

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

**Tender for Thermo vacuum chamber**

**Bids to be submitted online**

**Tender No.: VSSC/PURCHASE UNIT III (SPRE)/VS202200420301 dated 03-07-2023**

## A. Tender Details

Tender No :	<b>VSSC/PURCHASE UNIT III (SPRE)/VS202200420301</b>
Tender Date :	<b>03-07-2023</b>
Tender Classification:	<b>GOODS</b>
Purchase Entity :	<b>PURCHASE UNIT III (SPRE)</b>
Centre :	<b>VIKRAM SARABHAI SPACE CENTRE (VSSC)</b>

### **Thermo vacuum chamber**

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 Techno-Commercial 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**

Bid Submission Start Date : **03-07-2023 11:23**

Bid Clarification Due Date : **25-07-2023 10:23**

Bid Submission Due Date : **17-08-2023 10:00**

Bid Opening Date : **17-08-2023 10:01**

Price Bid Opening Date : **24-08-2023 10:01**

## **B. Tender Attachments**

### **Technical Write-up/Drawings**

**Document : TVC compliance statement**

**Document : layout for LN2 yard**

**Document : TVC: commercial terms and conditions:**

**Document : Thermo vacuum chamber specification document**

### **Instructions To Vendors**

#### **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.

## **6. 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.

## **7. 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.

## **8. 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.

## **9. 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.

## **10. 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.

## 11. 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.

## **12. 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.

## **13. 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.

## **14. 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.

15. 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.

16. 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 Techno-Commercial 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.

17. 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.

18. 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.

19. 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.

20. 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.

21. 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.

## C. Bid Templates

### C.1 Technical Bid - Thermo vacuum chamber

1. Thermo-Vacuum System: Fully automated Thermo vacuum chamber as per the attached specification document.

#### Item specifications for Thermo-Vacuum System

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Fully automated Thermovacuum chamber	-	Yes / No / Explain		
2	Parameter	General specification:	Yes / No / Explain		
3	I. Scope of work	Design, realization, installation, commissioning and performance demonstration of a thermo-vacuum chamber at VSSC/ ISRO, Thiruvananthapuram . Scope of supply includes auxiliary subsystems like storage tanks for liquid/ gaseous nitrogen. Supplier shall obtain license from PESO for design, realization & installation of LN2 tank. Routing of all lines for the passage of LN2, GN2, and other fluids is in the scope of work. Detailed specifications are given from sections 1 to 9.	Yes / No / Explain		

4	I. Detailed description	Proposed thermo-vacuum chamber is for conducting thermal - vacuum tests in the range 153 K to 423 K at $5 \times 10^{-7}$ mbar. Major subsystems are the vacuum pumping system, thermal system including Thermal Conditioning Unit (TCU) and PLC based SCADA system. Auxiliary systems like liquid nitrogen tanks, gaseous nitrogen tanks, super-insulated vacuum jacketed lines, air compressor and chiller also shall be supplied.	Yes / No / Explain		
5	1. Vacuum chamber:	-	Yes / No / Explain		
6	1.1 Specifications of vacuum chamber	-	Yes / No / Explain		
7	1.1.1. Vacuum Chamber design	-	Yes / No / Explain		
8	a. chamber configuration	The chamber shall be cylindrical with a tori-spherical end dish, horizontally placed.	Yes / No / Explain		
9	b. chamber design	It shall be designed for external pressure operation (internal pressure of $5 \times 10^{-7}$ mbar absolute and external pressure of 1.01325 bar absolute at 35 degC)	Yes / No / Explain		

10	c. Material	The vacuum chamber and all vacuum chamber subsystems inside the chamber (except the thermal shroud) shall be constructed using stainless steel (AISI 304L). The vendor shall provide a material test certificate from NABL certified laboratory, stating mechanical and chemical properties with traceability.	Yes / No / Explain		
11	d. vacuum flanges	Flanges of vacuum system shall be CF type with metallic gaskets for all vacuum pumps, vacuum gauges, and instrumentation feedthrough.	Yes / No / Explain		
12	e. internal configuration	The internal dimensions of the chamber shall be arrived at considering test space dimensions and clearances required to accommodate thermal shroud fluid lines, water vapour panel and instrumentation cables.	Yes / No / Explain		
13	f. clamps	The chamber front dish shall be clamped using manual clamps (4 Nos.). There shall be an open/ close status indication in the control console.	Yes / No / Explain		
14	g.welding	All joints shall be TIG welded, using certified filler rods and high-purity argon/ helium shield gas.	Yes / No / Explain		
15	h. Weld joint leak rate	All welded joints shall be leak tested with a Helium Mass Spectrometer Leak Detector to an Individual leak rate of better than $1 \times 10^{-9}$ mbar L/s of Helium.	Yes / No / Explain		

