be what is reasonably required to train the users of the equipment and shall be documented.

3.2.2 The Vendor shall agree to provide factory training for One in-house Biomedical Technologist, employed by Western Health, for the purpose of maintaining the Urology Table Complete with a Digital Xray System. Such training shall be equal to the training provided to the Vendors own service staff. All costs associated with this training, including travel, accommodations, meals and tuition shall be included in the Tender price.

All special tools to properly service the system must be included in the bid.

All diagnostic software licenses and associated costs must be included in the bid for the life of the equipment while it is supported by the manufacturer.

3.3 Service

3.3.1 The Vendor shall confirm in writing that Parts and Labour will be available for the quoted system for not less than seven (7) years after the last day of manufacture.

3.3.2 The Vendor shall provide as an option, pricing for a one-year Service Contract including all parts and labour.
3.3.3 The Vendor shall provide a minimum of 2 copies each of the Operating, Parts and Service Manuals which must accompany the equipment when shipped.

4.0 **Installation**

A. Are there utility requirements:

1. Electrical Voltage: ________________ Amperage: ______

2. Drains: Yes □ ________________

3. Water: Yes □ ________________

Other: Yes □ ________________

Specifıcs: ________________

B. If the device contains a battery, state the battery type and typical life cycle (hours of operation and charging time). State additional systems or work required to maintain the battery.

________________________

________________________

________________________

________________________

C. The equipment (except if solely battery operated) must comply with C.S.A. standard No. C22.2-125 (Biomedical), or 114 (Radiology), or 151 (Laboratory), or C22.2 No. 601.1 plus applicable particular standard(s) and be certified by an organization accredited by the Standards Council of Canada.

Yes □  No □

D. The equipment must be labeled with C.S.A. 125 Risk Class or C.S.A. 601.1 Equipment Type. Yes □  No □

E. Equipment that requires on site certification to meet CSA Standards must be completed by an accredited testing organization. The cost of this must be covered by the supplier.

Yes □  No □
F. Will any site preparation be necessary? Yes ☐ No ☐

If yes, explain

G. All supplies required for the initial start up and/or commissioning of the equipment shall be included.
Yes ☐ No ☐

H. Will this equipment require any unloading equipment to make safe receipt at time of delivery? Yes ☐ No ☐

I. If installation is involved, the Vendor shall coordinate the delivery and installation of the equipment.
Yes ☐ No ☐

5.0 Product History and Vendor Reputation

5.1 The Vendor shall provide a list of three (3) organizations where a similar Unit has been installed. Include a contact person for each organization.

6.0 Financial Considerations

6.1 All applicable taxes shall be indicated in the Tender.

6.2 The cost for installation, initial set-up and programming shall be included in the Tender price.

6.3 All costs for training shall be included in the Tender. This includes any travel, meals and accommodation.

6.4 Terms of Payment

The Vendor shall indicate the Terms of Payment. Acceptance testing will be completed within 30 days following the complete installation of the system.

7.0 Vendor Confirmation (please sign)

I confirm that our Tender meets or exceeds the specifications detailed in this invitation to Tender. I also confirm that all specifications are included in the quoted price. Any items that are optional are noted accordingly.
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAS TENDER SUBMISSION BEEN SIGNED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COPY OF REQUIRED TENDER DOCUMENTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COPY OF BROCHURES (IF REQUESTED)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COPY OF WCB LETTER OF GOOD STANDING (IF REQUIRED)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COPY OF PROOF OF INSURANCE (IF REQUIRED)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMOUNT OF TAX NOTED ON REQUEST FOR QUOTATION FORM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPTIONAL PRICING FOR TRAINING INCLUDED</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** TENDER RESPONSES MAY BE REJECTED IF YOU ANSWER “NO” TO ANY OF THE ABOVE QUESTIONS.