

# **NATIONAL TENDER ENQUIRY DOCUMENT**

**FOR PURCHASE OF MEDICAL EQUIPMENT**

**FOR & ON BEHALF OF**

**Chittarranjan National Cancer Institute, Kolkata  
(Campus -II)**

**On E-Tender Basis**

**Tender Enquiry No.: HSCC/PUR/CNCI/Kolkata/Medical Equipment/02/A dt. 13.07.2018**



**HSCC (INDIA) LTD**

**(A GOVERNMENT OF INDIA ENTERPRISE)**

**E-6(A), Sector-1,**

**NOIDA (U.P.) - 201 301**

**PHONE: 0120-2540153**

**FAX: 0120-2542447**

**URL: [www.hsccltd.com](http://www.hsccltd.com)**

## **Important to Bidder:**

**A. Off- line documents submission:- Sealed part –I document is to be submit in tender box in as per the schedule mentioned in section –I.**

- **Bid Security (EMD) – in original**
- **Affidavit- in original.**
- **Bid Summary Sheet**

**Note:**

1. **Bidders are advice to submit above mentioned documents in tender box only in hard copy.**
2. **EMD favour of “HSCC (India) Ltd” payable at New Delhi/ Noida**

## **B. On line documents submission:-**

- **(i) Part –II : Following scan documents upload as per chronological order as mentioned below:**
- **01 Bid summary sheet:** - Bid summary sheet should be as per Section XXII
- **02 EMD:** Demand draft / BG
- **03 Power of Attorney-** Power of attorney should be as per Section XXIII
- **04 Tender Form** Tender form should be as per section X.
- **05 Manufacturers Authorization Form-** Manufacturers Authorization Form should be as per SECTION – XIV
- **06 Affidavit/Undertaking** Affidavit/Undertaking should be as per Section XIX.
- **07 Proforma A** The performa “A” should as per TE document and supported **with purchaser order in accordance to section –IX in order to qualify the qualification criteria. The latest purchaser order along with End user certificate /installation certificate is to be scan from original copy.**
- **08 PAN and Certificate of Incorporation/Declaration”:** PAN Card and Certificate of Incorporation/Declaration of bidder firm.
- **09 Audited Annual report”:** Audited Balance sheet (2014 - 15, 2015 – 16 & 2016 – 17 ) of last 3 completed financial years certified by Chartered Accountant is to be Colour scan from original along with the certificate issued by Chartered Accountant certify
- **10 Certificate of Regn.”:-** The certificate of registration Issued by Directorate of Industries/NSIC, if SSI unit is to be Colour scan from original copy.
- **11 Quality Control Requirements”:-** This format should be as per Section VIII.
- **12 Bidder Information:-** Bidder Information should be as per Section XXIV
- **13 Technical Compliance”:-** Technical compliance for the quoted goods vis-à-vis the Technical specifications with all related brochures/catalogues in the tender enquiry, technical bid.

**Note: Before uploading, bidder should ensure that all above documents is to be sign & stamped.**

## **C. Price Bid**

**Part-III:- Price Bid is to be filled up on line as per the format mentioned in the TE document**

- The bidders are required to be registered at HSCC e-tender portal [www.tenderwizard.com/HSCC](http://www.tenderwizard.com/HSCC) and downloading the bid document from HSCC website. For submission of the bids, the bidders are required to have Digital Signature Certificate (DSC) from one of the authorized Certifying Authorities.

**Tender/Bid Validity: The tender/bid shall remain valid 360 days from the date of Techno – Commercial Tender opening, date prescribed in the TE document. The EMD shall be valid for 415 days from Techno – Commercial Tender opening**

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**Chittarranjan National Cancer Institute, (Campus –II), Kolkata  
Ministry of Health & Family Welfare, Govt. of India,**

**NATIONAL COMPETITIVE BIDDING (NCB), INVITATION FOR BIDS (IFB)**

**FOR SUPPLY, INSTALLATION, TESTING & COMMISSIONING MEDICAL EQUIPMENT  
E-Tendering**

Director, Chittarranjan National Cancer Institute, (CNCI –Campus –II) Kolkata under Ministry of Health & Family Welfare, Govt. of India through their Consultants HSCC (India) Ltd. invites **On-line bids** from eligible bidders, in single stage two bid system for supply, installation, testing, commissioning & handing-over of various Medical Equipment **for Chittarranjan National Cancer Institute, (Campus –II), Kolkata**

The bidders are required to be registered at HSCC e-tender portal [www.tenderwizard.com/HSCC](http://www.tenderwizard.com/HSCC). Please log on to [www.tenderwizard.com/HSCC](http://www.tenderwizard.com/HSCC) only for downloading bid document and for participation through **E-Tendering basis**. For submission and other details, please refer HSCC e-tender portal [www.tenderwizard.com/HSCC](http://www.tenderwizard.com/HSCC). For submission of the bids, the bidders are required to have Digital Signature Certificate (DSC) from one of the authorized Certifying Authorities. The bidders are required to submit Original Bid Security as per Bid Document and submit in the office of **Sr. CGM-I, HSCC (India) Ltd., E-6(A), Sector-1, Noida – 201301 before the date and time fixed for opening of the bid either by registered post or by hand failing which the bid will be declared nonresponsive**

Complete set of Bid Documents has been made available at E-Tender portal [www.tenderwizard.com/HSCC](http://www.tenderwizard.com/HSCC), [www.hsccltd.com](http://www.hsccltd.com) Prospective bidders are advised to regularly scan through HSCC E-Tender portal [www.tenderwizard.com/HSCC](http://www.tenderwizard.com/HSCC), [www.hsccltd.com](http://www.hsccltd.com) as corrigendum/ amendments etc., if any, will be notified on this portal only and no separate advertisement will be made for this.

**Sr. CGM-I, HSCC (I) Ltd  
For & on behalf of Director CMCI, Kolkata**

## SECTION - I

### NOTICE INVITING TENDERS (NIT)

Open E- Tender

FOR

**Chittarranjan National Cancer Institute, (Campus -II), Kolkata**  
**Ministry of Health & Family Welfare, Govt. of India,**

**Tender Enquiry No.: HSCC/PUR/CNCI/Kolkata/Medical Equipment/02/A dated 13.07.2018**

Director, Chittarranjan National Cancer Institute, Kolkata under Ministry of Health & Family Welfare, Govt. of India through their Consultants HSCC (India) Ltd. invites **On-line bids** from eligible bidders, in single stage two bid system for supply, installation, testing, commissioning & handing-over of various Medical Equipment **for Chittarranjan National Cancer Institute, (Campus -II), Kolkata**

Sl.N	Name of the Article	Department	Qty	EMD Rs	Call
1	HIGH-ENERGY LINEAR ACCELERATOR WITH IGRT/IMRT/SRS/SRT FACILITY AND SITE-MODIFICATION	Radiotherapy	2	88,00,000.00	I
2	Wide Bore 4D CT – Simulator	Radiotherapy	1	6,00,000	II
3	PET – CT (Positron Emission Tomography CT Scan )	Radio Nuclear Medicine	1	28,00,000	II

Sl. No.	Description	Schedule
i.	Dates of sale of tender enquiry documents	<b>13.07.2018 to 13.08.2018, 10:00 hrs to 13:00 hrs IST</b>
ii.	Place of sale of Tender Enquiry Documents	HSCC (India) Ltd, E-6 (A), Sector-1, Noida (U.P)-201301
iii.	Cost of the Tender Enquiry Document	Free of cost
iv.	Pre Tender Meeting Date & Time	<b>23.07.2018, 10:00 hrs IST</b>
v.	Pre Tender Meeting Venue	Chittarranjan National Cancer Institute, (Campus -II), Kolkata
vi.	Closing date & time for receipt of Tender	<b>13.08.2018, 14:00 hrs IST</b>
vii.	Time and date of opening of Techno – Commercial tenders	<b>13.08.2018, 14:30 hrs IST</b>
viii.	Venue of Opening of Techno Commercial Tender	Same as 2 (ii)

- Please long on to [www.tenderwizard.com/HSCC](http://www.tenderwizard.com/HSCC) only for downloading bid document and for participation through **e-tendering basis**. All corrigendum /modifications /amendments, if any, will be published on the website [www.tenderwizard.com/HSCC](http://www.tenderwizard.com/HSCC) only. All bidders are requested to visit this website on regular basis.
- Tenderer may also downloaded the tender enquiry documents from the web site <http://eprocure.gov.in/cppp>, [www.hsccltd.com](http://www.hsccltd.com) and submit its tender by utilizing the downloaded document, along with the required non-refundable fee as mentioned in Para 3 above. The tender shall be submitted, all the necessary documents and in physical form

(with respect to few documents as mentioned in the SIT) in parts/covers as mentioned below:

**A. In Original Offline & Copy Online ( In separate Envelope : Part-I)**

- (i) EMD (in original)
- (ii) Affidavit as per Section XIX (in original)
- (iii) Bid summary sheet as per Section XXII

**B. Online (Part-II)**

- (i) Bid summary sheet as per Section XXI
- (ii) EMD.
- (iii) Power of Attorney as per Section XXIII
- (iv) Tender Form as per section X.
- (v) Manufacturers Authorization Form as SECTION – XIV
- (vi) Affidavit as per Section XIX.
- (vii) Proforma “A” **with purchaser order in accordance to section –IX in order to qualify the bidder qualification criteria. The copy of latest purchaser order along with installation certificate /service report performance certificate is to be scan and upload accordingly.**
- (viii) Copy of PAN and Certificate of Incorporation/Declaration being a proprietary firm of the bidder.
- (ix) Audited Annual report of last 3 completed financial years (Balance sheet and Profit & Loss Account).
- (x) Certificate of Regn. Issued by Directorate of Industries/NSIC, if SSI unit.
- (xi) Quality Control Requirements as per Section VIII
- (xii) Bidder Information as per Section XXIV

3. All prospective tenderers may attend the **Pre Tender meeting**. The venue, date and time indicated in the Para 2 above.
4. **Bids to be submitted on-line only in single stage two bid system, i.e. Techno-commercial Bid (unpriced bid) and the Price Bid, for the above, including Bid Security on or before the closing date and time indicated above, failing which the tenders will be treated as late and rejected.**
5. In the event of any of the above tender opening/closing dates being declared as holiday/closed day for the purchase organization, the bids will be sold/received/opened on the next working day at the stipulated time.
6. The Tender Enquiry Documents are not transferable.
7. Bids shall be evaluated separately for each **item**.
8. HSCC reserves the right to accept or reject any or all of the tenders in full or in part including the lowest bid without assigning any reason thereof or incurring any liability thereby.

Sr. CGM-I, HSCC (I) Ltd  
For & on behalf of Director CNCI, Kolkata

**SECTION - II**

**GENERAL INSTRUCTIONS TO TENDERERS (GIT)**

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## GENERAL INSTRUCTIONS TO TENDERERS (GIT)

### A. PREAMBLE

#### 1. Definitions and Abbreviations

1.1 The following definitions and abbreviations, which have been used in these documents shall have the meanings as indicated below:

1.2. Definitions:

- (i) "Purchaser" means Director, Chittarranjan National Cancer Institute, (CNCI) Kolkata under Ministry of Health & Family Welfare, Govt. of India
- (ii) "Tender" means Bids / Quotation / Tender received from a Firm / Tenderer / Bidder.
- (iii) "Tenderer" means Bidder/ the Individual or Firm submitting Bids / Quotation / Tender
- (iv) "Supplier" means the individual or the firm supplying the goods and services as incorporated in the contract.
- (v) "Goods" means the articles, material, commodities, livestock, furniture, fixtures, raw material, spares, instruments, machinery, equipment, medical equipment, industrial plant etc. which the supplier is required to supply to the purchaser under the contract.
- (vi) "Services" means services allied and incidental to the supply of goods, such as transportation, installation, commissioning, provision of technical assistance, training, after sales service, maintenance service and other such obligations of the supplier covered under the contract.
- (vii) "Earnest Money Deposit" (EMD) means Bid Security/ monetary or financial guarantee to be furnished by a tenderer along with its tender.
- (viii) "Contract" means the written agreement entered into between the purchaser and/or consignee and the supplier, together with all the documents mentioned therein and including all attachments, annexure etc. therein.
- (ix) "Performance Security" means monetary or financial guarantee to be furnished by the successful tenderer for due performance of the contract placed on it. Performance Security is also known as Security Deposit.
- (x) "Consignee" means the **Director, Chittarranjan National Cancer Institute, (CNCI Campus -II) Kolkata** person to whom the goods are required to be delivered as specified in the Contract. If the goods are required to be delivered to a person as an interim consignee for the purpose of despatch to another person as provided in the Contract then that "another" person is the consignee, also known as ultimate consignee.
- (xi) "Specification" means the document/standard that prescribes the requirement with which goods or service has to conform.
- (xii) "Inspection" means activities such as measuring, examining, testing, gauging one or more characteristics of the product or service and comparing the same with the specified requirement to determine conformity.
- (xiii) "Day" means calendar day.

1.3 Abbreviations:

- (i) "TE Document" means Tender Enquiry Document
- (ii) "NIT" means Notice Inviting Tenders.
- (iii) "GIT" means General Instructions to Tenderers
- (iv) "SIT" means Special Instructions to Tenderers
- (v) "GCC" means General Conditions of Contract
- (vi) "SCC" means Special Conditions of Contract
- (vii) "DGS&D" means Directorate General of Supplies and Disposals
- (viii) "NSIC" means National Small Industries Corporation
- (ix) "PSU" means Public Sector Undertaking
- (x) "CPSU" means Central Public Sector Undertaking
- (xi) "LSI" means Large Scale Industry

- (xii) "SSI" means Small Scale Industry
- (xiii) "LC" means Letter of Credit
- (xiv) "DP" means Delivery Period
- (xv) "BG" means Bank Guarantee
- (xvi) "ED" means Excise Duty
- (xvii) "CD" means Custom Duty
- (xviii) "VAT" means Value Added Tax –Deleted
- (xix) "CENVAT" means Central Value Added Tax
- (xx) "CST" means Central Sales Tax –Deleted
- (xxi) "RR" means Railway Receipt
- (xxii) "BL" means Bill of Lading
- (xxiii) "FOB" means Free on Board
- (xxiv) "FCA" means Free Carrier
- (xxv) "FOR" means Free On Rail
- (xxvi) "CIF" means Cost, Insurance and Freight
- (xxvii) "CIP (Destinations)" means Carriage and Insurance Paid up to Consignee Site. Additionally the Insurance (local transportation and storage) would be extended and borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery.
- (xxviii) "DDP" means Delivery Duty Paid named place of destination (consignee site)
- (xxix) "INCOTERMS" means International Commercial Terms as on the date of Tender Opening
- (xxx) Detected
- (xxxi) "Dte. GHS" means Directorate General and Health Services, MOH&FW.
- (xxxii) "CMC" means Comprehensive maintenance Contract (labour, spare and preventive maintenance)
- (xxxiii) "RT" means Re-Tender.
- (xxxiv) GST – Goods and Services tax**

## **2. Introduction**

- 2.1 The Purchaser has issued these TE documents for purchase of goods and related services as mentioned in Section – VI – "List of Requirements", which also indicates, *interalia*, the required delivery schedule, terms and place of delivery.
- 2.2 This section (Section II - "General Instruction Tenderers") provides the relevant information as well as instructions to assist the prospective tenderers in preparation and submission of tenders. It also includes the mode and procedure to be adopted by the purchaser for receipt and opening as well as scrutiny and evaluation of tenders and subsequent placement of contract.
- 2.3 The tenderers shall also read the Special Instructions to Tenderers (SIT) related to this purchase, as contained in Section III of these documents and follow the same accordingly. Whenever there is a conflict between the GIT and the SIT, the provisions contained in the SIT shall prevail over those in the GIT.
- 2.4 Before formulating the tender and submitting the same to the purchaser, the tenderer should read and examine all the terms, conditions, instructions, checklist etc. contained in the TE documents. Failure to provide and/or comply with the required information, instructions etc. incorporated in these TE documents may result in rejection of its tender.

## **3. Availability of Funds**

- 3.1 Expenditure to be incurred for the proposed purchase will be met from the funds available with the purchaser/consignee.

## **4. Language of Tender**

- 4.1 The tender submitted by the tenderer and all subsequent correspondence and documents relating to the tender exchanged between the tenderer and the purchaser, shall be written in the English language, unless otherwise specified in the Tender Enquiry. However, the language of any printed literature furnished by the tenderer in connection with its tender may be written in any other language provided the same is accompanied by an English translation and, for purposes of interpretation of the tender, the English translation shall prevail.

- 4.2 The tender submitted by the tenderer and all subsequent correspondence and documents relating to the tender exchanged between the tenderer and the purchaser, may also be written in the Hindi language, provided that the same are accompanied by English translation, in which case, for purpose of interpretation of the tender etc, the English translations shall prevail.

## **5. Eligible Tenderers**

- 5.1 This invitation for tenders is open to all suppliers who fulfil the eligibility criteria specified in these documents.

## **6. Eligible Goods and Services**

- 6.1 All goods and related services to be supplied under the contract shall have their origin in India or any other country with which India has not banned trade relations. The term "origin" used in this clause means the place where the goods are mined, grown, produced, or manufactured or from where the related services are arranged and supplied.

## **7. Tendering Expense**

- 7.1 The tenderer shall bear all costs and expenditure incurred and/or to be incurred by it in connection with its tender including preparation, mailing and submission of its tender and for subsequent processing the same. The purchaser will, in no case be responsible or liable for any such cost, expenditure etc regardless of the conduct or outcome of the tendering process.

## **B. TENDER ENQUIRY DOCUMENTS**

### **8. Content of Tender Enquiry Documents**

- 8.1 In addition to Section I – "Notice inviting Tender" (NIT), the TE documents include:

- Section II – General Instructions to Tenderers (GIT)
- Section III – Special Instructions to Tenderers (SIT)
- Section IV – General Conditions of Contract (GCC)
- Section V – Special Conditions of Contract (SCC)
- Section VI – List of Requirements
- Section VII – Technical Specifications
- Section VIII – Quality Control Requirements
- Section IX – Qualification Criteria
- Section X – Tender Form
- Section XI – Price Schedules
- Section XII – Questionnaire
- Section XIII – Bank Guarantee Form for EMD
- Section XIV – Manufacturer's Authorisation Form
- Section XV – Bank Guarantee Form for Performance Security/CMC Security
- Section XVI – Contract Forms A & B
- Section XVII – Proforma of Consignee Receipt Certificate
- Section XVIII – Proforma of Final Acceptance Certificate by the consignee
- Section XIX – Instructions from Ministry of Shipping/ Surface Transport (Annexure 1 & 2)
- Section XX – Check List for the Tenderers
- Section XXI – Consignee List

- 8.2 The relevant details of the required goods and services, the terms, conditions and procedure for tendering, tender evaluation, placement of contract, the applicable contract terms and, also, the standard formats to be used for this purpose are incorporated in the above-mentioned documents. The interested tenderers are expected to examine all such details etc to proceed further.

### **9. Amendments to TE documents**

- 9.1 At any time prior to the deadline for submission of tenders, the purchaser may, for any reason deemed fit by it, modify the TE documents by issuing suitable amendment(s) to it.
- 9.2 Such an amendment will be published on website.
- 9.3 In order to provide reasonable time to the prospective tenderers to take necessary action in preparing their tenders as per the amendment, the purchaser may, at its discretion extend the deadline for the submission of tenders and other allied time frames, which are linked with that deadline.
- 10. Clarification of TE documents**
- 10.1 A tenderer requiring any clarification or elucidation on any issue of the TE documents may take up the same with the purchaser in writing. The purchaser will respond in writing to such request provided the same is received by the purchaser.

### **C. PREPARATION OF TENDERS**

#### **11. Documents Comprising the Tender**

Please refer Clause no. 3 under Section -I

**Note: The bidder shall not submit hard copy of financial bid otherwise his tender shall be straightway rejected. Also, uploading the price bid in prequalification bid or technical bid will result in rejection of the tender**

It is the responsibility of tenderer to go through the TE document to ensure furnishing all required documents in addition to above, if any.

- 11.1 The **Two Tender System**, i.e. “Techno – Commercial Tender” and “Price Tender” prepared by the tenderer shall comprise the following:

#### **A) Techno – Commercial Tender (Un priced Tender)**

- i) Earnest money furnished in accordance with GIT clause 19.1 alternatively, documentary evidence as per GIT clause 19.2 for claiming exemption from payment of earnest money.
- ii) Tender Form as per Section X (without indicating any prices).
- iii) Documentary evidence, as necessary in terms of clauses 5 and 17 establishing that the tenderer is eligible to submit the tender and, also, qualified to perform the contract if its tender is accepted.
- iv) Tenderer/Agent who quotes for goods manufactured by other manufacturer shall furnish Manufacturer’s Authorisation Form.
- v) Power of Attorney in favour of signatory of TE documents.
- vi) Documents and relevant details to establish in accordance with GIT clause 18 that the goods and the allied services to be supplied by the tenderer conform to the requirement of the TE documents.
- vii) Performance Statement as per section IX along with relevant copies of orders and end users’ satisfaction certificate.
- viii) Price Schedule(s) as per Section XI filled up with all the details including Make, Model etc. of the goods offered with prices blank (without indicating any prices).

#### **B) Price Tender:**

The information given at clause no. 11.1 A) ii) & viii) above should be reproduced with the prices indicated. **In case of tenderer quoting for more than 1 (one) item, the prices for the quoted items should be submitted in separate sealed covers.**

**NOTE:**

1. All pages of the Tender should be page numbered
  2. It is the responsibility of tenderer to go through the TE document to ensure furnishing all required documents in addition to above, if any.
- 11.2 The authorized signatory of the tenderer must sign the tender duly stamped at appropriate places and initial all the remaining pages of the tender. Individuals signing the tender or other documents connected with a contract must specify whether he signs as:
- i. A 'Sole Proprietor' of the firm or constituted attorney of such Sole Proprietor.
  - ii. A partner of the firm, if it be a partnership, in which case he must have authority to quote & to refer to arbitration dispute concerning the business of the partnership either by virtue of the partnership agreement or a power of attorney;
  - iii. Constituted attorney of the firm if it is a company.

**NOTE:**

1. In case of (ii) above, a copy of the partnership agreement or general power of attorney, in either, case, attested by a Notary Public should be furnished, or affidavit on stamped paper of all the partners admitting execution of the partnership agreement or the general power of attorney should be furnished.
  2. In case of the Partnership firms, where no authority to refer disputes concerning the business of the partnership has been conferred on any partner, the tender and all other related documents must be signed by every partner of the firm.
  3. A person signing the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrantee that he has authority to bind such other persons and if, on enquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the signatory liable for all cost and damages.
- 11.3 A tender, which does not fulfil any of the above requirements and/or gives evasive information/reply against any such requirement, shall be liable to be ignored and rejected.
- 11.4 Tender sent by fax/telex/cable/electronically shall be ignored.

**12. Tender currencies**

- 12.1 Deleted
- 12.2 For imported goods if supplied directly from abroad, prices shall be quoted in any freely convertible currency say US Dollar, Euro, GBP or Yen. As regards price(s) for allied services, if any required with the goods, the same shall be quoted in Indian Rupees only if such services are to be performed /undertaken in India. Commission for Indian Agent, if any and if payable shall be indicated in the space provided for in the price schedule and will be payable in Indian Rupees only.
- 12.3 **Tenders, where prices are quoted in any other way shall be treated as non -responsive and rejected.**

**13 Tender Prices**

- 13.1 The Tenderer shall indicate on the Price Schedule provided under Section XI all the specified components of prices shown therein including the unit prices and total tender prices of the goods and services it proposes to supply against the requirement. All the columns shown in the price schedule should be filled up as required. If any column does not apply to a tenderer, same should be clarified as "NA" by the tenderer.
- 13.2 If there is more than one schedule in the List of Requirements, the tenderer has the option to submit its quotation for any one or more schedules and, also, to offer special discount for combined schedules. However, while quoting for a schedule, the tenderer shall quote for the complete requirement of goods and services as specified in that particular schedule.
- 13.3 The quoted prices for goods offered from within India and that for goods offered from abroad are to be indicated separately in the applicable Price Schedules attached under Section XI.
- 13.4 While filling up the columns of the Price Schedule, the following aspects should be noted for compliance:

13.4.1 For domestic goods or goods of foreign origin located within India, the prices in the corresponding price schedule shall be entered separately in the following manner:

- a) the price of the goods, quoted ex-factory/ ex-showroom/ ex-warehouse/ off-the-shelf, as applicable, including all taxes and duties like GST/Sales tax, Custom Duty, etc. already paid or payable on the components and raw material used in the manufacture or assembly of the goods quoted ex-factory etc. or on the previously imported goods of foreign origin quoted ex-showroom etc;
- b) any sales or other taxes which will be payable on the goods in India if the contract is awarded;
- c) charges towards Packing & Forwarding, Inland Transportation, Insurance (local transportation and storage) would be borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery, Loading/Unloading and other local costs incidental to delivery of the goods to their final destination as specified in the List of Requirements and Price Schedule;
- d) the price of Incidental Services, as mentioned in List of Requirements and Price Schedule;
- e) the prices of Turnkey ( if any), as mentioned in List of Requirements, Technical Specification and Price Schedule; and
- f) the price of annual CMC, as mentioned in List of Requirements, Technical Specification and Price Schedule.

13.4.2 For goods offered from abroad, the prices in the corresponding price schedule shall be entered separately in the following manner:

- a) The price of goods quoted FOB/FCA port of shipment, as indicated in the List of Requirements and Price Schedule;
- b) The amount of freight and insurance.
- c) the price of goods quoted CIP (at Consignee Site) Basis as indicated in the List of Requirements & Price Schedule;
- d) the charges for Incidental Services including Customs Duty on (CDEC) basis/ DSIR certificate, Custom Clearance, inland transport upto Consignee's site, installation & commissioning, supervision, Demonstration & training, as in the List of Requirements and Price Schedule.
- e) the charges for Insurance (local transportation and storage) would be extended and borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery. Other local costs and Incidental costs, as specified in the List of Requirements and Price Schedule;
- f) the charges for Incidental Services, as in the List of Requirements and Price Schedule;
- g) the prices of Turnkey ( if any), as mentioned in List of Requirements, Technical Specification and Price Schedule; and
- h) the price of annual CMC, as mentioned in List of Requirements, Technical Specification and Price Schedule.

13.5 Additional information and instruction on Duties and Taxes:

13.5.1 If the Tenderer desires to ask for GST/Sales tax to be paid extra, the same must be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such GST and no claim for the same will be entertained later.

13.5.2 Excise Duty: Detected

13.5.3 GST:

If a tenderer asks for GST/ Sales tax to be paid extra, the rate and nature of GST/Sales tax applicable should be shown separately. The GST/Sales tax will be paid as per the rate at which it is liable to be assessed or has actually been assessed provided the transaction of sale is legally liable to GST /Sales tax and is payable as per the terms of the contract. If any refund of Tax is received at a later date, the Supplier must return the amount forth-with to the purchaser.

13.5.4 Octroi Duty and Local Duties & Taxes: Detected

#### 13.5.5 Customs Duty:

The Purchaser will pay the Customs duty wherever applicable.

- 13.6 For transportation of imported goods offered from abroad, relevant instructions as incorporated under GCC Clause 10 shall be followed.
- 13.7 For insurance of goods to be supplied, relevant instructions as provided under GCC Clause 11 shall be followed.
- 13.8 Unless otherwise specifically indicated in this TE document, the terms FCA, FOB, FAS, CIF, CIP, DDP etc. for imported goods offered from abroad, shall be governed by the rules & regulations prescribed in the current edition of INCOTERMS, published by the International Chamber of Commerce, Paris
- 13.9 The need for indication of all such price components by the tenderers, as required in this clause (viz., GIT clause 13) is for the purpose of comparison of the tenders by the purchaser and will no way restrict the purchaser's right to award the contract on the selected tenderer on any of the terms offered.

#### 14. Indian Agent

- 14.1 If a foreign tenderer has engaged an agent in India in connection with its tender, the foreign tenderer, in addition to indicating Indian agent's commission, if any, in a manner described under GIT sub clause 12.2 above, shall also furnish the following information:
- a) The complete name and address of the Indian Agent and its permanent income tax account number as allotted by the Indian Income Tax authority.
  - b) The details of the services to be rendered by the agent for the subject requirement.
  - c) Details of Service outlets in India, nearest to the consignee(s), to render services during Warranty and CMC period.
  - d) A copy of agreement between the Agent & their principal detailing the terms & conditions as well as services and after sales services as above to be rendered by the agent and the precise relationship between them and their mutual interest in the business.
  - e) Principal / manufacturer's original proforma invoice with the price bid.

#### 15. Firm Price

- 15.1 Unless otherwise specified in the SIT, prices quoted by the tenderer shall remain firm and fixed during the currency of the contract and not subject to variation on any account.
- 15.2 However, as regards taxes and duties, if any, chargeable on the goods and payable, the conditions stipulated in GIT clause 13 will apply.

#### 16. Alternative Tenders

- 16.1 Alternative Tenders are not permitted.
- 16.2 However the Tenderers can quote alternate models meeting the tender specifications of same manufacturer with single EMD.
- 16.3
- a). If a tenderer, either the Indian Agent on behalf of the Principal / OEM or Principal / OEM itself can bid but both cannot bid simultaneously for the same item/ product in the same tender
  - b). If an agent submits bid on behalf of the Principal / OEM, the same agent shall not submit a bid on behalf of another Principal / OEM in the same tender for the same item / product.

#### 17 Documents Establishing Tenderer's Eligibility and Qualifications

- 17.1 Pursuant to GIT clause 11, the tenderer shall furnish, as part of its tender, relevant details and documents establishing its eligibility to quote and its qualifications to perform the contract if its tender is accepted.



- 17.2 The documentary evidence needed to establish the tenderer's qualifications shall fulfil the following requirements:
- a) in case the tenderer offers to supply goods, which are manufactured by some other firm, the tenderer has been duly authorised by the goods manufacturer to quote for and supply the goods to the purchaser. The tenderer shall submit the manufacturer's authorization letter to this effect as per the standard form provided under Section XIV in this document.
  - b) the tenderer has the required financial, technical and production capability necessary to perform the contract and, further, it meets the qualification criteria incorporated in the Section IX in these documents.
  - c) in case the tenderer is not doing business in India, it is duly represented by an agent stationed in India fully equipped and able to carry out the required contractual functions and duties of the supplier including after sale service, maintenance & repair etc. of the goods in question, stocking of spare parts and fast moving components and other obligations, if any, specified in the conditions of contract and/or technical specifications.

**18. Documents establishing Good's Conformity to TE document.**

- 18.1 The tenderer shall provide in its tender the required as well as the relevant documents like technical data, literature, drawings etc. to establish that the goods and services offered in the tender fully conform to the goods and services specified by the purchaser in the TE documents. For this purpose the tenderer shall also provide a clause-by-clause commentary on the technical specifications and other technical details incorporated by the purchaser in the TE documents to establish technical responsiveness of the goods and services offered in its tender.
- 18.2 In case there is any variation and/or deviation between the goods & services prescribed by the purchaser and that offered by the tenderer, the tenderer shall list out the same in a chart form without ambiguity and provide the same along with its tender.
- 18.3 If a tenderer furnishes wrong and/or misleading data, statement(s) etc. about technical acceptability of the goods and services offered by it, its tender will be liable to be ignored and rejected in addition to other remedies available to the purchaser in this regard.

