

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
VIKRAM SARABHAI SPACE CENTRE (VSSC)  
THIRUVANANTHAPURAM**

**Tender for DESIGN, SUPPLY, INSTALLATION AND COMMISSIONING  
OF DIGITAL RADIOGRAPHY AND INTEGRATED CT (COMPUTED  
TOMOGRAPHY) SYSTEM FOR 6 MeV LINAC WITH FLAT PANEL  
DETECTOR & OBJECT MANIPULATOR**

**Bids to be submitted online**

**Tender No.: VSSC/PURCHASE UNIT III (SPRE)/VS202400238401 dated 26-07-2024**

## A. Tender Details

Tender No :	<b>VSSC/PURCHASE UNIT III (SPRE)/VS202400238401</b>
Tender Date :	<b>26-07-2024</b>
Tender Classification:	<b>GOODS</b>
Purchase Entity :	<b>PURCHASE UNIT III (SPRE)</b>
Centre :	<b>VIKRAM SARABHAI SPACE CENTRE (VSSC)</b>

### **DESIGN, SUPPLY, INSTALLATION AND COMMISSIONING OF DIGITAL RADIOGRAPHY AND INTEGRATED CT (COMPUTED TOMOGRAPHY) SYSTEM FOR 6 MeV LINAC WITH FLAT PANEL DETECTOR & OBJECT MANIPULATOR**

This tender is proposed as a DOMESTIC PUBLIC TENDER. This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 16/09/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.

This is a TWO-PART tender i.e. Techno-Commercial Bid (Part-I) and Price Bid (Part-II) shall be submitted separately. All technical and commercial terms and conditions shall be furnished in the TechnoCommercial Bid while price shall be indicated only in the Price Bid. Uploading price details anywhere else other than the price-bid shall lead to unconditional rejection of the tender. Please make note of the same.

Tenderers are advised NOT TO UPLOAD any documents revealing the price of the main equipment, accessories, spares or AMC. They are however, requested to upload UNPRICED BIDS (i.e. Price details masked) showing appropriate break-up of components of main equipment, individual accessories and spares as desired. Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.

The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.

In cases if the item(s) offered exceed Rs. 10 Crores, the Class-I/Class-II Local Suppliers shall provide a Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General

Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law. Technical Bids will be opened at the scheduled due date & time. No further intimation will be sent in this regard. The schedule for price bid opening shown is only indicative. Price bids will only be opened in the case of parties who have been techno-commercially accepted, the details of which will be communicated at a later stage.

## **A.1 Tender Schedule**

Tender Publish Date :	<b>26-07-2024 16:00</b>
Bid Clarification Due Date :	<b>16-08-2024 11:00</b>
Bid Submission Start Date :	<b>12-08-2024 17:01</b>
Bid Submission Due Date :	<b>05-09-2024 14:00</b>
Bid Opening Date :	<b>05-09-2024 14:00</b>
Price Bid Opening Date :	<b>31-10-2024 14:00</b>

## **A.2 Pre-bid Meeting Details**

<b>Date :</b>	<b>12-08-2024 17:00</b>
<b>Place :</b>	<b>NON-DESTRUCTIVE TESTING FACILITY (NDTF)</b>
<b>Location :</b>	<b>RPP, VSSC</b>
<b>Centre :</b>	<b>VIKRAM SARABHAI SPACE CENTRE (VSSC), THIRUVANANTHAPURAM, KERALA</b>
<b>Details :</b>	<b>PRE-BID MEETING: Kindly note that you shall visit the site WITHIN 15 DAYS FROM THE DATE OF RELEASE OF TENDER, for understanding of the total system mentioned in specification. To schedule the visit, interested parties shall contact <a href="mailto:spsoprso_pur@vssc.gov.in">spsoprso_pur@vssc.gov.in</a> covering a copy to <a href="mailto:ps02_prso_pur@vssc.gov.in">ps02_prso_pur@vssc.gov.in</a>.</b>

## B. Tender Attachments

NA

### Instructions To Vendors

#### 1. Specific Terms and Conditions to Tender (MII Compliant)

1. (I) Please quote applicable GST separately.

2. (II) Our standard delivery term is FOR, VSSC. In case any vendor offers delivery term of Ex-works, Packing and Forwarding charges if any should be indicated separately either as a percentage of the quoted rate or as a Lumpsum amount.

3. (III) Our standard payment term is 100% within 30 days after receipt and acceptance of the items at our site (after installation and commissioning in cases where installation and commissioning is required).

4. (IV) Liquidated Damages: The delivery period quoted should be realistic. The delivery period so quoted and mentioned in the order is the essence of the order/contract. In case of delay in delivery of material as per the delivery schedule, Liquidated Damage @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value shall be levied. Wherever, installation and commissioning is also involved, the supply will be deemed to have been completed only when the entire Stores is supplied, installed and accepted.

5. (V) Performance Bank Guarantee: Wherever products offered carry warranty, the warranty should be for one year or as per manufacturers standard warranty term. Against such cases, please confirm submission of Performance Bank Guarantee. The Performance Bank Guarantee should be for 3% of the order value covering the warranty period obtained from any Scheduled Bank on Rs.200/- Non Judicial Stamp Paper and should be valid beyond 2 months from the completion of the warranty period. Alternately vendors can request for withholding 3% payment till completion of the warranty period.

6. (VI) Security Deposit: Wherever the offer value is Rs. 5.00 Lakhs or above, the successful tenderer should submit Security Deposit @ 3% of the order value by way of Bank Guarantee / FD Receipt. The Bank Guarantee shall be obtained from any Scheduled Bank on Rs.200/- Non Judicial Stamp Paper and should be valid beyond 2 months from the completion of all contractual obligations. If the Contractor is called upon by the Purchaser to deposit, Security and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor. In case if Security Deposit is submitted and the contractor fails to execute

the order, then the security deposit will be forfeited.

7. (VII) Note: SD, LD and PBG clauses are mandatory and offers of the vendors who have not agreed for the above conditions will be excluded from the procurement process. Micro and Small Vendors are not exempted from the submission of Security Deposit. Only Govt Departments/PSUs/PSEs can submit Indemnity Bond instead of Bank Guarantee towards SD/PBG.

8. (VIII) Please upload the Technical Details / Catalogue / Data Sheets (wherever applicable)

9. (IX) The offer should be valid for a period of minimum 90 days from the date of opening of Tender and 180 Days for PT Two Part (120 Days for Technical Bid and 60 Days for Price Bid from the date of opening).

10. (X) In order to avail of the benefits extended to by Govt. of India to the Micro and Small Sectors, please submit attested copy of the valid Entrepreneur Memorandum Part-II signed by the General Manager, District Industries Centre / Udyog Adhar / NSIC Registration Certification along with your offer.

11. (XI) If any bidder submits forged / false document along with the tender, offer of such vendors will be summarily rejected and such bidders will be blacklisted for all future tenders.

12. (XII) Wherever samples are required to be submitted along with the quotation, offer without sample will not be considered.

13. (XIII) The other attached forms are our standard terms and conditions, which are to be complied with. If any conflict arise between the specific terms and standard terms, then in those cases, the specific terms will prevail over the standard terms.

14. (XIX) Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.

15. (XV) Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.

16. (XVI) Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: a) Equal to or more than 50% : Class-I local supplier. b) Minimum 20% but less than 50% : Class-II local supplier. c) Less than 20% : Non-local supplier.

17. (XVII) Local content means the amount of value added in India (i.e. indigenous items/services added in the offered products/services/works) be the total value of the item offered (excluding net

domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent. Indicate extent of Minimum Local Content in offered product/service and location of such value additions.

18. (XVIII) The Class-I & II local supplier should provide a Self Certification along with your offer in PDF format indicating that the item offered meets the minimum local content as called for in the tender as mentioned above and provide the % of local content along with details of the location(s) at which the local value addition is made. In case of two part tenders, it is mandatory to indicate compliance to MLC(minimum local content) in technical bid itself.

19. (XIX) The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.

