

- 13.1 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 13.1 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions

IN WITNESS THEREOF the parties have signed and executed this pact at the place and date first above mentioned in the presents of following witnesses:

**HLL Infra Tech Services Ltd.**

**Bidder**

\_\_\_\_\_

\_\_\_\_\_

Witness

Witness

1.....

1.....

2.....

2.....

\* Provisions of these clauses would be amended /deleted in line with the policy of the HITES in regard to involvement of Indian agents of foreign suppliers.

**Amendment no. 3**

**Sub: Technical Specification Amendment for the tender of State-of-the Art Asvanded Low-Energy Ring Gantry Linar Accelerator system with Turnkey Facility for NCI -AIIMS (Jhajjar) , New Delhi-110029.**

**Ref.: GeM Bid No GEM/2023/B/3174420 Dated: 23-02-2023 for item 'State-of-the Art Asvanded Low-Energy Ring Gantry Linar Accelerator system with Turnkey (Qty: 03 nos.)'**

The following changes are being incorporated in the above referred GeM Bid Number only.

Sr. No.	Tender Specification Page & Para	TENDER SPECIFICATION	Amendment
1	Page 3	Page no 3, Dose Rate	Amended as:- Dose rate: <b>500 MU/min or higher</b>
2	Page 3	Page no.3, point no.3 Technical specification of Linear accelerator, Ring gantry linear accelerator, 1The equipment should be a 6 MV ring gantry-type medical linear accelerator LINAC with a supporting Treatment Planning System	Amended as:-The equipment should be a <b>6 MV and 6MV FFF ring gantry-type</b> medical linear accelerator LINAC with a supporting Treatment Planning System.
3	Page 3	Page no.3 Beam Geometry/Maximum field size. Point no. 2. Field Size for cone beam: 36 x 28 cm2 (or more)-	Amended as:- Field Size for cone beam: <b>28 x 28 cm2</b> (or more)-
4	Page 4	Page no.4 Radiation Leakage Limit: Neutron leakage: The neutron leakage rate should not exceed 0.2% expressed in neutron dose equivalent (Sivert) when added to the photon leakage for a 10 x 10 cm field at the isocenter at any point one meter from the target when the jaws are closed-	Amended as:- <b>DELETED</b>
5	Page 4	Page 4, Radiation Leakage Limit Photon leakage: The photon leakage rate at any point one meter from the target outside the cone defined by the primary x-ray collimator shall be less than 0.1% of the absorbed dose at the isocenter.	Amended as:- Photon leakage: The photon leakage rate at any point one meter from the target outside the cone defined by the primary x-ray collimator shall be less than <b>0.2%</b> of the absorbed dose at the isocenter.
6	Page 4	Page no.4 Mechanical to Radiation isocenter accuracy < 1 mm	Amended as :- <b>DELETED</b>
7	Page 5	Page 4, Type of MLC Dual layer MLC	Amended as:- <b>Please specify MLC size of the offered model, preferably to perform IMRT, VMAT, SRT , SBRT.</b>

8	Page 5	<p>Page 5</p> <p>Leaf Height: Leaf height should be 16 cm</p> <p>Field Penumbra: In-plane versus cross-plane penumbra (mm) <math>\leq 1.0</math></p> <p>Transmission: <math>\leq 0.25\%</math>,</p> <p>Maximum leaf speed,: Should have leaf speed (cm/sec) at least 5.0</p> <p>Leaves Positional Accuracy: Positional accuracy of the leaves during treatment should be 1 mm or less</p> <p>Dosimetric Leaf Gap (DLG): Should be proximal 0.17 mm and distal 0.18 mm</p> <p>Interdigitation &amp; overtravel of leaves; Should be minimum 14 cm or more</p> <p>Radiation Head Leakage (RHL): Should be less than 0.05%</p>	Amended as:- Please specify leaf height of the offered model and inter leaf , Intra leaf transmission.
9	Page 5	Page no.5 Dosimetric Leaf Gap (DLG) Should be proximal 0.17 mm and distal 0.18 mm.	Amended as:- <b>DELETED</b>
10	Page 5	Leaf Height: Leaf height should be 16 cm	Amended as:- Please specify leaf height of the offered model and inter leaf , Intra leaf transmission.
11	Page 5	Page 5, Primary Beam Shielding Integrated beam stopper with adequate thickness to attenuate primary beam as per NCRP report No. 151 should be offered	Amended as:- <b>DELETED</b>
12	Page 5	Page 5, Imaging Capabilities	Amended as:- <b>kV CBCT and all other imaging capabilities/features (2D and 3D) available with the quoted machine model should be provided</b>
13	Page 6	Page 6, 1. Weight limit with image-guided radiation	Amended as:- Page 6, 1. Weight limit with image-