**19. Earnest Money Deposit (EMD)**

- 19.1 Pursuant to GIT clauses 8.1 and 11.1(d) the tenderer shall furnish along with its tender, earnest money for amount as shown in the List of Requirements. The earnest money is required to protect the purchaser against the risk of the tenderer's unwarranted conduct as amplified under sub-clause 19.7 below.
- 19.2 The tenderers who are currently registered and, also, will continue to remain registered during the tender validity period with Directorate General of Supplies & Disposals or with National Small Industries Corporation, New Delhi for the specific goods as per tender enquiry specification shall be eligible for exemption from EMD. Vague stipulations in the Registration Certificate such as "to customers' specification" etc. will not be acceptable for exemption from furnishing of earnest money. In case the tenderer falls in these categories, it should furnish copy of its valid registration details (with DGS&D or NSIC, as the case may be).
- 19.3 The earnest money shall be denominated in Indian Rupees or equivalent currencies as per GIT clause 12.2. The earnest money shall be furnished in one of the following forms:
- i) Account Payee Demand Draft
  - ii) Banker's cheque and
  - iii) Bank Guarantee
- 19.4 The demand draft or banker's cheque shall be drawn on any commercial bank in India or country of the tenderer, in favour of the "**HSCC (India) Ltd**" payable at New Delhi/Noida. In case of bank guarantee, the same is to be provided from any commercial bank in India or country of the tenderer as per the format specified under Section XIII in these documents

- 19.5 The earnest money shall be valid for a period of forty-five (45) days beyond the validity period of the tender. As validity period of Tender as per Clause 20 of GIT is **360 days**, the EMD shall be valid for **415 days** from Techno – Commercial Tender opening date. **In case of extension of submission of bid/ tender, the validity of bid security (EMD) may be considered from the original date of submission of bid.**
- 19.6 Unsuccessful tenderers' earnest money will be returned to them without any interest, after expiry of the tender validity period, but not later than thirty days after conclusion of the resultant contract. Successful tenderer's earnest money will be returned without any interest, after receipt of performance security from that tenderer.
- 19.7 Earnest Money is required to protect the purchaser against the risk of the Tenderer's conduct, which would warrant the forfeiture of the EMD. Earnest money of a tenderer will be forfeited, if the tenderer withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender **or if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged without prejudice to other rights of the purchaser.** The successful tenderer's earnest money will be forfeited without prejudice to other rights of Purchaser if it fails to furnish the required performance security within the specified period.
- 19.8 In the case of Bank Guarantee furnished from banks outside India (i.e. foreign Banks), it should be authenticated and countersigned by any nationalised bank in India by way of back-to-back counter guarantee and the same should be submitted along with the bid.

## **20. Tender Validity**

- 20.1 If not mentioned otherwise in the SIT, the tenders shall remain valid for acceptance for a period of **360 days** after the date of tender opening prescribed in the TE document. Any tender valid for a shorter period shall be treated as unresponsive and rejected.
- 20.2 In exceptional cases, the tenderers may be requested by the purchaser to extend the validity of their tenders up to a specified period. Such request(s) and responses thereto shall be conveyed by surface mail or by fax/ telex/cable followed by surface mail. The tenderers, who agree to extend the tender validity, are to extend the same without any change or modification of their original tender and they are also to extend the validity period of the EMD accordingly. A tenderer, however, may not agree to extend its tender validity without forfeiting its EMD.
- 20.3 In case the day up to which the tenders are to remain valid falls on/ subsequently declared a holiday or closed day for the purchaser, the tender validity shall automatically be extended up to the next working day.

## **21. Signing and Sealing of Tender**

- 21.1 The tenderers shall submit their tenders as per the instructions contained in GIT Clause 11.
- 21.2 Deleted
- 21.3 The original and other copies of the tender shall either be typed or written in indelible ink and the same shall be signed by the tenderer or by a person(s) who has been duly authorized to bind the tenderer to the contract. The letter of authorization shall be by a written power of attorney, which shall also be furnished along with the tender.

## **D. SUBMISSION OF TENDERS**

### **22. Submission of Tenders**

**Bidders are requested not to submit the hard copy of Price Bid along with the physical form of tender. Uploading of the price bid in prequalification bid or technical bid will result in rejection of the tender.**

- 22.2 The tenderers must ensure that they deposit their tenders not later than the closing time and date specified for submission of tenders. It is the responsibility of the tenderer to ensure that their Tenders whether sent by post or by courier or by person, are dropped in the Tender Box by the specified clearing date and time. In the event of the specified date for

submission of tender falls on / is subsequently declared a holiday or closed day for the purchaser, the tenders will be received up to the appointed time on the next working day.

### **23. Late Tender**

- 23.1 A tender, which is received after the specified date and time for receipt of tenders will be treated as "late" tender and will be ignored.

### **24. Alteration and Withdrawal of Tender**

- 24.1 The tenderer, after submitting its tender, is permitted to alter / modify its tender so long as such alterations / modifications are received duly signed, sealed and marked like the original tender, within the deadline for submission of tenders. Alterations / modifications to tenders received after the prescribed deadline will not be considered.
- 24.2 No tender should be withdrawn after the deadline for submission of tender and before expiry of the tender validity period. If a tenderer withdraws the tender during this period, it will result in forfeiture of the earnest money furnished by the tenderer in its tender.

## **E. TENDER OPENING**

### **25. Opening of Tenders**

- 25.1 The purchaser will open the tenders at the specified date and time and at the specified place as indicated in the NIT.

In case the specified date of tender opening falls on / is subsequently declared a holiday or closed day for the purchaser, the tenders will be opened at the appointed time and place on the next working day.

- 25.2 **Authorized representatives of the tenderers, who have submitted tenders on time may attend the tender opening provided they bring with them letters of authority from the corresponding tenderers.**

The tender opening official(s) will prepare a list of the representatives attending the tender opening. The list will contain the representatives' names & signatures and corresponding tenderers' names and addresses.

- 25.3 Two - Tender system as mentioned in Para 21.6 above will be as follows. The **Techno - Commercial Tenders** are to be opened in the first instance, at the prescribed time and date as indicated in NIT. These Tenders shall be scrutinized and evaluated by the competent committee/ authority with reference to parameters prescribed in the TE document. During the Techno - Commercial Tender opening, the tender opening official(s) will read the salient features of the tenders like brief description of the goods offered, delivery period, Earnest Money Deposit and any other special features of the tenders, as deemed fit by the tender opening official(s). Thereafter, in the second stage, the Price Tenders of only the Techno - Commercially acceptable offers (as decided in the first stage) shall be opened for further scrutiny and evaluation on a date notified after the evaluation of the Techno - Commercial tender. The prices, special discount if any of the goods offered etc., as deemed fit by tender opening official(s) will be read out.

## **F. SCRUTINY AND EVALUATION OF TENDERS**

### **26. Basic Principle**

- 26.1 Tenders will be evaluated on the basis of the terms & conditions already incorporated in the TE document, based on which tenders have been received and the terms, conditions etc. mentioned by the tenderers in their tenders. No new condition will be brought in while scrutinizing and evaluating the tenders.

### **27. Scrutiny of Tenders**

- 27.1 The Purchaser will examine the Tenders to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed stamped and whether the Tenders are generally in order.
- 27.2 The Purchaser's determination of a tender's responsiveness is to be based on the contents of the tender itself without recourse to extrinsic evidence.
- 27.3 The tenders will be scrutinized to determine whether they are complete and meet the essential and important requirements, conditions etc. As prescribed in the TE document. The tenders, which do not meet the basic requirements, are liable to be treated as non – responsive and will be rejected.
- 27.4 The following are some of the important aspects, for which a tender shall be **declared non – responsive and will be summarily ignored;**
- (i) Tender form as per Section X (Signed and stamped) not enclosed.
  - (ii) Tender is unsigned.
  - (iii) Tender validity is shorter than the required period.
  - (iv) Required EMD (Amount, validity etc.)/ exemption documents have not been provided.
  - (v) Tenderer has quoted for goods manufactured by other manufacturer(s) without the required Manufacturer's Authorisation Form as per Section XIV.
  - (vi) Tenderer has not agreed to other essential condition(s) specially incorporated in the tender enquiry like terms of payment, liquidated damages clause, warranty clause, dispute resolution mechanism applicable law.
  - (vii) Poor/ unsatisfactory past performance.
  - (viii) Tenderers who stand deregistered/banned/blacklisted by any Govt. Authorities.
  - (ix) Tenderer has not quoted for the entire quantity as specified in the List of Requirements in the quoted schedule.
  - (x) Tenderer has not agreed for the delivery terms & delivery schedule.

## **28. Minor Infirmary/Irregularity/Non-Conformity**

- 28.1 If during the evaluation, the purchaser find any any minor informality and/or irregularity and/or non-conformity in a tender, the purchaser will convey its observation on such 'minor' issues to the tenderer by registered/speed post etc. asking the tenderer to respond by a specified date. If the tenderer does not reply by the specified date or gives evasive reply without clarifying the point at issue in clear terms, that tender will be liable to be ignored.

## **29 Discrepancies in Prices**

- 29.1 If, in the price structure quoted by a tenderer, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless the purchaser feels that the tenderer has made a mistake in placing the decimal point in the unit price, in which case the total price as quoted shall prevail over the unit price and the unit price corrected accordingly.
- 29.2 If there is an error in a total price, which has been worked out through addition and/or subtraction of subtotals, the subtotals shall prevail and the total corrected; and
- 29.3 If there is a discrepancy between the amount expressed in words and figures, the amount in words shall prevail, subject to sub clause 29.1 and 29.2 above.
- 29.4 If, as per the judgement of the purchaser, there is any such arithmetical discrepancy in a tender, the same will be suitably conveyed to the tenderer by registered / speed post. If the tenderer does not agree to the observation of the purchaser, the tender is liable to be ignored.

## **30. Discrepancy between original and copies of Tender**

- 30.1 In case any discrepancy is observed between the text etc. of the original copy and that in the other copies of the same tender set, the text etc. of the original copy shall prevail. Here also, the purchaser will convey its observation suitably to the tenderer by register / speed post and, if the tenderer does not accept the purchaser's observation, that tender will be liable to be ignored.

### **31. Qualification Criteria**

31.1 **Tenders of the tenderers, who do not meet the required Qualification Criteria prescribed in Section IX, will be treated as non - responsive and will not be considered further.**

### **32. Conversion of tender currencies to Indian Rupees**

32.1 In case the TE document permits the tenderers to quote their prices in different currencies, all such quoted prices of the responsive tenderers will be converted to a single currency viz., Indian Rupees for the purpose of equitable comparison and evaluation, as per the exchange rates established by the Reserve Bank of India for similar transactions, as on the date of 'Price Tender' opening.

### **33. Schedule-wise Evaluation**

33.1 In case the List of Requirements contains more than one schedule, the responsive tenders will be evaluated and compared separately for each schedule. The tender for a schedule will not be considered if the complete requirements prescribed in that schedule are not included in the tender. However, as already mentioned in GIT sub clause 13.2, the tenderers have the option to quote for any one or more schedules and offer discounts for combined schedules. Such discounts wherever applicable will be taken into account to determine the lowest evaluated cost for the purchaser in deciding the successful tenderer for each schedule, subject to tenderer(s) being responsive.

### **34. Comparison of Tenders**

34.1 Unless mentioned otherwise in Section – III – Special Instructions to Tenderers and Section – VI – List of Requirements, the comparison of the responsive tenders shall be carried out on ware house to consignee site basis. The quoted turnkey prices and CMC prices will also be added for comparison/ranking purpose for evaluation.

### **35. Additional Factors and Parameters for Evaluation and Ranking of Responsive Tenders**

35.1 Further to GIT Clause 34 above, the purchaser's evaluation of a tender will include and take into account the following:

- i) In the case of goods manufactured in India or goods of foreign origin already located in India, GST/Sales tax & other similar taxes & other similar duties, Customs Duties, etc which will be contractually payable (to the tenderer), on the goods if a contract is awarded on the tenderer; and
- ii) in the case of goods of foreign origin offered from abroad, customs duty and other similar import duties/taxes, which will be contractually payable (to the tenderer) on the goods if the contract is awarded on the tenderer.

35.2 The purchaser's evaluation of tender will also take into account the additional factors, if any, incorporated in SIT in the manner and to the extent indicated therein.

35.3 i. In exercise of powers conferred in section 11 of the Micro, Small and Medium Enterprises Development (MSMED) Act 2006, the Government has notified a new Public Procurement Policy for Micro & Small enterprises effective from 1st April 2012. The policy mandates that 20% of procurement of annual requirement of goods and services by all Central Ministries/Public Sector Undertakings will be from the micro and small enterprises. The Government has also earmarked a sub-target of 4% procurement of goods & services from MSEs owned by SC/ST entrepreneurs out of above said 20% quantity.

- ii. In accordance with the above said notification, the participating Micro and Small Enterprises (MSEs) in a tender, quoting price within the band of L 1+15% would also be allowed to supply a portion of the requirement by bringing down their price to the L1 price, in a situation where L1 price is from someone other than on MSE. Such MSEs would be allowed to supply up to 20% of the total tendered value. In case there are more than one such eligible MSE, the 20%

supply will be shared equally. Out of 20% of the quantity earmarked for supply from MSEs, 4% quantity is earmarked for procurement from MSEs owned by SC/ST entrepreneurs. However, in the event of failure of such MSEs to participate in the tender process or meet the tender requirements and the L1 price, the 4% quantity earmarked for MSEs owned by SC/ST entrepreneurs will be met from other participating MSEs.

- iii. The MSEs fulfilling the prescribed eligibility criteria and participating in the tender shall enclose with their tender a copy of their valid registration certificate with District Industries Centres or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir board or national Small Industries Corporation or any other body specified by Ministry of Micro and Small enterprises in support of their being on MSE, failing which their tender will be liable to be ignored.

### **36. Tenderer's capability to perform the contract**

- 36.1 The purchaser, through the above process of tender scrutiny and tender evaluation will determine to its satisfaction whether the tenderer, whose tender has been determined as the lowest evaluated responsive tender is eligible, qualified and capable in all respects to perform the contract satisfactorily. If, there is more than one schedule in the List of Requirements, then, such determination will be made separately for each schedule.
- 36.2 The above-mentioned determination will, inter alia, take into account the tenderer's financial, technical and production capabilities for satisfying all the requirements of the purchaser as incorporated in the TE document. Such determination will be based upon scrutiny and examination of all relevant data and details submitted by the tenderer in its tender as well as such other allied information as deemed appropriate by the purchaser.

### **37. Contacting the Purchaser**

- 37.1 From the time of submission of tender to the time of awarding the contract, if a tenderer needs to contact the purchaser for any reason relating to this tender enquiry and / or its tender, it should do so only in writing.
- 37.2 In case a tenderer attempts to influence the purchaser in the purchaser's decision on scrutiny, comparison & evaluation of tenders and awarding the contract, the tender of the tenderer shall be liable for rejection in addition to appropriate administrative actions being taken against that tenderer, as deemed fit by the purchaser.

## G. AWARD OF CONTRACT

### 38. Purchaser's Right to accept any tender and to reject any or all tenders

38.1 The purchaser reserves the right to accept in part or in full any tender or reject any or more tender(s) without assigning any reason or to cancel the tendering process and reject all tenders at any time prior to award of contract, without incurring any liability, whatsoever to the affected tenderer or tenderers.

### 39. Award Criteria

39.1 Subject to GIT clause 38 above, the contract will be awarded to the lowest evaluated responsive tenderer decided by the purchaser in terms of GIT Clause 36.

### 40. Variation of Quantities at the Time of Award/ Currency of Contract

40.1 At the time of awarding the contract, the purchaser reserves the right to increase or decrease by up to twenty five (25) per cent, the quantity of goods and services mentioned in the schedule (s) in the "List of Requirements" (rounded of to next whole number) without any change in the unit price and other terms & conditions quoted by the tenderer.

40.2 If the quantity has not been increased at the time of the awarding the contract, the purchaser reserves the right to increase by up to twenty five (25) per cent, the quantity of goods and services mentioned in the contract (rounded of to next whole number) without any change in the unit price and other terms & conditions mentioned in the contract, during the currency of the contract after one year from the Date of Notification of Award.

### 41. Notification of Award

41.1 Before expiry of the tender validity period, the purchaser will notify the successful tenderer(s) in writing, by registered / speed post or by fax/ telex/cable (to be confirmed by registered / speed post) that its tender for goods & services, which have been selected by the purchaser, has been accepted, also briefly indicating therein the essential details like description, specification and quantity of the goods & services and corresponding prices accepted. **The successful tenderer must furnish to the purchaser the required performance security within thirty days from the date of dispatch of this notification, failing which the EMD will be forfeited and the award will be cancelled.** Relevant details about the performance security have been provided under GCC Clause 5 under Section IV.

41.2 The Notification of Award shall constitute the conclusion of the Contract. The Notification of Award/ Supply order shall constitute the conclusion of the Contract agreement from date of issue. The Notification of Award/ Supply order will be placed on successful bidder (i.e. manufacturer and /or manufacturer authorised agent). **The manufacturer and /or manufacturer authorised agent shall be jointly and severally liable to perform the all contractually obligations under the agreement**

### 42. Issue of Contract

42.1 Promptly after notification of award, the Purchaser/Consignee will mail the contract form (as per Section XVI) duly completed and signed, in duplicate, to the successful tenderer by registered / speed post.

42.2 **Within thirty days** from the date of the contract, the successful tenderer shall return the original copy of the contract, duly signed and dated, to the Purchaser/Consignee by registered / speed post.

42.3 The Purchaser/Consignee reserves the right to issue the Notification of Award consignee wise.

**43. Non-receipt of Performance Security and Contract by the Purchaser/Consignee**

43.1 Failure of the successful tenderer in providing performance security and / or returning contract copy duly signed in terms of GIT clauses 41 and 42 above shall make the tenderer liable for forfeiture of its EMD and, also, for further actions by the Purchaser/Consignee against it as per the clause 24 of GCC – Termination of default.

**44. Return of E M D**

44.1 The earnest money of the successful tenderer and the unsuccessful tenderers will be returned to them without any interest, whatsoever, in terms of GIT Clause 19.6.

**45. Publication of Tender Result**

45.1 The name and address of the successful tenderer(s) receiving the contract(s) will be mentioned in the notice board/bulletin/web site of the purchaser.

**46. Corrupt or Fraudulent Practices**

46.1 It is required by all concerned namely the Consignee/Tenderers/Suppliers etc to observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Purchaser: -

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (i) “corrupt practice” means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution; and
  - (ii) “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the Purchaser of the benefits of free and open competition
- (b) will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract by the purchaser if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing the contract.



**SPECIAL INSTRUCTIONS TO TENDERERS  
(SIT)**

The following Special Instructions to Tenderers will apply for this purchase. These special instructions will modify/substitute/supplement the corresponding General Instructions to Tenderers (GIT) incorporated in Section II. The corresponding GIT clause numbers have also been indicated in the text below:

In case of any conflict between the provision in the GIT and that in the SIT, the provision contained in the SIT shall prevail.

**A Preamble**

No Change

**B TE documents**

10. Clarification of TE documents

10.1 During pre bid meeting clarification asked by the bidder will be respond by the purchaser. The Bidder request shall be in writing and submit to HSCC office during pre bid meeting or not later than **three days** from date of pre bid meeting, thereafter the bidder request will be ignore or rejected. The purchaser response (including explanation of the query but without identifying the source of inquiry) will be displayed on the website only [www.hsccltd.com](http://www.hsccltd.com).

**19. Earnest Money Deposit (EMD)**

**19.5 The earnest money deposit (EMD)/ bid security shall be valid for a period 415 days from the Techno – Commercial Tender opening date.** In case of extension of submission of bid/ tender, the validity of bid security (EMD) may be considered from the original date of submission of bid.

**20. Tender Validity**

20.1 If not mentioned otherwise in the SIT, the tenders shall remain valid for acceptance for a period of **360 days** from the date of Techno – Commercial Tender opening, date prescribed in the TE document. Any tender valid for a shorter period shall be treated as unresponsive and rejected.

**E Tender Opening**

Tender opening commitee first open envelop, if no bid Security/EMD bid will be rejected.

**G Award of Contract**

42. Issue of Contract

42.1 Deleted

**47. If a firm quoted NIL charges /consideration, the bid shall be treated as unresponsive and will not be considered.**

**SECTION - IV**  
**GENERAL CONDITIONS OF CONTRACT (GCC)**  
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## **GENERAL CONDITIONS OF CONTRACT (GCC)**

### **1. Application**

- 1.1 The General Conditions of Contract incorporated in this section shall be applicable for this purchase to the extent the same are not superseded by the Special Conditions of Contract prescribed under Section V, List of requirements under Section VI and Technical Specification under Section VII of this document.

### **2. Use of contract documents and information**

- 2.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract or any provision thereof including any specification, drawing, sample or any information furnished by or on behalf of the purchaser in connection therewith, to any person other than the person(s) employed by the supplier in the performance of the contract emanating from this TE document. Further, any such disclosure to any such employed person shall be made in confidence and only so far as necessary for the purposes of such performance for this contract.
- 2.2 Further, the supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC sub-clause 2.1 above except for the sole purpose of performing this contract.
- 2.3 Except the contract issued to the supplier, each and every other document mentioned in GCC sub-clause 2.1 above shall remain the property of the purchaser and, if advised by the purchaser, all copies of all such documents shall be returned to the purchaser on completion of the supplier's performance and obligations under this contract.

### **3. Patent Rights**

- 3.1 The supplier shall, at all times, indemnify and keep indemnified the purchaser, free of cost, against all claims which may arise in respect of goods & services to be provided by the supplier under the contract for infringement of any intellectual property rights or any other right protected by patent, registration of designs or trademarks. In the event of any such claim in respect of alleged breach of patent, registered designs, trade marks etc. being made against the purchaser, the purchaser shall notify the supplier of the same and the supplier shall, at his own expenses take care of the same for settlement without any liability to the purchaser.

### **4. Country of Origin**

- 4.1 All goods and services to be supplied and provided for the contract shall have the origin in India or in the countries with which the Government of India has trade relations.
- 4.2 The word "origin" incorporated in this clause means the place from where the goods are mined, cultivated, grown, manufactured, produced or processed or from where the services are arranged.
- 4.3 The country of origin may be specified in the Price Schedule

### **5. Performance Security**

- 5.1 **Within thirty (30) days from date of the issue of notification of award by the Purchaser/Consignee,** the supplier, shall furnish performance security to the Purchaser/Consignee for an amount equal to ten percent (10%) of the total value of the contract, valid up to sixty (60) days after the date of completion of all contractual obligations by the supplier, including the warranty obligations, initially valid for a period of **minimum 68 months** for Radiotherapy, Nuclear Medicine, MRI & CT and **66 months** for other equipment **from the date of Notification of Award..**

- 5.2 The Performance security shall be denominated in Indian Rupees or in the currency of the contract as detailed below:
- a) It shall be in any one of the forms namely Account Payee Demand Draft or Fixed Deposit Receipt drawn from any Scheduled bank in India or Bank Guarantee issued by a Scheduled bank in India, in the prescribed form as provided in section XV of this document in favour of the Purchaser/Consignee. The validity of the Fixed Deposit receipt or Bank Guarantee will be for a period up to **sixty (60) days beyond Warranty Period.**
- 5.3 In the event of any failure /default of the supplier with or without any quantifiable loss to the government including furnishing of consignee wise Bank Guarantee for CMC security as per Proforma in Section XV, the amount of the performance security is liable to be forfeited. The Administration Department may do the needful to cover any failure/default of the supplier with or without any quantifiable loss to the Government.
- 5.4 In the event of any amendment issued to the contract, the supplier shall, within twenty-one (21) days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended.
- 5.5 The supplier shall enter into Annual Comprehensive Maintenance Contract as per the 'Contract Form – B' in Section XVI with respective consignees, 3 (three) months prior to the completion of Warranty Period. The CMC will commence from the date of expiry of the Warranty Period.
- 5.6 Subject to GCC sub – clause 5.3 above, the Purchaser/Consignee will release the Performance Security without any interest to the supplier on completion of the supplier's all contractual obligations including the warranty obligations & after receipt of Consignee wise bank guarantee for CMC security in favour of Head of the Hospital/ Institute/ Medical College of the consignee as per the format in Section XV.

## **6. Technical Specifications and Standards**

- 6.1 The Goods & Services to be provided by the supplier under this contract shall conform to the technical specifications and quality control parameters mentioned in 'Technical Specification' and 'Quality Control Requirements' under Sections VII and VIII of this document.

## **7. Packing and Marking**

- 7.1 The packing for the goods to be provided by the supplier should be strong and durable enough to withstand, without limitation, the entire journey during transit including transshipment (if any), rough handling, open storage etc. without any damage, deterioration etc. As and if necessary, the size, weights and volumes of the packing cases shall also take into consideration, the remoteness of the final destination of the goods and availability or otherwise of transport and handling facilities at all points during transit up to final destination as per the contract.
- 7.2 The quality of packing, the manner of marking within & outside the packages and provision of accompanying documentation shall strictly comply with the requirements as provided in Technical Specifications and Quality Control Requirements under Sections VII and VIII and in SCC under Section V. In case the packing requirements are amended due to issue of any amendment to the contract, the same shall also be taken care of by the supplier accordingly.
- 7.3 Packing instructions:

Unless otherwise mentioned in the Technical Specification and Quality Control Requirements under Sections VII and VIII and in SCC under Section V, the supplier shall make separate packages for each consignee (in case there is more than one consignee mentioned in the contract) and mark each package on three sides with the following with indelible paint of proper quality:

- a. contract number and date

- b. brief description of goods including quantity
- c. packing list reference number
- d. country of origin of goods
- e. consignee's name and full address and
- f. supplier's name and address

## **8. Inspection, Testing and Quality Control**

- 8.1 The purchaser and/or its nominated representative(s) will, without any extra cost to the purchaser, inspect and/or test the ordered goods and the related services to confirm their conformity to the contract specifications and other quality control details incorporated in the contract. The purchaser shall inform the supplier in advance, in writing, the purchaser's programme for such inspection and, also the identity of the officials to be deputed for this purpose. The cost towards the transportation, boarding & lodging will be borne by the purchaser and/or its nominated representative(s) for the first visit. In case the goods are rejected in the first instance and the supplier requests for re-inspection, & if same is accepted by purchaser / consignee / PSA/ PA, all subsequent inspections shall be at the cost of the supplier. The expense will be to and fro. Economy Airfare, Local Conveyance, Boarding and Lodging of the inspection team for the inspection period.
- 8.2 The Technical Specification and Quality Control Requirements incorporated in the contract shall specify what inspections and tests are to be carried out and, also, where and how they are to be conducted. If such inspections and tests are conducted in the premises of the supplier or its subcontractor(s), all reasonable facilities and assistance, including access to relevant drawings, design details and production data, shall be furnished by the supplier to the purchaser's inspector at no charge to the purchaser.
- 8.3 If during such inspections and tests the contracted goods fail to conform to the required specifications and standards, the purchaser's inspector may reject them and the supplier shall either replace the rejected goods or make all alterations necessary to meet the specifications and standards, as required, free of cost to the purchaser and resubmit the same to the purchaser's inspector for conducting the inspections and tests again.
- 8.4 In case the contract stipulates pre-despatch inspection of the ordered goods at supplier's premises, the supplier shall put up the goods for such inspection to the purchaser's inspector well ahead of the contractual delivery period, so that the purchaser's inspector is able to complete the inspection within the contractual delivery period.
- 8.5 If the supplier tenders the goods to the purchaser's inspector for inspection at the last moment without providing reasonable time to the inspector for completing the inspection within the contractual delivery period, the inspector may carry out the inspection and complete the formality beyond the contractual delivery period at the risk and expense of the supplier. The fact that the goods have been inspected after the contractual delivery period will not have the effect of keeping the contract alive and this will be without any prejudice to the legal rights and remedies available to the purchaser under the terms & conditions of the contract.
- 8.6 The purchaser's/consignee's contractual right to inspect, test and, if necessary, reject the goods after the goods' arrival at the final destination shall have no bearing of the fact that the goods have previously been inspected and cleared by purchaser's inspector during pre-despatch inspection mentioned above.

"On rejection, the supplier shall remove such stores within 14 days of the date of intimation of such rejection from the consignee's premises. If such goods are not removed by the supplier within the period mentioned above, the purchaser / consignee may remove the rejected stores and either return the same to the supplier at his risk and cost by such mode of transport as purchaser / consignee may decide or dispose of such goods at the suppliers risk to recover any expense incurred in connection with such disposals and also the cost of the rejected stores if already paid for."

- 8.7 Goods accepted by the purchaser/consignee and/or its inspector at initial inspection and in final inspection in terms of the contract shall in no way dilute purchaser's/consignee's right to reject the same later, if found deficient in terms of the warranty clause of the contract, as incorporated under GCC Clause 15.
- 8.8 Principal/ Foreign supplier shall also have the equipment inspected by recognised/ reputed agency like SGS, Lloyd or equivalent (acceptable to the purchaser) prior to despatch at the supplier's cost and furnish necessary certificate from the said agency in support of their claim.

## 9. Terms of Delivery

- 9.1 Goods shall be delivered by the supplier in accordance with the terms of delivery and as per the delivery period specified in the schedule of requirement. Please note that the time shall be the essence of the contract.

## 10. Transportation of Goods

- 10.1 Instructions for transportation of imported goods offered from abroad:

The supplier shall not arrange part-shipments and/or transshipment without the express/prior written consent of the purchaser. The supplier is required under the contract to deliver the goods under CIP (at Consignee site) basis terms; the shipment shall be made by Indian flag vessel or by vessels belonging to the conference lines in which India is a member country through India's forwarding agents/coordinators. In case the forwarding agent/coordinators are unable to provide timely adequate space in Indian flag vessel or by vessels belonging to the conference lines, the supplier shall arrange shipment through any available vessel to adhere to the delivery schedule given in the contract.

In case of airlifting of imported goods offered from abroad, the same will be done only through the National Carrier i.e. Air India wherever applicable. In case the National Carrier is not available, any other airlines available for early delivery may be arranged.

- 10.2 Instructions for transportation of domestic goods including goods already imported by the supplier under its own arrangement:

In case no instruction is provided in this regard in the SCC, the supplier will arrange transportation of the ordered goods as per its own procedure.

## 11. Insurance:

- 11.1 Unless otherwise instructed in the SCC, the supplier shall make arrangements for insuring the goods against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the following manner:

- i) **in case of supply of domestic goods on Consignee site basis, the supplier shall be responsible till the entire stores contracted for arrival in good condition at destination. The transit risk in this respect shall be covered by the Supplier by getting the stores duly insured for an amount equal to 110% of the value of the goods from ware house to ware house (consignee site) on all risk basis. The insurance cover shall be obtained by the Supplier and should be valid till 3 months after the receipt of goods by the Consignee.**
- ii) **in case of supply of the imported goods on CIP Named port of Destination Basis, the additional extended Insurance (local transportation and storage) would be borne by the Supplier from the port of entry to the consignee site. The transit risk in this respect shall be covered by the Supplier by getting the stores duly insured for an amount equal to 110% of the value of the goods from ware house to ware house (consignee site) on all risk basis. The insurance cover shall be obtained by the Supplier and should be valid till 3 months after the receipt of goods by the Consignee.**

If the equipment is not commissioned and handed over to the consignee within 3 months, the insurance will be got extended by the supplier at their cost till the successful installation, testing, commissioning and handing over of the goods to the consignee. In case the delay in the installation and commissioning is due to handing over of the site to the supplier by the consignee, such extensions of the insurance will still be done by the supplier, but the insurance extension charges at actual will be reimbursed.

## 12. Spare parts

- 12.1 If specified in the List of Requirements and in the resultant contract, the supplier shall supply/provide any or all of the following materials, information etc. pertaining to spare parts manufactured and/or supplied by the supplier:
- a) The spare parts as selected by the Purchaser/Consignee to be purchased from the supplier, subject to the condition that such purchase of the spare parts shall not relieve the supplier of any contractual obligation including warranty obligations; and
  - b) In case the production of the spare parts is discontinued:
    - i) Sufficient advance notice to the Purchaser/Consignee before such discontinuation to provide adequate time to the purchaser to purchase the required spare parts etc., and
    - ii) Immediately following such discontinuation, providing the Purchaser/Consignee, free of cost, the designs, drawings, layouts and specifications of the spare parts, as and if requested by the Purchaser/Consignee.
- 12.2 Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the goods so that the same are used during warranty and CMC period.

### **13. Incidental services**

- 13.1 Subject to the stipulation, if any, in the SCC (Section – V), List of Requirements (Section – VI) and the Technical Specification (Section – VII), the supplier shall be required to perform the following services.
- i) Installation & commissioning, Supervision and Demonstration of the goods
  - ii) Providing required jigs and tools for assembly, minor civil works required for the completion of the installation.
  - iii) Training of Consignee's Doctors, Staff, operators etc. for operating and maintaining the goods
  - iv) Supplying required number of operation & maintenance manual for the goods

### **14. Distribution of Dispatch Documents for Clearance/Receipt of Goods**

The supplier shall send all the relevant despatch documents well in time to the Purchaser/Consignee to enable the Purchaser/Consignee clear or receive (as the case may be) the goods in terms of the contract.