20. (XX) In cases if the item(s) offered exceed Rs. 10 Crores, the Class-I/Class-II Local Suppliers shall provide a Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

21. (XXI) False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

22. (XXII) Purchase Preference Policy:- Goods/Works which are divisible in nature (required quantity is greater than 1 or not a package basis): i. If L1 is 'Class-1 local supplier', the order/contract for full quantity shall be awarded to L1 bidder. ii. If L1 bid is not from a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and contract for that quantity shall be awarded to such Class-I local supplier subject to matching the L1 price (inclusive of duties, taxes and freight & insurance). iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In cases where none of the 'Class-I local supplier' within the margin of purchase agree to match L1 price, in such cases 100% quantity shall be ordered on original L1 bidder. iv. In case no offers are received from 'Class-I local supplier' or none of the 'Class-I local supplier' falls within the margin of purchase preference of 20%, the order shall be processed on L1 vendor. v. In case L1 bidder (not a 'Class-I local supplier') is not accepting splitting of

order on 50:50 basis, in that case the order/contract shall be awarded to such 'Class-I local supplier' for full quantity subject to matching the L1 price. vi. Regarding MSEs (Indian vendors): a) The following additional aspect as indicated below would be applicable for procurement which are falls under divisible category (i.e., not applicable for indivisible category), in case of participation of MSEs in the tendering who are also complying to the Minimum Local Content (MLC) stipulated in the tender. b) If any Indian vendor satisfies the requirement of MSEs stipulation and also falls within the purchase preference margin as called for in MSME policy (in case of matching L1 price) will be considered for ordering 25% of tendered quantity, the balance quantity / works will be considered for distribution amongst all bidders (including MSEs) as per the purchase preference policy. c) In case no MSEs qualifies for purchase preference or do not match with L1 price then the total tendered quantity will be distributed amongst all bidders as per the purchase preference policy.

**23. Purchase Preference Policy:-** Goods/Works which are not divisible in nature (required quantity is 1 or on a package basis):

(i). If L1 is 'Class-1 local supplier', the order/contract for full quantity shall be awarded to L1 bidder. (ii). If L1 bid is not from a 'Class-I local supplier', then, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price subject to the Class-I local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and contract for that quantity shall be awarded to such Class-I local supplier subject to matching the L1 price (inclusive of duties, taxes and freight & insurance). (iii). In case such lowest eligible 'Class-I local supplier' fails to match the L1 price , the next higher 'Class-I local supplier' within the margin of purchase 'preference shall be invited to match the L1 price and so on, and contract shall be awarded accordingly. In cases where none of the 'Class-I local supplier' within the margin of purchase agree to match L1 price, in such cases the contract shall be placed on original L1 bidder. (iv). In case no offers are received from 'Class-I local supplier' or none of the 'Class-I local supplier' falls within the margin of purchase preference of 20%, the order shall be processed on L1 vendor.

## **2. Conditions for BIDDER FROM A COUNTRY WHICH SHARES LAND BORDER WITH INDIA**

1. Any bidder from a country which shares a land border with India will be eligible to bid in this tender, only if the bidder is registered with the Competent Authority. Competent Authority for the purpose of registration shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

2. Any false declaration and non-compliance of the above would be a ground for immediate rejection of offer or termination of the contract and further legal action in accordance with the laws.

3.

Validity of Registration: Registration should be valid at the time of submission of

bids and should be valid at the time of placement of order.

### **3. PPP Make in India(Non- Divisible Items-Class I & II Local Suppliers Only)**

1. In line with Public Procurement (Preference to Make in India), Order 2017 & its amendments issued by Govt. of India from time to time with a view to support the Indian industries, ISRO has implemented "Purchase Preference Policy". The "Purchase Preference" is applicable for the "Class-I Local Supplier" for the goods/ services/ works covered in this tender, subject to the following terms & conditions:-

2. a) The subject item falls under Non-divisible category. b) The offers sought only from Class-I & Class-II local suppliers

3. Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: a)Equal to or more than 50% : Class-I local supplier. b)Minimum 20% but less than 50% : Class-II local supplier. c) Less than 20% : Non-local supplier.

4. 'Local content' means the amount of value added in India (i.e. indigenous items/services added in the offered products/ services/ works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent.

5. The margin of Purchase Preference shall be up to 20%.

6. 'Margin of purchase preference' means the maximum extent to which the price quoted by the "Class-I local supplier" above the L1 (landed cost).

7. 'L1' means the lowest technically accepted tender / bid / quotation (i.e. lowest landed cost including duties, taxes and freight & Insurance).

8. Works means all works as per Rule 130 of GFR- 2017, and will also include 'turnkey works'. Works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

9. Purchase Preference Policy:- Goods/Works which are not divisible (ie., required quantity is 1 or as a package) and Services:

a)If L1 is from a 'Class-I local supplier', the contract will be awarded to L1 bidder.

b) If L1 is not from a 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price subject to local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price (inclusive of duties, taxes and freight & insurance).

c) In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local



supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on, and order/contract shall be awarded accordingly. In case where none of the 'Class-I local supplier' within the margin of purchase preference agree to match the L1 price, then the order/contract shall be awarded to the original L1 Bidder.

10. The 'Class-I & II local supplier' should provide a "Self Certification" along with technical offer indicating that the item offered meets the minimum local content [as per Sl. No.(3)] as called for in the tender and provide the percentage of local content along with details of the location(s) at which the local value addition is made. In case of two bid tenders, it is mandatory to indicate compliance to MLC(minimum Local Content) in technical bid zone.

11. The ink-signed certificate shall be provided on vendors letter head along with the offer (in case of online tender, copy of ink-signed certificate shall be uploaded along with your offer under concerned tab. Original in Hard copy shall be produced on request). In case of non-submission of certificate, the purchase preference shall not apply.

12. A committee (with an external expert from a practicing cost accountant or practicing chartered accountant, if required) constituted for independent verification shall verify the self-declarations & auditor's / accountant's certificates on random basis, as per the requirements.

13. In cases the quoted price is in excess of Rs.1000 Lakhs (including duties, taxes and freight & Insurance) the 'Class-I & II local supplier shall provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in case of suppliers other than companies) giving the percentage of local content.

14. In case of a complaint received from any local supplier indicating a need for review / verification of Local content of successful vendor / awarded vendor, for accepting a complaint from such complainant (w.r.t the false declaration given by the successful vendor on the local content), a complaint fee of Rs.2Lakhs or 1% of the locally manufactured items being procured (subject to a maximum Rs. 5Lakhs), whichever was higher, to be paid by demand draft by the complainant. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.

15. False declarations will be in breach of code of the integrity for which a bidder or its successor's will not be eligible/debarred for purchase preference from further tenders / pending tenders for two years along with other actions as may be applicable.

16. The Public Procurement (Preference to Make in India), Order 2017 issued by Govt. of India indicates that if there are any general or specific restrictive clauses to restrict participation of Indian companies in those countries procurement tenders, reciprocity clause need to be invoked as per the

order. Hence, if ISRO or Govt. of India come across that Indian suppliers of an item are not allowed to participate and / or compete in procurement by your government, the bid submitted by you will be not be considered and excluded from eligibility for procurement. Please note this point.

#### **4. Instructions to Vendors**

1. Last minute clarification on tenders will not be entertained.
2. This is an E Tender. Hence Postal/Fax/Email tenders will not be accepted.

#### **5. PROFORMA FOR INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER (IG)**

1. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.  
(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.  
(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.  
(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.
2. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.  
(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.  
(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.  
(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications

with appropriate response for the same.

### 3. ACCEPTANCE OF STORES:

(a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost.

(b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final.

(c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor.

(d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

4. As a Government of India Department, this office is exempted from payment of Octroi and similar local levies. Tenderers shall ensure that necessary Exemption Certificates are obtained by them from the Purchase Officer concerned to avoid any payment of such levies.

5. a) Your offer should be valid for 90 days from the date of opening of the tender.

b) Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.

6. DESPATCH: The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods despatched. The consignment should be despatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on 'said to contain' basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract.

7. d) The term "Purchase Order" shall mean the communication signed on behalf of the Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

### 8. GUARANTEE & REPLACEMENT:

(a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid

down, for material, workmanship and performance.

(b) For a period of twelve months after the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty.

(c) If, in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of 14 months from the date of acceptance thereof.