		therapy (IGRT) 2. couch top bearing capacity : Minimum 200 Kg 3. Couch top width (cm) :53 cm 4. Couch top length (cm) : 200 cm 5. IGRT couch top water equivalence (cm): 0.52 and 0.84 6. 6 MV attenuation (%) :1.9% 7. Relative positioning accuracy (cm) $\leq$ 0.05 cm 8. Longitudinal positioning accuracy (cm) $\leq$ 0.1 cm 9. Degrees of freedom :3 10. Lateral travel range (cm) : $\pm$ 20.9 cm 11. Vertical travel range (cm) : - 47.0 to 0 cm 12. Longitudinal travel range (cm) : 0.0 to 165.5 cm 13. Travel range accuracy (cm) : $\pm$ 0.2 cm 14. Lowest couch height above floor (cm) : 63.0 cm	guided radiation therapy (IGRT) 2. couch top bearing capacity : Minimum <b>160 Kg</b> 3. Couch top width (cm) : <b>50 cm or more</b> 4. Couch top length (cm) : <b>200 cm or more</b> <b>5. DELETED</b> <b>6. DELETED</b> <b>7. DELETED</b> <b>8. DELETED</b> <b>9. DELETED</b> <b>10. DELETED</b> <b>11. DELETED</b> <b>12. DELETED</b> <b>13. DELETED</b> <b>14. DELETED</b>
14	Page 6	10. Lateral travel range (cm): $\pm$ 20.9 cm	Amended as:- 10. Lateral travel range (cm): <b><math>\pm</math> 20 cm or more</b>
15	Page 6	12. Longitudinal travel range (cm): 0.0 to 165.5 cm	Amended as:- 12. Longitudinal travel range (cm): 0.0 to <b>165 or more</b>
16	Page 6	14. Lowest couch height above floor (cm): 63.0 cm	Amended as:- 14. Lowest couch height above floor (cm): <b>65.0 cm or less</b>
17	Page 6	Page no 6, under “ Networking- point no 1 & 2, The LINAC should compatible with the existing ARIA OIS system Able to transfer treatment plans from existing EclipseTPS	Amended as:- <b>The offered model should be compatible with the existing TPS and OIS installed in the department.</b>
18	Page 7	Page no.;7 Dose Calculatio Algorithms, 3. The supplied TPS should have a Multi-Criteria Optimization Algorithm (MCO) and be implemented on a Graphical Processing Unit (GPU) based computer HW	Amended as:- The supplied TPS should have a Real Time Trade-Off Exploration Multi-Criteria Optimization Algorithm (MCO) and be implemented on a Graphical Processing Unit (GPU) based computer HW.

19	Page 7	<p>Page 7, The supplied TPS should support knowledge-based automatic planning features</p> <ol style="list-style-type: none"> <li>1. The system should be capable to produce a DVH estimation model based on created plan library or expert library.</li> <li>2. The system should use the estimation DVH model to predict new patient-specific DVH. DVH prediction should automatically create objectives for optimization.</li> <li>3. The system should allow the user to train a model-based library of patient plans.</li> </ol>	Amended as:- The supplied TPS should support knowledge-based/ <b>Template-based automatic</b> planning features
20	Page 9	Page 9, 8. In-Bore Optical Surface Imaging System	Amended as:- The bidder should provide <b>In-Bore/Outside the bore</b> Optical Surface Imaging System compatible with offered model with all necessary licence.
21	Page 8	Routine QA Phantom: Should include phantoms that can be used for routine machine and patientspecific QA tests specified by AERB as well as to create image value-todensity tables for planning and for assessments of MVCT image quality	Amended as:- Routine QA Phantom: Should include phantoms that can be used for routine machine and patientspecific QA tests specified by AERB as well as to create image value-todensity tables for planning and for assessments of <b>CBCT</b> image quality.
22	Page 10	Laser Systems (treatment room) External Laser Alignment System and Gantry integrated laser for patient positioning. Green lasers are preferred. The line width should be less than 1mm. The lasers should be adjustable with remote control.	Amended as:- External Laser Alignment System or <b>In-built</b> Gantry integrated laser for patient positioning. Green lasers are preferred. The line width should be less than 1 mm. The lasers should be adjustable with remote control.
23		General query: Turn-Key works BOQ	Added Para:- Total area for

24	Page 13; Point: 2	The cost of the facility site modification work should be quoted separately, and this cost will be considered for L1 calculation	installation of 03 nos of LINAC will be around 7,000 sqft which include LINAC treatment room, control room, equipment room, change room, UPS room, TPS room, waiting area, chiller room. Payment will be made on pro rata basis. Bidders are strongly advised to visit NCI-AIIMS for assessment of work. Soft copy of layout and drawings can be collected from Project office- NCI-AIIMS. area of 7,000 sqft will be considered for ranking purpose.
25	Page 6, Point 8	8. Transfer of all parameters from existing <b>X-ray simulator</b> , CT-simulator, MRI, PET-CT, etc, and Treatment Planning System for automatic treatment setup & delivery should be provided	Amended as:- 8. Transfer of all parameters from existing CT-simulator, MRI, PET-CT, etc, and Treatment Planning System for automatic treatment setup & delivery should be provided
26	Page 10, UPS	Online UPS (having spike protection) for the whole equipment including computer systems / workstations / accessories / server room shall be provided. The backup for the UPS shall be at least 30 minutes.	Amended as:- Online UPS (having spike protection) for the whole equipment including computer systems / workstations / accessories / server room shall be provided. The backup for the UPS shall be at least <b>15</b> minutes.
27	Page 10	The supplied system should have atleast 30+ systems installed globally with ring based linear accelerators in reputed institutes.	Amended as : <b>DELETED</b>
			Added Para:- For each machine 02 TPS and 03 OIS should be offered.

### **Important Note:**

1. Prospective Bidders are advised to check the GeM Portal regularly prior to the closing date and time of online submission of bid.
2. The Bid Security/EMD shall be valid for 110 days from Techno – Commercial Tender opening date. The techno-commercial tender opening date shall be considered as mentioned in bid document read with it's amendment(s), if any.
3. In reference to the extension of bid opening date as mention on GeM portal, Participating bidders, who are submitting their Bid security/EMD in the form of Bank Guarantee (BG) or FDR are instructed to extend the validity of their BG/FDR accordingly, i.e. required validity of EMD is to be kept in line with the extended bid opening date.

4. Traders/resellers/distributors/authorized agents will not be considered for availing benefits under PP Policy 2012 for MSEs as per MSE guidelines issued by MoMSME
5. Bidders shall ensure that their tender(s), complete in all respects, are submitted online through **GeM portal only**.