

**GOVERNMENT OF ASSAM  
OFFICE OF THE DIRECTOR OF MEDICAL EDUCATION, ASSAM  
SIXMILE, KHANAPARA, GUWAHATI-22**

No.DME/167/2011/10507/

Dated : 29-08-2011

**CORRIGENDUM and EXETNSION NOTICE against IFB No. DME/167/2011/10507,  
Dated: 26/07/2011**

The last date of submission of Tender for procurement of Equipments/ Machine for 200 bedded Cancer Hospital and Oncology Department for GMCH, Guwahati on Turnkey Basis is extended up to **20<sup>th</sup> September 2011 at 2 P.M.**. Few changes are made in Technical Specification and the changes are uploaded to the NRHM, Assam website (i.e. [www.nrhmassam.in](http://www.nrhmassam.in)) Govt. of Assam web site (i.e. [www.assamgovt.nic.in](http://www.assamgovt.nic.in) & [www.amtron.in](http://www.amtron.in)).

**I. DUAL ENERGY MEDICAL LINEAR ACCELERATOR SPECIFICATIONS**

	<b>Name of Equipment / Model</b>	<b>Refinements of Technical Committee of Pre bid meeting</b>
<b>Parameters</b>		
Photon Energy	<b>6 - 18 MV</b> (optional 3 <sup>rd</sup> energy) Low energy – Minimum 6 MV High energy – Minimum 15 MV	<b>6 &amp; 15 MV</b>
<b>Multileaf collimator (MLC)</b>	- Number of leaves	<b>(≥ 80)</b>
<b>Motion management</b>	Give specific details of options	<b>(Optional item)</b>
<b>IGRT Imaging</b>	KV based essential	<b>CBCT</b>
Electrical Requirement	UPS details–Min 45 mins backup	<b>Min 30 mins</b>
<b>Warranty</b>	2 years and 5 years to be quoted separately in financial bid for complete system and CMC for next 5 years after warranty	<b>2 Years warranty + 8 years CMC to be frozen at 3<sup>rd</sup> year</b>
<b>Delivery Schedule</b>	6 months	<b>6 months from LC opening &amp; AERB import authorization.</b>
<b>Training of Staff</b>	- Radiation Oncologists - In reputed institution abroad (Number, place & period)	<b>1 radiation oncologist + 1 medical physicist. Abroad for 2 weeks.</b>

**OPTIONAL ITEM OF STEREOTACTIC RADIO SURGERY / RADIOTHERAPY SYSTEM IS  
CHANGED TO STANDARD EQUIPMENT**

<b>Stereotactic planning computer workstation</b>	Latest version of software, window-based should include accepting CT/ MRI/ Angio. / PET images, reconstructing CT/ MRI coronal and sagittal images, automatic contouring of external surface, CT/ MRI / Angio. / PET images localisation. CT/MRI image fusion, outlining, naming, coloring, anatomical structure, measurement function, dose volume	<b>autocontouring &amp; autosegmentation etc.</b>
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	determination, 3D contour display, stereotactic calculations.	
	Provision of software for Stereotactic Conformal Radiotherapy, which includes features of ICRU 50 Compliance GTV, CTV and PTV formalism: DRR and automatic Block and MLC definition around PTV and 3D-dose calculation.	<b>Resolution preferably <math>\leq</math> 3mm.</b>
	Compatibility of software for conformal radiotherapy planning for thorax and abdomen using stereotactic body frame.	
<b>Stereotactic micro MLC</b>	Physical details	<b>Retractable (add-on type)</b>
<b>Warranty</b>	2 years and 5 years to be quoted separately in financial bid for complete system and CMC for next 5 years after warranty.	<b>2 Years warranty + 8 years CMC to be frozen at 3<sup>rd</sup> year</b>
<b>Delivery schedule</b>	6 months	<b>6 months from LC opening &amp; AERB import authorization.</b>
<b>Training of staff</b>	- 2 Radiation Oncologists - In reputed institution abroad (Number, Place & period)	<b>1 radiation oncologist + 1 medical physicist. Abroad for 2 weeks.</b>