(d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores.

(e) The decision of the Purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the Purchaser, as to whether or not the Stores supplied by the Contractor are defective or any defect has developed within the said period of 12 months or any other period or as to whether the nature of defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor.

(f) To fulfill guarantee conditions outlined in (a) to (e) above, the Contractor shall, at the option of the Purchaser, furnish a Bank Guarantee (as prescribed by the Purchaser)

**9. PACKING FORWARDING & INSURANCE:** The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.

**10.** Preference will be given to those tenders offering supplies from ready stocks and on the basis of FOR destination/delivery at site.

**11. PRICES:** Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

**12. REJECTED STORES:**

Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

13. Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be mentioned in the price bid template. If nothing is mentioned, then it will be presumed that the rate quoted is inclusive of all taxes/duties.

14. SECURITY DEPOSIT: Wherever, the Purchase Order value is Rs. 5.00 Lakhs or more, on acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine, security deposit not exceeding ten percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, 'Security' and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause regarding Delivery. (b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

#### 15. TERMS & CONDITIONS OF TENDER

16. TEST CERTIFICATE: Wherever required, test certificates should be sent along with the despatch documents.

17. The authority of the person signing the tender, if called for, should be produced.

18. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.

19. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

20. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

21. The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of Stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.

22. The term Purchaser shall mean the President of India or his successors or assigns.

23. The term "Stores" shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants & machinery and subsequent testing, should such a condition is included in the Purchase Order.

## C. Bid Templates

### C.1 Technical Bid - DESIGN, SUPPLY, INSTALLATION AND COMMISSIONING OF DIGITAL RADIOGRAPHY AND INTEGRATED CT (COMPUTED TOMOGRAPHY) SYSTEM FOR 6 MeV LINAC WITH FLAT PANEL DETECTOR & OBJECT MANIPULATOR

#### 1. FPD based Digital Radiography and CT System for 6 MeV LINAC

#### Item specifications for FPD based Digital Radiography and CT System for 6 MeV LINAC

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	The system consists of Automatic Object Manipulator, Flat Panel Detector, CT Software and Workstation for 6 MeV LINAC based digital radiography and CT (The 6MeV LINAC will be provided by VSSC.)		-		

[Document : Detailed Specification](#)

[Document : Split Up Cost of Subsystems-Template](#)

#### Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Overall System includes specifications for	Object Manipulator System (i.e. LINAC Handling System, Object Rotator, Rotary Table, FPD Handling System & Film Handling System), Flat Panel detector, High End workstation and CT softwares and other requirements which are given below.	Yes / No / Explain		
2	I. LINAC HANDLING SYSTEM (Part I of Object Manipulator)		-		

3	I.1. The system is to be Designed for handling LINAC with secondary collimator of total weight of 2000 kg (approx.) and of dimensions 1.92 m (L) X 0.73 m (W) X 0.92 m (H) (Refer layout in detailed Spec).	6 MeV LINAC(Varex Make) with secondary collimator will be provided by VSSC	Yes / No / Explain		
4	I.2. Horizontal movement along object length (X-axis) along rails	9 m	Yes / No / Explain		
5	I.3. To & Fro Movement (Y axis) along rails	Upto 1000mm	Yes / No / Explain		
6	I.4. Vertical movement(Z-axis)	Upto 4000mm from FFL	Yes / No / Explain		
7	I.5. Vertical(Z-axis) Speed	50 to 500 mm/min (any speed with min and max speeds shown)	Yes / No / Explain		
8	I.6. Speed, Horizontal (X-axis) & Across Horizontal(Y-axis)	100 to 1000 mm/min (any speed with min. and max. speeds shown)	Yes / No / Explain		
9	I.7. Accuracy of Movement (X,Y& Z)	± 0. 25 mm	Yes / No / Explain		
10	I.8. Mechanical drive (X-axis)	Rail(suitable CR profile) & Wheel(double flanged ), Hardened steel(BHN-250 to 300)	Yes / No / Explain		
11	I.9. Mechanical drive (Y-axis)	Rail(suitable CR profile) & Wheel(double flanged ), Hardened steel (BHN-250 to 300)	Yes / No / Explain		

12	I.10. Mechanical drive (Z Axis)	Double nut recirculating Ball screw with guide rods (hardened steel with HRC-50 (min.)/suitable lifting mechanism having provision to stabilize LINAC at a particular height in less than 30 sec. Provision to arrest the LINAC in position while taking CT projections	Yes / No / Explain		
13	I.11. Rotation of LINAC carriage Horizontal swivel(pan)	$\pm 15^\circ$ (From Mean Position) with resolution less than $0.05^\circ$	Yes / No / Explain		
14	I.12. Rotation of LINAC carriage Vertical swivel(tilt)	$\pm 15^\circ$ (From Mean Position) with resolution less than $0.05^\circ$	Yes / No / Explain		
15	I.13. Electrical Drive (X,Y and Z axis)	Flame Proof Servo Motors (suitable for zone 1) with absolute encoder for Automation	Yes / No / Explain		
16	I.14. Position Feedback	Absolute Encoders in addition to electro-mechanical devices such as proximity/limit switches are to be provided for fault diagnosis & safety.	Yes / No / Explain		
17	I.15. Material of construction	IS 2062- Grade E250 Steel for general structural purpose	Yes / No / Explain		
18	I.16. System shall have provisions for two speeds ie. micro and macro and also all speeds selectable in between in order to achieve required X, Y and Z position.	Speed shall be controllable from remote HMI station in the hall and from Control Room and the speed of the movement shall be displayed on either of the systems whichever is being operated.	Yes / No / Explain		



19	I.17.Vibration arresting mechanism for LINAC shall be designed to dampen the vibration of LINAC within 30 seconds.		-		
20	I.18. Remote HMI station in the Hall/Control Room shall have interchangeable provision to control and display location of LINAC, tilt, pan and speeds in X, Y, Z direction.	Display of both units shall show the parameter whichever is under operation.	Yes / No / Explain		
21	I.19. Limit switches shall be provided at extreme positions of X, Y, and Z motions. Mechanical stopper also may be provided for additional safety.		-		
22	I.20.Range of vertical motion for regular operation of LINAC shall be 750 mm to 4000 mm so that lower most beam exit point shall be at 1000 mm from FFL.		-		

23	I.21. All the LINAC positions shall be controllable from Control room with exact position feedbacks (X, Y and Z) with Initial position (home) of LINAC set at one corner of the Rail		-		
24	I.22. Provisions for controlling/integrating the LINAC positions and swivel angles by the Computed Tomography Software shall be given for automation.		-		
25	I.23. Home Position for X, Y and Z axis shall be provided to retain the Default values. Only Administrator shall have provisions to Reset the Default values.		-		
26	II. OBJECT ROTATOR (Part II of Object Manipulator)		-		

27	Object Rotator is required to position the job horizontally for radiography. The Rotator should be designed for Object diameter of maximum dia. 1500 mm, Length 5000 mm & weight 8T. Details of the system is given below.(Refer layout in detailed Spec).		-		
28	II.1.The cylindrical object will be rotated over four numbers of antistatic rubber lined rollers of suitable diameter with each roller mounted on individual roller stand. The gap between a pair of rollers should be adjustable to accommodate object of variable diameter (500mm to 1500mm). The roller stands shall be mounted over a suitable platform structure.		-		
29	II.2. The gap between roller sets should be adjustable to accommodate object of variable length (1500mm to 5000mm).		-		