Unless otherwise specified in the SCC, the usual documents involved and the drill to be followed in general for this purpose are as follows.

- A) For Domestic Goods, including goods already imported by the supplier under its own arrangement

Within 24 hours of despatch, the supplier shall notify the purchaser, consignee, and others concerned if mentioned in the contract, the complete details of despatch and also supply the following documents to them by registered post / speed post (or as instructed in the contract):

- (i) Copy of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
- (ii) Consignee Receipt Certificate as per Section XVII in original issued by the authorized representative of the consignee;
- (iii) Two copies of packing list identifying contents of each package;
- (iv) Inspection certificate issued by the nominated Inspection agency, if any.
- (v) Certificate of origin;
- (vi) Insurance Certificate as per GCC Clause 11.
- (vii) Manufacturers/Supplier's warranty certificate & In-house inspection certificate.

- B) For goods imported from abroad

Within 24 hours of despatch, the supplier shall notify the purchaser, consignee, and others concerned if mentioned in the contract, the complete details of despatch and also supply the following documents to them by registered post / speed post (or as instructed in the contract).

**Any delay or demurrage occurred during the customs clearance on account of the non-availability of technical support/ clarifications /documents from the supplier shall be borne by the supplier:**

- (i) Copy of supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
- (ii) Original and Copy of the negotiable clean, on-board Bill of Lading/Airway bill, marked freight pre paid and Copy of non-negotiable Bill of Lading/Airway bill;
- (iii) Copy of packing list identifying contents of each package;
- (iv) Insurance Certificate as per GCC Clause 11.
- (v) Manufacturer's/Supplier's warranty certificate;
- (vi) Inspection Certificate for the despatched equipments issued by recognized/ reputed agency like SGS, Lloyd or equivalent (acceptable to the purchaser) prior to despatch
- (vii) Manufacturer's own factory inspection report;
- (viii) Certificate of origin
- (ix) Port of Loading;
- (x) Port of Discharge and
- (xi) Expected date of arrival.
- (xii) Any other documents require in order to avoid the demurrage on the goods.

## 15. Warranty

- 15.1 The supplier warrants comprehensively that the goods supplied under the contract is new, unused and incorporate all recent improvements in design and materials unless prescribed otherwise by the purchaser in the contract. The supplier further warrants that the goods supplied under the contract shall have no defect arising from design, materials (*except when the design adopted and / or the material used are as per the Purchaser's/Consignee's specifications*) or workmanship or from any act or omission of the supplier, that may develop under normal use of the supplied goods under the conditions prevailing in India.
- 15.2 The **warranty** shall remain valid for **5 (Five) Years** from the date of installation & commissioning followed by a **CMC for a period of 5 (Five) Years** for all the equipments after the goods or any portion thereof as the case may be, have been delivered to the final destination and installed and commissioned at the final destination and accepted by the purchaser/CONSIGNEE in terms of the contract, unless specified otherwise in the SCC
  - a. No conditional warranty like mishandling, manufacturing defects etc. will be acceptable.
  - b. Warranty as well as Comprehensive Maintenance contract will be inclusive of all accessories and Turnkey work
  - c. Replacement and repair will be under taken for the defective goods.
  - d. Proper marking has to be made for all spares for identification like printing of installation and repair dates.
- 15.3 In case of any claim arising out of this warranty, the Purchaser/Consignee shall promptly notify the same in writing to the supplier. The period of the warranty will be as per G.C.C clause number 15.2 above irrespective of any other period mentioned elsewhere in the bidding documents.
- 15.4 Upon receipt of such notice, the supplier shall, within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis respond to take action to repair or replace the defective goods or parts thereof, free of cost, at the ultimate destination. The supplier shall take over the replaced parts/goods after providing their replacements and no claim, whatsoever shall lie on the purchaser for such replaced parts/goods thereafter. The penalty clause for non rectification will be applicable as per tender conditions
- 15.5 In the event of any rectification of a defect or replacement of any defective goods during the warranty period, the warranty for the rectified/replaced goods shall be extended till the completion of the original warranty period of the main equipment.
- 15.6 If the supplier, having been notified, fails to respond to take action to repair or replace the defect(s) within 8 hours on a 24(hrs) X 7 (days) X 365 (days) basis, the purchaser may proceed to take such remedial action(s) as deemed fit by the purchaser, at the risk and expense of the supplier and without prejudice to other contractual rights and remedies, which the purchaser may have against the supplier.



- 15.7 During Warranty period, the supplier is required to visit at each consignee's site at least once in 6 months commencing from the date of the installation for preventive maintenance of the goods
- 15.8 **The Purchaser/Consignee reserve the rights to enter into Annual Comprehensive Maintenance Contract between Consignee and the Supplier for the period as mentioned in Section VII, Technical Specifications after the completion of warranty period.**
- 15.9 The supplier along with its Indian Agent and the CMC provider shall ensure continued supply of the spare parts for the machines and equipments supplied by them to the purchaser for 10 years from the date of installation and handing over.
- 15.10 The Supplier along with its Indian Agent and the CMC Provider shall always accord most favoured client status to the Purchaser vis-à-vis its other Clients/Purchasers of its equipments/machines/goods etc. and shall always give the most competitive price for its machines/equipments supplied to the Purchaser/Consignee.

## **16. Assignment**

- 16.1 The Supplier shall not assign, either in whole or in part, its contractual duties, responsibilities and obligations to perform the contract, except with the Purchaser's prior written permission.

## **17. Sub Contracts**

- 17.1 The Supplier shall notify the Purchaser in writing of all sub contracts awarded under the contract if not already specified in its tender. Such notification, in its original tender or later, shall not relieve the Supplier from any of its liability or obligation under the terms and conditions of the contract.
- 17.2 Sub contract shall be only for bought out items and sub-assemblies.
- 17.3 Sub contracts shall also comply with the provisions of GCC Clause 4 ("Country of Origin").

## **18. Modification of contract**

- 18.1 If necessary, the purchaser may, by a written order given to the supplier at any time during the currency of the contract, amend the contract by making alterations and modifications within the general scope of contract in any one or more of the following:
- a) Specifications, drawings, designs etc. where goods to be supplied under the contract are to be specially manufactured for the purchaser,
  - b) Mode of packing,
  - c) Incidental services to be provided by the supplier
  - d) Mode of despatch,
  - e) Place of delivery, and
  - f) Any other area(s) of the contract, as felt necessary by the purchaser depending on the merits of the case.
- 18.2 In the event of any such modification/alteration causing increase or decrease in the cost of goods and services to be supplied and provided, or in the time required by the supplier to perform any obligation under the contract, an equitable adjustment shall be made in the contract price and/or contract delivery schedule, as the case may be, and the contract amended accordingly. If the supplier doesn't agree to the adjustment made by the Purchaser/Consignee, the supplier shall convey its views to the Purchaser/Consignee within twenty-one days from the date of the supplier's receipt of the Purchaser's/Consignee's amendment / modification of the contract.

## **19. Prices**

- 19.1 Prices to be charged by the supplier for supply of goods and provision of services in terms of the contract shall not vary from the corresponding prices quoted by the supplier in its tender and incorporated in the contract except for any price adjustment authorised in the SCC.

## **20. Taxes and Duties**

- 20.1 Supplier shall be entirely responsible for all taxes, duties, fees, levies etc. incurred until delivery of the contracted goods to the purchaser.
- 20.2 Further instruction, if any, shall be as provided in the SCC.

## **21. Terms and Mode of Payment**

### **21.1 Payment Terms**

Payment shall be made subject to recoveries, if any, by way of liquidated damages or any other charges as per terms & conditions of contract in the following manner.

#### **a) Payment for Imported Goods through Letter of Credit:**

Payment for foreign currency portion shall be made in the currency as specified in the contract in the following manner:

##### **i) On Shipment:**

**80 %** of the net CIP price (CIP price less Indian Agency commission) of the goods shipped shall be paid through irrevocable, non-transferable Letter of Credit (LC) opened in favour of the supplier in a bank in his country and upon submission of documents specified hereunder:

- (i) Supplier's invoice showing contract number, goods description, quantity, unit price and total amount;
- (ii) Airway bill /Bill of Lading
- (iii) Packing list identifying contents of each package showing contract number duly signed & stamped by third party inspection agency i.e SGS, Lloyd, Bureau Veritas, TUV
- (iv) Insurance Certificate as per tender terms
- (v) Manufacturer's/Supplier's warranty certificate.
- (vi) Manufacturer's own factory inspection report.
- (vii) Certificate of origin by the chamber of commerce of the concerned country;
- (viii) Equipment Inspection report by third party inspection agency viz SGS, Lloyd, BureauVeritas, TUV inspection prior to despatch.
- (ix) Despatch note issued by HSCC.

##### **ii) On Acceptance:**

Balance payment of **20 %** of net CIP price of goods would be made against 'Final Acceptance Certificate' as per Section XVIII to be issued by the consignees/HSCC to the supplier. The supplier shall submit the original final acceptance certificate to the Purchaser (HSCC India Ltd) who shall issue no objection certificate to the banker for payment through irrevocable Letter of Credit (LC) opened in favour of the Foreign Principal in a bank in his country, subject to recoveries, if any.

#### **b) Payment for Domestic Goods Or Foreign Origin Located within India.**

Payment shall be made in Indian Rupees as specified in the contract in the following manner:

##### **i) On delivery:**

80 % payment of the contract price shall be paid on receipt of goods in good condition and upon the submission of the following documents:

1. Copy of Purchase order
2. Consignee receipt in original issued by CNCI -Kolkata/HSCC.
3. Invoice in favour of consignee through HSCC
4. Packing list showing NOA duly vetted by third party inspection agency i.eSGS, Lloyd, Bureau Veritas, TUV
5. Insurance certificate as per tender terms
6. Despatch note issued by HSCC
7. Manufacture's / supplier's warranty certificate
- 8.** Equipment Inspection report by third party inspection agency viz SGS, Lloyd, Bureau Veritas, TUV prior to despatch.

##### **ii) On Acceptance:**

Balance 20 % payment would be made on submission of following document:

1. Copy of Purchase order, copy of performance security valid upto tender terms.
2. Copy of consignee receipt
3. Final Acceptance Certificate (Installation & commissioning certificate) in original issued by CNCI –Kolkata/HSCC on completion of installation & commissioning
4. Insurance certificate as per tender terms.
5. Invoice in favour of consignee through HSCC

**c) Payment of Turnkey, if any:**

Turnkey payment will be paid to the manufacturer's agent in the local currency for an amount in Indian rupees made as indicated in the relevant Price Schedule and shall not be subject to further escalation / exchange variation. Turnkey payment will be made on pro-rata basis against work done certified by site In charge.

**d) Payment for Annual Comprehensive Maintenance Contract Charges:**

The consignee will enter into CMC with the supplier at the rates as stipulated in the contract. The payment of CMC will be made on **six monthly basis after satisfactory completion of said** period, duly certified by the consignee on receipt of bank guarantee for an amount equivalent to 2.5 % of the cost of the equipment as per contract in the prescribed format given in Section XV valid till 2 months after expiry of entire CMC period.

- 21.2 The supplier shall not claim any interest on payments under the contract.
- 21.3 Where there is a statutory requirement for tax deduction at source, such deduction towards income tax and other tax as applicable will be made from the bills payable to the Supplier at rates as notified from time to time.
- 21.4 Irrevocable & non – transferable LC shall be opened by the respective consignees. However, if the supplier requests specifically to open confirmed LC, the extra charges would be borne by the supplier. If LC is required to be extended and/or amended for reasons not attributable to the purchaser/consignee, the charges thereof shall be borne by the supplier.
- 21.5 The payment shall be made in the currency / currencies authorised in the contract.
- 21.6 The supplier shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, to respective consignees.
- 21.7 While claiming payment, the supplier is also to certify in the bill that the payment being claimed is strictly in terms of the contract and all the obligations on the part of the supplier for claiming that payment has been fulfilled as required under the contract.
- 21.8 While claiming reimbursement of duties, taxes etc. (like sales tax, excise duty, custom duty) from the Purchaser/Consignee, as and if permitted under the contract, the supplier shall also certify that, in case it gets any refund out of such taxes and duties from the concerned authorities at a later date, it (the supplier) shall refund to the Purchaser/Consignee forthwith.
- 21.9 In case where the supplier is not in a position to submit its bill for the balance payment for want of receipted copies of Inspection Note from the consignee and the consignee has not complained about the non-receipt, shortage, or defects in the supplies made, balance amount will be paid by the paying authority without consignee's receipt certificate after three months from the date of the preceding part payment for the goods in question, subject to the following conditions:
- (a) The supplier will make good any defect or deficiency that the consignee (s) may report within six months from the date of despatch of goods.
  - (b) Delay in supplies, if any, has been regularized.
  - (c) The contract price where it is subject to variation has been finalized.
  - (d) The supplier furnishes the following undertakings:

"I/We, \_\_\_\_\_ certify that I/We have not received back the Inspection Note duly receipted by the consignee or any communication from the purchaser or the consignee about non-receipt, shortage or defects in the goods supplied. I/We \_\_\_\_\_ agree to make good any defect or deficiency that the consignee may report within three months from the date of receipt of this balance payment.

## **22. Delivery**

- 22.1 The supplier shall deliver of the goods and perform the services under the contract within the time schedule specified by the Purchaser/Consignee in the List of Requirements and as incorporated in the contract. The time for and the date of delivery of the goods stipulated in the schedule shall be deemed to be of the essence of the contract and the delivery must be completed not later than the date (s) as specified in the contract.
- 22.2 Subject to the provision under GCC clause 26, any unexcused delay by the supplier in maintaining its contractual obligations towards delivery of goods and performance of services shall render the supplier liable to any or all of the following sanctions:
- (i) imposition of liquidated damages,
  - (ii) forfeiture of its performance security and
  - (iii) termination of the contract for default.
- 22.3 If at any time during the currency of the contract, the supplier encounters conditions hindering timely delivery of the goods and performance of services, the supplier shall promptly inform the Purchaser/Consignee in writing about the same and its likely duration and make a request to the Purchaser/Consignee for extension of the delivery schedule accordingly. On receiving the supplier's communication, the Purchaser/Consignee shall examine the situation as soon as possible and, at its discretion, may agree to extend the delivery schedule, with or without liquidated damages for completion of supplier's contractual obligations by issuing an amendment to the contract.
- 22.4 When the period of delivery is extended due to unexcused delay by the supplier, the amendment letter extending the delivery period shall, inter alia contain the following conditions:
- (a) The Purchaser/Consignee shall recover from the supplier, under the provisions of the clause 23 of the General Conditions of Contract, liquidated damages on the goods and services, which the Supplier has failed to deliver within the delivery period stipulated in the contract.
  - (b) That no increase in price on account of any ground, whatsoever, including any stipulation in the contract for increase in price on any other ground and, also including statutory increase in or fresh imposition of customs duty, GST/ Sales tax or on account of any other tax or duty which may be levied in respect of the goods and services specified in the contract, which takes place after the date of delivery stipulated in the contract shall be admissible on such of the said goods and services as are delivered and performed after the date of the delivery stipulated in the contract.
  - (c) But nevertheless, the Purchaser/Consignee shall be entitled to the benefit of any decrease in price on account of reduction in or remission of customs duty, GST/ Sales tax or any other duty or tax or levy or on account of any other grounds, which takes place after the expiry of the date of delivery stipulated in the contract.
- 22.5 The supplier shall not dispatch the goods after expiry of the delivery period. The supplier is required to apply to the Purchaser/Consignee for extension of delivery period and obtain the same before despatch. In case the supplier dispatches the goods without obtaining an extension, it would be doing so at its own risk and no claim for payment for such supply and / or any other expense related to such supply shall lie against the purchaser.

## **22.6 Passing of Property**

- 22.6.1 The Property in the goods shall not pass to the purchaser unless and until the goods have been delivered to the consignee in accordance with the conditions of the contract.
- 22.6.2 Where there is a contract for sale of specific goods and the supplier is bound to do something to the goods for the purpose of putting them into a deliverable state the property does not pass until such thing is done.

22.6.3 Unless otherwise agreed, the goods remain at the supplier's risk until the property therein is transferred to the purchaser.

### **23. Liquidated damages**

23.1 Subject to GCC clause 26, if the supplier fails to deliver any or all of the goods or fails to perform the services within the time frame(s) incorporated in the contract, the Purchaser/Consignee shall, without prejudice to other rights and remedies available to the Purchaser/Consignee under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week of delay or part thereof on delayed supply of goods and/or services until actual delivery or performance subject to a maximum of 10% of the contract price. Once the maximum is reached Purchaser/Consignee may consider termination of the contract as per GCC 24.

During the above-mentioned delayed period of supply and / or performance, the conditions incorporated under GCC sub-clause 22.4 above shall also apply.

### **24. Termination for default**

24.1 The Purchaser/Consignee, without prejudice to any other contractual rights and remedies available to it (the Purchaser/Consignee), may, by written notice of default sent to the supplier, terminate the contract in whole or in part, if the supplier fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the Purchaser/Consignee pursuant to GCC sub-clauses 22.3 and 22.4.

24.2 In the event of the Purchaser/Consignee terminating the contract in whole or in part, pursuant to GCC sub-clause 24.1 above, the Purchaser/Consignee may procure goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit and the supplier shall be liable to the Purchaser/Consignee for the extra expenditure, if any, incurred by the Purchaser/Consignee for arranging such procurement.

24.3 Unless otherwise instructed by the Purchaser/Consignee, the supplier shall continue to perform the contract to the extent not terminated.

### **25. Termination for insolvency**

25.1 If the supplier becomes bankrupt or otherwise insolvent, the purchaser reserves the right to terminate the contract at any time, by serving written notice to the supplier without any compensation, whatsoever, to the supplier, subject to further condition that such termination will not prejudice or affect the rights and remedies which have accrued and / or will accrue thereafter to the Purchaser/Consignee.

### **26. Force Majeure**

26.1 Notwithstanding the provisions contained in GCC clauses 22, 23 and 24, the supplier shall not be liable for imposition of any such sanction so long the delay and/or failure of the supplier in fulfilling its obligations under the contract is the result of an event of Force Majeure.

26.2 For purposes of this clause, Force Majeure means an event beyond the control of the supplier and not involving the supplier's fault or negligence and which is not foreseeable and not brought about at the instance of, the party claiming to be affected by such event and which has caused the non-performance or delay in performance. Such events may include, but are not restricted to, acts of the Purchaser/Consignee either in its sovereign or contractual capacity, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes excluding by its employees, lockouts excluding by its management, and freight embargoes.

26.3 If a Force Majeure situation arises, the supplier shall promptly notify the Purchaser/Consignee in writing of such conditions and the cause thereof within twenty one days of occurrence of such event. Unless otherwise directed by the Purchaser/Consignee in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

- 26.4 If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.
- 26.5 In case due to a Force Majeure event the Purchaser/Consignee is unable to fulfil its contractual commitment and responsibility, the Purchaser/Consignee will notify the supplier accordingly and subsequent actions taken on similar lines described in above sub-paragraphs.

## **27. Termination for convenience**

- 27.1 The Purchaser/Consignee reserves the right to terminate the contract, in whole or in part for its (Purchaser's/Consignee's) convenience, by serving written notice on the supplier at any time during the currency of the contract. The notice shall specify that the termination is for the convenience of the Purchaser/Consignee. The notice shall also indicate inter alia, the extent to which the supplier's performance under the contract is terminated, and the date with effect from which such termination will become effective.
- 27.2 The goods and services which are complete and ready in terms of the contract for delivery and performance within thirty days after the supplier's receipt of the notice of termination shall be accepted by the Purchaser/Consignee following the contract terms, conditions and prices. For the remaining goods and services, the Purchaser/Consignee may decide:
- a) To get any portion of the balance completed and delivered at the contract terms, conditions and prices; and / or
  - b) To cancel the remaining portion of the goods and services and compensate the supplier by paying an agreed amount for the cost incurred by the supplier towards the remaining portion of the goods and services.

## **28. Governing language**

- 28.1 The contract shall be written in English language following the provision as contained in GIT clause 4. All correspondence and other documents pertaining to the contract, which the parties exchange, shall also be written accordingly in that language.

## **29. Notices**

- 29.1 Notice, if any, relating to the contract given by one party to the other, shall be sent in writing or by cable or telex or facsimile and confirmed in writing. The procedure will also provide the sender of the notice, the proof of receipt of the notice by the receiver. The addresses of the parties for exchanging such notices will be the addresses as incorporated in the contract.
- 29.2 The effective date of a notice shall be either the date when delivered to the recipient or the effective date specifically mentioned in the notice, whichever is later.

## **30. Resolution of disputes**

- 30.1 If dispute or difference of any kind shall arise between the Purchaser/Consignee and the supplier in connection with or relating to the contract, the parties shall make every effort to resolve the same amicably by mutual consultations.
- 30.2 If the parties fail to resolve their dispute or difference by such mutual consultation within twenty-one days of its occurrence, then, unless otherwise provided in the SCC, either the Purchaser/Consignee or the supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided the applicable arbitration procedure will be as per the Arbitration and Conciliation Act, 1996 of India. In the case of a dispute or difference arising between the Purchaser/Consignee and a domestic Supplier relating to any matter arising out of or connected with the contract, such dispute or difference shall be referred to the sole arbitration of an officer in the Ministry of Law and Justice, appointed to be the arbitrator by the Director General (Health Services). The award of the arbitrator shall be final and binding on the parties to the contract subject to the provision that the Arbitrator shall give reasoned award in case the value of claim in reference exceeds Rupees One lakhs (Rs. 1,00,000/-)
- 30.3 Venue of Arbitration: The venue of arbitration shall be the place from where the contract has been issued, i.e., New Delhi, India.

- 30.4 Jurisdiction of the court will be form the place where the tender enquiry document has been issued, i.e., New Delhi, India.

### 31. **Applicable Law**

The contract shall be governed by and interpreted in accordance with the laws of India for the time being in force.

### 32. **Withholding and Lien in respect of sums claimed**

Whenever any claim for payment arises under the contract against the supplier the purchaser shall be entitled to withhold and also have a lien to retain such sum from the security deposit or sum of money arising out of under any other contact made by the supplier with the purchaser, pending finalization or adjudication of any such claim.

It is an agreed term of the contract that the sum of money so withheld or retained under the lien referred to above, by the purchaser, will be kept withheld or retained till the claim arising about of or under the contract is determined by the Arbitrator or by the competent court as the case may be, and the supplier will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention.

### 32. **General/ Miscellaneous Clauses**

- 32.1 Nothing contained in this Contract shall be constructed as establishing or creating between the parties, i.e. the Supplier/its Indian Agent/CMC Provider on the one side and the Purchaser on the other side, a relationship of master and servant or principal and agent.
- 32.2 Any failure on the part of any Party to exercise right or power under this Contract shall not operate as waiver thereof.
- 32.3 The Supplier shall notify the Purchaser/Consignee /the Government of India of any material change would impact on performance of its obligations under this Contract.
- 32.4 Each member/constituent of the Supplier/its Indian Agent/CMC Provider, in case of consortium shall be **jointly and severally liable** to and responsible for all obligations towards the Purchaser/Consignee/Government for performance of contract/services including that of its Associates/Sub Contractors under the Contract.
- 32.5 The Supplier/its Indian Agent/CMC Provider shall at all times, indemnify and keep indemnified the Purchaser/Government of India against all claims/damages etc. for any infringement of any Intellectual Property Rights (IPR) while providing its services under CMC or the Contract.
- 32.6 The Supplier/its Agent/CMC Provider shall, at all times, indemnify and keep indemnified the Purchaser/Consignee/Government of India against any claims in respect of any damages or compensation payable in consequences of any accident or injury sustained or suffered by its employees or agents or by any other third party resulting from or by any action, omission or operation conducted by or on behalf of the supplier/its associate/affiliate etc.
- 32.7 All claims regarding indemnity shall survive the termination or expiry of the contract

## SECTION – V

### SPECIAL CONDITIONS OF CONTRACT (SCC)

The following Special Conditions of Contract (SCC) will apply for this purchase. The corresponding clauses of General Conditions of Contract (GCC) relating to the SCC stipulations have also been incorporated below.

These Special Conditions will modify/substitute/supplement the corresponding (GCC) clauses. Whenever there is any conflict between the provision in the GCC and that in the SCC, the provision contained in the SCC shall prevail.

1. Bidder must take into consideration in its bid, costs to be incurred for any additional work pertaining to civil, Electrical, Plumbing, sanitary, **Radiation protection as per Govt. regulation/or equivalent as per local statutory conditions**, servo stabilisers, U.P.S. etc. if required for successful installation testing and commissioning of the system/ equipment in the “All inclusive lump sum price”/ turnkey work.
2. **The contract will be turnkey work**, bidder must take into consideration in its bid, costs to be incurred for supply of equipment from **ware house to consignee CNCI -Kolkata**, installation, commissioning testing, training, third party inspection cost, packing & forwarding cost, all taxes, all duties, custom clearance charges, loading & unloading charges, site visit charges, two year compressive warranty cost including all spare, Indian agent charges, any other required for successful installation & commissioning of system/ equipment.
3. The pre delivery inspection carried out by **third party Inspection agency viz LLOYDS/SGS /Bureau Veritas/ TUV** or any other with same high status inspection agency. The supplier shall arrange III party Inspection agency approved by HSCC. All charges for III party inspection shall be borne by the supplier. Therefore same charges shall take into consideration in its bid.
4. Purchaser’s / consignee’s contractual right to inspect before issue despatch note.

**A. For goods imported from abroad:** The stores (**Import origin goods**) should be dispatched only after ensuring inspection carried out by third party Inspection agencies viz. **LLOYDS/SGS /Bureau Veritas/ TUV** and proof of such documents submitted to HSCC for the goods inspected. Inspection. HSCC on receipt of such documents will issue **Dispatch note**.

To enable HSCC to issue Despatch note, supplier/manufacture is to furnish the following documents in **original hard copy to HSCC office and soft copy by email:**

1. Packing list showing NOA duly vetted by third party inspection agency i.e. viz SGS, Lloyd, Bureau Veritas, TUV.
2. Manufacture’s internal test report.
3. Quality Certificate by manufacture
4. Certificate of origin by the chamber of commerce of the concerned country
5. Warranty certificate by manufacture/supplier
6. Inspection report by Third party inspection agency viz SGS, Lloyd, Bureau Veritas, TUV, with photo of equipment, all pages of this report duly signed & stamped by inspector of said agency prior to dispatch.
7. Copy of Insurance as per tender document.
8. Invoice duly signed & stamped showing name of item, letter of credit no. & purchase order no.

No goods (both Indian & Import origin goods) shall be despatched before issue of despatch note issued by HSCC, failing which responsibility (i.e. demurrage charges etc. by the custom department) shall be rest on manufacture/supplier/ its authorised agency in India.

All above documents showing contract number, goods description & LC. The Invoice should in favour of Director, Chittarranjan National Cancer Institute, Kolkata through HSCC. After scrutiny, if the documents found in order, **Despatch note** will be issued to the supplier.

**B. For Domestic Goods, including goods already imported** by the supplier under its own arrangement

To enable HSCC to issue Despatch note, supplier/manufacture is to furnish the following documents in **original hard copy to HSCC office and soft copy by email:**

1. Packing list showing NOA duly vetted by third party inspection agency i.e. viz SGS, Lloyd, Bureau Veritas, TUV.



2. Manufacture's internal test report.
3. Quality Certificate by manufacture
4. Warranty certificate by manufacture/supplier
5. Equipment Inspection report by Third Party Inspection Agency viz SGS, Lloyd, Bureau Veritas, TUV with photo of equipment, all pages of this report duly signed & stamped by inspector of said agency prior to dispatch.
6. Copy of Insurance as per tender document
7. Invoice duly signed & stamped showing name of item & purchase order no.

**Note: Supplier shall submit all above documents in original hard copy to HSCC office, failing which HSCC unable to issue the despatch note.**

No goods (both Indian & Import origin goods) shall be despatched before issue of despatch note issued by HSCC, failing which responsibility shall be rest on manufacture/supplier/ its authorised agency in India.

All above documents showing contract number, goods description. The Invoice should in favour of Director, Chittarranjan National Cancer Institute, Kolkata through HSCC through HSCC. After scrutiny, if the documents found in order, **Despatch note** will be issued to the supplier.

5. The performance security shall be valid for a **period six (6) months beyond expire of two years warranty period.**
6. **The Purchaser reserves the right to ask for a free demonstration of the quoted equipment at a pre determined place acceptable to the purchaser for technical acceptability as per the tender specifications, faling which bid may not be consider.**
7. **Insurance:** For delivery of goods at site, the insurance including transit and installation & commissioning insurance shall be obtained by the supplier in an amount equal to **110%** of the value of the goods from "warehouse to warehouse" (final destination – designated consignee place ) on "all risks" basis including war, risks, strikes, erection, storage etc. In any event the Goods are at the Supplier's risk until delivery and installation & commissioning at site.
8. Deleted
9. **Reimbursement of Custom Duty & GST: CNCI deserves for customs duty exemption through DSIR certificate.** The custom duty & GST amount as mentioned in the price schedule section –XI (B) (convert in INR at the rate of exchange mentioned in bill of entry) will compared with the actual total custom duty & GST amount levied by custom department and reimbursed to the supplier as per below:
  - a. If the custom duty & GST amount as mentioned in the price schedule section –XI (B) is equal to the actual total custom duty & GST amount levied by custom department, the actual total custom duty & GST amount levied by custom department shall be prevailed and reimbursed to the supplier in INR accordingly.
  - b. If the custom duty & GST amount as mentioned in the price schedule section –XI (B) is more than actual total custom duty & GST amount levied by custom department, the actual total custom duty & GST amount levied by custom department shall be prevailed and reimbursed to the supplier in INR accordingly.
  - c. If the custom duty & GST amount as mentioned in the price schedule section –XI (B) is less than the actual total custom duty & GST amount levied by custom department, the custom duty & GST amount as mentioned in the price schedule section –XI (B) shall be prevail and reimbursed to the supplier at rate of exchange rate mentioned on the bill of entry in INR accordingly.
10. The Tenderer shall furnish copy of all Purchase Orders (complete with specifications and prices) in their Technical Bid for the same model supplied to Govt. Hospitals/PSU Hospital/UN Agencies/Govt. Labs/Corporate Hospitals in the last one year from the date of Technical Bid opening.
11. Manufacture/supplier/ its authorised agency in India shall entirely responsible to safely delivery/handing over the goods from ware house to consignee.
12. Manufacture/supplier/ its authorised agency in India shall entirely responsible for custom clearance/ any statutory compliance etc. however necessary support/document will be provided by HSCC/ **CNCI -Kolkata** if required.
13. Any Statuary variation i.e. custom duty/IGST/ GST etc. will be allowed to the supplier on submission of documentary proof of statutory variation. **Bid will be rejected, if Custom duty/ GST/ IGST as applicable mentioned by the bidder anywhere in their bid.**

**14. Opening of Letter of Credit:-**

- (i) **Within 7 days** PROFORMA INVOICE in hard copy shall be submitted by supplier i.e. manufacturer and their Indian authorized agency.
- (ii) PROFORMA INVOICE should be in favor of **Chittarranjan National Cancer Institute, (CNCI –Campus –II) Kolkata through HSCC**
- (iii) Original copy of PROFORMA INVOICE shall be on manufacturer company letter head & signed with stamped by their authorized person.
- (iv) On PROFORMA INVOICE, Purchase order number with date / amendment if any, name of item, model number, Address of manufacturer, quantity, price, banker complete address with swift code, port of shipment, beneficiary complete address & **“accepted all tender terms & condition”** should be mentioned.
- (v) No conditional terms shall be mentioned on PROFORMA INVOICE
- (vi) In case PROFORMA INVOICE not submitted as per above instruction/ conditional terms mentioned on the same such delay period will rest on supplier.
- (vii) Based on PROFORMA INVOICE, the draft of the LC will be issued to the supplier to examine all LC terms. Modification/correction on draft LC, if any, shall be mentioned on the draft LC only by the manufacturer.
- (viii) **Within 7 days** supplier shall submit acceptance of draft of LC by signing with stamped by manufacturer.
- (ix) In case any amendment required in the final LC due to HSCC/Banker error, than date of LC amendment issued by banker will consider as the date of LC opening.