## II. RADIOTHERAPY TREATMENT SIMULATOR UNIT SPECIFICATIONS

CT Scanner General	The system should be of latest slip-ring technology allowing acquisition of dual slices per rotation with true isotropic volume acquisition and sub-millimetre resolution of at least 0.4 mm. Large bore, whole body spiral, multi-slice CT Scanner system should have following essential features:	<b>Dual slice to be changed to 16 slice &amp; wide bore (<math>\geq</math>80cm)</b>
X Ray Tube	Tube Current: 30-400mA or more. mA rating at peak generator power must be mentioned.	<b>Tube voltage <math>\geq</math> 70kV</b>
	Spatial alignment and visualization of two different data sets of one patient generated on different modalities or with different acquisition time (fusion of CT, MRI)	<b>Requirement Deleted</b>
Image evaluation tools	Perfusion CT: Dynamic evaluation of contrast enhancement in organs and tissues, calculation of time-density curves, peak enhancement images and time-to-peak images for brain, liver, pancreas, kidney etc.	<b>Requirement Deleted</b>
	Lung CT: low dose lung CT protocols for advanced lung nodule detection, assessment and follow-up.	<b>Requirement Deleted</b>
	Dental CT: high-resolution evaluation of teeth and jaws with automatic panoramic and paraxial reconstruction, evaluation of mandibular canal and life size filming.	<b>Requirement Deleted</b>
	Virtual endoscopy of colon, bronchi and vessels with VR, MIP, MinIP and SSD display, automatic tracking, forward and reverse path selection. Manipulation of endoscope angle and diameter.	<b>Requirement Deleted</b>
	Facility to reduce streak artefacts in areas such as posterior fossa of head, clavicle, shoulder	<b>Requirement Deleted</b>

	and body parts with metallic implants	
CT -Simulation Workstations	Two CT -Simulation workstations must be provided in addition to the diagnostic CT workstations/console. Both CT -Simulation workstations should have independent full licenses. It should have complete compatibility and error-free networking with the CT scanner computer.	One workstation instead of two.
	Four Green Lasers ( including one moving laser for alignment)	Three green lasers instead of four
	UPS for the complete unit. It should be possible to run the entire equipment including patient scanning for at least 15 minutes.	
	Two sets of standard patient positioning accessories and restraining devices.	
<b>Validity of Quotation</b>	1 year	
<b>Warranty</b>	2 years and 5 years to be quoted separately in financial bid for complete system and CMC for next 5 years after warranty.	2 Years warranty + 8 years CMC to be frozen at 3 <sup>rd</sup> year
<b>Guaranty</b>	Uptime Guaranty (95%) penalty clause.	
<b>Delivery Schedule</b>	6 months	6 months from LC opening & AERB import authorization.
<b>Regulatory Requirement</b>	Please enclose copies	

**VIRTUAL SIMULATION SYSTEM SHOULD HAVE THE FOLLOWING SPECIFICATIONS**

<b>Validity Of Quotation</b>	1 year	
<b>Warranty</b>	2 years and 5 years to be quoted separately in financial bid for complete system and CMC for next 5 years after warranty	2 Years warranty + 8 years CMC to be frozen at 3 <sup>rd</sup> year
<b>Training Of Staff</b>	- Radiation Oncologists - In reputed institution abroad (Number, Place & period)	1 radiation oncologist + 1 medical physicist. Abroad for 2 weeks.