30	II.7. Object Rotator Length	5000 mm	Yes / No / Explain		
31	II.8. Object Rotator Width	1400 mm	Yes / No / Explain		
32	II.9. Roller center Height from FFL	1000 mm	Yes / No / Explain		
33	II.10.Max. load capacity	8 T	Yes / No / Explain		
34	II.11.Job Rotation (Object Rotator System)	Absolute Encoders in addition physical devices such as proximity/limit switches are to be provided for fault diagnosis & safety. (If found essential Incremental Encoders may also be used)	Yes / No / Explain		
35	II.12. Rotational Speed of job	0.2 to 1 rpm- System controllable	Yes / No / Explain		
36	II.13. Rotational accuracy	±0.5 mm on job surface of 1 m diameter	Yes / No / Explain		
37	II.14. Roller	Roller of approximate 300 mm dia and 250 mm width with hard rubber of minimum thickness 30 mm to be provided to accommodate the object. Roller shall be designed so as to provide a clearance of 50 mm between object surface and roller supporting bracket after full load compression of roller rubbers. Roller material shall be radiation compatible and shall not be worn out easily.	Yes / No / Explain		
38	II.15. Lateral Distance between rollers	Should be manually adjustable for diameter range of 500 mm to 1500 mm of the object.	Yes / No / Explain		
39	II.16. Longitudinal distance between rollers	Manually adjustable for a length range of 1.5 m to 5 m of the object.	Yes / No / Explain		

40	II.17.Lateral movement arrestor	Suitable self-arresting mechanism to be provided on the rotator to prevent lateral movement of object and maintain the set position after any rotation. It shall be roller type to prevent friction.	Yes / No / Explain		
41	II.18. Electrical Drive	Flame Proof Servo Motor (suitable for zone 1)	Yes / No / Explain		
42	II.19.Position Feedback	Absolute Encoders in addition physical devices such as proximity/limit switches are to be provided for fault diagnosis & safety.	Yes / No / Explain		
43	II.20. Material of construction	IS 2062- Grade E250 Steel for general structural purpose	Yes / No / Explain		
44	II.21. There shall be provision to rotate the object to the required angle. Auto Calibration and setting the object to Home Position (ZERO) shall happen automatically after positioning the object on object rotator.		-		

45	<p>II.22. Further positions on rotation shall be based on the set Home Position. Suitable braking system to ensure positional accuracy is to be given. Drifting or Lateral movement of object along the roller during continuous rotation shall be arrested fully.</p>				
46	<p>II.23. Remote HMI station in the Hall/Control Room shall have interchangeable provision to control and display the angle of rotation and speed of rotation of the object and real-time feedback of the positions shall be available to the system. Local HMI in hall shall display the parameter whichever is under operation.</p>				

47	II.24.Provisions for controlling/integrating the object rotator positions by the Computed Tomography/Digital radiography acquisition Software shall be given for automation.		-		
48	II.25.Suitable lifting lugs may be provided at the ends for shifting the object rotator using crane for maintenance.		-		
49	III. ROTARY TABLE (Part III of Object Manipulator)		-		
50	Rotary Table is used to position the job vertically for radiography. (Refer layout in detailed Spec).		-		
51	Details of the job and specification of rotary table is given below.		-		
52	III.1. Object Diameter	150mm to 2000 mm	Yes / No / Explain		
53	III.2. Object Height	3000 mm	Yes / No / Explain		
54	III.3.Maximum Weight of object	8 T	Yes / No / Explain		
55	III.4. Table diameter	2500 mm	Yes / No / Explain		
56	III.5. Height from FFL	750 mm	Yes / No / Explain		
57	III.6. Surface flatness	0.2 mm	Yes / No / Explain		

58	III.7. Job Rotation	Absolute Encoded rotation about axis of object from Home Position	Yes / No / Explain		
59	III.8. Rotation about Z axis	0° to 360° in steps of 0.05° (micro) to 1° (macro) (Whole range)	Yes / No / Explain		
60	III.9. Rotation speed	0.05 to 1 rpm- System controllable	Yes / No / Explain		
61	III.10. Rotational accuracy	± 0.1 deg.	Yes / No / Explain		
62	III.11. Mechanical drive(rotation) and its control	Any suitable mechanism that could deliver accurate rotation.	Yes / No / Explain		
63	III.12. Electrical Drive for rotation	Flame Proof Servo Motors (suitable for zone 1)	Yes / No / Explain		
64	III.13. Position Feedback	Absolute Encoders (Flame proof type)	Yes / No / Explain		
65	III.14. Material of construction	IS 2062- Grade E250 Steel for general structural purpose	Yes / No / Explain		
66	III. 15. Once object is positioned, auto centering options shall be given (optical provisions) and Default Home Position may be attained. Accuracy of motion shall be demonstrated at work site in presence of VSSC person.		-		
67	III.16. Remote HMI station in the Hall / Control Room shall have interchangeable provision to control and display the angle of rotation and speed of rotation of the object.	Real-time feedback of the positions shall be available to the system. Local HMI in hall shall display the parameter whichever is under operation.	Yes / No / Explain		



68	III.17. Provisions for controlling/integrating the rotary table positions by the Computed Tomography/Digital radiography acquisition Software shall be given for automation.		-		
69	III.18. Two triangle finish over rotary table-the better Face-out (<0.1 mm) and run-out (<0.1 mm) for rotary table is preferable.		-		
70	III.19. Markings of concentric circles of various diameters 150, 300, 500, 750, 1000, 1250, 1500, 1750, 2000, 2250 mm shall be made on the surface of rotary table which shall be laser etched.		-		
71	IV. FLAT PANEL DETECTOR HANDLING UNIT WITH SHUTTER SYSTEM (Part IV of Object Manipulator)- Refer detailed specification also		-		

72	FPD is used to capture digital image for digital Radiography and computed tomography. The position of the same is to be adjusted using this handling system.		-		
73	IV.1.Designed for handling FPD of approx. size	420 mm (l) x 420 mm (b) x 30 mm (t)	Yes / No / Explain		
74	IV.2.Shielding requirements for FPD	The FPD has to be positioned safely in a Holding mechanism that is shielded by around 110 mm thick lead block at front side and back side and by around 50 mm thick lead blocks at sides, top and bottom with provisions for smooth cable entry.	Yes / No / Explain		
75	IV.3. The overall weight of FPD with its holder and lead shielding	The overall weight of FPD with its holder and lead shielding could be around 600 kg approx. (Actual Weight may vary slightly based on shielding weight).	Yes / No / Explain		
76	IV.4. The FPD positioning may be done with HMI in hall/remote HMI from control room.		-		
77	IV.5. Provisions for controlling the whole motion by a centralized system that can be synchronized with the movements of LINAC, Object rotator and Rotary table is required.	Movements shall be with the precision mentioned in movement under each system for automating the whole system to carry out Computed Tomography/Digital Radiography.	Yes / No / Explain		

78	IV.6. Vertical up/down(Z-axis) movement	750 mm to 4000 mm from FFL	Yes / No / Explain		
79	IV.7. Horizontal movement along length of object (X-axis)	9000 mm	Yes / No / Explain		
80	IV.8. Movement, to & fro (Y-axis)	1300 mm	Yes / No / Explain		
81	IV.9.Speed of X, Y & Z -axes movement	50 mm/min (micro) and 1000 mm/min (macro)	Yes / No / Explain		
82	IV.10.Accuracy of movement in X, Y & Z-axes	± 0.25 mm	Yes / No / Explain		
83	IV.11.Mechanical drive(X-axis)	Rail(suitable CR profile) & Wheel(double flanged), Hardened steel(BHN-250 to 300)	Yes / No / Explain		
84	IV.12. Mechanical drive (Y and Z Axis)	Double nut recirculating Ball screw with guide rods (hardened steel with HRC-50 (min.))/ any other suitable mechanism that can provide accurate movement. There should be provision for locking the position in Z axis during CT image capturing	Yes / No / Explain		
85	IV.13. Electrical Drive for FPD Handling system (X,Y and Z Axis)	Flame proof Servo Motors (suitable for zone 1)	Yes / No / Explain		
86	IV.14. Position Feedback	Absolute Encoder in addition to physical devices such as limit/proximity switches are to be provided for fault diagnosis & safety.	Yes / No / Explain		
87	IV.15. Material of construction	IS 2062- Grade E250 Steel for general structural purpose	Yes / No / Explain		
88	IV.16. Anti-Vibration Requirements for Radiography	Visco-elastic padding can be used in structure for damping vibration towards avoiding image blurring.	Yes / No / Explain		