**15. Goods supply through Letter of Credit:-**

Supplier i.e. manufacturer and their Indian authorised agency shall submit the following document advance minimum five working days from the date of arrival of goods at India airport in order to avoid demurrage charged by custom department:

- 1. Airway Bill showing name of item as mentioned purchase order, letter of credit number (LC) details, purchase order number details, HAWB number, MAHW number.
- 2. Invoice duly signed & stamped showing name of item, letter of credit number details & purchase order number details.
- 3. Complete address with mobile number of Custom Clearing Agency.
- 4. Complete address with mobile number of Carrier Company with Cargo Arrival Notice.
- 5. Draft for GATT declaration duly filled with consignment information.

**Note: 1. Bank Release Order (BRO) will be issue after submission of Original hard copy of Cargo arrival notice & Airway Bill.**

- 2. Supplier i.e. manufacturer and their Indian authorized agency shall also ensure that goods safely arrived at consignee without any demurrage charges by custom and plan the shipment accordingly, failing which entire responsibility shall be rest on Supplier i.e. manufacturer and their Indian authorized agency. No request shall be entertained by this office during holiday.

**16.**

- 1. Liquidated damages will be adjusted from final payment due to delay on supply Installation & commissioning.
- 2. Bid will be **rejected**, if CMC not quoted by the bidder/ CMC quoted in foreign Currency/ CMC mentioned ZERO value.
- 3. Bid will be **rejected**, if name of the currency not mentioned by the bidder in price schedule **B)** Price schedule for Goods to be imported from abroad under Section –XI.

## SECTION - VI

### Required Delivery & installation Schedule:

#### a) For Imported goods directly from foreign through LC:

- (i) Delivery period for **PET –CT, CT –Simulator, Digital Fluro Radiography, Digital Mobile X-Ray, USG (High end and Mid end), Digital Mammography, CT (256 Slice ), MRI (3.0T):** **Within 90 days** from date of opening of the final Letter of Credit. The date of delivery will be the date of Bill of Lading / Airway Bill. Installation & commissioning period within **90 days** from receipt of the stores/ goods delivery at site or **90 days** from handing over the site or instruction for installation, whichever is later.
- (ii) Delivery period for **High Dose-Rate Brachytherapy:** Within **120 days** from date of opening of the final Letter of Credit. The date of delivery will be the date of Bill of Lading / Airway Bill. Installation & commissioning period within **90 days** from receipt of the stores/ goods delivery at site or **90 days** from handing over the site or instruction for installation, whichever is later.
- (iii) Delivery period for other Equipment: Within **60 days** from date of opening of the final Letter of Credit. The date of delivery will be the date of Bill of Lading / Airway Bill. Installation and commissioning period within **60 days** from receipt of the stores/ goods delivery at site or **60 days** from handing over the site or instruction for installation, whichever is later.

#### b) For Indigenous goods or for imported goods if supplied from India:

- (i) Delivery period for **PET –CT, CT –Simulator, Digital Fluro Radiography, Digital Mobile X-Ray, USG ( High end and Mid end), Digital Mammography, CT (256 Slice ), MRI (3.0T) :** Within **90 days** from date of Notification of Award to delivery at consignee site, the date of delivery will be the date of delivery at consignee site. Installation & commissioning period within **90 days** from receipt of the stores/ goods delivery at site or **90 days** from handing over the site or instruction for installation, whichever is later.
- (ii) Delivery period for **High Dose-Rate Brachytherapy:** Within **120 days** from date of Notification of Award to delivery at consignee site, the date of delivery will be the date of delivery at consignee site. Installation & commissioning period within **90 days** from receipt of the stores/ goods delivery at site or **90 days** from handing over the site or instruction for installation, whichever is later.
- (iv) Delivery period for other Equipment: Within **60 days** from date of Notification of Award to delivery at consignee site. The date of delivery will be the date of delivery at consignee site. Installation and commissioning period within **60 days** from receipt of the stores/ goods delivery at site or **60 days** from handing over the site or instruction for installation, whichever is later.

The Time lapse on the part of HSCC approval/ CNCI -Kolkata approval / local statutory approval / issue of CDEC /DSIR Certificate/ Dispatch Clearance/note will not be count for delivery period and site not ready/ site not handed over will not be count for installation period.

**Insurance (local transportation and storage) would be extended and borne by the Supplier from ware house to the consignee site for a period including 3 months beyond date of delivery.**

#### NOTE:

1. The bidders are advised to ship / deliver the equipments / items, only after obtaining "Permission to Ship" from HSCC in writing. If the bidder ship the equipments / items without obtaining permission, then the cost towards demurrage, warehouse charges etc has to be borne by the bidder only.
2. **For Imported goods directly from abroad:** The foreign tenderers are required to quote their rates on CIP Named Port of Destination Basis giving break up of the price as per the Proforma prescribed in the Price Schedule. Purchaser will place the order on Consignee basis. The shipping arrangements shall be made by the supplier accordingly.

**Section – VII**  
**Technical Specifications**

Item Sl. No. 01

State of Art Linear Accelerator

I	HIGH-ENERGY LINEAR ACCELERATOR WITH IGRT/IMRT/SRS/SRT FACILITY AND SITE-MODIFICATION
	Sealed tenders (sealed separately as the “Technical Bid & the Price Bid-in duplicate) are invited directly from the manufacturers/principles for the supply of two state-of the-art clinical Radiotherapy Linear Accelerator capable of producing 6MV,10 MV and 15 MV photon energy for the routine and specialized treatment techniques. Linear Accelerator must have the latest technology and should be fully computer controlled system. The Medical Linear accelerator system includes Linear accelerator, Treatment Planning System, Oncology Information System, Dosimetry and quality assurance equipment and systems and Patient Immobilization devices. It should be capable of integrating with standard networking and PACS systems available in the market. Vendor should provide the time-line schedule for shipping, beam modelling, on-site training and clinical implementation and first patient treatment after LC opening. The offered equipment should have the following technical features.
1	LINEAR ACCELERATOR
	An Advanced, latest model of high-energy medical linear accelerator should be equipped with a multi-leaf collimator (MLC) and an electronic portal imaging device (EPID) and kV-cone-beam CT (CBCT) to perform conformal treatment techniques such as three dimensional conformal radiotherapy (3D-CRT), intensity modulated radiation therapy (IMRT), image-guided radiotherapy (IGRT), volumetric Modulated Arc therapy (VMAT), stereotactic radiosurgery and radiotherapy (SRS/SRT), stereotactic body radiotherapy (SBRT), 4D-Radiotherapy (4D-RT) and Adaptive Radiotherapy (ART) with Flattening Filter Free (FFF) beam technology based linear accelerator.
2	Photon Beam Characteristics
2.1	Beam Energies: The accelerator shall be capable of producing three clinically useful photon beams with energies of 6MV, 10MV and 15 MV (flattened). In addition, two energies of 6MV and 10MV capable of producing in Flattening Filter Free (unflattened) photon mode should be offered.
2.2	Dose Rate and Beam Stability
2.2.1	The maximum dose rate for routine clinical applications shall equal at least 500 monitor units (MU)/min or more for a 10 x 10 cm field at the depth of maximum build up dose at a TSD of 100 cm for all the three photon beams.
2.2.2	The dose rate for in flattening filter free photon beams should have at least 1000 or more MU/min for 6MV and 2000MU/min or more for

	10MV.
2.2.3	Specify the maximum dose rate and number of intermediate dose rate available in the offered LINAC model.
2.2.4	Specify the beam stability time in milliseconds.
2.3	Field Size Specifications: 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 build-up. The digital display, light field size and mechanical display should be accurate to within 2 mm.
2.3.1	The accelerator shall provide a continuously variable rectangular, unclipped field size from 1 x 1 cm to 35 x 35 cm at 100 cm SSD. The maximum clipped field size should equal or exceed 40 x 40 cm at 100 cm SSD. Clipped corners are unacceptable for fields smaller than 35 x 35 cm.
2.3.2	A detachable block holder should be provided to accommodate 2 trays simultaneously for wedges and block trays. The size of the blocking trays should be at least 5 cm larger than the maximum field size at the lower position. Specify location and size of blocking trays.
2.3.3	Asymmetrical collimation for two sets of jaws shall be provided. One set of jaws shall be capable of crossing the center line by at least 10 cm as projected at 100 cm TSD. The collimators shall re-center automatically when the symmetrical mode of operation is re-selected.
2.4	Beam Profile Specification
2.4.1	Field Flatness: Variation of x-ray intensity relative to the central axis shall not exceed $\pm 3\%$ at 100 cm SSD and 10 cm depth over the central 80% of the field for the longitudinal and transverse axes of all field sizes from 10 x 10 cm to 40 x 40 cm. State the maximum variations for the above field sizes at each energy.
2.4.2	Field Symmetry: The maximum percent differences of average doses shall not exceed $\pm 2\%$ for the longitudinal and transverse halves of the field at 100 cm TSD and 10 cm depth, at gantry angles of 0, 90, 180 and 270 degrees. Field sizes shall be specified as 10 x 10 cm and 40 x 40 cm. Average dose is defined as the arithmetic average of minimum and maximum doses within the central 80% of the field for both axes.
2.4.3	Radiation Field Penumbra: The width between the 20% and the 80% isodose lines measured for 10 X 10 cm <sup>2</sup> at depth of 10 cm at 100 cm SSD should not be more than 10mm. Specify the penumbra width.
2.5	Beam Quality Index: The ratio of ionization measured at 20 cm and 10cm depth for a field size 10 X 10 cm <sup>2</sup> at the detector level and with constant detector source distance = 100cm shall be within AERB permissible limit.
2.5.1	Photon beam energy (MV) Quality Index (QI)
2.5.1.a	6 MV : Specify
2.5.1.b	10 MV : Specify
2.5.1.c	15 MV : Specify
2.6	Radiation Leakage : Radiation leakage limits shall be within appropriate regulatory agency guidelines as follows:

2.6.1	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 isocentre.
2.6.2	Collimator transmission. The movable collimators shall not permit transmission of radiation exceeding 0.5% of the central axis dose at Dmax measured in air for both photon energies.
2.6.3	Neutron leakage. The neutron leakage rate should not exceed 0.2% expressed in neutron dose equivalent (Sievert) when added to the photon leakage for a 10 x 10 cm field at the isocentre at any point one meter from the target when the jaws are closed.
2.6.4	In addition to meeting above specifications for radiation leakage, the LINAC should also meet all the mandatory safety and radiation leakage regulations as specified by Atomic Energy Regulatory Board (AERB), Mumbai, India and IEC for a medical linear accelerator.
2.7	Rotational/ Arc Therapy
2.7.1	The LINAC must have photon arc therapy feature with gantry rotation in clockwise and counter clockwise directions.
2.7.2	The dose rate/range of dose rate should be specified MU per degree. The MU/degree shall automatically be computed.
2.7.3	A range of continuously variable dose rate should be available. A unit able to deliver high dose per degree will be preferred.
2.8	Maximal Dose : For TBI procedures, maximum dose should be specified for a single field
2.9	Congruence Between Optical and Radiation Field: The congruence between optical and radiation fields for 5x5 cm <sup>2</sup> , 10 cm x10 cm at 0, 90,180 and 270 degree gantry angles with SSD = 100 cm should be within 2 mm along X,Y axes.
2.10	Vendor should provide the beam matching between two linear accelerators.
3	Electron Beam Characteristics
3.1	Electron Beam Energies
	Five clinically useful electron beam energies shall be provided. The lowest energy shall be 4 or 6 MeV and the highest energy shall be 15 MeV or above. Energy shall be specified as the most probable energy (E <sub>p</sub> ) of the electron energy spectrum at 100 cm from the accelerator exit window.
3.2	Dose Rate: The dose rate at the isocentre shall not be less than 600 MU/minute for each electron energy.
3.3	Field Size
3.3.1	The electron beam size is defined by the inside dimensions of the electron beam applicators projected geometrically to a plane surface at 100 cm SSD. A range of field sizes from 4 x 4 cm to 25 x 25 cm is required. A method to obtain irregular field shapes shall be provided.
3.3.2	It shall be possible to visualize both the field defining light and the optical distance indicator with an electron applicator in place.
3.4	Beam Profile Specification:

3.4.1	Field Flatness: The maximum percent variation of the electron intensity at 100 cm SSD at Dmax shall not exceed $\pm 5\%$ (within the central 80% of the longitudinal and transverse axes relative to the central axis) for field sizes from 10 x 10 cm to 25 x 25 cm and for all the electron beam energies. Also shall be within AERB permissible limit.
3.4.2	Beam Symmetry
3.4.2.1	The maximum percent variation in the average electron intensity to the longitudinal and transverse halves of the electron field at Dmax for a 10 x 10 and 25 x 25 cm field at 100 cm SSD shall not exceed $\pm 2\%$ at gantry angles of 0, 90, 180 and 270 degrees. Also shall be within AERB permissible limit.
3.4.2.2	The average electron intensity is the average of the maximum and minimum points within the central 80% of the field for each of the axes.
3.5	X-ray Contamination
3.5.1	The x-ray contamination of the electron beam shall be less than 5% of the maximum dose for all energies specified previously.
3.6	Total Skin Electron Therapy
3.6.1	A high dose rate electron mode for total skin electron therapy must be provided with a minimum dose rate of 900 MU/min or above for the 4 or 6 MeV electron beam.
4	Accelerator System
4.1	The system must provide with either Magnetron or Klystron as the radiofrequency (RF) micro power source. The warranty should be at least for 5years. (Pro-rata guarantee is not acceptable).
4.2	Standing or travelling type of waveguide along with the bending magnet, target assembly, vacuum ion-pump should be offered a warranty of 5 years. (Pro-rata guarantee is not acceptable).
4.3	Specify the target type and materials and also flattening filter materials in details
4.4	Electron gun should have warranty of minimum 5 years and the beam focal spot should be within 3 mm diameter.
5	Dose Monitoring System
5.1	Sealed/unsealed type of dose monitoring chambers must be provided and should operate independent of ambient temperature and pressure. All dosimetry, patient and unit safety related interlocks must be sensed and controlled by hardware and software.
5.2	The equipment shall provide two independent dose monitoring systems for primary and secondary dose monitoring as well dose distribution monitoring
5.3	The dose monitoring systems shall monitor the beam energy and shall terminate irradiation when the change of beam energy greater than $\pm 3\%$ of the nominal energy.
5.4	Provision of a controlling timer to protect against failure of dose monitoring systems shall comply with the requirements in accordance with respective IEC norms.
5.5	The reproducibility tolerance for the dose monitoring system shall be better than 1% or 1 MU.

5.6	The linearity tolerance of accumulated doses from 10 to 1000 MU for the dose monitoring system shall be $\pm 1\%$ or 1 MU. Specify the linearity tolerance for less than 10MU in view of IMRT
5.7	The reproducibility tolerance at any gantry angles for the dose monitoring system shall be better than $\pm 1\%$ or 1 MU.
6	Mechanical Features Specification
6.1	Gantry
6.1.1	Gantry shall be motorized by local and remote controls. Automatic setup facility and in-room display of treatment parameters shall be provided. Mechanical and radiation isocentre accuracy for the total range of gantry rotation shall be within 1mm diameter.
6.1.2	The total range of gantry rotation shall not be less than $360^\circ$
6.1.3	Resolution and accuracy of digital readout shall be $0.1^\circ$ and $\pm 0.5^\circ$ or better
6.1.4	Resolution and accuracy of analog readout shall be $1^\circ$ and $\pm 1^\circ$ or better
6.2	Collimator
6.2.1	Collimator shall be motorized by local and remote controls
6.2.2	The cross-wire wander (rotation) shall not exceed 1mm diameter
6.2.3	The total range of collimator rotation shall not be less than $\pm 165^\circ$
6.2.4	Resolution and accuracy of digital readout shall be $0.1^\circ$ and $\pm 0.5^\circ$ or better
6.2.5	Resolution and accuracy of analog readout shall be $1^\circ$ and $\pm 1^\circ$ or better
6.3	Diaphragm (Jaws)
6.3.1	Each diaphragm shall be independently motorized by local and remote controls
6.3.2	One pair of diaphragm shall be travelled up to at least -10cm crossover the central axis in order to simulate the asymmetrical and offset fields.
6.3.3	Resolution and accuracy of digital readout shall be 1 mm and $\pm 1$ mm or better
6.3.4	Maximum angular deviation between the axes of opposing diaphragms shall be stated.
6.4	Multi-Leaf Collimator
6.4.1	Number of multi-leaf collimator (MLC) leaves shall be at least 60 pairs or more to provide maximum field size of $40 \times 40$ cm <sup>2</sup> .
6.4.2	MLC leaf width projected at 100 cm TSD shall be 5 mm uniform or combination of 5mm and 10mm.
6.4.3	Multi-leaf collimator speed together with maximum possible dose rate for dynamic radiotherapy shall be stated.
6.4.4	Maximum range of leaf speed and extension between leaves shall be stated.
6.4.5	Accuracy and repeatability of leaf position shall be within $\pm 1$ mm or better. Accuracy of leaf alignment perpendicular to leaf movement about isocentre shall be within 1mm or better.
6.4.6	Radiation parameters such as leaf penumbra, leaf transmission, inter-leaf transmission and coincidence of radiation field vs optical field shall be stated.



6.4.7	The MLC system shall incorporate a fast and efficient QA tools (compliance of AAPM-TG-50 guidelines) for checking and monitoring all leaves position in real time. Deviations from leaves position calibration shall be interlocked to prevent treatment.
6.4.8	Clearance from bottom of collimator to isocentre shall be specified.
6.4.9	Provision of treatment verification and record system with the necessary interface for static and dynamic operation of MLC prior to treatment delivery.
6.5	Treatment Table/Couch
6.5.1	Vendor shall provide the treatment couch and accessories used for accurate image guided radiation therapy and it should have 6-degree-of-freedom (6DOF) in translational and rotational movement capability.
6.5.2	Indexed carbon fibre tabletop shall be provided.
6.5.3	The tabletop shall comply with the deflection requirement of IEC norm.
6.5.4	Lifting capacity shall be at least 200kg
6.5.5	IEC scale convention shall be provided.
6.5.6	Treatment tabletop shall be capable of free manual movement in both lateral & longitudinal directions
6.5.7	Lateral & longitudinal couch displacement shall not exceed 1mm under braked condition
6.5.8	Range of vertical, longitudinal and lateral movement and pitch, yaw and roll shall be stated
6.5.9	Range and accuracy of isocentric rotation shall be stated.
6.5.10	Vendor shall specify the accuracy of isocentric rotation angle.
6.5.11	Mechanical isocentre accuracy for couch rotation shall not 1 mm radius sphere
6.5.12	Vendor shall specify the accuracy of couch rotation isocentre
6.5.13	Vendor shall specify the coincidence of couch isocentre with gantry and collimator isocentre.
6.5.14	Vendor shall provide any auto-setup / remote control couch motions capability
6.5.15	Precision of digital couch rotation readout $\pm 0^\circ$ or accuracy of digital couch rotation readout $\pm 1^\circ$ or better.
6.5.16	Precision of digital couch vertical, longitudinal and lateral position readout shall be $\pm 1\text{mm}$ or better, accuracy of digital couch vertical, longitudinal and lateral position $\pm 2\text{mm}$ or better.
6.5.17	Vendor is required to facilitate with all available accessories, interchangeable table top materials, removable parts for treatment. Provision of patient immobilization accessories, preferably with indexing capability compatible with the couch. Detailed list of all accessories shall be stated and provided.
6.5.18	Emergency down drive shall be provided to remove the patient in the case of power failure.
6.6	Electronic Portal Imaging System
6.6.1	The imager shall utilize amorphous silicon (a-Si) with higher resolution shall be provided
6.6.2	Vendor shall specify the maximum image field size at isocentre and at other distance achievable with a single exposure for the detector panel.

6.6.3	Specify details of all movements and positional accuracy of the imager.
6.6.4	Specify the details of pixel depth pitch of the imager.
6.6.5	Maximum image acquisition rate and minimum MU for full image resolution shall be stated
6.6.6	Spatial resolution (lp/mm) shall be stated if test object position is at isocentre and at detector
6.6.7	Accuracy of imager centre to beam isocentre shall be stated.
6.6.8	The system shall provide a suitable means to import & export images for verification and display on the same workstations; to acquire & transfer images through the existing oncology network; and to be capable of registration
6.6.9	Vendor shall provide features on image processing, image display, image analysis, image storage, image print and image enlargement. Details shall be stated.
6.6.10	Avoidance of irradiation of area outside sensitive detector panel and anti-collision device, vendor shall state and provide details including the usable life span of the EPID.
6.6.11	Vendor shall provide all accessories including necessary QA tools, maintenance tools etc. for EPID.
6.6.12	Provision of facilities for storage I archival of electronic portal images.
6.6.13	Portal images can be exported to external facilities in a recognized format including BMP and TIFF.
6.6.14	Vendor should provide IMRT and VMAT portal dosimetry verification system of EPID for all available energies including FFF beams.
6.7	Patient Alignment system
6.7.1	Vendor is required to supply and install latest One set of 4-green laser alignment systems. A separate back pointer laser alignment system shall be provided and installed onto the linear accelerator on offer. All laser products shall comply with respective code of IEC safety of laser products.
6.7.2	Each laser beam shall be precisely adjustable vertically and horizontally by remote control to indicate the isocentre position within 1 mm and protected against accidental displacement
6.7.3	System should have 0.5mm line thickness at isocentre for patient alignment and set-up
6.8	Control Console and Treatment room display features
6.8.1	Main control console: A computerized control console shall be located outside the treatment room. This console shall provide controls that must be activated in order for the accelerator to become operational in any of its various modes of operation and also provide displays of accelerator parameters. The following shall be present:
6.8.1.1	Power Off: Turns off all electrical power, including power to the computer, except for that power needed to maintain the accelerator in a "Stand By" condition
6.8.1.2	Power On: Turns on electric power to the accelerator
6.8.1.3	Total Dose: Sets the desired total dose for patient's treatment
6.8.1.4	Time: Sets time for patient's treatment. Time shall be used as a back-up in case of failure of total dose interlock. Backup time shall be

	calculated automatically with provision for manual reset.
6.8.1.5	MU/Degrees: Sets the desired MU/degree for rotational therapy. MU/degree shall be calculated automatically with provision for manual reset.
6.8.1.6	Mode Selection: Selects x-rays or electrons for treatment
6.8.1.7	X-Ray Energy: Selects photon beam energy
6.8.1.8	Radiation On: Turns on accelerator and radiation is produced
6.8.1.9	Interrupt: Immediately stops treatment.
6.8.1.10	Treatment Complete: Indicates that desired dose has been delivered. In addition, the operator should be alerted if radiation terminates for any reason other than reaching the set integrated dose. In such cases, the dose remaining to be given shall be indicated
6.8.1.11	Arc Therapy: Enables the accelerator to perform arc therapy
6.8.1.12	Wedge: Requires that the presence, identification and orientation of a wedge must be confirmed at the control console.
6.8.1.13	Port Film: Opens jaws completely or partially, as selected by the operator, and limits the amount of radiation to be delivered to less than or equal to 20 cGy. This shall be operational in both the photon and electron modes but allow only the production of low energy photons. Once the port film has been completed, it should be possible to return the collimators to their original setting automatically.
6.8.1.14	Special Procedures: Prohibits accidental selection of procedures such as electron arcs or high dose rate electron irradiation by providing an "extra step" in selection procedure
6.8.2	Control Console Display / Monitors: The following monitors and displays should be available at the control console, and with the exception of a back-up dose counter, it should be possible continuously to visually observe the value being registered on these counters and displays from the position of the operator.
6.8.2.1	Dose Rate Indicator: Indicates the dose rate at maximum build-up for a 10 x 10 cm field at 100 cm SSD.
6.8.2.2	Dose Counters: Two counters that count integral dose detected by each of the two dosimeters
6.8.2.3	Total Time Counter: Counts total treatment time in 0.01-minute increments up to 9.99 minutes.
6.8.2.4	Angle: Indicates position of gantry in degrees with precision of $\pm 0.5$ degrees
6.8.2.5	Symmetry: Indicates beam symmetry in both major axes
6.8.3	It should be possible to adjust the parameters at or near the control console:
6.8.4	Accelerator Parameter Checks: It shall be possible to monitor different accelerator parameters via an oscilloscope at or near the control console.

6.8.5	Treatment room pendent: Hand pendants shall be provided. The hand pendent must have the control of gantry rotation, collimator rotation, collimator jaw settings, treatment couch motions (vertical lateral, longitudinal and turntable rotation around isocentre and room light control. To prevent possible malfunctioning, when hand pendant is in operation, the computer system must prevent conflicting signals from being sent to the same mechanical device.
6.9	Essential Accessories
6.9.1	SSD indicator: A optical distance indicator (ODI) of SSD from 80cm to 130 cm with accuracy of $\pm 1$ mm at isocentre should be provided.
6.9.2	Front and Side pointers :A mechanical front pointer to locate isocentre of the unit within $\pm 2$ mm and to apply to any orientation of the machine shall be provided
6.9.3	A closed-circuit color TV system with TV monitors and two cameras in the LINAC treatment room shall be supplied.
6.9.4	Field Illuminating light: A field illuminating system should be provided for both photon and electron modes.
6.9.5	Motion-based skylight: Vendor should provide the motion-based skylight with interior of treatment room wall decoration for all linear accelerators.
6.1	Wedge Systems
6.10.1	Provision of EITHER a set of standard physical wedge filters with wedge angles $15^\circ$ , $30^\circ$ , $45^\circ$ and $60^\circ$
	Provision of virtual or dynamic programmable wedge fields of generating wedge angles. All available range of wedge angles (15 deg to 60 deg) to be provided.
	The programmable wedge fields shall provide a range of wedged fields starting at least 4cm up to 30 cm at 100 cm TSD
	Provision of a statistics log for tracking the accuracy of the programmable wedge fields' profiles
	OR
6.10.2	Provision for automatic, motorized, universal wedge system for variable wedge angles from $0^\circ$ up to 60.
7	Intensity Modulated Radiation Therapy & Volumetric Modulated Radiation Therapy System
7.1	The linear accelerator system shall be capable of delivering Intensity (fluence) modulated photon beam within and across the given field apertures in order to produce highly conforming dose distribution as per the physician prescription.
7.2	Inverse treatment planning system shall be capable of doing IMRT and VMAT Planning of the linear accelerator offered.
7.3	Support for "step and shoot" IMRT and/or dynamic sliding window" IMRT delivery
7.4	Specify the LINAC performance for small MU delivery
7.5	Capable of delivering high quality intensity modulated fields using fractions of MU (please state minimum MU per segment)
7.6	Extended intensity modulated field size shall be at least 30 cm x 30 cm

7.7	Capable of automated delivery of multiple co-planar fields in sequence from the console with remote control of gantry, collimator and jaws motions between co-planar treatment fields.
7.8	Capable of verifying every parameter of segments downloaded from treatment planning systems through network for IMRT treatment
7.9	The latest technology for faster implementation of IMRT such as Volumetric Intensity Modulated Arc Therapy (VIMAT) or its equivalent should be provided.
8	Image-Guided Radiotherapy System
8.1	Kilovoltage-based 3D-Image-Guided Radiotherapy (kV-IGRT) shall be provided and it should have FDA clearance. The system shall have the capability of producing 2D radiography, 2D fluoroscopy and 3D cone beam CT (3DCBCT) and 4D cone beam CT (4DCBCT) imaging modalities to account for patient's interfraction and intrafraction daily setup verification and respiratory motion.
8.2	A 3D volume CT image data is reconstructed from a series of 2D projection images acquired as the linear accelerator gantry is rotated. This image data can be used for verification of patient position and target motion. This shall have flexibility in providing full or partial gantry rotations.
8.3	The cone-beam CT technology should be of amorphous silicon (a-Si) based flat panel detector technology.
8.4	The system should be able to acquire and display on-board 2D and 3D volume images of the patient immediately prior to treatment. The images should be in DICOM 3 and DICOM RT format. The network provided should be able to transfer images to (from) EPID/CBCT from (to) TPS and simulator and additional workstations.
8.5	The quality of image, especially axial CT images from the CBCT should be sufficient to delineate target and critical structure volumes.
8.6	All Advanced image registration software commercially available should be supplied and should be able to overlay original reference images from the TPS to the on-board images and calculate offset values based on user defined reference points and structures. The software should be able to move the table as per the offset values in 3D and 6D.
8.7	Based on the comparison of initial planning images and on-board images, change in treatment plan should be possible.
8.8	The system should have latest configuration of hardware (CPU, hard drive, RAM, min 21" square LED monitor, colour LASER printer)
8.9	There shall be a geometric calibration phantom for kV to MV isocentre alignment and other calibration.
8.10.	Image quality phantom to determine the low contrast and spatial resolution shall be provided.
8.11.	IGRT daily QA phantom for kV and MV projection imaging and kV CBCT checks and dynamic thorax phantom for validation of 4DCBCT imaging along with mechanically independent of platform motion and programmable through motion control software and all other necessary IGRT QA tools shall be provided.
9	Stereotactic Radiosurgery and Radiotherapy of Intracranial and

	Extracranial Treatment System
9.1	The frameless stereotactic treatment systems for both intracranial radiosurgery/radiotherapy (SRS/SRT) and also extracranial stereotactic body radiotherapy (SBRT) should be provided.
9.2	The vendor should offer necessary immobilization systems and other gadgets to perform frameless intracranial and frameless extracranial stereotactic treatment of brain, lung, liver and spine tumours for each 20 patients.
10	Four-Dimensional and Adaptive Radiation Therapy Systems
10.1	The vendor should provide advanced and latest model of optical surface tracking and gating solutions for entire four-dimensional (4D) treatment chain from imaging (4DCT) to (4D) treatment delivery. The system should consist of Advanced Laser based-optical Scanning, 4DCT acquisition and Gating Systems with following features;
10.1.a	The system should be of non-invasive, marker-free i.e no markers or devices will need to be placed on the patient or on the couch.
10.1.b	The system should support for patient positioning/surface mapping, intrafraction motion tracking/monitoring and respiratory gating of complete workflow.
10.1.c	The system should facilitate the 4D treatment of thoracic and abdominal tumours.
10.1.d	The system should have advanced algorithms for non-rigid and deformable models to enable real-time assessment of patient positioning errors before and during treatment delivery.
10.1.e	The system should check the patient position more than once every second with sub millimetre accuracy.
10.1.f	The system should have provision for audio-visual coaching apparatus to detect the deviation outside the set tolerance which also helps the patient to follow optimal breathing pattern.
10.1.g	The optical scanning system should support for 4D CT imaging acquisition and should be installed both in the CT room and also treatment room.
10.1.h	The gating system should be capable of prospectively gated and retrospectively gated imaging and treatment delivery.
10.1.i	All necessary phantoms and QA systems/tools/gadgets required for Commissioning and validation tests for clinical implementation of above systems should be provided.
10.2	Stand-alone deformable image registration system : The vendor should provide latest model of the stand-alone deformable image registration system with following features;
10.2.a	System should be capable of performing deformable image registration using CT/MRI/PET/SPECT images and should be provided with all commercially available deformable algorithms.
10.2.b	System should be capable of performing Auto contouring and Atlas based segmentation for Adaptive re-planning.
10.2.c	System should be capable of Adaptive re-planning interfraction Dose Accumulation.