**III. 3D COMPUTERISED RADIOTHERAPY TREATMENT PLANNING SYSTEM SPECIFICATIONS**

<b>Please quote latest State-of-the-art equipment (Universally compatible)</b>		
	Name of Equipment / Model	
<b>Parameters</b>		
Hardware	<ul style="list-style-type: none"> <li>- Processor: 1.7GHz or higher</li> <li>- Hard disk Memory (quote highest available)</li> <li>- RAM (quote highest available)</li> <li>- Interface to CT, MRI and PET image transfer</li> <li>- Interface to Local area networking</li> <li>- Dosimetric beam data interface</li> <li>- Flat High graphical resolution 19" monitor.</li> <li>- CD ROM drive</li> <li>- DAT drive or ZIP drive for back up</li> </ul>	Essential to have appropriate backup facility

	<ul style="list-style-type: none"> <li>- 1.44 MB floppy drive.</li> <li>- Optical MOD drive.</li> <li>- Image input devices</li> <li>- High resolution film scanner to transfer CT/ MRI images</li> <li>- Digitizer</li> <li>- 600 dpi laser jet printer and plotter.</li> <li>- Keyboard and Mouse (as required)</li> <li>- Connectivity to Record &amp; Verifying System</li> </ul>	
Software	<p><b>Teletherapy</b> -Three – dimensional Voxel based planning software using measured beam data and Pencil beam / Monte Carlo beam models for all photons and electron energies in therapeutic range</p> <p>Supporting:</p> <ul style="list-style-type: none"> <li>- Correction for in-homogeneity and body obliquities</li> <li>- Coplanar and Non coplanar Photon electron fields</li> <li>- Combined beam plans of different energies and different modalities.</li> <li>- Irregular, asymmetrical fields</li> <li>- Photon and electron rotational and arc therapies.</li> <li>- MLC, wedges, Blocks and compensators</li> <li>- IMRT: inverse planning for dynamic and static dose delivery methods.</li> <li>- SRS and SRT</li> <li>- Dynamic arc therapy.</li> <li>- Electronic Compensators</li> <li>- Dynamic / Virtual / Motorized wedges</li> <li>- Plan evaluation by dose volume histograms,</li> <li>- 3d image reconstruction using CT images</li> <li>- Multi planar image reconstruction</li> <li>- Beams Eye View</li> <li>- CT/ MRI/ PET image registration and image fusion.</li> </ul>	<p>Pencil beam/ (AAA) Autosegmentation Portal image based QA</p> <p>2 calculation workstations 2 contouring workstations</p> <p>All planning should be possible on the same workstations</p>
<b>Warranty</b>	2 years and 5 years to be quoted separately in financial bid for complete system and CMC for next 5 years after warranty	2 Years warranty + 8 years CMC to be frozen at 3 <sup>rd</sup> year
<b>Uptime Guaranty</b>	Uptime Guaranty 95%/ Penalty Clause.	
<b>Delivery Schedule</b>	6 months	6 months from LC opening & AERB import authorization.
<b>Regulatory Requirement</b>	<ul style="list-style-type: none"> <li>- AERB certification, Type approval and approval by competent authority of India</li> <li>- International – FDA 510K certification</li> </ul>	
<b>Training of staff</b>	- Medical Physicists - In reputed institution abroad (Number, Place & period)	1 radiation oncologist + 1 medical physicist. Abroad for 2 weeks.

**IV. NETWORKING FOR DEPARTMENT OF RADIATION  
ONCOLOGY SPECIFICATIONS**

<b>Application Software(s) shall integrate:</b>	Link between GMCH & New Oncology Centre	Deleted requirement
<b>Hardware Specifications</b>	Hardware specification including. Give detailed specification for:	Separate servers for Image & Database Workstations 2 per machine DICOM RT Compatible
<b>Warranty</b>	2 years and 5 years to be quoted separately in financial bid for complete system and CMC for next 5 years after warranty	2 Years warranty + 8 years CMC to be frozen at 3 <sup>rd</sup> year
<b>Delivery schedule</b>	6 months	6 months from LC opening & AERB import authorization.
<b>Training of staff</b>	Medical Physicist in Reputed center abroad (Number, Place & Person)	1 radiation oncologist + 1 medical physicist. Abroad for 2 weeks.