89	IV.17. HMI station in the Hall/remote HMI in the Control Room shall have interchangeable provision to control and display the position and speed along X, Y, Z directions.		-		
90	IV.18. HMI controlled motorised shutter system with lead shielding for FPD and swiveling option from 0 deg. to +/-90 deg w.r.t Y axis.		-		
91	IV.19. Anti-collision interlock to avoid collision between FPD and object Rotator/Rotary Table/Job is to be provided.		-		
92	IV.20. Required sensors for maintaining minimum gap between FPD and object Rotator/Rotary Table/Job shall be there and motion controlled through software. Minimum gap shall be mentioned specifically and cut off shall happen once that gap is reached.		-		

93	IV.21. Limit switches at the extremities of X, Y and Z travel. Mechanical stopper wherever possible.		-		
94	IV.22. FPD handling system shall be designed preferably for an SWL of 600 kg approx. Proper counter balancing positions at extreme points shall be defined.		-		
95	IV.23. Vibration arresting mechanism is to be designed to dampen the vibration in 30 seconds.		-		
96	IV.24. Suitable Templates made of lead plates should be provided to shield the directly exposed areas of FPD during radiography. (For non uniform job peripheries, as per the profiles given by VSSC).		-		
97	V. FILM CASSETTE HANDLING UNIT (Part V of Object Manipulator)- Refer detailed specification also		-		

98	A Film Cassette holder unit with arm is to be provided that can be moved manually for positioning the X-Ray film cassette.		-		
99	V.1 The movement of the cassette in X direction will be achieved by the movement of the unit on the rails, Y movement by up and down movement of the arm and Z movement by the telescopic movement of the Cassette holder.		-		
100	V.2 The cassette holder shall have two separate grooves for inserting two X-Ray film cassette of dimension 420 mm X 310 mm X 20 mm (thk.) and weighs around 5 kg each.		-		
101	V.3 The cassette holder shall have rotation option through 180 deg. for changing the orientation of the cassettes.		-		
102	V.4 Vertical up/down(Z-axis) movement	750 mm to 3000 mm from FFL	Yes / No / Explain		
103	V.5 Horizontal movement along length of object (X-axis)	9000 mm	Yes / No / Explain		

104	V.6 Movement, to &fro (Y-axis)	1300 mm	Yes / No / Explain		
105	V.7 Material of construction	IS 2062- Grade E250 Steel for general structural purpose	Yes / No / Explain		
106	VI. FLAT PANEL DETECTOR FOR DIGITAL RADIOGRAPHY AND COMPUTED TOMOGRAPHY (Refer detailed spec. also)		-		
107	The FPD shall be capable of usage for Digital Radiography and Computed Tomography applications. Details of the same are given below.		-		
108	VI.1. Detector	a-Si (Amorphous Silicon)	Yes / No / Explain		
109	VI.2. Scintillator screen	DRZ Plus or higher	Yes / No / Explain		
110	VI.3. Pixel number or Image size	3072 x 3072 (Min.)	Yes / No / Explain		
111	VI.4. Pitch	≤140 Sq. μm	Yes / No / Explain		
112	VI.5. Active pixel area	≥420 mm x 420 mm	Yes / No / Explain		
113	VI.6. ADC	≥16 bits	Yes / No / Explain		
114	VI.7. Data Output	Gigabit Ethernet	Yes / No / Explain		
115	VI.8. Dynamic range	≥77 dB	Yes / No / Explain		
116	VI.9. Response non uniformity	± 2 percentage	Yes / No / Explain		
117	VI.10. Total number of underperforming pixels	≤0.5 percentage	Yes / No / Explain		

118	VI.11. Image Resolution	≥3 lp/mm or better	Yes / No / Explain		
119	VI.12. Frame rate per second	4fps @ 1x1 binning and 15 fps @ 2 x 2 binning	Yes / No / Explain		
120	VI.13. X-ray Radiation energy range	20 kV – 16 MV or above	Yes / No / Explain		
121	VI.14. Cable length from Detector to Computer	≥60 m	Yes / No / Explain		
122	VI.15. Flat panel detector shall be suitable for static/dynamic digital X-Ray imaging of objects and X-ray energies up to 16 MeV.		-		
123	VI.16. FPD shall have motorized shutter system for preventing direct exposure of active area of detector. Motorized movements of four jaws system for opening and closing of shutter system. Swiveling provision of entire shutter system from 0 deg. to +/- 90 deg. shall be given.		-		



124	<p>VI.17. Lead template plates of sufficient thickness of various curvatures shall be provided to shield the detector area where direct exposure may fall during radiography of curved or smaller components. Suitable provisions for attaching the same shall also be provided in the collimator setup.</p>				
125	<p>VII. IMAGE ACQUISITION SYSTEM FOR DIGITAL RADIOGRAPHY/COMPUTED TOMOGRAPHY</p>				
126	<p>VII.1. The software shall support functions for acquisition of a single frame/sequence of frames/or continuous frames.</p>				
127	<p>VII.2. It should have provision for Automated acquisition of projection data from CT manipulators for performing 3D reconstruction. It should support cone beam, fan beam &amp; parallel beam CT.</p>				

128	VII.3. It should have provision for stitching the 2D images for bigger objects (objects handled mostly is 300 mm to 1500 dia) for CT reconstruction.		-		
129	VII.4. The imaging software shall have provisions for cross-sectional imaging of components for carrying out 3D Computed Tomography. This cross-sectional imaging software may have individual modules as	Acquisition Module, Calibration Module, Reconstruction Module, Visualization Module, Analysis Module (Refer detailed specification)	Yes / No / Explain		
130	VII.5. It should have Line Profile tool.		-		
131	VII.6. All standard image processing tools such as –Interactive windowing, Grayscale invert, Zooming, Flip / Rotate, ROI tool, Magnifier, Pointer, BNC, Reference image viewer, thumbnail views & 3D plotting etc.		-		

132	VII.7. Provision for selection of integration times, selection of gain setting, selection of trigger modes, calibration procedures to acquire offset and gain correction files.		-		
133	VII.8. Should perform real-time (On-Board) corrections for offset correction, multiple gain correction with up to 10 signal levels and Pixel correction. The First Image shall be omitted while CT reconstruction takes place.		-		
134	VII.9. The software also should have image quality improvement provisions like beam hardening correction (in single material or multiple material jobs) and Artifact Reduction tools such as Iterative Artifact Reduction (IAR).		-		

135	VII.10. The software shall have provisions for dimensional measurement of features and defects from images.		-		
136	VII.11. The images should be DICONDE compatible with provision for storing in multiple formats. It should have the facility to calculate detector characterization parameters such as SNR, CNR etc.		-		
137	VII.12. For detector calibration and qualification viz., bad pixel map, gain-offset correction, the FPD shall comply with ASTM E 2597, 2736.		-		
138	VII.13. Software shall have features in compliance with ASTM E2699, 2339 for image archival, sharing, image tag and storage.		-		
139	VII.14. Supplier shall demonstrate radiographic sensitivity of 1-2T and image resolution with 6 MeV X-ray system available at the site.		-		

140	VII.15. The software also shall have provision to confirm the details of underperforming pixels as furnished in the Test certificate for FPD.		-		
141	VII.16. The supplier shall extend necessary support for interfacing with the standard microcontroller of an object manipulator of the purchaser.		-		
142	VIII. WORK STATION AND IMAGE DISPLAY REQUIREMENTS		-		
143	VIII. A. Acquisition Module Work Station configuration		-		
144	A1. Processor (acquisition module)	4th Generation Intel Xeon Scalable Processors	Yes / No / Explain		
145	A2. Board (acquisition module)	Asus Rampage V Edition 10 or better	Yes / No / Explain		
146	A3. RAM (acquisition module)	128 GB RAM (PC will be mostly involved in Digital radiography and image processing for interpretation)	Yes / No / Explain		
147	A4. GPU (acquisition module)	NVidia Quadro RTX 6000, 24GB dedicated video memory GPU or better (4 nos)	Yes / No / Explain		