10.2.d	System should support for DICOM /DICOM RT Import: CT, CBCT, PET CT, PET, MR, SPECT and diffusion weighted MRI (DWI), including cine/4D modes for all relevant imaging types.
10.2.e	System should support for DICOM / DICOM RT export: all meta-data and imaging data (including structure sets, treatment plans with doses) must be exportable in a DICOM-readable format along with deformations, either as deformable vector fields (DVF) or as resample deformed DICOM images.
10.2.f	System should have tools to generate maximum intensity projection, minimum intensity projection, average projection, mid-ventilation position reconstruction from 4D-scans.
10.2.g	System should be capable of performing 4D dose accumulations over all phases of respiration for evaluating the actual dose delivered to moving target.
10.2.h	Should have tools to reduce artifacts/noise from the images, e.g. attenuation correction, HU replacement in a user contoured or automatically defined area.
10.2.i	It should have Biological modelling solutions (EUD or TCP or NTCP etc.).
10.2.j	It should have external beam and brachytherapy dose accumulation.
10.3	CBCT Electron density and image quality phantom: The vendor should provide CBCT Electron density and image quality phantom specifically designed for CBCT with increased HU value for adaptive radiotherapy commissioning and QA of CBCT image quality.
11	Utility Requirements
11.1	Power Supply
11.1.1	Power conditioner shall be installed to provide precise voltage regulation and protection for the linear accelerator on offer.
11.1.2	Should work on three phase 400/440 V / 50 Hz Power
11.1.3	UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up for whole linear accelerator systems (including associated TPS, server etc.) should be provided.
11.1.4	Resettable over current breaker shall be fitted for protection.
11.2	Water Chiller System
11.2.1	The chiller system provided shall conform to international class / standards.
11.2.2	The chiller system shall incorporate an automatic back-up facilities, remote control and alarm panel with warning facilities
11.2.3	Vendor should provide a fully automatic water chiller system for sufficient cooling of the linear accelerator
11.3	Air conditioning and ventilation: To be provided. Specify temperature, relative humidity and air changes.
11.4	Safety Systems: Patient, staff and machines safety interlocks, emergency switches and beam off interlocks to be provided.
11.5	Machine space: Details about the physical dimensions and weights of the machine and its accessories including control console to be provided.
II	ADVANCED TREATMENT PLANNING SYSTEM

	Inviting tender for supplying Advanced Radiation Treatment Planning System (TPS) capable of performing Conformal 3D-Planning, Inverse Treatment Planning for IMRT and VMAT, 4D-Treatment Planning and Adaptive Treatment Planning for clinical application of standard and advanced techniques in radiotherapy treatment for cancer. The offered system should have the following requirements and technical specifications.
1	General Requirements
1.1	The system should be integrated and connected to CT-Simulator, MR/PET and linear accelerators capable of dynamic sliding window IMRT and VMAT.
1.2	System should be capable of integrating with standard record-and-verify and networking and PACS systems commercially available.
1.3	The system should have latest technology of hardware and software features commercially available. Any advanced version which is released within 6 months period after LC opening should provide/upgrade for free of charge.
1.4	2 nos of TPS server with 128 GB or more RAM memory with Five treatment planning workstations with calculation licenses for 3D conformal planning and IMRT and VMAT planning capability and additional Five workstations for enabling contouring and virtual simulation with individual licenses should be provided. There shall be at least 10 TB storage for plan storage in addition to OIS storage. Vendor should provide the each unit price of both TPS and workstations offered.
1.5	The TPS system should have the capability of integration with CT-Simulators/MR/PET scanners and linear accelerator of any vendor. Virtual simulation software and licenses for virtual simulation features including for controlling moving laser shall be provided.
1.6	The system shall be linked to linear accelerator console through record and verification system and required port/Hub/connectors for network connection should be provided.
1.7	The offered system should be capable of performing both 3D conformal and IMRT and VMAT planning in the same single system.
1.8	Vendor should provide the time-line schedule for shipping, beam modelling, on-site training and clinical implementation and first patient treatment after LC opening.
1.9.	Networking of all the systems of Radiation Oncology department like CT simulator, Brachytherapy machine, LINAC and TPS must be done by the Main LINAC Vendor.
1.10.	LINAC vendor also have to do the networking of various diagnostic equipment of the imaging department like PET CT, CT & MRI to the radiotherapy system.
2	Three-dimensional (3D) conformal Planning:
2.1	It should support 3D-Conformal radiotherapy planning (3DCRT) with LINAC and MLC of any make. It should include non-coplanar, asymmetric, arc and blocked irregular beams.



2.2	Advanced tools for automatic and manual contouring/segmentation of normal structures and target volumes on arbitrary axial, coronal and sagittal planes. Non-uniform automatic and manual margining for CTV and PTV in 3D with exclusion barriers should be possible.
2.3	Manual and fully automatic image registration using mutual information modes for image fusion among CT, MRI and PET should be provided. The fusion results should be qualitatively and quantitatively verifiable with checker board and in vertical and horizontal split screens spyglass and image overlaying options.
2.4	3D visualization of anatomical structures, beams eye view (BEV), rooms eye view (REV) and dose distributions shown in 2D and 3D solid, wired and transparent multi-planar views including colour wash mode.
2.5	Multiplan viewing for comparing dose distribution of at least three rival plans including interactive DVH (qualitative and quantitative) comparison. Summation and subtraction of dose plans should also be possible.
2.6	Creation of DRRs in any desired plane including the beam cross-sectional plane should be possible for export to EPID and virtual simulation console.
2.7	EUD or TCP and NTCP calculations should be provided
2.8	Compatibility with any reputed international class RFA system for beam data transfer. Necessary software and support for beam modelling into the TPS should be provided.
2.9	It should support full DICOM connectivity for import and export of data with query/retrieve support, DICOM CT, MR, PET image support, and DICOM RT structures, set, RT plan and RT dose support.
3	Patient anatomical imaging and data transfer:
3.1	The patient data must be transferred from CT, MRI, PET via DICOM, CD and DVD's.
3.2	Image data from CT/MRI slices must be transferred direct using DICOM from CT/MRI scanners, Simulators, RFA system and patient-specific QA system.
3.3	The system should select at least 150 images per patient and to do real-time multi-planer reconstructions from original CT/MRI image data sets.
4	Image handling
4.1	Should support the prone or supine, and head-first or feet-first patient orientation.
4.2	Image processing tools should include mean filter, median filter, threshold, and adaptive histogram.
4.3	Window/level facilities for grey scale images should be possible
4.4	Image utilities should include distance, area and volume measurements and statistical calculation of CT values within a user-defined region.
4.5	Zooming of high-resolution image and screen dumps to a colour printer should be possible in any stage of the planning program.

4.6	Each image should contain information of the imaging equipment (scaling, orientation); the images should be in arbitrary order and arbitrarily spaced.
5	Contouring
5.1	System should support contouring templates that list structures of interest and define structure display properties.
5.2	Automatic contouring of patient outlines and internal structures through all CT images.
5.3	Post-processing tools that smooth, reshape, connect, disconnect structures should be possible.
5.4	3-D auto-margin functions (e.g. CTV to PTV) with independent margins in 6 directions.
5.5	3-D manual contouring tools that work in the transversal, sagittal and frontal images.
5.6	Interpolation of contours
5.7	Manual contour entry and editing
5.8	Display of frontal and sagittal images for reference should be possible
6	Dose Planning
6.1	System should support planning library that define field orientation, name, margins, isocenter location, and dose prescription
6.2	The field should be centered automatically to the center of any volume
6.3	Different energies (photons and electrons) to combine in a single plan should be possible
6.4	Each field should have separate isocentre
6.5	Import of image, isocentre and plan data from CT scanner
6.6	Entire group of fields should be moved together
6.7	Auto-blocking with a user-defined margin around target volume
6.8	Block outlines should be modified graphically
6.9	Ability to copy, move and mirror blocks
6.10.	Auto-MLC with a user-defined margin around target volume
6.11.	MLC aperture should be modified graphically
6.12.	Ability to copy and mirror MLC settings
6.13.	User-defined density for bolus
6.14.	User-defined CT numbers within specified regions (remove contrast medium) in any plane
7	Dose Calculation should support for:
7.1	Photon energy range from 6MV to 15 MV X-rays and multiple electrons.
7.2	3-D dose calculations with coplanar and non-coplanar photon and electron beams
7.3	Calculation of Monitor Units for any vendors of linear accelerators
7.4	3-D dose calculations should be performed simultaneously with multiple patients planning
7.5	Normalization of dose distributions to minimum, maximum, any arbitrary % value or to any dose point value
7.6	User-definable transmission factors for blocks etc.
7.7	Beam hardening in metallic wedges should include in the calculation
7.8	Isocentre and fixed SSD fields

7.9	Photons, electrons beams
7.10.	Irregular fields
7.11.	Coplanar and non-coplanar fields
7.12.	Asymmetrical collimators with field central axis over-travel
7.13.	Shielding blocks (number should be specified)
7.14.	Standard physical wedges
7.15.	Motorized universal physical wedge
7.16.	Enhanced Dynamic Wedges/Virtual wedge
7.17.	Bolus
8	Dose Calculation Algorithms
8.1	TPS should include any of the following algorithms: Electron beam: Monte Carlo or equivalent. Photon beam: Monte Carlo or equivalent (ACUROS-XB) calculations algorithms and AAA/CCC/ or equivalent should be provided.
8.2	Specify the Inhomogeneity calculations algorithms available.
9	Plan Analysis and Evaluation
9.1	Side-by-side plan comparisons such that images are linked to display the same image planes (frontal, sagittal and transversal) simultaneously should be possible.
9.2	DVH for any multiple structure volumes in one plot
9.3	DVH for multiple plans in one plot
9.4	Differential or cumulative dose volume histogram
9.5	Absolute or relative scale for the structure volume axis of DVH plot
9.6	Export of DVH data into other formats (ASCII file/Excel file, etc.)
9.7	Printout of DVH graphs on paper
9.8	Point dose display
9.9	Display and plotting of any arbitrary dose line profiles
9.10.	Multiple plan summation and store summed plans should be possible.
10	Inverse Treatment Planning for IMRT and VMAT : Inverse planning optimization should be used to determine fluence pattern or beamlet intensities/aperture shape for each field and translate it to delivery instructions. Inverse planning algorithms should be specified in the offered TPS for IMRT and VMAT Planning with the following capabilities:
10.1	System should be capable of handling unlimited target and normal structure volume objectives and dose-volume constraints.
10.2	The dose optimization should be fast and interactive. Optimization algorithms either deterministic or stochastic should be provided. Both physical and biological optimization algorithms should be provided.
10.3	The system should support planning for both step-and-shoot and dynamic sliding window IMRT delivery and also for VMAT.
10.4	MLC leaf sequencing algorithms for beamlet-based/direct aperture-based/direct machine parameters-based should be provided.
10.5	System should be capable of modelling/incorporating MLC head scatter, penumbra, physical limitation of MLC motion, rounded leaf ends and tongue-and groove effects.

10.6	Specify all dose calculation algorithms used in the offered inverse planning.
10.7	The dose grid should be finer than the size of the beamlet or incidence fluence
10.8	System should be capable of calculating doses in the build-up region using bolus
10.9	System should be capable of calculating doses in the region of flash and also in the mobile target like breast target.
10.10.	Advanced inverse planning features should be included to follow ICRU-83 nomenclature of volume definitions and dose reporting and recording the treatment.
10.11.	Comparison of planning images with images received via network from EPID system for necessary changes in treatment plan should be possible
10.12.	Vendor should provide the necessary QA tools/gadgets for commissioning of the inverse planning system for dosimetric accuracy.
11	Four-dimensional (4D) Planning : The system should be capable of performing 4D-treatment planning and adaptive re-planning, having features such as auto-segmentation, deformable imaging registration for target delineation and other necessary tool/gadgets and systems.
11.1	System should be capable of doing both rigid and deformable image registration with all imaging modalities (CT/MRI/PET/CBCT) used in radiotherapy planning.
11.2	Should be capable of automatically register images, such as MIP, Min-IP, Average-IP or free-breathing images with 3D/4D images.
11.3	Specialized contouring tools should offer to make dose planning in 4D.
11.4	System should be capable of 4D-viewing, assessment, and contouring in 4-D movie loops and 4-D blinding images.
11.5	System should be capable of shaping fields on moving DRR feature.
11.6	System should be capable of automatically re-contours subjects for re-planning post-or mid-way through treatment.
12	Quality Assurance Software Systems for testing the performance of Image registration and fusion, auto-segmentation, deformable image registration for 4D dose calculations and adaptive planning of interfraction dose accumulation capability should be provided.
13	Plan Output
13.1	The plans should be exported directly after approval to linear accelerator for dose delivery.
13.2	User-definable print layouts
13.3	On-screen graphics should be dumped to a colour graphics printer
13.4	Plotting of plan in a user selected scale on A3, A4, letter or tabloid size paper
13.5	Printouts should include patient administration data, time stamp, field parameters (treatment unit, gantry, collimator and couch rotations, field position coordinates, field size, wedge, weight, Monitor Units), dose parameters (target maximum, minimum and mean, maximum dose), patient orientation and plotting scale.
13.6	DRR should print with cross-hairs to identify isocentre

13.7	DRR should print with graticules to identify scale
13.8	DRR should print with structure outline projections
13.9	Should be scaleable DRR printouts
13.10.	Plotting of BEV image at any distance.
13.11.	Block outlines should be plotted in a user-defined scale with internal structures and field edges
14	Network Connectivity and Import/Export licenses : All licenses required for above mentioned planning capabilities should be included, even if it is not listed now, but which are necessary and obvious.
14.1	Multiple 3D workstations should be connected to TPS network.
14.2	Multiple 3D workstations should import image and plan data
14.3	Should support for different image modalities (CT, MR and PET) for target and critical organ delineation.
14.4	Should support DICOM-RT import/export of:
14.5	At least DICOM 3.0 images.
14.6	Radiotherapy Images (CT, MRI, PET, Simulator image, EPID, CBCT etc.)
14.7	Radiotherapy Structures
14.8	Radiotherapy Plans
14.9	Radiotherapy Dose Matrix
14.10.	Radiotherapy Dose points
14.11.	Radiotherapy Fluence
14.12.	Radiotherapy dMLC for IMRT
14.13.	Radiotherapy Blocks.
15	Hardware System Specifications: The latest configuration of the computer/PC available at the time of shipping should be the basic platform for the TPS.
15.1	The CPU shall perform 64 bit instructions
15.2	There should be at least quad core processors with speed of each exceeding 2.8GHz
15.3	The system should have minimum 28GB RAM capacity.
15.4	Disk space for patient data should be of RAID type with a capacity of 2 TB
15.5	Internal Read/Write CD/DVD on the TPS computer must be included for archiving
15.6	21' Flat panel LED screen with a resolution of at least 1280 x 1024 pixels should be provided.
III	ONCOLOGY INFORMATION & RECORD AND VERIFY SYSTEM
	The oncology information for recording and verifying communication between treatment planning systems and treatment delivery system. The system should have latest model/version of hardware and software features commercially available.

1	The vendor shall provide a comprehensive oncology information & image management and treatment record & verify system. The system shall assist in the integration of radiotherapy patient data throughout the entire department which includes treatment planning systems, linear accelerators, CT-Simulator, imaging units in the institute. It shall also record and verify treatment parameters of patients undergoing treatment on LINAC(s). The system shall be based on one comprehensive database, thereby eliminating the need for redundant entry of data used in different applications.
2	The system shall provide the following functions: Record and Review Patient Diagnoses; capable of recording the diagnosis as per the ICD C and ICD 10 system and complete ICD C and ICD 10 codes should be available in the system without requiring extra input, Plan a course of treatment in advance so that treatments are readily delivered when the patient arrives; Write RT prescriptions that detail treatment techniques, fractions, and dose; Define treatment fields; Link setup fields and notes to treatment fields; Setup notes should include photos that show how to set up the patient; Track dose to specific sites; Define site breakpoints with instructions that appear when the breakpoint will be exceeded; Store treatment plan information to avoid redundant and time-consuming data entry. Vendor should provide the each unit price of OIS workstation offered.
3	MLC user operation shall be accomplished entirely through the Oncology Information System (OIS), thereby eliminating the need for a separate control station for the MLC. Planned leaf shapes shall be incorporated directly into a patient's planned treatment field(s) in the electronic Chart.
4	The MLC shape shall automatically appear on the OIS treatment screen during the setup and treatment of any patient with a planned MLC shape. The shape shall be displayed simultaneously with all other pertinent treatment parameters.
5	The system shall have the capability of storing patient photos facilitating correct treatment. The digital patient photographs should upload to the database. After treatment of the first field, all subsequent fields shall be automatically and sequentially downloaded to start auto-setup of the next field without requiring operator interaction at either the OIS console or In-Room Monitor.
6	Port Films shall be capable of being planned ahead for appropriate treatment sessions, completed with prompting from the system, and automatically recorded in the electronic chart. Port Film dose shall be capable of being accumulated, if desired. The system shall permit override of individual treatment parameters (couch longitudinal for example) and require a password and appropriate user rights to successfully complete the override.
7	The record and verification station shall accept and store demographic data, notes or comments and diagnostic information for each radiotherapy patient. When the patient proceeds with tumor localization, treatment planning and simulation, the treatment parameters will also be entered into the patient's file automatically or manually.

8	A daily patient schedule and time management schedule must be capable of being displayed on the computer monitor at the record and verify workstation. This schedule shall include, at a minimum, the scheduled treatment time for each patient, the patient's identification number and the patient's name. The schedule shall be used to select a patient for treatment on the accelerator.
9	The system shall be capable of maintaining a record of field-specific and treatment-specific daily and cumulative doses for the target site and additional sites of interest. It shall be possible to specify a prescribed dose for each treatment site for every patient. The system shall prevent treatment if this dose will be exceeded upon completion of the treatment. A manual override shall be provided. Overriding prescribed dose limits by unauthorized personnel shall not be permitted. After the daily irradiation of a patient, the therapy history will be updated and the given target doses, or doses calculated to other sites, shall be accumulated.
10	The Operating System shall provide a convenient and efficient means for the user to generate and to print hard copy reports of information contained in the database.
11	The scheduler of the OIS should be capable of maintaining schedules for multiple departments and scheduling any resource desired by the site. It should have a graphical user interface for ease of customizing schedule views, changing appointment times and minimizing keystrokes.
12	The OIS shall provide the capability to integrate simulation, CT, MRI, PET and electronic portal imaging system images into the OIS database to provide a readily available reference during the patient's course of treatment. Reviewing images immediately after acquisition from a remote location shall be permitted.
13	The Hardware should consist of the following: One integrated server for data management and image management with back up with 8 TB or more capacity to handle busy department workload. Additional 7 Image Workstations for Review and Approval; a networked colour image DICOM laser printer; capability for high speed internet connectivity for Online Service support. Vendor should provide licenses in order to use seven user simultaneously.
14	The vendor should provide the storage server for backup of patient databases.
IV	SCOPE OF WORK FOR FACILITY SITE MODIFICATION:
1	The Supplier should inspect the proposed site offered by the Consignee, wherein the LINAC has to be installed. They are required to submit the plan for the project. The scope of work includes complete Electrical, Wall finishing, Air-conditioning, Flooring for the proper functioning of the LINAC. The supplier shall assist the user by providing necessary documentations/technical data for regulatory clearances and approvals from AERB.
2	The cost of the facility site modification work should be quoted separately and this cost will be considered for L1 calculation.
3	Vendor will have to quote Unit Rates of the following components of

	Site Modification work.
3.1	Electrical work
3.2	Air conditioning (HVAC)
3.3	Flooring
3.4	Wall Finishing & Painting
3.5	False Ceiling
4	The payment for site modification work shall be based on the Unit Price quoted by the supplier applied to the actual measurement of Site Modification work executed at the supplier at the site.
5	Bidder should clearly mention break up price of each component of Site Modification work separately.
6	The system should be installed and handed over in working condition with all necessary electrical, wall finishing, air conditioning, flooring and plumbing work undertaken by the vendor in consultation with the user dept.
7	Rate quoted for Site modification work, Furniture like desks, chairs, shelves etc; and the price quoted for 30 TR HVAC is included for L1 calculation of the bids.
8	The LINAC CENTRE shall consist of the following rooms:
8.1	LINAC Treatment Room & TPS room
8.2	Console Room
8.3	UPS & batteries Room
8.4	Equipment / Electrical Room
9	The supplier shall be required to specify the total load requirements for the LINAC centre including the load of air conditioning , room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the LINAC centre. The mains panel and distribution panel for LINAC, HVAC, and LIGHTING should be provided by the supplier. Few lights in LINAC, CONSOLE ROOMS, UPS ROOM shall be connected to the UPS to provide emergency lighting.
10	The bidder may quote the unit rates of any other site modification work activity which is not mentioned in the list below.
11	THE ELECTRICAL WORKs:
11.1	Wiring – All interior electrical wiring with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
11.2	All necessary cabling like LAN, DICOM & PACS for data interface between TPS and LINAC; CT-SIMULATOR & LINAC should be provided with adequate number of terminals.
11.3	All the internal wiring including that of telephone, LAN, DICOM & PACS etc will be concealed variety.
11.4	Earthing: Double earthing with copper plate shall be provided for the LINAC and all accessories like UPS and Chiller. The earthing for the AC should also be done by the suppliers. The earthing cable/wire shall be routed end-to-end through an insulated conduit.
11.5	Switches light and power points should be of modular type and of standard make as listed below.



11.6	General lights – Ceiling mounted LED lighting panels, recessed 600 x 600mm should be provided. Light dimming facility should be provided wherever it is necessary.
11.7	All wires used must be FRLS (Fire Retardant with low smoke) type only.
12	AIR CONDITIONING WORKS : (15 TR + 15 TR backup : Total 30 TR HVAC)
12.1	The area marked for Site Modification work needs to be air-conditioned. Package Air Conditioners may be used according to room requirement and suitability. Humidity control should be provided to effectively eliminate moisture condensation on the equipment. The Air conditioning system should be designed with standby unit(s) to provide uniform air-conditioning 24 x 7.
12.2	In the case of LINAC-CHILLER is placed indoors; the Air-conditioning system should be able to provide adequate ventilation and heat exchange for the same.
12.3	The outdoor units of AC should have grill coverings to prevent theft and damage.
12.4	Stand-alone Room Dehumidifiers of adequate capacity to be provided for LINAC Room, Console Room and TPS Room to ensure condensation- free atmosphere for the high value equipment.
12.5	The Air conditioning of the LINAC treatment room shall have minimum 6 air changes per hour.
12.6	Environment specifications:
12.6.1	Humidity range: Relative humidity 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.
12.6.2	Temperature ranges: $22 \pm 2^{\circ}$ C in all areas throughout the year, except equipment room which shall be as per requirement of the equipment.
12.6.3	Air conditioning load: The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the supplier.
13	FLOORING WORKS:
13.1	600x600 mm vitrified tiles with 100mm matching tile skirting in LINAC Room & Console Room.  Note: Providing and laying approved quality, colour, design and shade fully homogeneous 600 x 600 mm (thickness to be specified by the manufacturer)Vitrified tile flooring (Marbonite or Granamite, confirming to IS code 15622 with water absorption less than 0.08%) flooring in pattern as detailed in drawing or as directed by the institute and grouted with matching colour approved quality readymade grout, curing, cleaning etc to required line level etc. all complete at all leads, lifts and heights to the entire satisfaction of the institute. Providing and fixing 2-3mm thick POP protection over polythene covering sheet to flooring areas till handed over and cleaning, etc all complete as per drawings & Specification.
13.2	50mm thick cement concrete flooring with 3mm Vinyl flooring in UPS Room / Equipment Room

13.3	Floor levelling if required to be done by supplier. All installation related floor modification non structural) like Turntable pit, trench etc. to be done by supplier.
13.4	The LINAC room, Console Room & UPS Room will be made rodent /pest proof.
13.5	Mode of measurement: Finished surface area of the tiles shall be measured and paid. Rate shall be inclusive of providing and laying levelling course, PVC spacers, providing and applying epoxy grout and no additional payment shall be made for wastage.
14	WALL FINISHING & PAINTING
14.1	Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in all areas not covered by wall tiles. Colour to be approved by institute.
14.2	Wall Tiles-High quality density Vitrified Tiles clad on the side walls up to a uniform height of 1200 mm in all rooms; except UPS & equipment rooms. Colour to be approved by institute.
14.3	Note: Providing all tools, tackles, materials, manpower for applying plastic enamel paint over Coats of wall putty including primer in all areas, of approved brand and manufacture and approved shade finished with roller to wall & ceilings surfaces, in 2 coats over a coat of approved quality primer on the plastered/POP surface, POP board/Gypsum board surfaces including scaffolding, preparation of surface, sanding, light sanding, work platform, painting equipment/apparatus etc. required to complete interior grade finish etc. at all heights & levels complete as per drawings & Specifications.
15	FALSE CEILING
15.1	Acoustical tile for ceiling with light weight insulating material of high quality supported on grid or finished seamless with support above ceiling. To be finished with white paint or powder coated with white paint, if metallic. The false ceiling panels should be of reputed brands.
16	MISCELLANEOUS:
16.1	The LINAC room shall be provided with wall-mounted storage cupboards within LINAC room to store: Dosimetry & QA Items, LINAC accessories.
16.2	Sufficient number of Open Racks of high Quality vendors should be provided to house the immobilization materials within LINAC room
16.3	TPS room should be provided with LED X-ray film viewer with adjustable brightness capable of holding 3 films of 14"x17" size-2 nos.
16.4	The CONSOLE room shall be provided with Wall mounted Storage cupboards with MDF laminate shutters; to be fixed on the wall above the workstation (approx 1800mm length; 750 mm height; 300 mm depth).
17	FURNITURE:
17.1	Revolving chairs height adjustable, medium-back with hand-rest for Control room, TPS room - 14Nos.

17.2	Workstation/Tables for Console room & TPS room: The Console room and TPS room should be provided with suitable workstations(s) of reputed brand, to accommodate the various Terminals in Console Room, TPS Room. The Workstation shall be providing with enough power sockets, LAN sockets etc. to enable smooth functioning of the LINAC and TPS.
17.3	Bookshelves: Four-door bookcase with glass doors, height approx. 1700mm; to store manuals; CD/DVDs, spares etc-4 Nos. Wall mounted cabinets in TPS room for storage facility.
17.4	Shoes Rack - 3 Nos.
18	LIST OF ITEMS AND SUGGESTED MANUFACTURERS.
	A. ELECTRICAL
	1. CABLES - Gloster, Universal, Polycab
	2. WIRES - Finolex, Havells, V-Guard, RR Kabel, Gloster, Anchor
	3. SWITCHES - Legrand, L&T, Crabtree , Roma, MK, Crabtree
	4. DISTRIBUTION BOX , MCB - Legrand, L&T, Siemens, Havels
	5. LIGHT FITTINGS - Philips / Crompton / Kesselec-Schreder / Wipro.
	B. AIR CONDITIONING -Daikin, Hitachi, Blue Star, Voltas
	C. FURNITURE -Hermen Miller, Godrej, Featherlite, Wipro
	D. FALSE CEILING - Armstrong, Saint Gobain, Luxalon.
V	RADIOTHERAPY DOSIMETRY EQUIPMENT
	The following dosimetry equipment and systems that are required for the dosimetry and quality assurance for safety and quality of the radiotherapy treatment shall be provided by the vendors (One set for Two nos. of Linear Accelerator).
	DOSIMETRY AND QUALITY ASSURANCE EQUIPMENT AND SYSTEMS
1.	RADIATION BEAM THERAPY ANALYSER Require a latest full-fledged three dimensional rectangular Water Phantom & Dosimetry System and therapy beam analyser for performing Off-axis profiles, PDD, point dose measurement, beam symmetry tuning, Dose rate constancy check, vector scan and TG51 lead foil measurement for low and high energy Photon (FF & FFF), electrons. All the measurements should be computer controlled and user friendly.
1.1	All components comply with national and international regulations and safety rules. All components of the system; all available options are controlled by the same software that runs under Microsoft Windows of latest version. The system should suitable to measure pulsed radiation with fluctuation dose rate Ion Chamber:
1.2	Necessary thimble ionization chambers should be there for measurement of field and reference signal. plane parallel chamber should be there for electron measurement. The necessary holding devices, extension cables for the above chambers must be included. The chamber specification should be quoted. The position accuracy should be better than $\pm 0.1$ mm. The chambers should be properly

	calibrated and given necessary calibration certificate. Brass build up caps needs to be provided.
1.3	The positioning tool should be there to allow easy and exact positioning of the chamber's geometric centre in the central beam and at the water surface. Apart from this the exact position of the chamber the radiation beam should be possible via software.
1.4	The detector unit should be driven by stepper motor and step length should be adjustable in steps of mm. The scanning speed should be adjustable between 5mm/s and 50mm/s in 5mm/s small steps. Further the delay times for each step should also be adjustable by the user. The acceleration of the step movement should also be changed as and when required.
1.5	The system should allow simultaneous movement in available direction for any vector scan and shall be a latest system with water levelling sensor in order to do a quick setup where water levelling delays can be avoided.
1.6	The zero point, reference point and limit of the different detector units should be stored separately and permanently in the control unit.
1.7	The control pendant should display the actual position of the chamber position at any given measuring time.
2	Water Phantom/ Radiation Field Analyzer:
2.1	The scanning volume should be large enough to scan and should not be less than 48x40x48 cm <sup>3</sup> To avoid bending of the tank's walls by water pressure and water absorption of the acrylic material 1 wall thickness should be not less than 2.0 cm
2.2	The motor of the moving mechanism should not touch not touch nor dip to the water to avoid mechanical stress to the acrylic tank.
2.3	The reproducibility of a position should be $\pm 0.1$ mm throughout the whole phantom
2.4	The digitally driven stepper motors should provide hysteresis free movements (stick and slip free).
2.5	The lift table should be electrically as well as manually operable.
2.6	The velocity of the vertical motion should be quoted and preferably should have two vertical velocities. The Water Tank must be rotatable into positions 0 degree, $\pm 45$ degree and $\pm 90$ degree.
2.7	A highly accurate Positioning device directly supplied by the principals must be included.
3.	Water reservoir & Electrometer
3.1	The water reservoir should be large enough to store the water and can be pump and drain to the water phantom as quick as possible. The water Reservoir must be able to hold the entire weight of the water without any change
3.2	The weight of the whole assembly can be push or pull though the wheel with polyethylene or equivalent. The lifting carriage should be electromechanical/elevating screw mechanism that keeps the height absolutely accurate

3.3	The Lifting carriage and Water Reservoir must be imported and directly from the suppliers and must complete with all facilities including TPR and TMR measurements. Completely Integrated Lifting Carriage and Water Reservoir.
3.4	The Water Reservoir must be compatible for TPR measurements and hence for TPR measurements 1 pump of the reservoir should drive automatically and electromagnetic valves makes sure that no water can flow the phantom tank to the reservoir during automatic TPR measurement.
3.5	The water reservoir should have a safety circuit that avoids the dry pump running Control Unit/Electrometer:
3.6	A separate control unit for controlling the movement of the detector in any three directions should possible.
3.7	A separate electrometer to collect the ions/dose from the chamber/detector should be there The voltage to the chamber should be adjusted in the electrometer in steps of 50 V. The polarity of the chamber should be toggled between +/- . The electrometer should also be able to measure absolute doses for low and high energy photon and electron.
3.8	The gain of the electrometer should be automatic depending upon the signal collected by the field and reference detector. Further the user should also be given an option to change the gain to field an reference separately.
3.9	Necessary software to use the electrometer for absolute measurements should be provided.
3.10	The time constant should allow 10ms measurement times.
3.11	The external dosimeter should also be connecting to the water phantom.
3.12	The control unit should permanently store zero point, reference point and limit points for water phantom, air scanner and mechanical film densitometer separately.
3.13	These different sets of limits , zero and reference points can be retrieved independently.
3.14	The co-ordinates of the probe should display for all directions, simultaneously on a control pendant.
3.15	The control pendant can be attached either to the water tank or to the control unit.
3.16	The communication between the control unit and the computer should performed by a standard RS232 or LAN interface.
3.17	The high voltage for the probe should be switchable independently for each decreased in different voltage and sign of the measuring signal can be reversed.
3.18	A solid, water equivalent phantom made up of slabs of different thicknesses shall be provided by the vendor for external beam teletherapy dosimetry. It shall be possible to use this phantom for both photon and electron beam dosimetry. The phantom shall be free of contaminants and air bubbles. The slab shall be of 30x30 cm or more size totalling a thickness of 30 cm.