**VI. MEDICAL PHYSICS DOSIMETRY EQUIPMENT SPECIFICATIONS**

<b>Chambers</b>	0.125 – 0.015 cc thimble detector water proof (n=1)	0.125 cc for RFA 0.015 for Stereotaxy
<b>Phantoms</b>		
IMRT/3D QA Phantom	Accommodative of Ion chambers, TLD chips, MOSFET, Diodes, Ready Pack Films and radio chromatic films (n=1)	2 D Array
<b>Zone Monitors</b>		Two numbers
<b>Warranty</b>	2 years and 5 years to be quoted separately in financial bid for complete system and CMC for next 5 years after warranty	2 Years warranty + 8 years CMC to be frozen at 3 <sup>rd</sup> year
<b>Delivery Schedule</b>	6 months	6 months from LC opening & AERB import authorization.

**VIII. HIGH DOSE RATE REMOTE AFTERLOADING  
BRACHYTHERAPY UNIT SPECIFICATIONS**

<b>Radiation source</b>	Supply of sources over 5-10 years	Supply & Cost of source for 10 years
	Eye applicators	Deleted Requirement
<b>TPS for HDR brachytherapy</b>	Treatment planning system	One separate workstation for brachytherapy which is networked
<b>Integrated Brachytherapy Unit- IBU (OPTIONAL)</b>	X-Ray unit with necessary accessories for Radiography and Fluoroscopy	Not Optional C ARM unit IITV & (9 inch IOV) with DICOM RT Compatibility
<b>Warranty</b>	2 years and 5 years to be quoted separately in financial bid for complete system and CMC for next 5 years after warranty	2 Years warranty + 8 years CMC to be frozen at 3 <sup>rd</sup> year
<b>Delivery Schedule</b>	6 months	6 months from LC opening & AERB import authorization.
<b>Training of Staff</b>	- Radiation Oncologists - In reputed institution abroad (Number, Place & period)	1 radiation oncologist + 1 medical physicist. Abroad for 2 weeks.

## IX. COBALT-60 TELE THERAPY MACHINE

<b>Hand Control</b>	Ceiling mounted hand control; Should have switches for controlling the movements of Gantry and couch.	Ceiling mounted/ Couch mounted hand control
<b>Warranty</b>	1 year from the date of commissioning. During warranty period 95% uptime should be provided.	2 Years warranty + 8 years CMC to be frozen at 3 <sup>rd</sup> year

All vendors have been advised to contact the engineer concerned & RSO for information about requirements for turnkey requirement.

Director of Medical Education, Assam.

Memo No. 167/2011/10507/

Dated : 29-08-2011

Copy for forwarded for information & necessary action to:

1. The Commissioner & Secretary to the Govt. of Assam, Health & F.W.(B) Deptt. Dispur, Guwahati.
2. The Director of information & Public Relations, Assam, Dispur, Guwahati. He is requested to publish the above notice in one issue of 1(one) leading national daily news papers in English and 2 (two) daily local widely circulated news papers ( one each in Assamese & English) and requested to furnish the circulated News paper's copy of the each issue. Enclosed: 5 (five) copies spare copies. **The payment of the National News papers will be made by the undersigned** after receiving Govt. sanction..
3. The Mission Director, NRHM, Assam. He is requested kindly to upload the Tender Notice in the NRHM, Assam Website. Soft copy enclosed.
4. The State Informatics Officer, Block F, Assam Secretariat, Dispur, Guwahati-06. He is requested to upload the Tender Notice in the Assam Govt. Website. Soft copy enclosed.
5. The P.S. to the Hon'ble Minister, Health & F.W. Assam for kind appraisal of the Hon'ble Minister.
6. The Notice Board of this Directorate.

Director of Medical Education, Assam.