148	A5. Storage cabinet (acquisition module)	8TB SSD (2 TB * 4) in the RAID 1 configuration and a normal optical 2TB HDD for regular usage. (Essential since Digital Radiography involves continuous imaging and storage of images). Each image (flight data) to be stored for min. 5 years.	Yes / No / Explain		
149	A6. Operating System(acquisition module)	Windows 10 ultimate or windows 11 or better	Yes / No / Explain		
150	A7. Monitor(acquisition module)	Standard LED Colour Monitor-27 inch, Dual video display provisions – 2 Nos. with Display sharing options	Yes / No / Explain		
151	A8. DVDRW drive (acquisition module)	With DVD writer	Yes / No / Explain		
152	A9. Essential ports (acquisition module)	USB 3.0 ports or better , Video Input terminals : DVI-D (dual Link)x 1, Display Port x 2, HDMI port	Yes / No / Explain		
153	A10. Additional Storage of Data and back up (acquisition module)	Suitable Multi Bay Network attached Storage (NAS) with 256 TB(16 x 16TB) storage with RAID 10 configuration.	Yes / No / Explain		
154	A11. Warranty (acquisition module)	3 years onsite warranty shall be provided	Yes / No / Explain		
155	A12. Microsoft Office and Adobe Acrobat Reader latest with license installed. (acquisition module)		-		
156	A13. Computer Table for positioning the Acquisition Workstation shall be provided. (acquisition module)		-		

157	A14. Provisions to transfer data to 3D CT Reconstruction Work Station or a Super Computer System		-		
158	VIII. B. 3D CT RECONSTRUCTION WORKSTATION CONFIGURATION		-		
159	B1. Processor (reconstruction module)	Intel Xeon Platinum 8460Y processor. Min. 105MB Cache, 40 Core, 4th generation scalable processor	Yes / No / Explain		
160	B2. Board (reconstruction module)	Asus Rampage V Edition 10 or better	Yes / No / Explain		
161	B3. RAM (reconstruction module)	768 GB RAM or better, provisions to improve RAM capacity to be given.	Yes / No / Explain		
162	B4. GPU (reconstruction module)	NVidia Quadro RTX 6000, 24GB dedicated video memory GPU or better (4 nos)	Yes / No / Explain		
163	B5. Storage cabinet (reconstruction module)	8TB SSD (2 TB * 4) in the RAID 1 configuration and a normal optical 2TB HDD.	Yes / No / Explain		
164	B6. Operating System (reconstruction module)	Windows 10 ultimate or Windows 11 or better	Yes / No / Explain		
165	B7. Monitor (reconstruction module)	32" 4K Colour Monitor for Dektop Interpretation and 55" 4K Colour Monitor for displaying large group of images mounted on the wall. 55" Monitor shall be a mirror of 32" screen.	Yes / No / Explain		
166	B8. DVDRW drive (reconstruction module)	1 No. with DVD writer	Yes / No / Explain		
167	B9. Essential ports (reconstruction module)	USB 3.0 ports, Video Input terminals: DVI-D (dual Link)x 1, Display Port x 2, HDMI port	Yes / No / Explain		

168	B10. Additional Storage of Data and back up (reconstruction module)	Suitable Multi Bay Network attached Storage (NAS) with 256 TB(16 x 16TB) storage with RAID 10 configuration.	Yes / No / Explain		
169	B11. Warranty (reconstruction module)	3 years onsite warranty may be provided	Yes / No / Explain		
170	B12. Microsoft Office and Adobe Acrobat Reader latest with license installed. (reconstruction module)		-		
171	B13. Computer table for positioning 3D reconstruction Workstation shall be provided.(reconstruction module)		-		
172	VIII. C. DISPLAY SYSTEM UNIT FOR X RAY IMAGES		-		
173	C.1. Display system	12 MP Colour Diagnostic High-resolution LCD Display Monitor (31 inch)	Yes / No / Explain		
174	C.2. Native resolution	4200 x 2800 (3 : 2 Aspect Ratio)	Yes / No / Explain		
175	C.3. Viewable Image Size	650 x 430 mm or better	Yes / No / Explain		
176	C.4. Brightness	1200 cd/m <sup>2</sup>	Yes / No / Explain		
177	C.5. Viewing Angles	178° (Right/Left)/178° (Up/Down)	Yes / No / Explain		
178	C.6. Contrast ratio	1500 to 1	Yes / No / Explain		
179	C.7. Essential ports(reconstruction module)	Video Input terminals : DVI-D (dual Link)x 1, Display Port x 2, HDMI port	Yes / No / Explain		



180	C.8. Interfacing Cables	Suitable interfacing cables are to be supplied to connect to PC to transfer Data and Power	Yes / No / Explain		
181	C.9. Screen	Anti-Glare and Anti Reflection coated for continuous interpretation by operator.	Yes / No / Explain		
182	VIII. D. Essential CT modules with artifact reduction, scatter correction and beam hardening correction tools provided as follows.		-		
183	D.1. CT Reconstruction Basic	CT Reconstruction Basic including a three-year update/service agreement.	Yes / No / Explain		
184	D.2. CT Reconstruction (Cone Beam, Fan Beam, Parallel Beam)	CT Reconstruction (Cone Beam, Fan Beam, Parallel Beam) including a three-year update/service agreement.	Yes / No / Explain		
185	D.3. CT Reconstruction modules for Composites & Plastic, Dongle License	Composites & Plastic Dongle License, the add-on modules Coordinate Measurement, Nominal/Actual Comparison, Wall Thickness Analysis, Porosity/Inclusion Analysis, Fiber Composite Material Analysis, and a three year update/service agreement.	Yes / No / Explain		
186	IX. GENERAL REQUIREMENTS (Detailed Spec. also to be referred)		-		

187	IX. 1.All mechanical structure and components shall be designed with factor of safety of 3 (min.) on yield strength. Factor of 3 can be shown in calculations however load test has to be carried out at 1.25 times of SWL		-		
188	IX.2. Design of all the structural members shall confirm to IS 807 and 3077.		-		
189	IX.3. All the movements in horizontal, vertical & curved paths (except rail-wheel) are to be provided via Linear Motion (LM) guides. The LM guides shall be of good quality conforming to THK C5 or equivalent standards.	The grooves for fixing the LM guides should be such that required parallelism can be achieved. The LM guides are to be covered with bellows for protection against dust. All the rail sections where movements using rail-wheel is to be used shall conform to IS 3443. All LM guides shall have foldable flop type coverings.	Yes / No / Explain		
190	IX.4. All the vertical and horizontal movements are to be achieved by flame proof Servo Motors with absolute encoders. Proximity & safety limit switches and end building block/stopper are to be provided at extreme ends.		-		

191	IX.5. All the motions has to be such that all manipulator subsystems can be moved to any distance required within the specified range by giving proper commands through PLC/SCADA.		-		
192	IX.6. There shall be a provision of brass etched scale with LC 5 mm to read the position of all movements wherever possible.		-		
193	IX.7. All the vertical and horizontal movements are to be achieved by flame proof Servo Motors with absolute encoders. Proximity & safety limit switches and end building blocks/stopper s are to be provided at extreme ends.		-		
194	IX.8. Each system shall be provided with proper lifting arrangement through lifting lugs/eye bolts to lift the entire manipulator by an overhead crane.		-		

195	IX.9. All support structure has to be properly grouted and leveled during installation.		-		
196	IX.10. All electric connection shall be flame proof/enclosed type for field mounted accessories and installation. Insulation class of all the electrical motors shall be F or better and Duty S4.		-		
197	IX.11. All the motors shall be flameproof Ex-d and confirm to hazardous area classification i.e. zone 1, Group IIA, IIB. Temperature classification T4 with inverter duty, embedded thermistor in the motor winding.		-		

198	IX.12. All the motors used should be designed to consume only upto 80% of rated current. All the electrical motors used in each sub system shall be able to achieve the required speed of motion in addition to bearing the load. If it fails during testing and installation it shall be completely replaced by motor of higher grade along with all the required accessories.		-		
199	IX.13. Encoder shall be flame proof. It shall be absolute encoder/resolver to show the position. If absolute flame proof encoders are not available party can use explosion proof absolute encoder.		-		
200	IX.14. Proximity limit switches (Sensor) of intrinsically safe with suitable IS barrier interface.		-		