4	Control Computer:
4.1	The latest version of windows computer should have all the latest features with colour monitor and with printer/plotter (colour) and branded UPS (45 min. back-up).
4.2	The software:
4.3	Measurements can be done against time, against a monitor signal or against reference chamber
4.4	Within the moving range arbitrary points can be measured.
4.5	An arbitrary vector scan measurement should be possible.
4.6	Point dose measurement, Beam symmetry tuning and TG5I foil measurement should also be possible
4.7	2D planes can be measured at any solid angle
4.8	Isodose can be displayed and plotted that can constructed out of profiles and depth dose curves or measured matrices. The Isodose level should be freely closable Warning before unsaved date in the RAM should be overwritten.
4.9	The Isodose levels can be chosen after the measurement and without the necessity to have the water phantom connected.
4.10	Multiple closed Isodose lines and hot spots should be detected automatically.
4.11	Single measuring points, complete curves and parts of curves should be re-measured from a user definable point.
4.12	During the measurement the measuring curve should be display graphically and online on the screen.
4.13	A special measuring program allows a dose rate constancy check including a statistical evaluation.
4.14	Any kind of open, regular shaped, blocked or wedged field can be measured.
4.15	Fields from asymmetric collimators can easily be measured.
4.16	A special measuring routine for service purposes allows to easily checking the beam with respect to symmetry, flatness, homogeneity and energy.
4.17	Implemented routines allow the measurement, formatting and transferring of basic date to all-important therapy planning systems.
5	ABSOLUTE DOSIMETRY
5.1	Secondary standard Dosimeter with water proof appropriate thimble chamber (2 nos.) and one parallel plate chambers with latest calibrations to be provided along with international standard water phantom with variable depth measurement facility. One pin point chamber (water proof) for small field dosimetry with required calibration. Adaptors for all supplied chambers for absolute dosimetry in water phantom, RFA and solid phantom to be provided.

5.2	One water phantom 30x30 x30cm <sup>3</sup> with 10 cm depth measurement facility. One D20/D10 measurement water phantom for daily QA facility shall be provided.
5.3	One Solid phantom 30x30x30 cm <sup>3</sup> (water equivalent) made up of slab of different thickness with adapters for the above mentioned chambers should be provided.
6	Latest configuration Film Scanner along with Film Dosimetric software should be provided for treatment verification.
6.1	Administrative Data: Comprehensive documentation of the measured data by automatic saving of the used measuring environment should simplify the interpretation of data even a long time.
6.2	The used measuring routine data can be reused either unchanged or with some of the parameter changed Data can be printed and plotted in numerical and graphical form on all printers and plotters that art supported by windows.
6.3	The administrative data can be changed after saving the measuring data. All measuring data should furnished automatically with their administrative information and comprehensive filter function allows the easily selection of specific data.
6.4	The necessary software to network the 3D TBA system with the 3D TPS in the department of Radiotherapy must be offered.
6.5	Data analysis:
	Various normalization should possible viz. normalization to maximum for depth dose curves normalization to maximum or centre for profiles and normalization to maximum, enter, position and value for isodose lines. Homogeneity and symmetry should be calculated automatically and various national and international protocols can be selected. Depth dose curves can be analyses according to the protocols DIN 6800/2 IAEA TR277, ICRU 35 CRMRI no.2, AAPM TH21/TG 25 and NACP.
6.6	Data transfer and data presentation
	Modules should allow automatic formatting and transferring of measured data to treatment planning system available in the department. The measured data can be stored in two different ASCII formats (with selectable separation characters). ASCII -data can be sent from external computers and be imported in to the water phantom software Image date for film dosimetry can be imported in to water phantom software. Data can be display graphically on the screen. Crosshairs should allow the easy manual evaluation of a curve. Plotting / printing of the measured data and correction functions can be printed (alphanumerically) and plotted (graphically).
7	ARRAY DETECTOR
7.1	One latest model Array device must be based on ion chamber array resulting in an effective measuring field of 27 cm x 27 cm or more and giving the facility to use with slab phantom for measurements. The chamber must be vented plane-parallel square shaped ion chambers

	with 5mmx5mmx5mm size and centre to centre spacing must be 10mm.
7.2	It should be able to use for the dose verification of IMRT beams and routine quality control of high energy photon and electron beams by using the software and also it should be able to check the MLC leaf positioning. It should be able to measure the dose from dynamic and static fields in one run and display the readings in both dose rate and absorbed dose mode.
7.3	It should be able to perform the QA for high energy beams and dose verification for IMRT, IMAT, ARC beam techniques like RapidArc or VMAT. It should be capable of doing complete pre-treatment patient plan verification with on measurement.
7.4	Cylindrical & Rotational Phantom with inclinometer, lifting trolley & complete drive assembly with related software module for VMAT dynamic IMRT techniques. There should be a slot & provision to insert the 2D Ion Detector Array System into the Rotational Phantom for taking synchronous measurements with the Linac Gantry Rotation. The detector should always be perpendicular to the beam & thus removing the angular dependence.
7.5	The software should have the functionality like 3D volume analysis and CT overlay.
7.6	One additional Array Device with 900 or above liquid filled ionisation chamber for patient plane verification & quality control of small fields. Detector spacing should be 2.5mm & the maximum fit size should be above 10x10 cm & below 12 x 12cm essentially for use with Small field dosimetry. The Array device should also be usable for Stereotaxy work This Array device should be usable with the Cylindrical & Rotational Phantom.
7.7	One daily QA device with multiple ionization detectors for constancy check on linac and to check inhomogeneity, symmetry, central dose, wedge angle to be supplied.
8	Other tools:
8.1	Two Calibrated Barometers and Two calibrated thermometers and two spirit level to be included.
8.2	Gafchromic films: 100 small size & 50 large size shall be provided since there are 2 Linacs to be Commissioned.
8.3	A simple Isocentric alignment device that can measure accuracy of the gantry angle, collimator angle, couch angle, isocentre accuracy, laser beam alignment, optical radiation field congruence, optical field readout to be supplied.
8.4	One electron density phantom with different electron density inserts calibrating CT numbers for inhomogeneity correction based dose calculation in TPS to be supplied.
8.5	One pressurized ION chamber based Survey meter and one G M Counter survey meter with valid calibration to be supplied. One contamination monitor and three pocket dosimeters with valid calibration shall be provided.
8.6	One ESTRO mini phantom to be supplied.



8.6	Winston Lutz tool with required software shall be provided for Isocentre check required for stereotactic treatments.
VI	<b>MOULD ROOM AND PATIENT FIXATION AND IMMOBILIZATION DEVICES/ACCESSORIES</b>
	The mould room and patient fixation and immobilization devices/accessories/ tools are required in developing and implementing of a comprehensive, ultra-modern 3-D CRT, IMRT/VMAT and SBRT program in the department of Radiation Oncology. The vendor should provide the all items with product information brochures.
1	Patient alignment laser system with patient support Couch for the mould room: The vendor should provide a stable flat top couch for medical use along with fixed sagittal green laser in-tune to aligned with the sagittal laser of the CT simulator and treatment room should be provided.
2	<p>Patient Fixation / Immobilization Accessories : The vendor should provide high precision Radiotherapy immobilization devices for Head, Head &amp; Neck, Pelvis and Breast with handle as ultra-light weight, remarkable reproducibility, stability and durability items are as follows:</p> <p>The Universal treatment base Plate shall be made of true carbon Fibre. It shall be One for All, Immobilization devices having a total solution to treat Paediatric to Adult in supine and prone and capable of treating Head, Head &amp; Neck, Breast, Thorax. Abdomen, Pelvic and Extremities and with suitable attachments to the same Universal Treatment Base Plate offered, for frameless SRT / SRS and frameless SBRT (support device to be provided for frameless application, but shall not use fiducial frame / box, which makes the work to be tedious) and this important capability shall be supported by officially Vendor published Product catalogue/brochure. The Offered All IN One Base Plate shall be of a Long Board Minimum Length 160 cm and thickness 2cms.</p>
	Universal treatment base plate (All in One) Made of true Carbon Fibre shall be provided which shall be compatible with the 6D couch top for Linac room. 2 nos.
	Universal treatment base plate (All in One) Made of true Carbon Fibre shall be provided for CT room. 1 No
	Identical to that of Universal treatment base plate Carbon Fibre, but made of Glass Fiber which is MR compatible (Not Acrylic) for mould room shall be provided. 1 No
	Head Rest made of carbon fibre 4 sets (One set containing 3 no of different shapes) Prone head Rest and Paediatric Head rest made of low density 4 sets to be provided
	Suitable Wedges 5 and 7 degrees made of carbon fibre and low Blocks to be provided – 4 sets
	Also, shall provide, appropriate attachment to that of the offered Universal treatment base plate to treat frameless Stereotactic radiotherapy/surgery (SRT / SRS) made of carbon fibre 2 nos and an identical of the carbon fibre should be made of glass Fibre for CT / MR

	compatible (fusion enabled). - 2 no. It shall also have facility to make Supine and Prone mask, custom made 3D thermo mask for Patient head support, Facial and Occipital for Individual Patients to maintain an accuracy and reproducibility of less than 0.3mm which is mandatory. This important capability shall be supported by officially Vendor published Product catalogue/brochure.
	The same Universal treatment base plate also shall be converted by adding the Bridge for thorax along with the suppression device, abdomen compression Belt, for SBRT. - 3 Sets
	Also, to provide lower and Upper Arm support, Indexed Couch stoppers, knee rest for comfort, feet rest and suitable device for Shoulder retractor for the same base plate of each shall be provided. - 4 sets each
3	Breast Board:
	Breast board made of carbon fibre with extended cushion aperture, lower adjustable arm supports with high arm cup, cranial adjustable arm supports with high arm cup, wide head support, bottom stop with hip position adjustment, integrated mask fixation points. : 4 set
4	Vacuum cushion-based System:
a.	Vacuum Cushion Breast Support : 50 x 70cm : : 40 no's
b.	Vacuum Cushion Pelvic Support : 65 x 65cm : : 40 no's
c.	Vacuum Cushion Body Support : 100 x 70cm : : 40 no's
d.	Vacuum Cushion Body Support : 200 x 70cm or more : : 40 no's
e.	Vacuum Pump (VP) : 2 no.s
5	Heat Gun: Professional Heat Gun , Rated power input: 2,000 W : 2no.s
6	Storage cabinet and Hanger to accommodate the above devices: (sizes of the storages cabinet should be as per the need of the immobilization devices) . : 4 no.s
7	The vendor should provide all appropriate locking mechanism for all offered base plates to couch. Density and also percent of attenuation of carbon fibre should be mentioned.
8	The vendor should provide 250 (numbers) thermoplastic sheets for Head and Head & Neck & Shoulder each, 200 numbers for pelvic 4 clamp (abdomen) and pelvic 6 clamp (abdomen up to thigh), 200 nos. for Breast to cover both linac requirement for at least one year depending on patient numbers.
9	Large Digital Water Bath System (One numbers) vendor should provide digital water bath system which should have minimum inner dimensions of 700 mm x 700 mm x 110 mm with adjustable position of water drainage, back safety opening bracket, digital temperature display.
10	Vendor should provide following accessories:
10.1	Tungsten eye shields set consist of three sizes, two sets for paediatric and adult patients.
10.2	Small. medium and large sizes of testicle shields (each two numbers),
10.3	Gel Bolus sheets 30x30 cm of thickness 0.5, 1 of 1.5 cm each
10.4	Styrofoam cutter for electron 1 no.

10.5	Alloy Melter 1 no.
10.6	Low melt alloy 40 kg
10.7	Styrofoam blocks 12"x12"x3" -100 no's
10.8	Styrofoam blocks 12"x12"x1" -100 no's
10.9	Body calliper 2 nos.
10.10	Curved stainless-steel calliper 2 nos.
10.11	Rectal & Vaginal marker 2 nos each .
10.12	CT markers (2mm dia) 300 nos.
10.13	MRI markers 100 nos.
11	Total Skin Electron Therapy (TSET) with Electron patient positioning vertical system having rotatable standing platform and fixed frame with two handgrips should be provided. Nail shielding and energy degrader to be supplied.
12	General Conditions and Requirements:
12.1	The Mould room and Dosimetry equipment/accessories/software offered against this tender shall have approval of the FDA-USA, CE Europe, AERB, India if applicable.
12.2	Installation of all these equipment/accessories shall be free of cost and should be completed in the specified time-frame manner. The vendor shall demonstrate all the acceptance and calibration tests, to the satisfaction of the user as well as of the Regulatory Authorities, as required for the safe use of the equipment.
12.3	Full warranty of all the hardware and software, for a total period of 5 years from the date of satisfactory commissioning and Rate of comprehensive maintenance charges per annum for the complete system after 6 to 10 years must be quoted.
12.4	All the participating firms should quote the price of all required spares for upkeep and smooth functioning of the equipment for a period of 5 years.

1	Equipment Warranty and After-Sales Services
1.1	The vendor shall give mandatory on-site warranty for first five years from the date of commissioning of the entire LINAC system, TPS, Dosimetric QA, Patient positioning systems (including for all locally supplied items including consumables like batteries of the UPS, printer cartridges etc) from the Principals, except for the wave-guide, beam-bending magnet assembly, electron gun, X-ray tube & RF system, which shall carry guarantee for 10 years. Pro-rata warranty is not acceptable.
1.2	Vendor should provide comprehensive maintenance contract (CMC) rate year-wise for quoted machine other accessories for next 5 years after warranty period.
1.3	Spare parts kit should be available for minimum of 10 years and price must be included in the offer
1.4	During the warranty period, all the software updates and upgradation

	should be provided without asking for free of cost.
1.5	Please quote the rates of necessary consumables recommended valid for 5 years block
1.6	Factory trained service Engineer/Application specialists should be available in CNCI, Kolkata to look after the installation and maintenance of the system without interruption to patient treatment.
1.7	National Regulatory Body and Radiation Safety and Protection Requirement: The vendors should visit the site and user department to get the Plan Layout and should facilitate and coordinate with user department in communicating with AERB in providing all required information pertaining to radiation safety compliance of the concerned equipment till the clinical commissioning process of first patient treatment commencement.
2	Quoted Linac Model Compliance with Standards and Safety
2.1	Should be ISO, IEC, USA-FDA, European CE certified product.
2.2	Should comply with the national regulatory AERB/BARC guidelines
2.3	The offered LINAC model should have AERB type approval/ NOC.
2.4	Dosimetry, QA and Safety protocols should adherence to ICRP/ICRU/IAEA and national regulatory AERB/BARC guidelines/reports
2.5	Interlock system should be provided to afford maximum protection for personal against high voltage hazards.
2.6	High voltage protection and warning lights/symbols to be provided.
3	Staff Training and Documentation
3.1a	Clinical Training for LINAC & OIS shall be provided to 6 personnel (2 Radiation Oncologists, 2 Medical Physicists, 2 Radiotherapy Technologists) in the centre of excellence in abroad where these equipment are already in clinical use / training facility for a period of 7 working days.
3.1b	Training for Treatment Planning System shall be provided to 2 Medical Physicists in the company designated training centre in abroad for a period of 7 working days.
3.2	On-site application training should be provided for minimum four weeks for all staff members in the department
3.3	Beam Data: Representative photon and electron central axis profile dose curves, as well as flatness and symmetry profiles measured on the accelerator to be installed shall be provided. These curves need not be warranted by the vendor for clinical use.
3.4	User/Technical/Maintenance manual to be supplied in English
4	General Terms & Condition
4.1	A list of installations existing in the county with 'satisfactory service certificate', if available from the user, may be submitted to support the claim of a good performance of the equipment. The supplier shall mention

	the number of installations in India and worldwide, for the quoted model only. Such installations should have been supplied directly by the quoting firm itself. Current performance and status report from the user departments for the model quoted shall be provided.
4.2	All claims regarding meeting the specification should be duly supported by appropriate, latest technical catalogues/brochures from the manufacturer. The vendors shall submit point-wise compliance statement in regard to the specifications asked for in the tender and should mention corresponding page numbers matching with the technical details in the compliance statement.
4.3	a) Penalty clause: Penalty at the rate of Rs. 50,000 per day will be charged from the firm if the uptime falls below 96%. The calculation will be done on the basis of 365 days in a year, 7 days in a week and 24 hours a day. b) If any item/items of the entire Linear Accelerator System which is/ are required for full functioning of the equipment mentioned in specification, but inadvertently missed in specifying in that many terms, the same shall be supplied without additional cost by the L1 vendor.
5	Annexure-1: AERB approved Site and Facility Layout plan : The site layout may be obtained from HSCC Noida Office/CNCI Kolkata.

## **Item No2. Wide Bore CT Simulator**

Sealed tenders (Sealed separately as the "Technical Bid & the Price Bid-in duplicate) are invited directly from the manufacturers/principles for the supply of a state-of-the-art and latest technology based CT-Simulator. The CT-simulator includes CT scanner, laser system and virtual simulation system. The CT scanner should be of spiral multi slice, large-bore at least 16 slices per rotation model which should be capable of 4DCT acquisition. It should also be capable of integrating with standard networking and PACS systems available in the hospital. The offered equipment should have the following technical features.

### 1. CT Scanner system

1.1 The system should be of latest slip-ring technology allowing acquisition of 16 slices per rotation with true isotropic volume acquisition and sub millimeter resolution of an at least 0.625 mm or less. The quoted model must have AERB Approval / NOC at the time of bid submission

### 2. X-ray Generator

2.1 High frequency x-ray generator with an output of at least 80 KW or more to support continuous and sustained operation. Please give details.

### 3. X-ray Tube

3.1 Tube current: 30-600 mA or more. The mA rating at peak generator power must be mention.

3.2 The system should have mechanism for real time mA modulation for both Z axis and angular dose modulation

3.3 Tube voltage should be in the range of 80-140kV

3.4 The x-ray tube should have anode heat storage capacity of 5 MHU or more.

3.5 The anode peak heat dissipation rate should be 800 KHU/min or more angular dose modulation.

3.6 The x-ray tube should have dual focal spot or equalent (please specify the size of each focal spot). The automatic selection of focal spot should be possible.

3.7 Filter and beam limiting device: Their Al equivalent and other specific features to reduce radiation dose to the patient shall comply radiation safety compliance of AERB.

#### 4. Gantry

4.1 Gantry aperture should be minimum 80 cm or more

4.2 Gantry tilt should be at least  $\pm 30$  degree

4.3 Entire range of rotation times for full 360 degree should be specified.

4.4 Remote controlled tilt from operator table should be possible.

4.5 Laser alignment lights should define accurately actual scan of plane. It should operate over full range of gantry tilt.

#### 5. Patient Table

5.1 The scanning table should be universally flat with flat table top and should be compatible with tables of linear accelerators installed. The table should have patient positioning index system on carbon fiber table top.

5.2 The table should be able to bear weight up to 200 Kg or more.

5.3 Table should have the metal free scanable range should be at least 150 cm.

5.4 Horizontal accuracy should be  $\pm 0.50$  mm or less

5.5 Vertical table travel range should be specified. Minimum at least 55cm height.

5.6 Table should support the immobilization accessories for conformal and stereotactic procedures. QA phantom holder, water level phantom and laser calibration bar should be provided.

5.7 The table should have total free floating facility

5.8 All patients positioning accessories including tilt should have control both from gantry and control console

#### 6. CT scanning parameters

6.1 The slice thickness should be users selectable which range from 0.625 mm to 10 mm.

6.2 Minimum scan time for full 360 degree rotation should be 0.5 seconds or less for whole body applications.

6.3 Maximum true scan field of view should be at least 50 cm or more

6.4 Extended reconstruction FOV of at least 70cm should be possible.

6.5 Gapless spiral length should be 150cm or more.

6.6 Specify single continuous spiral-on-time should be minimum 100 seconds or more.

6.7 The system should automatically optimize radiation dose and resolution for each selection.

6.8 Bolus triggered spiral acquisition should be possible. Give detail of sub millimeter resolution.

6.9 Both spiral and sequential mode acquisition should be possible for all scanning protocols.

6.10: Prospective and Retrospective respiratory compensated/gated CT to generate 4D datasets must be compatible with all commercially available hardware and software for motion management to localize the tumor in motion. Specify the details. Required software and hardware to generate/acquire 4D CT imaging should be provided. All the necessary interfaces to connect the CT with 4D gating devices of commercially available vendors should be provided.

#### 7. Scannograms/Topogram

7.1 Length and width: specify the range

7.2 Scan times: specify the range

7.3 Views: should be feasible in frontal and lateral views

7.4 Should be possible to interrupt acquisition manually once the desired anatomy is obtained.

## 8. Data Acquisition system

8.1 Detector: Please specify the number of detectors, detector design and type of detector.

8.2 Number of rows with their thickness, number of elements in each row

8.3 Mention the channels per row and number of projections

8.4 In-built mechanism for adapting the tube current during each scan. This should enable radiation dose reduction where body part thickness is less. Specify the mechanism used in the offered system.

8.5 There should be in-built pediatric protocols adapted to weight and/or age.

8.6 Specify available mechanisms to reduce the effective patient dose.

8.7. Vendor should provide the 4DCT acquisition system as applicable to the offered System.

## 9. Image Reconstruction:

9.1 Real-time reconstruction speed: 10 images per second or more at 512x512 matrixes.

9.2 Display matrix should be minimum 1024 x 1024 or more.

9.3 Freely selectable window width and centre with organ specific preset windows be possible

9.4 Retrospective reconstruction with variable slice thickness should be possible.

## 10. Image Quality

10.1 High Contrast Spatial Resolution: It should be 15 lines pair per cm or better (for 50 cm FOV) maximum at 0% MTF for a slice of 1 cm thickness. Clearly specify the phantom used, scan time, mA, filter for image reconstruction, scan field, dose and MTF.

10.2 Low Contrast Detectability: The low contrast resolution for CATPHAN should be at least 5mm or less at 0.3% using 20cm CATPHAN phantom on 10mm slice thickness.

10.3 Spiral parameters: Different selection of pitch should be possible, from 0.5 to 1.5 or more with variable steps. Inter scan delay in different group of spiral should not be more than 5 seconds.

10.4 CT number accuracy must be better than + 4HU for water and +10 HU for air. All necessary phantoms to check the spatial resolution of the scanner should be provided. A phantom to check the electron density to HU relationship for different body tissues must be provided.

## 11. CT Control Console

11.1 It should have 19" or more LED colour monitor for display of 1024 x 1024 matrix or more.

11.2 Computer CPU systems should be running on a high-end workstation platform with UNIX/Window/ LINUX of latest configuration. RAM size must be at least 8GB or better. A color laser printer shall be provided. It should be possible to take printout on this printer from any of the CT simulation workstation. 5 sets of cartridges per year during warranty and CMC period shall be provide

11.3 All functions viz. registration, scheduling, scanning, image reconstruction, image evaluation tools, post processing tools, film documentation and transfer of images, MPR, CT, maximum intensity projection, 3D with SSD etc should be possible from main console and workstation

11.4 Image storage of 250 GB or more for at least 2, 50,000 or more images in 512 x 512 matrixes uncompressed or better (quote the latest configuration)

11.5 At least one high resolution medical grade laser color printer with latest model should be provided.

11.6 CD/DVD facility for archiving must be available.

11.7 The image reconstruction time should be less than 1.5 second for any mode.

11.8 Networking with PACS, TPS of commercially available vendors along with all required licenses

11.9 The system should have fully DICOM complaint. DICOM compliance statement should be provided.

11.10 An integrated intercom for bi-directional speaker communication between operator and patient and also automated patient instruction (API) system should be provided.

## **12. Laser System**

12.1 The CT-Simulator laser systems should have at least three computer controlled moving lasers for marking the isocentre without moving the table top. Following the isocentre localization in the CT-Simulation workstation, the isocentre coordinate will be sent directly to the computer system that is controlling the movements of the lasers. This computer in turn should drive all the lasers, so that without moving table, the laser point to the isocentre. The laser must be GREEN LASER system. Complete quality assurance tools must be provided.

12.2 In addition to the moving laser, the CT -Scanner should have conventional in-built lasers for positioning the patient.

12.3 The vendor should give a complete description about the laser marking system offered and how the CT-Simulation software integrates with it.

## **13. CT-Simulation/Virtual Simulation System**

13.1 The CT-Simulation/Virtual Simulation System should be possible to simulate all kinds of teletherapy machines in the simulation workstations without any kind of restrictions. It should support IEC, Varian, Elekta and other user defined linear accelerator conventions.

13.2 It should be possible to visualize interactively reference views in axial, coronal, sagittal, isocentre image planes and in any oblique direction with overlay of beams on digitally reconstructed radiograph (DRR).

13.3 DRR must provide fully divergent beam's eye view (BEV) 512x512 images.

13.4 The DRR and BEV/Room-eye view image should display the machine diagram to allow real-time checking of machine and patient geometry.

13.5 The system should be possible to support and define the asymmetric features in the Simulation software.

13.6 The system should be possible to support and define the Multileaf collimator placement of 60 or more pairs of MLC leaves in the simulation software.

13.7 Three CT simulation workstation from same manufacturer with all licenses of software must be provided in addition to the CT workstation.

13.8 System should incorporate CT, MRI, PET and SPECT into localization, image fusion and registration

## **14. Contouring**

14.1 Volume definition should be possible using volume segmentation using threshold, free hand contour tracing, contour editing, 3D anisotropic margins etc and any other advanced tools

14.2 System must be able to contour in axial, sagittal, coronal and oblique projections.

14.3 It should be possible to do manual, semi-automated, fully-automated contouring in the images by defining volume of interest.

14.4 The software should have facility for automated uniform/non-uniform margins. For example it should be possible to expand the clinical target volume (CTV) on all three dimensions by same magnitude or by different magnitude to define the planning target volume (PTV).

14.5 It should be possible to copy one organ to another with margin, and margins on a single slice, a range of slice or all slices.

14.6 Interpolate algorithm should be available to provide interactive, shape and interpolation i.e. after contouring only in selected slices. The algorithm should automatically interpolate the closely fitting contour in other slices. Interpolated contour may be edited; accepted or rejected.

14.7 Tracking of source to skin distance and contouring/extracting of wall should be possible

14.8 System should have the capability of 3D viewing and volume rendering should be possible.

14.9 The software should provide the density value (in Hounsfield Unit) of a particular point on an image. It should compute distances along straight line and curved line, angles between lines, and radius of the curvatures for curves.



14.10 Any other advanced features which may be of standard , should be specified.

### **15. Isocentre Management**

15.1 The software should support separate isocentre for multiple target volumes or general regions

15.2 Marked and final isocentre should be reported and displayed in the localization package for easy confirmation of a physical simulation session.

15.3 Hardcopy of the isocentre coordination should be possible for record of the simulation.

15.4 Isocentre positioning should be automatic.

15.5 No limit on number of isocentre per target.

### **16. Beam Placement and Definition**

16.1 If should support extensive beam shapers (shielding blocks etc) and beam definition methods.

16.2 Manual or automatic beam placement tool.

16.3 Beam shaping should be possible in multiple ways like automatic shielding block, definition conforming to selected volume, definitions aperture or shielding manual free hand definition, automatic collimator jaw or multi leaf position definition.

16.4 It should be possible to define this asymmetric collimator feature, where both the X and Y axis are asymmetric, in the CT simulation software. Similarly the software should allow multi-leaf-collimator placement up to 60 pairs or more.

### **17. DRR Features**

17.1 Interactive DRR calculation mode must be available.

17.2 Automatic window width/level selection for DRR.

17.3 DRR should be interactively updated when the isocentre position is modified.

17.4 Should be possible to highlight or suppress different density region in the DRR.

17.5 Printing of DRR images should be possible.DRR presets should be user defined.

17.6 Reconstruction of DRRs should be real-time or sub-second.

17.7 Real-time display of DRR as beam parameter changed should be possible.

17.8 Differential tissue weighting in DRR calculation should be possible.

17.9 Facility to display BEV on MPR with fields and blocks displayed divergently.

17.10 Any other advanced features available should be specified.

### **18. Data Import/Export and Connectivity**

18.1 System should be able to export image, volume and plan data in DICOM 3.0 standard along with all Radiotherapy specific data and private objects, DICOM RT plans and data sets.

18.2 System should be able to import DICOM RT data to the linear accelerator of any vendor.

18.3 CT simulator system should be fully integrated with the contouring workstations and TPS of LINAC and HDR Brachytherapy. The vendor should inspect and will be responsible for complete integration.

18.4 Specify clearly the DICOM-RT import and export licenses that are being offered.

18.5 The entire CT Simulation system must be interconnected (all the workstations, laser systems, printers etc.) and must be integrated into the department's treatment planning system for smooth transferring of images and DICOM-RT structures. The system should be networked with all radiotherapy treatment planning system in the department and necessary software support shall be provided for all external beam radiotherapy and Brachytherapy treatment planning systems.

18.6 Dose computation & display: The system should display CTDLw (CTDI1 00), DLP

### **19. Archiving and Documentation**

19.1 Should be on a Color dye sublimation printer to be supplied along with system. DICOM print should be possible.

19.2 Adobe Post Script Printing should be possible.

19.3 Archiving should be on a CD in DICOM format.

19.4 User / Technical / Maintenance manuals to be supplied in English.

19.5 Certificate of calibration and inspection

19.6 List of Equipment available for providing calibration and routine preventive maintenance support as per manufacturer documentation in service / technical manual.

19.7 List of important spare parts and accessories with their part number and costing.

19.8 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.

19.9 Stand-alone Room Dehumidifiers of adequate capacity for both LINAC room, Console Room and TPS Room to be provided to ensure condensation free atmosphere for the high value equipment.

## **20. Equipment Warranty and Service Facilities**

20.1 Five years warranty to be commenced from first patient treated after commissioning approval from AERB.

20.2 CMC year-wise for quoted machine, UPS, Battery and other accessories for next 5 years after warranty period.

20.3 95% uptime warranty/guarantee during warranty and CMC period.

20.4 Spare parts should be available for minimum of 10 years.

20.5 During the warranty period, all the software updates should be provided without asking for free of charge.

20.6 Please quote the rates of consumables essential for running the machine for 5 year warranty and 5 year CMC period

20.7 Factory trained service engineer/Applications specialists should be available in Kolkata to look after the installation and maintenance of the system without patient treatment interruption.

## **21. Standards, Safety and Training**

21.1 Equipment standard and safety should comply with the national regulatory AERB guidelines and offered model should have AERB type approval and NOC.

21.2 Should be USA-FDA and/or European CE certified product.

21.3 The vendor should provide comprehensive training on CT-Simulator in a well advanced center in the country for three persons (one for Radiation Oncologist, one for Medical Physicist and one Technician).The training period should be at least for one week.

21.4 On-site Application training should be provided for minimum two weeks for all staff members in the department.

## **22. Essential Accessories to be included with the unit:**

22.1 Sets of patient positioning accessories namely head holder positioning kit, mattresses (for diagnostic procedures) must be provided.

22.2 UPS: On line UPS with MF batteries for the backup of the entire system for at least 45 minutes.

22.3 Dry Chemistry LASER Imager: High Resolution of 500 dpi or more and support multiple film sizes. It shall be DICOM 3.0 compatible Dry Laser Camera to be provided. 1 box of 100 x-Ray films for dry chemistry laser imager shall be provided

22.4 Light weight Lead Apron- 2 Nos with stand., Lead Goggles – 2 Nos., Lead Gloves- 2 Pairs, Gonads shields- 2 Nos. and eye shields- 2 sets

22.5 Pressure Injector: CT Compatible pressure injector with remote console 100 disposable syringes.

## **23. General Terms & Condition**

Deleted

23.2 The vendor shall list the number of their CT-Simulator installation/user in India.

23.3 All claims regarding meeting the specification should be duly supported by appropriate, latest technical catalogues/brochures from the manufacturer.

23.4 Penalty clause: Penalty at the rate of Rs. 10, 000 per day for short falling of 95% uptime guarantee. If the machine lies non-functional for a period of more than two weeks continuously, the same penalty will be imposed even if 95% uptime clause is met with.