201	IX.15. For all the subsystems of the manipulators, the operation philosophy should be Local(by portable pendant/HMI) and remote selection(by PLC/SCADA screen in Control room) through key way switch.		-		
202	IX.16. For each sub system, proper cable management system shall be designed.	Cable chain system shall be of IGUS make	Yes / No / Explain		
203	IX.17. Field mounted instruments comprising of primary measuring elements, junction box, evaluation unit, digital display, switches, induction/servo motors shall be flame proof (Ex "d").	Suitable for Class 1 Division 1 or Zone 1 Hazardous areas with Gas group A,B,C,D or IIA/IIB, Temperature rating of T5 or maximum 100 deg C and IP65 or better ingress protection rating, Flameproof /Explosion proof or Intrinsic safe (Ex "ia/ib")	Yes / No / Explain		
204	IX.18. Power, screened and Control cables should be FRLS armored. All cables must be provided with braided sheathing.		-		

205	IX.19. All indigenous FLP/Explosion proof/ Intrinsic safe electrical fittings should have approval of CMRI, Dhanbad or ATEX / ICEX/NEMA or corresponding Government bodies in case of import.		-		
206	IX.20. Programmable Logic controller along with visualization system should be installed in a console, and associated peripherals for the complete systems.		-		
207	IX.21. Power Distribution Panel should comprise set of double pole MCBs for powering of Automation system.		-		
208	IX.22. All working parts, as far as possible, are to be arranged for convenience of operation, inspection, lubrication and ease of replacement with minimum down time.		-		

209	IX.23. All like parts of the equipment furnished are to be interchangeable. For each sub system, for easy maintenance, greasing points to be identified and all the sub systems should be easily amenable for assembling and disassembling.		-		
210	IX.24. All items of manipulator system shall be thoroughly cleaned and painted as per the steps mentioned.	<ul style="list-style-type: none"> <li>i) Sand blasting over the surface</li> <li>ii) Degreasing/dewatering of surfaces to be painted</li> <li>iii) Epoxy primer coating (2 coats)</li> <li>iv) 40micron thick epoxy paint coating (I coat)</li> <li>v) 30 micron of epoxy paint coating (II coat)</li> </ul>	Yes / No / Explain		
211	IX.25. Noise level of all the components of the object manipulator system together should not exceed 80 dB at 1 meter distance.		-		
212	IX.26. Party shall provide list and quantity of all maintenance spares and spares parts which are required for three years normal trouble-free operation of the equipment.		-		



213	IX.27. The party shall supply the first fill of consumable and supplies along with the main equipment.		-		
214	IX.28. All equipments shall be complete with approved safety devices, wherever a potential hazard to personnel exists, and with provision for safe access to personnel to and around equipment for operational and maintenance functions.		-		
215	IX.29. The party shall provide safety items such as coupling guards, belt guards, gearing and chain guards, etc., wherever required.		-		
216	IX.30. Wherever Automated movements are there, suitable sensors with sufficient redundancy and mechanical stoppers shall be provided so as to prevent accidental hitting on any items being tested.		-		

217	IX.31. All equipment shall be designed for smooth, efficient and trouble free operation in tropical humid climate of 45 deg C ambient on a 24 hour average and a humidity of 95 percent.		-		
218	IX.32. The panels shall be properly ventilated/air-cooled to enable proper functioning with the panel doors closed.		-		
219	IX.33. The party shall provide all relevant tools for carrying out regular operation and maintenance of the system		-		
220	IX.34. Control System	The system shall have two HMI units to control the operation of the manipulator system one inside the equipment bay(Local control) and another one in the control room(remote control).	Yes / No / Explain		

221	IX.35. Control Philosophy: i. Command from SCADA and local HMI (local control station inside equipment bay) should be given as input to PLC and command from PLC drives the motor. The system shall be designed such that the PLC shall monitor and control the individual system associated with the manipulator system		-		
222	ii. Process will be monitored through the graphic and data display of the HMI station located in the adjacent control room and from the equipment bay.		-		
223	iii. Provisions to link the SCADA system to CT software and use the manipulator system for Automated capture of CT images shall be adopted.		-		
224	IX.36. Emergency stop push buttons shall be provided inside the equipment bay and in control room.		-		

225	IX.37. All control circuit in local HMI and DPM/display shall be of intrinsically safe (EX-i) with suitable IS barrier (P&F and MTL or equivalent make)		-		
226	IX.38. Master license for PLC & SCADA development along with detailed program documentation is to be supplied.		-		
227	IX.39. Visualization System: i. The visualization system (HMI station) shall be two (2) nos. non – industrial and shall serve as operator interfaces for control, monitor and data acquisition of the system. The visualization unit shall communicate with the processor of the PLC on Ethernet communication bus through the layer – 2 switches.		-		

228	ii. The HMI station shall be provided with Ethernet card. The HMI station shall perform all functions of operator station as well as engineering station. It shall have provision of HMI development and PLC programming facility.		-		
229	iii. The party shall supply three numbers of cloned hard disks (same model and make with software loaded) and mother boards each as standby to the remote control station i.e PC based HMI station. Party shall also supply 3 Nos. of local HMI stations with software pre-loaded as standby.		-		
230	iv. Party shall provide upgradation of HMI software as and when available for a period of atleast 3 years.		-		
231	IX.40. The surface temperature of electrical equipment, located inside process/storage plant unit, shall not exceed 100 °C.		-		

232	IX.41. Equipment earthing shall be provided as per IS 3043 and shall meet the stipulations of IE Rules. Insulated cables shall be used as earthing conductors.		-		
233	IX.42. Conductors for equipment earthing to be provided by the purchaser, running along the building periphery.		-		
234	IX.43. All equipment shall be earthed by connecting it to the nearest earth grid by two separate conductors.		-		
235	IX.44. All power and control cables essentially to be radiation shielded.		-		
236	IX.45. All power and control cables shall be 1.1 KV grades, PVC insulated and PVC sheathed with special flame retardant smoke less properties, conforming to IS:1554 Part 1.		-		

237	IX.46.The power cables shall have electrical grade purity standard aluminium conductors and all control cables shall annealed high conductivity standard copper conductors.		-		
238	IX.47. All special cables including screened cables, twisted pair cables etc. required for signals, sensors, instruments, etc. along with the termination accessories as required shall be included in the scope of supply.		-		

239	IX.48.The cables shall be suitably derated for site ambient of 45° C and cable grouping as per IS:3961. Cabling materials and accessories shall include supporting steel work, racks, trays, cables identification tags, cable jointing and termination kits, clamps, pipes and fittings as required for complete installation of the equipment covered by this specification. No cable joints shall be provided.		-		
240	IX.49.All cabling work between the mains room, housing power distribution board (PDB)/MCC room housing motor control centre (MCC), located adjacent to the process room, shall be included in the scope of work of the successful party.	The minimum length of cables required shall be around 80 m to connect from the control room to hall through trenches provided in the building with proper routing.	Yes / No / Explain		
241	IX.50.Cable harnessing for field wiring is through connectors		-		



242	IX.51.All motors are essentially to be enclosed, flame proof and dust tight type.		-		
243	IX.52.The motors shall have standardized dimensions and ratings strictly conforming to IS 1231 for foot mounted, IS2223 for flange mounted and IS2254 for vertical shaft motors.		-		
244	IX.53. The technical features of Servo Motors shall be as per the requirements:		-		
245	i. Adequately sized terminal box suitable for terminating, 1.0KV PVC insulated, PVCsheathed, multicore cables with aluminium conductors considering derating for cables in air as per IS 3961		-		
246	ii. Motors shall be provided with integral feet & Lifting hooks/lugs shall be provided..		-		
247	iii. Dust tight terminal box as per type B enclosure conforming to IS 11005 shall be provided		-		

248	iv. Two earthing terminals shall be provided		-		
249	v. Motors shall be dynamically balanced to comply IS 12075, including the amplitude of vibration.		-		
250	vi. IP 65 Type B dust tight enclosure as per IS 11005 for motors located in process room with brake and other attachments.		-		
251	IX. Proximity limit switches (Sensor) of intrinsically safe with suitable IS barrier interface. Soft limit using encoder information can be redundant limit switch for hard wired(Through PLC software).		-		
252	X. ERECTION & COMMISSIONING		-		

253

X.1.It is to be noted that supply and erection of the system with all accessories, auxiliaries, piping, structures, platforms, staircases, electrics and controls as specified including motors, controls, cables, earthing connections, field mounted control devices, etc. and any equipment not covered in the specification but essential for proper installation, operation and maintenance of the system shall be included and executed by the party.