### **Scope of Work for Site Modification:**

#### General Requirements

1. The Supplier should inspect the proposed site offered by the Consignee, wherein the CT SIMULATOR has to be installed. They are required to submit the plan for the project. The scope of work includes complete Electrical, Wall finishing, Air-conditioning, Flooring for the proper functioning of the CT SIMULATOR. The supplier shall assist the user by providing necessary documentations/technical data for regulatory clearances and approvals from AERB.
2. The cost of the site modification work should be quoted separately and this cost will be considered for L1 calculation.
3. Vendor will have to quote Unit Rates of the following components of Site Modification work.
  - i. Electrical work
  - ii. Air conditioning (HVAC)
  - iii. Flooring
  - iv. Wall Finishing & Painting
  - v. False Ceiling
4. The payment for site modification work shall be based on the Unit Price quoted by the supplier applied to the actual measurement of Site Modification work executed at the supplier at the site.
5. Bidder should clearly mention break up price of each component of Site Modification work separately.
6. The system should be installed and handed over in working condition with all necessary electrical, wall finishing, air conditioning, flooring and plumbing work undertaken by the vendor in consultation with the user dept.
7. Rate quoted for Site modification work, Furniture like desks, chairs, shelves etc; and the price quoted for 10 TR HVAC is included for L1 calculation of the bids.
8. The CT SIMULATOR CENTRE shall consist of the following rooms:
  - a CT SIMULATOR examination Room
  - b Console room
  - c. UPS room
9. The supplier shall be required to specify the total load requirements for the CT SIMULATOR centre including the load of air conditioning, room lighting and for the accessories if any. The supply line will be provided by the Institute up to one point within the CT SIMULATOR centre. The mains panel and distribution panel for CT SIMULATOR, HVAC, and LIGHTING should be provided by the supplier. Few lights in CT SIMULATOR, CONSOLE ROOMS, UPS ROOM shall be connected to the UPS to provide emergency lighting.
10. The bidder may quote the unit rates of any other site modification work activity which is not mentioned in the list below.

#### **THE ELECTRICAL WORKS:**

1. Wiring – All interior electrical wiring with main distribution panel board, necessary MCBs, DB, joint box, switch box etc. the wires shall be of copper of different capacity as per the load and should be renowned make as listed below.
2. All necessary cabling like LAN, DICOM & PACS for data interface between TPS and CT SIMULATOR; CT-SIMULATOR & HRD BRACHY system, CT-SIMULATOR & LINAC should be provided with adequate number of terminals.
3. All the internal wiring including that of telephone, LAN, DICOM & PACS etc) will be concealed variety.

4. Earthing: Double-Earthing shall be provided with copper plate for the CT SIMULATOR and all accessories like UPS. The earthing for the AC should also be done by the suppliers. The earthing cable/wire shall be routed end-to-end through an insulated conduit.
5. Switches light and power points should be of modular type and of standard make as listed below.
6. General lights – Ceiling mounted LED lighting panels, recessed 600 x 600mm type should be provided. Light dimming facility should be provided wherever it is necessary.
7. All wires used must be FRLS (Fire Retardant with low smoke) type only.

**AIR CONDITIONING WORKS:** (10 TR HVAC)

1. The area marked for Site Modification work needs to be air-conditioned. Package Air Conditioners may be used according to room requirement and suitability. Humidity control should be provided to effectively eliminate moisture condensation on the equipment. The Air conditioning system should be designed with standby unit(s) to provide uniform air-conditioning 24 x 7.
2. The outdoor units of AC should have grill coverings to prevent theft and damage.
3. Stand-alone Room Dehumidifiers of adequate capacity for CT SIMULATOR Room, Console Room and TPS Room to be provided to ensure condensation-free atmosphere for the high value equipment.

**Environment specifications:**

Humidity range: Relative humidity 60% and 80% in all areas except equipment room which shall be as per requirement of the equipment.

4. Temperature ranges:  $22 \pm 2^\circ$  C in all areas throughout the year, except equipment room which shall be as per requirement of the equipment.

5. **Air conditioning load:** The heat load calculations and maintaining the desired temperature and humidity shall be the responsibility of the supplier.

**FLOORING WORKS:**

1. "600x600 mm vitrified tiles with 100 mm matching tile skirting in CT SIMULATOR Room & Console Room.

**Note:** Providing and laying approved quality, colour, design and shade fully homogeneous 600 x 600 mm (thickness to be specified by the manufacturer)Vitrified tile flooring (Marbonite or Granamite, confirming to IS code 15622 with water absorption less than 0.08%)flooring in pattern as detailed in drawing or as directed by the institute and grouted with matching colour approved quality readymade grout, curing, cleaning etc to required line level etc. all complete at all leads, lifts and heights to the entire satisfaction of the institute. Providing and fixing 2-3mm thick POP protection over polythene covering sheet to flooring areas till handed over and cleaning, etc all complete as per drawings & Specification."

2. Floor leveling if required to be done by supplier. All installation related floor modification non structural) like Turntable pit, trench etc to be done by supplier.
3. 50 mm thick cement concrete flooring with 3 mm Vinyl flooring in UPS Room / CT Equipment Room
4. The CT SIMULATOR room, Console Room will be made rodent /pest proof.
5. Mode of measurement (finished surface area of the tiles shall be measured and paid. Rate shall be inclusive of providing and laying leveling course, PVC spacers, providing and applying epoxy grout and no additional payment shall be made for wastage.

**WALL FINISHING & PAINTING**

1. Two coats Plastic Emulsion Paint over 2 coats of wall putty including primer in all areas not covered by wall tiles. Colour to be approved by institute.
2. Wall Tiles-High quality density Vitrified Tiles clad on the side walls up to a uniform height of 1200 mm in all rooms; except UPS & equipment rooms. Colour to be approved by institute. Note: Providing all tools, tackles, materials, manpower for applying plastic enamel paint over
3. Coats of wall putty including primer in all areas, of approved brand and manufacture and approved shade finished with roller to wall & ceilings surfaces, in 2 coats over a coat of approved quality primer on the plastered/POP surface, POP board/Gypsum board surfaces

including scaffolding, preparation of surface, sanding, light sanding, work platform, painting equipment/apparatus etc. required to complete interior grade finish etc. at all heights & levels complete as per drawings & Specifications.

**FALSE CEILING**

1. Acoustical tile for ceiling with light weight insulating material of high quality supported on grid or finished seamless with support above ceiling. To be finished with white paint or powder coated with white paint, if metallic. The false ceiling panels should be of reputed brands.

**MISCELLANEOUS:**

1. The CT SIMULATOR room shall be provided with wall-mounted storage cupboards within CT SIMULATOR room; to store: Phantoms, QA Items, CT SIMULATOR accessories.
2. Sufficient number of Open Racks of high Quality vendors should be provided to house the immobilization materials; within CT SIMULATOR room
3. The CONSOLE room shall be provided with Wall mounted Storage cupboards with MDF laminate shutters; to be fixed on the wall above the workstation (approx.1800mm length; 750 mm height; 300 mm depth).

**FURNITURE:**

1. Revolving chairs height adjustable, medium-back with hand-rest for Console room, TPS room - 12 Nos.
2. "Workstation/Tables for Console room & TPS room: The Console room and TPS room should be provided with suitable workstations(s) of reputed brand, to accommodate the various Terminals in Console Room, TPS Room. The Workstation shall be providing with enough power sockets, LAN sockets etc. to enable smooth functioning of the CT SIMULATOR and TPS."
3. Bookshelves: Four-door bookcase with glass doors, height approx 1700mm; to store manuals; CD/DVDs, spares etc-4 Nos.
4. Shoes Rack - 2 Nos.

5. **Price Guarantee:** The supplier shall also give a commitment that the price quoted for the equipment in the tender is the minimum price quoted to any institution in the country for similar terms & conditions; whether Government, semi-Government, autonomous or non-Government; in the recent times (preceding six months) and shall remain so for at least the next six months subject to variations in the foreign exchange rates, if applicable.

### Item No 3. PET-CT (Positron Emission Tomography – CT Scan)

i. A latest technology Positron Emission Tomography system with integrated 128-slices spiral CT scanner for commissioning by the vendor.

ii. Scope of the work: Primary vendor shall be responsible for supply, installation and commissioning of the PET-CT.

iii. Vendor should visit the department to have a look at the space available for installation of the new system. A certificate should be attached that the space is adequate for the installation of the quoted systems.

iv. The radiation equipments offered against this tender shall duly conform to the prescribed international/national standards and norms of radiation safety. Type approval certificate/NOC from AERB, Mumbai for the quoted model must be attached with the technical bid or else the bid will be summarily rejected.

v. All the QA / acceptance tests as per NEMA and AERB need to be carried out by company engineer in the presence of Nuclear Medicine Physicist of the department. A detailed report need to be submitted in a stipulated time frame for onwards transmission to AERB to get the license for operation of the equipment. All the required phantoms for QA tests will need to be arranged by the vendor. The Company will also arrange such phantoms during periodical QA tests.

vi. The tenders along with all the commitments, claims, specifications, guarantee, warrantee etc. pertaining to the equipment should be submitted directly by the Manufacturer/Principal Company or their Vendors who shall be wholly and solely responsible for all the statements/commitments in this connection.

vii. Any options or added facilities not indicated in the specifications may also be given. Any improved modifications or updated versions of the system can be included in the quotation.

#### 1. General:

1.i) A latest technology DICOM ready state of the art Positron Emission Tomography system with integrated 128-slices per rotation spiral CT scanner with 64 rows of detector, designed for providing volume measurements of metabolic and physiological processes using positron emitters, as well as for producing accurate structural and anatomical fusion images and making attenuation maps for CT based attenuation correction.

ii. The system should have capability for simultaneous data acquisition, processing, image reconstruction & analysis and fusion of PET with CT images.

iii. The system should operate on 220 ( $\pm$  10) or 440V ( $\pm$  20) V A/C, 50 HZ

iv. System should be on latest PET and CT platform. The acquisition & processing software should be of latest version

v. System must be FDA approved at time of bidding and shipping. Attach relevant certificates.

vi. All the Application, Operating and Service Manuals in English language in duplicates should be provided by the vendor at the time of handing over the machine. At least one of these manual sets to be provided in computer readable format, preferably as Word for Windows format document.

#### 2. Gantry and Detector:

i. Gantry should have integrated PET & CT hardware.

ii. The patient gantry aperture size should be  $\geq$  70 cm and uniform for both, PET and CT

iii. The PET scanner should employ non-hygroscopic high light yield (80%) and low decay time scintillator material like LYSO or LSO crystals for detecting 511 KeV gamma photons in coincidence

iv. The scanner must have a continuous ring of detectors without any gaps

v. Ring diameter should be  $\geq$  80 cm

vi. PET crystal thickness should be  $\geq$  20 mm

vii. The transverse field of view should be  $\geq$  70 cm

viii. The geometric axial field of view (FOV) as measured from the outer edges of the crystals must be  $\geq 15$  cm.

ix. It must be capable of acquiring 45 or more transverse cross-sectional slices, simultaneously without undergoing any axial motion

x. The scanner must have low power laser lines orthogonally mounted on the gantry for patient alignment and auto-contouring. The laser should be mounted in such a way that the patient can be positioned from either side of the gantry and the patient bed.

xi. Efficient Gantry cooling system for continuous running of the machine, the detector performance should be maintained over temperature variations

### **3. CT Specifications**

3.i) Multi detector CT having capability of 128 transverse cross-sectional slices simultaneously in one rotation.

ii. Filters / Collimators and other specific features to reduce radiation dose to the patient (with separate adult and pediatric protocols)

iii. Laser alignment light should control the iso-centric position of the patient in all planes

iv. Fluoroscopy facility with monitor for guided interventions must be included

v. Multiple pitch factor settings, variable between 0.5 to 1.5 or more and should be freely selectable by the user.

vi. Rotation time should be  $\leq 0.5$  sec for 360 degree

vii. Image slice thickness should be from  $\leq 1$  mm to 10 mm and freely selectable

viii. High contrast spatial resolution should be  $\geq 15.0$  Lp/cm at 0% MTF

ix. Low contrast resolution should be at least  $\leq 4$  mm @ 0.3% with 20 cm CATPHAN phantom

x. Microprocessor controlled high frequency  $\geq 70$  kW x-ray generator

xi. Tube Voltage range 80 kV to 140 kV

3.xii) Anode heat storage capacity of 7.0 MHU or more/or Equivalent.

xiii. Tube Current of 20-600 mA

xiv. Automatic self testing system

### **4. Patient Bed:**

i. Precision bed having low attenuation pallet and minimum sag of the patient table top.

ii. A separate flat table top should be provided for radiotherapy treatment planning.

iii. It should be able to bear 200 kg or more patient weight.

iv. A digital readout of the horizontal and vertical position of the bed must exist and must be located near the aperture controls for the bed to provide ease in positioning

v. The horizontal motion of the patient bed must be electrically motorized and computer controlled with an independent operator control option as well. Operator controls accessible from both sides of the patient must be provided for both horizontal and vertical movements.

vi. Full body horizontal length should be  $\geq 190$  cm and cover whole body imaging (Head to Feet) in a single go.

vii. The table height should be good enough to unload the stretcher and wheel chair patients without footrest.

viii. Low attenuation ergonomic head holder, pediatric pallet / restrain, knee-leg support and other accessory pallets

### **4. Performance Specifications:**

i. All specifications must comply with latest NEMA Standards Publication NU2 performance measurements without altering instrument parameters. QC Software to measure these parameters must be available in the system.

ii. Additional feature that helps to enhance the NEMA spatial resolution values must be offered as a standard part.

iii. TOF based reconstruction algorithms for better lesion detectability

4.iv) Axial & Transverse spatial resolution at 1 cm & 10 cm from the central axis of the gantry should be  $\leq 6$  mm FWHM

4.v) Timing Resolution should be below  $\leq 600$  psec.

4.vi) System sensitivity must be  $\geq 5$  cps/KBq at centre

Deleted

viii. System energy resolution should be  $\leq 12.0$  %

ix. 3-D scatter fraction should be  $\leq 40$ %

Peak NECR should be  $>100$  Kcps, specify the activity concentration for the peak NECR.

### **5. Data Acquisition Workstation and Software:**

i. One high performance multi-tasking Acquisition Workstation independent of main processing unit. The workstation should have a minimum 2TB SSD storage, high processor speed, and high resolution (1024 x 1024 or more) antiglare flat panel Dual LCD monitor of minimum 19" size. The workstation should be of latest specifications at the time of shipment.

ii. Acquisition Modes: Acquisition in full 3-D mode must include Static, Whole Body, Dynamic and Gated (cardiac & respiratory) acquisition.

iii. Acquisition Protocols: The acquisition program should support pre-programmed scan protocols with acquisition and reconstruction parameters and patients information with simple, dynamic editing of parameters. These parameters would include all information necessary to acquire data on the PET scanner (e.g., scan duration, patient information, bed motion), as well as information necessary for reconstruction.

iv. Whole Body Acquisition: Multi bed acquisitions (e.g. for the purpose of whole body oncology studies) should advance the bed from one position to the next automatically.

v. Dynamic frame Mode Acquisition: The acquisition set-up software must support multi-frame acquisition of different (arbitrary) frame duration's with no loss of data between frames.

5.vi) List mode studies for cardiac studies should be available.

vii. ECG Gating should be part of the offer and is to be provided with necessary hardware and software.

viii. Intercom with user programmable patient instruction system

ix. Ultralow dose CT protocols should be available for hybrid PET/CT protocols.

x. Same PET CT protocol should be used for Contrast CT in single acquisition

xi. CT based attenuation correction

xii. Reconstruction: PET data acquisition and image reconstruction should be concurrent process i.e., image reconstruction should simultaneously start for the acquired image while acquisition is still in process.

xiii. Fully 3-D speedy iterative reconstruction with scatter correction, OSEM technique, High definition (HD) and Time-of-flight reconstruction algorithms must be standard features.

5.xiv) Reconstruction time: At least 40 frames/sec.If other, please specify.

xvi. Advanced 3-D Volume rendering with 3-D fusion, Model based 3-D scatter correction, virtual endoscopy & bronchoscopy

xvii. Low dose iterative reconstruction algorithm should also be provided

xviii. Pixel Size: The User should have the option to specify the pixel size for reconstruction. The reconstruction program should support reconstruction in image sizes of at least 256 x 256 or higher.

xix. Scatter Correction: Scatter correction must be provided based on scan of the actual patient whose scan is being corrected and processed automatically.

xx. System management software for computerized calibration, quality control for all scanner performance parameters, diagnostics.



xxi. Data editing facility for acquired data

xxii. Latest DICOM based networking and compatible software for both PET & advanced CT applications.

xxiii. Facility of DVD & CD writing and image transferring to processing workstation as well as the mini PACS server.

#### **6. Processing Workstation and Clinical Application Software:**

i. TWO high performance multi tasking post processing workstations having minimum 32 GB RAM, 3 GHz processor speed, minimum 1 GB graphic card, 2 TB or more SSD (if less, another SDD may be included) logically divided into 3-4 partitions, Optical Mouse, Key-board and high resolution anti-glare flat panel dual view LED monitor of  $\geq 21$ " size with minimum resolution of 1280 x 1024. It should also have CD and DVD combo drive with writer facility. It should have both, serial and USB ports. The graphical user inter-face (GUI) should be identical to that of the acquisition unit. The computer workstation should be of latest specifications at the time of shipment.

ii. Communications - Ethernet with TCP/IP protocols and DICOM-3.0 or latest networking of all possible equipments in the facility with their peripherals, seamless connectivity to acquisition station and image server.

iii. Image comparison software for review with longitudinal evaluation of baseline-follow up studies using PERCIST.

iv. Viewing and processing software for dynamic acquisition data

v. Fusion software for PET/CT/MRI/SPECT data, including imported data and provision for multiple phases in 3-D demonstration.

vi. 4-D TOF or better, respiratory gating software and hardware for PET/CT acquisition and processing should be a standard feature

vii. Computer aided diagnosis software with quantification ability for neurological applications including assessment of dementia by measuring relative SUV

viii. Complete cardiac package with ECG gated studies (prospective and retrospective tagging) and ECG gated dose modulation

ix. Cardiac PET viability review application software.

x. Advanced CT applications software for coronary imaging, vessel analysis coronary tree extraction, calcium scoring for coronary arteries, one touch volume rendering of the whole heart, CT coronary and PET/ SPECT MPI cardiac fusion

xi. Dosimetry software for PET imaging radiopharmaceutical

xii. PET DICOM 3.0 or higher version facilities for clinical applications must be implemented. It should have the ability to import MR /CT DICOM Data. It should be compatible with modern Linear Accelerator, Brachytherapy, Treatment Planning system & CT simulator.

xiii. Provision to make DICOM/ PDF/ JPEG /AVI /MPEG digital output.

6.xiv) On site remote service diagnostic facility should be available.

6.xv) All future software updates including associated hardware during warranty and CMC period shall be free of cost.

#### **7. Peripherals / Accessories:**

i. A 3 phase input/output UPS ( $\geq 160$  KVA) with maintenance free batteries (Exide, Amron, Base, Yuasa) for the complete system including CT with minimum 30 min. backup at full load should be provided.

ii. Latest dual head pressure injector compatible with CT and 200 sets of 200 ml disposable CT syringes with tubing and connector, per year during the warranty and CMC period

iii. ECG gating device & necessary electronics to enable gated cardiac acquisition with ECG print out facility

iv. Machine specific source for calibration of the system to be replaced as and when required for the period of warranty and CAMC.

v. Required Phantoms for CT & PET Quality Assurance and system calibration

vi. One Scatter Phantom for PET (as per NEMA specifications) vii. One Sensitivity Phantom for PET (as per NEMA specifications)

viii. 40 Terabyte image archiving system capable of maintaining database of patient studies. It should be possible to view and compare / report multiple studies simultaneously.

ix. High resolution table top dry chemistry type DICOM laser film processor for x-ray films with minimum 100 packets of films of required size

x. High resolution color laser printer (commercial) for color hardcopy on A-3 paper with 5 sets of all cartridges per year during warranty and CMC period

xi. 200 reams of A-3 sized glossy paper of 150 GSM also need to be supplied

xii. Two latest specifications PCs having licensed windows & MS office & antivirus and a laserjet printer for patient reports and data maintenance

xiii. One side by side door refrigerator of minimum 500 L capacity

xiv. One dose calibrator (Capintec – CRC 25 PET)

xv. One shielded L-bench for F-18 handling

xvi. One decay drum for PET radionuclides

xvii. Three waste bins with minimum 12 mm lead for PET radiopharmaceutical waste

xix. 40 lead bricks and 8 lead corners for F-18 handling

xx. Two light weight (imported) lead lined aprons

7.xxii) Two mobile lead barriers/screens having 4 ft length, 3ft width and 2 cm in thickness of Capintec / Biodex make.

xxii. Four Tungsten syringe holders of 2 sizes (Two 2 ml and two 5 ml)

xxiii. Tungsten syringe shields – Five of 2 ml and Two of 10 ml

xxiv. Five Digital Pocket Dosimeters (Rad-60R by Rados Technology)

xxv. One Central Radiation Exposure Monitoring System along with three Area (Gamma Zone) Monitors to be installed at different places

xxvi. One Decontamination kit (Biodex, Capintec)

xxvii. Two long handled tongs

xxviii. Five Syringe Needle Destroyers

xxix. Two electrical digital weighing balances for human use for at least 200 kg

xxx. One stainless steel side trolley with lockable storage provision in the PET/CT room for intervention procedures.

xxxi. One crash cart trolley

xxxii. Mobile anaesthesia equipment cart with all accessories as required for pediatric anaesthesia

xxxiii. Two Glucometers with 50 packs of blood glucose test strips

xxxiv. One side-by-side door refrigerator (minimum 500L)

xxxv. One light weight IV stand

xxxvi. One collapsible wheelchair with rubberized swivel wheels

xxxvii. Two X-ray LCD illuminators for minimum 2 films view

xxxviii. One two-step stool with hand support for patients, near the acquisition table

xxxix. CCTV system for remote monitoring of post-injection patient waiting area

xxxx. Dehumidifier of approved make to be installed in the instrument room, and to be able to provide humidity control as specified by the manufacturer of the dual head SPECT-CT machine.

## 8.Others

- i. The supplier shall be required to undertake all the site preparatory work in the area where the PET/CT will be installed, as per the turnkey details.
- ii. Equipment is to be installed as per AERB requirements. Qualified personnel from the company should install and commission the scanner.
- iii. Appropriate sized lead glass in the acquisition terminal room, if required
- iv. Warranty: The complete system should have a guarantee / warranty including the radioactive reference source, crystals, detectors and CT x-ray tubes replacement for a period of FIVE years after the satisfactory commissioning and handing over of the equipment.
- v. CMC: Comprehensive maintenance contract for whole system including CT x-ray tube replacement as and when required and accessories for a period of FIVE years after the expiry of warranty period.
- vi. The peripherals / accessories, electronic / electrical consumables (leads, probes, batteries etc.), phantom source and calibration sources and batteries of UPS will also form part of the warranty and CMC. Service, repair and maintenance of all third party items will be the sole responsibility of primary vendor. Replacement / Replenishment of the coolant for gantry will also form the part of warranty as well as CMC
- vii. At least 95% uptime should be maintained during warranty as well as CMC period. Other rules as per tender conditions.
- viii. After sale service to be available locally in Kolkata with availability of an onsite engineer.
- 8.ix) Onsite training by trained application specialists (both, PET and CT applications) working in reputed PET centres to physicians and technologist for at least 4 weeks period, in two shifts.
- x. The acceptance of the installation shall be subject to satisfactory handing over of the system to the department and certificate to this effect will be issued by the institute. Warranty of equipment will start from the date of receiving the License from AERB.
- xi. Penalty clause: Penalty at the rate of RS.15,000/ per day for short falling of 95% uptime guarantee. If the machine lies non-functional for a period of more than two weeks continuously, the same penalty will be imposed even if 95% uptime clause is met with for the given calendar year.
- xii. Uptime guarantee: During warranty and the CMC period, the uptime of the system shall be at least 95% of the 365 days in a year. If downtime exceeds 5%, there shall be a penalty of Rs.15,000 / per day.
- xiii. Calculation of uptime
- The machine shall remain in working condition/fully functional for minimum 347days (being 95% of 365 days) during the year. For leap year, the machine shall remain in working condition/fully functional for minimum 348 days (being 95% of 366 days) during the year. Sunday and other holidays as per the institute policy would be counted calculation of uptime, if the machine was in working condition/fully functional on both days i.e the day preceding Sunday/holiday and the day succeeding Sunday/holiday. Further, routine maintenance as per scheduled agreed by user would be counted towards calculation of uptime. In case downtime is more than 5 hours on any particular day during normal working hours of the institute the same day would not count towards uptime calculation.
- xiv. Calculation of down time
- Down time calculation would start from the reporting of the down time by the representative of the institute by agreed mode of communication i.e. telephonic communication or email or as per the data of the remote access of the machine(s) by supplier, if any, whichever is earlier.
- The down time would be calculated by deducing total uptime period as defined above from total days of the respective year. Year for the calculation of Uptime/downtime as the case may be would be considered from 01st January to 31st December of the respective year. For purpose of the downtime calculation breakdown of the machine shall be calculated as under. If no imaging is possible then its complete breakdown. If only some functions of the machine are not working in that case it shall be considered as partial breakdown equivalent to 50% of the complete breakdown for calculation purposes.

## **Specifications and Scope for the Turnkey Work for PET/CT**

### **General**

- i i. The supplier shall be required to undertake all the site preparatory work in the area where the PET/CT will be installed. This would include planning, designing and execution of all the works pertaining to Civil, Electrical, Public health and Air Conditioning.
- ii ii. The site in the PET/CT instrument area should be inspected by the vendor and certified that it is satisfactory for installation of the equipment.
- iii iii. The scope of turnkey work should be discussed with department and the engineering section of the institute and may be modified as per local needs at the site.
- iv iv. The vendor can suggest minor modifications/changes for improving the function of the PET Centre in consultation with user.

### **Broad outlines of the turnkey work are as following:**

#### **A. Civil & Plumbing Work**

- 1) Need based changes to be made in the room where new PET/CT scanner will be installed. While designing the area, the existing room should be retained wherever possible and only unavoidable changes should be made.
- 2) The flooring of the rooms shall be of matt finished vitrified tiles of 60 x 60 cm size of reputed approved make.
- 3) False ceiling in the PET/CT room should be with 2' x 2' metal grid ceiling with GI cradling work.
- 4) Water proofing of the whole roof by Brick Bat COBA. Water proofing treatment of the mother slab should also be done with tapecreate (CICO) chemical and 12 mm thick cement plaster protecting layer.
- 5) All the doors should be provided with necessary fittings with hydraulic type door closures as per GOI approved makes (Dorma/ Godrej / Kich).
- 6) The walls should be finished with non toxic acrylic/plastic emulsion.
- 7) Anti-termite treatment of entire PET-CT instrument area
- 8) Plumbing work has to be carried out as per site requirement. The waste pipes and accessories should be of centrifugally cast iron of ISI mark and the connection of existing main hole in the public health shafts shall be done. All fitting, water pipes and grating shall be as per GOI approved make.
- 9) One water cooler and RO based water purifier to provide drinking water
- 10) Any other need based changes to be carried out by the vendor which should be discussed with the department.

#### **B. Electrical Work**

The electrical work shall include the following:

- 1) Supply and installation of electrical distribution panel to the PET/CT System, Air-Conditioning Equipment. Panel should be equipped with adequate capacity of switchgear for incoming and outgoing power supply and suitable for existing and standby power supply transformer and should be as per specifications of the institute.

- 2) Double earthing with copper plate for the main equipment and the air-conditioning equipment, with use of earth leakage circuit breaker, as per ISI specifications.
- 3) General lights to be fixed should be of energy efficient (LED) mirror optic reflector type of GOI approved make. All the switches/switch gears/wires/fittings should be as per GOI approved make
- 4) Music and Public Address System need to be installed

### **C. Air Conditioning**

The scope comprises the Supply, Installation, Testing and Commissioning of Energy Efficient VRV System of Blue Star / Hitachi / Trane / Carrier make.

- 1) Air cooled Variable Refrigerant flow Units having 100% inverter type IVRFB outdoor unit having capacity 84 H.P (28 HP x 3 nos.) and multiple indoor units.
- 2) The temperature range in the PET scanner rooms should be between  $22 \pm 2$  degree Celsius. The variation in temperature should not exceed one degree Celsius per hour.
- 3) The indoor units on any circuit can be of different type and also controlled individually. Compressor installed in each modular outdoor unit shall be equipped with Scroll / Rotary (100 % inverter).
- 4) Outdoor unit shall be suitable for mix match connection of all type of indoor units.
- 5) The refrigerant circuit shall include liquid & gas shut-off valves and a solenoid valves and an accumulator is the system demands. The refrigerant should be R410a Only.

#### **Variety of Indoor Units should be as under: -**

- 6) Indoor units shall be either ceiling mounted cassette type, ceiling mounted Ductable type, wall mounted type, Package type etc. which shall be decided at the time of execution each unit shall have electronic control valve to control refrigerant flow rate in response to load variations of the rooms
- 7) The ceiling mounted type units shall include pre-filter, fan section and DX-coil section. The housing of the unit shall be powder coated galvanized steel.
- 8) Ceiling Mounted Ductable Type units shall be suitable for ceiling mounted type. The unit shall include pre filter, fan section & DX coil section.
- 9) Ceiling Suspended type unit shall be suitable for ceiling suspended arrangement below false ceiling. The unit includes pre filter, fan section & DX coil section.
- 10) A multifunctional compact centralized controller shall be provided with the system. It shall be able to control the Starting/stopping of Air- conditioners as a zone or group or individual unit. Temperature setting for each indoor unit or zone.
- 11) All refrigerant piping for the air conditioning system shall be constructed from soft seamless up to 19.1mm and hard drawn copper refrigerant pipes for above 19.1mm with copper fittings and silver-soldered joints. All joints in copper piping shall be sweat joints using low temperature brazing and or silver solder. The suction line pipe size and the liquid line pipe size shall be selected according to the manufacturers specified outside diameter. All refrigerant pipes shall be properly supported with cable trays of suitable size and anchored to the building structure using steel hangers, anchors, brackets and supports.

Pipe Insulation on liquid and suction refrigerant lines including all fittings, valves and strainer bodies, etc. shall be insulated with 13 mm thick Elastomeric Nitrile rubber Class 'O'.

**Package AC Units:**

12) Supply, Installation, Testing & commissioning of packaged Air conditioning units having Capacity- 8.75 TR x 2 nos. (Non VRF) (Air cooled) with Scroll compressors, statically dynamically balanced centrifugal blower having nominal air flow with eco friendly R407C/410a Refrigerant and Inbuilt safety devices for compressor protection like thermal protector, Internal pressure, cutout enclosure etc shall be equipped with synthetic filters of following capacity complete with ducting work, Grill works, Insulation work and providing & fixing Electrical Panel along with cables etc. complete in all respect (make - Blue Star / Hitachi / Trane / Carrier).

13) An electrical cable, if required from / to the air-conditioning panel will be supplied and fixed by the vendor

14) The outlet drainage pipes from the air-conditioning units should be connected to the drainage ducts outside the building. If required, floor traps/manholes should be provided to collect the condensed water and connected with the drainage system of the Institute.

15) Proper Ventilation in electrical, UPS rooms, Toilets

16) Five digital temperature and humidity control reader to be provided

17) Warranty: 5 Years and CMC of 5 Years after the expiry of warrant period, as a part of the main PET/CT equipment

**D. Furniture**

1) Control console and computer platform should include Tables with Keyboard drawers as per the requirement

2) Adequate (3 chairs each) of waiting chairs should be provided in the waiting area.

3) Twelve plastic moulded cushioned chairs

4) Four revolving type chairs on castor of reputed make

5) One office table, One four drawer book cases

6) Lead Glass of required size should be fixed in the console room window, if required

7) Proper signage for each room including main signage board near entrance

**E Defect Liability**

All the works to be executed under turnkey (including civil, electrical, public health, fire fighting, HVAC etc.) shall be guaranteed for a period of five years from the date of commissioning against any defective material/workmanship. All the repairs/replacements/ maintenance during the defect liability period shall be carried out by the vendor.

**F. Price Guarantee**

The supplier shall also give a commitment that the price quoted for the equipment in the tender is the minimum price quoted to any institution in the country for similar terms & conditions; whether Government, semi-Government, autonomous or non-Government; in the recent times (preceding six months) and shall remain so for at least the next six months subject to variations in the foreign exchange rates, if applicable.

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**SECTION-VII**

**TECHNICAL SPECIFICATIONS  
GENERAL TECHNICAL SPECIFICATIONS**

**GENERAL POINTS:**

1. Warranty:

- a) **Five year Comprehensive site warranty** from the date of satisfactory installation, commissioning, trial run & handing over of equipment to Hospital/Institution/Medical College.
- b) 98% up time Warranty of complete equipment with extension of Warranty period by double the downtime period on 24 (hrs) X 7 (days) X 365 (days) basis.
- c) All software updates should be provided free of cost during Warranty period.