The supply will not be deemed complete until the commissioning and trial of the whole system is carried out by the vendor with 6 MeV LINAC head at RPP/VSSC site successfully.

Yes / No / Explain

254	X.2.Preferred Makes, Applicable Codes, Documents to be submitted, Standards and other requirements, Testing and clearance, Layout of the hall, Sketches of the proposed systems and additional points to be followed by the party are given in detailed Specification attached, all of which are to be fully complied		-		
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**Supporting Documents required from Vendor**

- 1. Party Shall submit the Split Up cost of Subsystems in the Template Attached (Price Bid Related)**
- 2. Party shall submit their experience in executing projects related to Low/High Energy 3D Computed Tomography systems for industrial applications. Party shall submit a list of such projects executed at various organizations with details of its performance**
- 3. TECHNICAL COMPLIANCE MATRIX**
- 4. self declaration showing percentage of local content as per Make in India Policy**
- 5. UNPRICED AMC Quote in Split-Up format for each year required**
- 6. UNPRICED LIST of Essential/Optional Spares for three years Maintenance**
- 7. Detailed Techno-Commercial Offer (without Price Details)**

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	c) Balance 40% against erection, commissioning and acceptance of item by VSSC and on Submission of Performance bank Guarantee	Yes / No / Explain	
2	b) 30 % of the item cost from date of receipt of all items at VSSC	Yes / No / Explain	
3	Payment Terms- a) 30 % of Basic Cost as advance after approval of Design Documents (ie. On or before 4 months)	Yes / No / Explain	
4	Party shall submit the list of all essential Spares to be procured along with the system	Yes / No / Explain	
5	Separate Purchase Order will be placed for AMC upon completion of warranty period.	Yes / No / Explain	
6	Non-comprehensive AMC shall include Two Preventive maintenance Visits, Two Breakdown maintenance visits and Additional Breakdown maintenance Visits(call basis-if required) per year, for all the 5 years.	Yes / No / Explain	
7	Party has to quote for Non-comprehensive AMC for 5 years after completion of the warranty period of 3 years. Software support(upgradation) for a period of 5 years during AMC period is to be included	Yes / No / Explain	
8	Software support (upgradation) for a period of 3 Years(during warranty period) shall be provided	Yes / No / Explain	
9	Performance Bank Gurantee to be provided by the party during the warranty period.	Yes / No / Explain	
10	The party shall provide 36 months warranty for complete system from date of completion of installation, commissioning and acceptance for its performance.	Yes / No / Explain	
11	The supply will not be deemed complete until the commissioning trial of the whole system is carried out by the vendor with 6 MeV LINAC head at RPP/VSSC site successfully.	Yes / No / Explain	

12	Supply and erection of the system with all accessories, structures, electrics and controls as specified and any equipment not covered in the specification but essential for proper installation of the system shall be included and executed by the party.	Yes / No / Explain	
13	The vendor shall deliver the equipment to RPP/VSSC Thiruvananthapuram only after obtaining clearance for dispatch from purchaser.	Yes / No / Explain	
14	All the dummy loads and objects required for testing of equipment at manufacturers premises shall be arranged by the party. PDI report based on functioning of each subsystems shall be considered for delivery of items to VSSC	Yes / No / Explain	
15	Pre-delivery Inspection at manufacturer premises shall be carried out by VSSC team upon completion of each sub system. Party shall intimate VSSC regarding readiness for PDI as soon as sub systems are ready for inspection.	Yes / No / Explain	
16	Party shall visit the facility with prior approval from VSSC Purchase and have a better idea about the facility and items to be tested before attending the pre-bid meeting. Party shall plan the same as soon as tender is released	Yes / No / Explain	
17	Parties participating in the tender shall attend pre-bid meeting arranged by VSSC for which Date, Time and venue will be informed. Party may inform in advance if they want to have a site visit before the pre-bid discussion meeting.	Yes / No / Explain	
18	Party has to submit the detailed design drawings for our approval within 4 months of order placement, delivery of items within 12 months from the date of approval of drawings and complete the installation and commissioning in 4 months	Yes / No / Explain	
19	Party shall have experience in executing projects related to Low Energy/High Energy 3D Computed Tomography systems for industrial applications. Party shall submit a list of projects executed at various organizations with details of its performance	Yes / No / Explain	
20	Party shall submit an overall layout and schematic of the subsystems in the technical bid.	Yes / No / Explain	

21	Taxes and other costs,	Yes / No / Explain	
22	Security Deposit (Applicable if Offer Value is Rs. 5 Lakhs or above. MSME/NSIC Units are NOT EXEMPTED from the payment of SD. Bank Guarantee @ 3% of Order Value valid till 60 days from the date of supply to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of contractual obligations, SD will be forfeited).	Yes / No / Explain	
23	Delivery Terms (FOR VSSC)	Yes / No / Explain	
24	Delivery Period (please comply as per the attached specification document)	Yes / No / Explain	
25	Liquidated Damages (Applicable beyond the delivery period mentioned in this tender @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value. Mandatory compliance required).	Yes / No / Explain	
26	Warranty (Three Years)	Yes / No / Explain	
27	Performance Bank Guarantee (PBG) Bank Guarantee @ 3% of Order Value valid till the completion of warranty period plus 2 months claim period to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of warranty obligations, PBG will be forfeited).	Yes / No / Explain	
28	Payment Term	Yes / No / Explain	
29	Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: a) Equal to or more than 50% : Class-I local supplier. b) More than 20% but less than 50% : Class-II local supplier. c) Less than or equal to 20% : Non-local supplier. Mention your category.	Yes / No / Explain	

30	Local content means the amount of value added in India (i.e. indigenous items/services added in the offered products/services/works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent. Indicate extent of Minimum Local Content in offered product/service and location of such value additions.	Yes / No / Explain	
31	The Class-I & II local supplier should provide a Self Certification along with your offer in PDF format indicating that the item offered meets the minimum local content as called for in the tender as mentioned above and provide the % of local content along with details of the location(s) at which the local value addition is made. In case of two part tenders, it is mandatory to indicate compliance to MLC(minimum local content) in technical bid itself. Confirm attachment of Self declaration along with the offer.	Yes / No / Explain	
32	PO Placement Address (with Name and Contact Details of sales person concerned).	Yes / No / Explain	
33	Any Other Terms	Yes / No / Explain	
34	Offer Validity(180 days)	Yes / No / Explain	
35	List of Essential Spares for the trouble free operation of the equipment for a period of 3 years to be uploaded (WITHOUT PRICE DETAILS). Details of optional spares may also be provided.	Yes / No / Explain	
36	Please ensure no documents with price details are uploaded. Only unpriced bids (prices masked) shall be uploaded. Price details shall be mentioned only in the price bid. Uploading price bid documents will lead to rejection of tender	Yes / No / Explain	



37	Please note: Only Class-I Local Supplier/Class-II Local Suppliers are permitted to quote. The offer shall be in INR only. Bids from Foreign OEMs/Agents of behalf of OEMs and offers on High Sea Sales basis are not allowed. Please mention the category of the bidder	Yes / No / Explain	
38	Please upload a detailed compliance matrix vis-a-vis the technical specification of the tender.	Yes / No / Explain	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	FPD based Digital Radiography and CT System for 6 MeV LINAC	1.00 Nos.		-		

### Common charges (Applicable for all items)

<b>AMC Charges for 1st Year after warranty period</b>	
<b>AMC Charges for 2nd Year after warranty period</b>	
<b>AMC Charges for 3rd Year after warranty period</b>	
<b>AMC Charges for 4th Year after warranty period</b>	
<b>AMC Charges for 5th Year after warranty period</b>	
<b>Spares Cost - optional( Lump Sum Price )</b>	
<b>Other Charges (If any)</b>	
<b>Installation Charges</b>	
<b>P&amp;F (Amount)</b>	
<b>Essential Spares Cost (lumpsum)</b>	
<b>Freight charge</b>	