2. After Sales Service:

After sales service centre should be available at the city of Hospital/Institution/Medical College on 24 (hrs) X 7 (days) X 365 (days) basis. Complaints should be attended properly, maximum within 8 hrs. The service should be provided directly by Tenderer/Indian Agent. Undertaking by the Principals that the spares for the equipment shall be available for at least 10 years from the date of supply.

3. Training:

On Site training to Doctors/ Technicians/ staff is to be provided by Principal/ Indian Agents (if they have the requisite know-how) for operation and maintenance of the equipment to the satisfaction of the consignee.

4. Annual Comprehensive Maintenance Contract () of subject equipment with Turnkey:

- a) The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual of the manufacturer, labour and spares, after satisfactory completion of Warranty period may be quoted for next **5 years** on yearly basis for complete equipment (including X ray tubes, Helium for MRI, Batteries for UPS, other vacuumatic parts wherever applicable) and Turnkey (if any). The supplier shall visit each consignee site as recommended in the manufacturer's technical/ service /operational manual, **but at least once in six months during the CMC period.**
- b) The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening. The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
- c) Cost of CMC will be added for Ranking/Evaluation purpose.
- d) The payment of CMC will be made on six monthly basis after satisfactory completion of said period, duly certified by end user on receipt of bank guarantee for 2.5 % of the cost of the equipment as per Section XV valid till 2 months after expiry of entire CMC period.
- e) There will be 98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period. For major equipment the penalty will be as under:
  - i) Liner Accelerator -Rs. 25,000/- per day, 8 hours working basis.
  - ii) Brachytherapy -Rs. 10,000/- per day, (8 hours working basis).
  - iii) CT Simulator -Rs. 10,000/- per day, (8 hours working basis).
  - iv) CT Scan, Gamma Camera -Rs. 10,000/- per day, (8 hours working basis).
  - v) MRI, PET -Rs. 15,000/- per day, (8 hours working basis).
  - vi) X-ray, MMG -Rs 2,000/- per day, (8 hours working basis).



- f) During CMC period, the supplier is required to visit at each consignee's site at least once in **6 months** commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.
- g) All software updates should be provided free of cost during CMC.
- h) Failure of the above [4. e) to 4. g)] by the supplier, may lead to the forfeiture of the Bank Guarantee for Annual CMC.
- i) The payment of CMC will be made as stipulated in GCC Clause 21.

**Turnkey:**

Turnkey is indicated in the technical specification of the respective items, wherever required. The Tenderer shall examine the existing site where the equipment is to be installed, in consultation with HOD of Hospital/Institution/Medical College concerned. Turnkey details of each Hospital/Institution/Medical College are given at the end of Technical Specification. The Tenderer to quote prices indicating break-up of prices of the Machine and Turnkey Job of each Hospital/Institution/Medical College. **The Turnkey costs may be quoted in Indian Rupee will be added for Ranking Purpose.**

The taxes to be paid extra, to be specifically stated. In the absence of any such stipulation the price will be taken inclusive of such duties and taxes and no claim for the same will be entertained later.

The Turnkey Work should completely comply with AERB requirement, if any.

**Note 1:** Tenderer's attention is drawn to GIT clause 18 and GIT sub-clause 11.1(c). The tenderer is to provide the required details, information, confirmations, etc. accordingly failing which it's tender is liable to be ignored.

**Note 2:** General: Bidders are requested to make sure that they should attach the list of equipments for carrying out routine and preventive maintenance wherever asked for and should make sure that Electrical Safety Analyzer / Tester for Medical equipments to periodically check the electrical safety aspects as per BIS Safety Standards IS-13540 which is also equivalent to IEC electrical safety standard IEC-60601 is a part of the equipments. If the Electrical Safety Analyzer/Tester is not available they should provide a commitment to get the equipments checked for electrical safety compliance with Electronic Regional Test Labs / Electronics Test and Development Centres across the country on every preventive maintenance call.

**Note 3:** OPTIONAL ITEMS: Deleted.

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**Section – VIII**  
**Quality Control Requirements**

(Proforma for equipment and quality control employed by the manufacturer(s))

Tender Reference No.

Date of opening

Time

Name and address of the Tenderer:

Note: All the following details shall relate to the manufacturer(s) for the goods quoted for.

01 Name of the manufacturer

- a. full postal address
- b. full address of the premises
- c. telegraphic address
- d. telex number
- e. telephone number
- f. fax number

02 Plant and machinery details

03 Manufacturing process details

04 Monthly (single shift) production capacity of goods quoted for

- a. normal
- b. maximum

05 Total annual turn-over (value in Rupees)

06 Quality control arrangement details

- a. for incoming materials and bought-out components
- b. for process control
- c. for final product evaluation

07 Test certificate held

- a . type test
- b . BIS/ISO certification
- c . any other

08 Details of staff

- a. technical
- b. b skilled
- c. c unskilled

Signature and seal of the Tenderer

## Section – IX Qualification Criteria

### Bidder minimum Qualification:

1. The tenderer must be a manufacturer or it's authorized Indian Agent. The manufacturer, may authorise agent as per proforma of Manufacturer authorization form as given in the tender enquiry document to quote and enter into a contractual obligation.

**1 a) In case manufacturer quoting directly:**

The Manufacturer as a bidder should have supply order/ purchase order at least one order of 25 % of the total quantity the similar/ like nature equipment in last five(5) years from the date of tender opening and equipment working satisfactorily anywhere in India. Bidder shall submit the copy of purchase order, installation report/satisfactory report.

Or

**1 b) In case manufacturer quoting through it's authorized Indian**

**Agent:-** Authorized Indian Agent as a bidder and manufacturer both should meeting the following;

- (i) The Manufacturer should have supply order/ purchase order at least one order of 25 % of the total quantity the similar/ like nature equipment in last five(5) years from the date of tender opening and equipment working satisfactorily anywhere in India. Manufacturer shall provide the copy of purchase order, installation report/satisfactory report.
- (ii) The Authorized Indian Agent should have at least one supply order/ purchase order of the similar/ like nature of the same manufacturer's equipment in last five (5) years from the date of tender opening and equipment working satisfactorily anywhere in India. Bidder shall submit the copy of purchase order, installation report/satisfactory completion report with their major technical specification.

Based on the above qualification Criteria

Item No.	Name of the Article	Tendered Qty	Manufacturer Qualification criteria qty in single order
1	High-Energy Linear Accelerator with IGRT/IMRT/SRS/SRT Facility	02	1
2	Wide Bore 4D CT – Simulator	1	1
3	PET – CT (Positron Emission Tomography CT Scan )	1	1

2. Tenderer shall submit audited balance sheets for the last three years (2014-15, 2015-16 & 2016-17). Annual Turnover statements should be certified by chartered accountant bearing their membership No.

**PROFORMA 'A'**  
**PROFORMA FOR PERFORMANCE STATEMENT**

Tender Reference No. : \_\_\_\_\_  
 Name and address of the Tenderer : \_\_\_\_\_  
 Name and address of the manufacturer : \_\_\_\_\_

Order placed by (full address of Purchaser/Consignee)	Order number and date	Description and quantity of ordered goods and services	Value of order (Rs.)	Date of completion of Contract		Remarks indicating reasons for delay if any	Have the goods been functioning Satisfactorily (attach documentary proof)**	Mobile number , name & Email ID of equipment user person
				As per contract	Actual			
1	2	3	4	5	6	7	8	

We hereby certify that if at any time, information furnished by us is proved to be false or incorrect, we are liable for any action as deemed fit by the purchaser in addition to forfeiture of the earnest money.

**Signature and seal of the Tenderer**

**Note:**

- 1. The purchase order mentioned in the above format only will be considered for evaluation.**
- 2. The purchase order shall be in accordance to section -IX in order to qualify the qualification criteria.**
- 3. The original copy of latest purchaser order along with End user performance certificate / installation certificate is to be colour scan and upload accordingly.**
- 4. Bidder shall provide Mobile number, email ID & name of person who has issue this End user performance certificate / installation certificate in order to verify the authenticity of the same, failing which unable to verify the same from end-user and entire responsibility shall rest on bidder.**

## Section – X

### TENDER FORM

To,

Director, Chittarranjan National Cancer Institute,  
Kolkata

Ref. Your TE document No. HSCC/PUR/CNCI/Kolkata/Medical Equipment/02/A dated 13.07.2018

We, the undersigned have examined the above mentioned TE document, including all amendment/corrigendum issued till opening of bid (*if any*), the receipt of which is hereby confirmed with acceptance of all the terms & conditions of TE document including all amendment/ corrigendum issued till opening of bid. We now offer to supply and deliver goods **as mentioned on attached Annexure AA** in conformity with your above referred document for the sum as shown in the price schedules attached herewith and made part of this tender. If our tender is accepted, we undertake to supply the goods and perform the services as mentioned above, in accordance with the delivery, warranty & CMC.

We further confirm that, if our tender is accepted, we shall provide you with a performance security of required amount in an acceptable form in terms of GCC clause 5, read with modification, if any, in Section - V – “Special Conditions of Contract”, for due performance of the contract. We agree to keep our tender valid for acceptance as required in the GIT clause 20, read with modification, if any in Section - III – “Special Instructions to Tenderers” or for subsequently extended period, if any, agreed to by us.

We also accordingly confirm to abide by this tender up to the aforesaid period and this tender may be accepted any time before the expiry of the aforesaid period. We further confirm that, until a formal contract is executed, this tender read with your written acceptance thereof within the aforesaid period shall constitute a binding contract between us. We further understand that you are not bound to accept the lowest or any tender you may receive against your above-referred tender enquiry. We confirm that we do not stand deregistered /banned/blacklisted by any Govt. Authorities.

We fully agreed to the all terms and conditions specified in above mentioned TE document, including amendment/ corrigendum issued till opening of bid and withdrawn all conditional terms if anywhere mentioned in the our bid. Whenever there is a conflict, the tender form acceptance shall prevail.

We hereby certify that all information and documents submitted by us in this tender are true to the best of our knowledge and belief and that nothing material has been concealed. We are solely responsible for its accuracy. In case, at any stage, any of the information/ document is found to be false, the Purchaser shall have full right to reject my bid/ cancel the purchase order and / or stop payment / recover the liabilities, if any from our balance payment / performance security etc.

We hereby undertake that the spares for the equipment shall be available for at least 10 years from the date of supply.

Signed and sealed

**Annexure AA****IFB no HSCC/PUR/CNCI/Kolkata/Medical Equipment/02/A dated 13.07.2018**

<b>Sr no.</b>	<b>Description of goods and Services</b>
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Signed and sealed

**SECTION - XI PRICE SCHEDULE**

**A) PRICE SCHEDULE FOR DOMESTIC GOODS OR GOODS OF FOREIGN ORIGIN LOCATED WITHIN INDIA**

	Name of Bidder				IFB no. & dt.	
	Name of Manufacturer				Name of Item	
	Model no.				Item no.	
Sr no.		Qty	Unit cost Rs.	GST age) [%	GST per unit [Amount] Rs.	Total cost all units with GST Rs.
		A	B		C	A x (B+C)
1	Ex - factory/ Ex -warehouse /Ex-showroom /Off - the shelf	0	0.00	0.00%	0.00	0.00
2	Packing and Forwarding charges	0	0.00	0.00%	0.00	0.00
3	Inland Transportation, warranty cost & Insurance for a period including 3 months beyond date of delivery, loading/ unloading and Incidental costs till consignee's site i.e. Installation & Commissioning)	0	0.00	0.00%	0.00	0.00
4	Third party Inspection agency i.e. LLOYDS/SGS /Bureau Veritas/ TUV charges for pre delivery inspection.	0	0.00	0.00%	0.00	0.00
	<b>Total Bid Price inclusive of all cost warehouse to Consignee site as per scope of work mentioned in the TE document &amp; inclusive of warranty period (Rs.)</b>				0.00	0.00

Total Bid Price inclusive of all cost in words (Rs.)

1. If there is a discrepancy between the unit price and total price THE UNIT PRICE shall prevail.
2. The charges for Annual CMC after warranty shall be quoted separately as per Section - XI - Price Schedule C
3. Bidder shall filled all cost i.e. a,b,c... failing which it will presumed that the same is inclusive in the total price and nothing will be paid on this account extra.

## SECTION - XI PRICE SCHEDULE

### B) PRICE SCHEDULE FOR GOODS TO BE IMPORTED FROM ABROAD

Item no. [REDACTED] Equipment Model no. [REDACTED] Name of Bidder [REDACTED] IFB NO. [REDACTED]  
 Name of Item [REDACTED] Equipment Make [REDACTED] Name of Manufacturer [REDACTED] Date [REDACTED]

1	2	3	4	5							6				
Item no.	Name of item	Country of Origin	Quantity (Nos.)	Price per unit (Currency)							Total bid Price inclusive of all cost warehouse to Consignee site as per scope of work mentioned in the TE document & inclusive of warranty	Total INR amount	(d+e) x 4	h x 4	
				FOB/FCA price at port/airport of Lading	Carriage & Insurance (port of loading to port of destination) and other incidental costs	Third party inspection agency i.e. LLOYDS/SGS /Bureau Veritas / TUV charges for pre delivery inspection at manufacturer warehouse**	CIP (name place /port of destination in india)	Full Custom duty amount with IGST**	Custom clearance charges, Loading & unloading at name place/port of entry in India + local transportation and storage to the consignee site + Extended Insurance for a period including 3 months beyond date of delivery**	Incidental Services (including Installation & Commissioning, Supervision, Demonstration and Training) at the Consignee's site **					Total INR amount
				(a)	(b)	(c)	(d) = a+b+c	(e)	(f)	(g)					h = (f+g)
<b>Foreign Currency</b>									<b>INR</b>						
			0	0.00	0.00	0.00	0.00	0.00	₹ 0.00	₹ 0.00	₹ 0.00	0.00	₹ 0.00		
			0	0.00	0.00	0.00	0.00	0.00	₹ 0.00	₹ 0.00	₹ 0.00	0.00	₹ 0.00		

\*\* To be paid in Indian Currency (Rs.)

Name of Foreign Currency for (a,b,c & e)

G.Total

0.00

₹ 0.00

**# In case Full Custom duty & IGST amount not mentioned in the above format by the tenders, it will presumed that the same is inclusive in total price and nothing will be paid extra to the supplier on this account. The custom duty & IGST will reimbursed only as per SCC clause no. 09**

In words: \_\_\_\_\_

**Note: -**

1. If there is a discrepancy between the unit price and total price THE UNIT PRICE shall prevail.
2. The charges for Annual CMC after warranty shall be quoted separately as per Section - XI - Price Schedule C
3. The Tenderer will be fully responsible for the safe arrival of the goods at destination (consignee site) in good condition as per terms including custom clearance, payment to custom duty to the custom department, insurance etc.
4. Bidder shall filled all cost i.e. a,b,c... failing which it will presumed that the same is inclusive in the total price and nothing will be paid on this account extra.

Indian Agency Commission - 0.00% FOB/FCA Inclusive in above price



## SECTION – XI PRICE SCHEDULE

### C) ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT AFTER WARRANTY PERIOD

Item no.		Name of Bidder		IFB No.					
Item Name		Name of Manufacturer		Model no.					
Qty. (a)	Annual Comprehensive Maintenance Contract Cost for each Unit year wise* Rs.					Total Annual CMC Cost for each unit for 5 years (Rs.)	GST/Sales Tax/service tax per unit		Total Annual CMC Cost for all unit for 5 years with GST Rs. (h x a)
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>		GST %	GST Amount Rs. (h)	
	b	c	d	e	f	g= b+c+d+e+f			
0	₹ 0.00	₹ 0.00	₹ 0.00	₹ 0.00	₹ 0.00	₹ 0.00	0.00%	₹ 0.00	₹ 0.00

**\* After completion of Warranty period**

**NOTE:-**

1. In case of discrepancy between unit price and total prices, THE UNIT PRICE shall prevail.
2. The cost of Comprehensive Maintenance Contract (CMC) which includes preventive maintenance including testing & calibration as per technical/ service /operational manual, labour and spares, after satisfactory completion of Warranty period may be quoted for **next 5 years** on yearly basis for complete equipment and Turnkey (if any).
3. The cost of CMC may be quoted along with taxes applicable on the date of Tender Opening. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
4. Cost of CMC will be added for Ranking/Evaluation purpose.
5. The payment of CMC will be made as per clause GCC clause 21.1 (D).
6. The uptime warranty will be 98 % on 24 (hrs) X 7 (days) X 365 (days) basis or as stated in Technical Specification of the TE document.
7. All software updates should be provided free of cost during CMC period.
8. The stipulations in Technical Specification will supersede above provisions
9. The supplier shall keep sufficient stock of spares required during Annual Comprehensive Maintenance Contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them custom cleared and pay all necessary duties.
- 10 Bidder shall mentioned present rate of GST, failing which it will presumed that the same is inclusive in the total price and nothing will be paid on this account extra.

**SECTION - XI PRICE SCHEDULE**  
**D) PRICE SCHEDULE FOR TURNKEY**

Name of Bidder				Name of Manufacturer		
Item no.				Equipment Model no.		
Name of Item				IFB no.		
Name of item	Brief of Turnkey works	No of Turnkey works	Turnkey cost per unit Rs.	GST/Sales Tax/service tax per unit		Total Turnkey cost for all units included GST Rs.
				%	Amount Rs.	
		<b>a</b>	<b>B</b>		<b>c</b>	<b>(b+c) x a</b>
		0	₹ 0.00	0.00%	₹ 0.00	<b>₹ 0.00</b>

Note: -

1. The cost of Turnkey as per Technical Specification (Section VII) may be quoted on lump sum along with taxes applicable on the date of Tender Opening. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
2. Cost of Turnkey will be added for Ranking/Evaluation purpose.
3. The payment of Turnkey will be made as per clause GCC clause 21.1 (c).
4. The stipulations in Technical Specification will supersede above provisions
5. In case of discrepancy between unit price and total prices, THE UNIT PRICE shall prevail.

## Section XI - Price Schedule

**E -Price Schedule for Optional items /Spare Parts/ Consumables**

Name of Bidder				Name of Manufacturer					
Item no.				Equipment Model no.					
Name of Item				IFB No.					
Sr no.	Name of item	Name of Part	Qty	Unit cost (Rs.)	GST per unit		Unit cost included GST (Rs.)	Total all units cost included GST (Rs.)	
					%	Amount (Rs.)			
			<b>a</b>	<b>b</b>		<b>c</b>	d= b+c	<b>d X a</b>	
1			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
2			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
3			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
4			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
5			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
6			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
7			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
8			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
9			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
10			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
11			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
12			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
13			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
14			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
15			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
16			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
17			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
18			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
19			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	
20			0	₹ 0.00	0.00%	₹ 0.00	₹ 0.00	₹ 0.00	

1. Bidder shall mentioned present rate of GST, failing which it will presumed that the same is inclusive in the total price and nothing will be paid on this account extra.

**SECTION - XII****Deleted**

**SECTION - XIII**  
**BANK GUARANTEE FORM FOR EMD**

To,

HSCC  
For & on Behalf of Director,  
**Chittarranjan National Cancer Institute,**  
Kolkata

IFB No.	BG no. with date
Name of Item	Amount Rs.
Item no.	Validity

Whereas \_\_\_\_\_ (hereinafter called the "Tenderer") has submitted its quotation dated \_\_\_\_\_ for the supply of \_\_\_\_\_ (hereinafter called the "tender") against the purchaser's tender enquiry No. \_\_\_\_\_

Know all persons by these presents that we \_\_\_\_\_ of \_\_\_\_\_ (Hereinafter called the "Bank") having our registered office at \_\_\_\_\_ are bound unto \_\_\_\_\_ (hereinafter called

the "Purchaser) in the sum of \_\_\_\_\_ for which\* payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_. The conditions of this obligation are:

- (1) If the Tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.  
(2) If the Tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-

- a) fails or refuses to furnish the performance security for the due performance of the contract.  
or  
b) fails or refuses to accept/execute the contract.  
or  
c) if it comes to notice that the information/documents furnished in its tender is incorrect, false, misleading or forged

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition(s).

This guarantee will remain in force for a period of forty-five days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

\_\_\_\_\_  
(Signature of the authorised officer of the Bank)

\_\_\_\_\_  
Name and designation of the officer

\_\_\_\_\_  
Seal, name & address of the Bank and address of the Branch

**SECTION – XIV  
MANUFACTURER’S AUTHORISATION FORM**

To,

HSCC  
For & on Behalf  
**Director, Chittarranjan National Cancer Institute,**  
Kolkata

Dear Sirs,  
Ref. Your TE document No \_\_\_\_\_, dated \_\_\_\_\_

We, \_\_\_\_\_ who are proven and reputable manufacturers of \_\_\_\_\_ (name and description of the goods offered in the tender) having factories at \_\_\_\_\_, hereby authorise Messrs \_\_\_\_\_ (name and address of the agent) to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred TE documents for the above goods manufactured by us.

We further confirm that no supplier or firm or individual other than Messrs. \_\_\_\_\_ (name and address of the above agent) is authorised to submit a tender, process the same further and enter into a contract with you against your requirement as contained in the above referred TE documents for the above goods manufactured by us.

We also hereby extend our full warranty, CMC as applicable as per clause 15 of the General Conditions of Contract, read with modification, if any, in the Special Conditions of Contract for the goods and services offered for supply by the above firm against this TE document.

Yours faithfully,

---

[Signature with date, name and designation]  
for and on behalf of Messrs \_\_\_\_\_

[Name & address of the manufacturers]

- Note: 1. This letter of authorisation should be on the letter head of the manufacturing firm and should be signed by a person competent and having the power of attorney to legally bind the manufacturer.*
- 2. Original letter may be sent.*

**Note:**

- **This FORM shall be on the letter head of the manufacturing firm and duly signed and stamped by competent authority and it should be as per the above format only. The original copy is to be colour scan & upload accordingly.**
- **If bidder is self manufacturer than they will filled this form as a self manufacturer.**
- **If bidder is not self manufacturer, they get this FORM from manufacturer and submit accordingly.**
- **Official Email ID of manufacturer form issuing authority shall be provided by the bidder.**

**SECTION – XV**

**BANK GUARANTEE FORM FOR PERFORMANCE SECURITY/ CMC SECURITY**

To

**Director, Chittarranjan National Cancer Institute,  
Kolkata**

WHEREAS \_\_\_\_\_ (Name and address of the supplier) (Hereinafter called “the supplier”) has undertaken, in pursuance of contract no \_\_\_\_\_ dated \_\_\_\_\_ to supply (description of goods and services) (herein after called “the contract”).

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognised by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of. \_\_\_\_\_ (Amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

.....  
(Signature with date of the authorised officer of the Bank)

.....  
Name and designation of the officer

.....  
Seal, name & address of the Bank and address of the Branch

**SECTION - XVI  
CONTRACT FORM - A**

**Deleted**



**SECTION – XVI**  
**CONTRACT FORM – B**  
**CONTRACT FORM FOR ANNUAL COMPREHENSIVE MAINTENANCE CONTRACT**

**Annual CM Contract No.** \_\_\_\_\_ **dated** \_\_\_\_\_

Between

(Address of Head of Hospital/Institute/Medical College)

And

(Name & Address of the Supplier)

**Ref: Contract No** \_\_\_\_\_ **dated** \_\_\_\_\_ **(Contract No. & date of Contract for supply, installation, commissioning, handing over, Trial run, Training of operators & warranty of goods)**

In continuation to the above referred contract

2. The Contract of Annual Comprehensive Maintenance is hereby concluded as under: -

1	2	3	4					5
Sr no.	Name of Equipment	Qty (Nos)	Annual Comprehensive Maintenance Contract Cost for Each Unit year wise*. In INR					Total Annual Comprehensive Maintenance Contract Cost for 5 Years [3 x (a+b+c+d+e)]
			1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	In INR
			a	b	c	d	e	

Total value (in figure) \_\_\_\_\_ (In words) \_\_\_\_\_

- b) The CMC commence from the date of expiry of all obligations under Warranty i.e. from \_\_\_\_\_ (date of expiry of Warranty) and will expire on \_\_\_\_\_ (date of expiry of CMC)
- c) The cost of Annual Comprehensive Maintenance Contract (CMC) which includes preventive maintenance, labour and spares, after satisfactory completion of Warranty period may be quoted for **next 5 years as** contained in the above referred contract on yearly basis for complete equipment (including X ray tubes, Helium for MRI, Batteries for UPS, other vacuumatic parts, \_\_\_\_ & \_\_\_\_ ) and Turnkey (if any).
- d) There will be 98% uptime warranty during CMC period on 24 (hrs) X 7 (days) X 365 (days) basis, with penalty, to extend CMC period by double the downtime period.
- e) During CMC period, the supplier shall visit at each consignee's site for preventive maintenance including testing and calibration as per the manufacturer's service/ technical/ operational manual. The supplier shall visit each consignee site as recommended in the manufacturer's manual, but at least once in 6 months commencing from the date of the successful completion of warranty period for preventive maintenance of the goods.
- f) All software updates should be provided free of cost during CMC.
- g) The bank guarantee valid till \_\_\_\_\_ [(fill the date) 2 months after expiry of entire CMC period] for an amount of Rs. \_\_\_\_\_ [(fill amount) equivalent to 2.5 % of the cost of the equipment as per contract] shall be furnished in the prescribed format given in Section XV of the TE document, along with the signed copy of Annual CMC within a period of 21 (twenty one) days of issue of Annual CMC failing which the proceeds of Performance Security shall be payable to the Purchaser/Consignee.
- h) If there is any lapse in the performance of the CMC as per contract, the proceeds Annual CMC bank guarantee for an amount of Rs. \_\_\_\_\_ (equivalent to 2.5 % of the cost of the equipment as per contract) shall be payable to the Consignee.
- i) **Payment terms:** The payment of Annual CMC will be made against the bills raised to the consignee by the supplier on six monthly basis after satisfactory completion of said period, duly certified by the HOD concerned. The payment will be made in Indian Rupees.

j) **Paying authority:** \_\_\_\_\_ (name of the consignee i.e. Hospital/ Institute /Medical College's authorised official)

\_\_\_\_\_  
**(Signature, name and address  
of Hospital/Institute/Medical College's authorised official)  
For and on behalf of** \_\_\_\_\_

Received and accepted this contract

\_\_\_\_\_  
(Signature, name and address of the supplier's executive  
duly authorised to sign on behalf of the supplier)

For and on behalf of \_\_\_\_\_

(Name and address of the supplier)

\_\_\_\_\_  
(Seal of the supplier)

Date: \_\_\_\_\_

Place: \_\_\_\_\_

**SECTION – XVII**  
**DELIVERY / CONSIGNEE RECEIPT CERTIFICATE**  
**(To be given by consignee's /HSCC site representative)**

The following store (s) has/have been delivered at CNCI- Kolkata –Campus –II:-

- 1) Contract No. & date : \_\_\_\_\_
- 2) Supplier's Name : \_\_\_\_\_
- 3) Name of the item supplied : \_\_\_\_\_
- 4) Quantity Supplied : \_\_\_\_\_
- 5) Date of goods deliver at CNCI –Kolkata :-----
- 6) Date of goods takeover by Consignee/HSCC : \_\_\_\_\_
- 7) Signature of Consignee /HSCC : \_\_\_\_\_
- 8) Seal of the Consignee/HSCC : \_\_\_\_\_

**SECTION – XVIII**  
**Final Acceptance Certificate [Installation, commissioning & Handing over]**  
**(To be given by consignee’s authorized representative)**

The following store (s) has/have been installed & commissioned in good working satisfactory condition:

1. Contract No. & date :
2. Supplier’s Name :
3. Consignee’s Name & Address :
4. Name of the item supplied :
5. Installed Commissioned completion date :
6. Name CNCI -Kolkata Representative :
7. Signature of CNCI -Kolkata Representative :
8. Seal of the Consignee

## Section - XXII

### BID SUMMARY SHEET

**A. If EMD/bid security in the form of Bank Guarantee:**

Item no.	BG no.	Date	Amount Rs.	Name of Bank	BG Validity
15	XXXX	XX.XX.2014	XXXX	State Bank of India	XX.XX.2015

- **Name of Bank Manager who has issued BG : Ram Singh**
- **Mobile number of Bank Manager : 1234567890**
- **Email ID of Bank Manager : ram@sbi.com**

Sr. Item no	Quoted qty.	Name of Bidder	Name with full Address of Manufacture	Model no.
15	5	Rama	Sterling	124D

Signature:  
Name:  
Designation  
Seal:

**Note: Bidder Summary sheet shall be filled in all respect.**

## Section - XXIII

### Power of Attorney

IFB No.

I -----, *Sole Proprietor' of M/s -----, or Board of Director of M/s -----* hereby authorised *Sh. -----, -----* to sign all tender documents, participate in negotiations, make correspondence and sign all documents to the client and government statutory bodies for approval take decisions.

He hereby authorized to sign and execute the agreement etc. for the works and all other documents relating to the works awarded or being executed by *M/s -----*

Signature of *Sh. -----, -----* is attested below.

Sole Proprietor/ Board of Director  
Sealed

Sh. -----  
Designation

- **Power of attorney is to be signed by competent authority i.e. Sole Proprietor of the firm or Board of Director of the company.**
- **The original document duly signed and stamped is to be scan & upload.**

## Section – XXIV

### **Bidder Information**

Bidder correspondence Address :

Bidder correspondence Email ID :

Bidder contact number :

Bidder contact person :

Manufacture correspondence address :

Manufacture correspondence Email ID :  
(who issued Manufacture authorisation form)

Manufacture contact number :

Signature:

Name:

Designation

Seal:

**Note: All above information are mandatory.**

**SECTION - XIX**  
**AFFIDAVIT/UNDERTAKING**

IFB No.

We have read and understood the all instructions and all terms and conditions contained in the TE document.

We are fully agree all the terms and conditions of TE document including SIT, SCC, amendment/ corrigendum, technical specification issued till opening of bid. In case, anywhere any conditional terms found in our bid, the same shall be treated as deleted/cancelled/ withdrawn from our bid. Whenever there is a conflict, the acceptance of all terms and conditions of TE document in the tender form/ bid form / affidavit shall prevail only.

We (manufacturer and /or manufacturer authorised agent) shall jointly and severally liable to perform all contractual obligations under the agreement.

We (manufacturer and /or manufacturer authorised agent) confirm that we do not stand deregistered/ banned/ blacklisted/ debarred by any Govt. Authorities in India.

We hereby confirm and certify that the prices offered by us in this tender is not higher than the prices we had offered to any other Govt. of India Organisation(s)/PSU(s) during the last one year and shall provide the justification for reasonableness of our offered price whenever asked during evaluation of our submitted bid.

We hereby certify that all information and documents submitted in this tender are true to the best of our knowledge and belief and that nothing material has been concealed/ misrepresented. We are solely responsible for its accuracy.

In case, at any stage, any of the information/ document is found to be false/ misrepresentation, we (manufacturer and /or manufacture authorised agent) shall be fully liable and the purchaser/HSCC shall have full right to reject my bid/ cancel the purchase order and / or stop payment / recover the liabilities/ loss if any, from our balance payment /EMD/ performance security etc. We are liable for any action as deemed fit by the purchaser/HSCC in addition to forfeiture of the earnest money/ performance security.

We are fully agreed all the terms and conditions of TE document including amendment/ corrigendum /technical specification issued till opening of bid. In case, anywhere any conditional terms found in our bid, the same shall be treated as deleted/cancelled/ withdrawn from our bid. Whenever there is a conflict, the acceptance of all terms and conditions of TE document in the tender form/ bid form / affidavit shall prevail only.

Signature:

Name:

Designation

Seal:

**Note:**

- **Original copy of Affidavit is to be submitted as instructed in the tender.**
- **The original document duly signed and stamped is to be scan & upload**
- **To be submitted on non-judicial stamp paper of Rs. 10/- duly certified by Public Notary**



**Section - XXI  
Consignee List**

<b>Consignee Code</b>	<b>Medical Institutions</b>	<b>Contact Address.</b>
	Director, Chittarranjan National Cancer Institute, Kolkata	Director, Chittarranjan National Cancer Institute(CNCI, Campus -II), 37, S.P. Mukherjee Road Kolkata -700026