16	i. handling	Necessary provisions shall be provided for the handling of the chamber.	Yes / No / Explain		
17	j. Chamber door	The chamber door shall be a tori-spherical dished door with flange and the opening stroke shall allow complete access to the thermal plate	Yes / No / Explain		
18	k. rear dish	Rear dish shall be welded to the chamber.	Yes / No / Explain		
19	l. O-ring	The O-ring on the chamber door shall be moulded type and uniform compression of the O-ring shall be ensured.	Yes / No / Explain		
20	1.1.2. Test space requirement	-	Yes / No / Explain		
21	a. Thermal shroud	The thermal shroud shall be mouse trap shaped, with a flat thermal plate of width 600 mm - 620 mm and depth 1000 mm - 1100 mm on which the test article will be placed.	Yes / No / Explain		
22	Thermal plate	The thickness of the thermal plate shall be designed to ensure temperature uniformity across the thermal plate.	Yes / No / Explain		
23	1.1.3. Internal surface finish details	-	Yes / No / Explain		
24	a. Internal surface	3Δ (three triangle) finish for chamber internal surfaces and all hardware exposed to vacuum.	Yes / No / Explain		
25	b. emissivity	The infrared emissivity of the internal surfaces of the chamber shall be within 0.10.	Yes / No / Explain		

26	1.1.4. Painting	Surfaces of hardware exposed to outside environment shall be first coated with zinc chromate primer followed by two coats of polyurethane paint.	Yes / No / Explain		
27	1.1.5. Vacuum chamber orientation	The chamber shall be oriented horizontally and mounted on a stainless-steel structure meeting all structural requirements.	Yes / No / Explain		
28	1.1.6. Vacuum chamber dimension	-	Yes / No / Explain		
29	a. diameter and depth	Chamber dimensions (1m diameter x 1.2m depth approx..) shall house the mouse trap thermal shroud and test article resting on the thermal plate.	Yes / No / Explain		
30	b. chamber axis height	The Chamber axis height from ground level shall be 1200 mm.	Yes / No / Explain		
31	1.1.7. Vacuum Chamber ports	All ports shall have metallic gaskets and shall be fitted with specified feed-through. Dummy flanges shall be provided for all ports, including feed-through ports. Details of vacuum chamber ports are shown in Table No. 1&Fig No. 2	Yes / No / Explain		

32	2. Vacuum pumping system	<p>The objective of the vacuum system is to pump out vapour and gas present and given out by test articles and chamber elements and to maintain desired vacuum level in the chamber throughout the test. The proposed vacuum system (fig. 3.0) comprises a roughing skid (Rotary and Roots pump connected in series), turbomolecular pumps (TMP), cryo pumps, air admittance system, electro-pneumatic gate valves and angle valves, vacuum monitoring and control system. Roughing skid shall also be used as a backing pump for TMPs and the Cryo pump shall be provided with a dedicated backing pump. A single chain consists of one roughing skid, one TMP and a cryo pumping chain.</p>	Yes / No / Explain		
33	2.1. Specifications of vacuum system	-	Yes / No / Explain		
34	2.1.1. Vacuum system design:	-	Yes / No / Explain		
35	a. Time to achieve vacuum level	<p>Vacuum pumping system shall be designed to achieve a vacuum of <math>1 \times 10^{-6}</math> mbar from ambient within 90 minutes for double chain and within 180 minutes for single chain respectively, without using water vapour panel.</p>	Yes / No / Explain		

36	b. Vacuum level at 380K	It shall also be able to achieve $1 \times 10^{-6}$ mbar within 180 minutes when the thermal shroud temperature is 380 K, without using water vapour panel.	Yes / No / Explain		
37	c. Vacuum demonstration	Ultimate vacuum shall be demonstrated with vacuum chamber backfilled with GN2 gas.	Yes / No / Explain		
38	d. Vacuum pup connection	Vacuum pump shall be connected to the vacuum chamber through vacuum isolation gate valves, SS piping of suitable size and flexible bellows.	Yes / No / Explain		
39	e. continous opeartion	Pumping system shall have adequate pumping capacity and redundancy for continuous operation up to 400 hours at a stretch.	Yes / No / Explain		
40	f. vacuum level control	The vacuum level in the chamber shall be controlled by PLC. Shall be fully automatic and provided with interlocks for safe operation, including in the manual mode.	Yes / No / Explain		
41	2.1.2. Rough Vacuum system configuration (Qty.- 2 Nos.)	-	Yes / No / Explain		
42	a. roughing skid vacuum level	Roughing skids shall be capable of achieving a vacuum level of $5 \times 10^{-3}$ mbar.	Yes / No / Explain		
43	b. Roots pump integration	Roots pumps shall be integrated with an overflow valve to enable switch on together with the backing pump even at atmospheric pressure.	Yes / No / Explain		
44	c. vacumm gauge between roots and rotary	A vacuum gauge shall be provided between roots pump and rotary vane pump.	Yes / No / Explain		

45	2.1.3. Turbomolecular Pump (TMP) configuration (Qty.- 2 Nos.)	-	Yes / No / Explain		
46	a. Minimum pumping speed	The minimum pumping speed for TMP shall be 1200 Litre/sec	Yes / No / Explain		
47	b. backing pump	The backing line of each TMPs shall be connected to roughing skid with isolation valves as shown in fig 3.	Yes / No / Explain		
48	vacuum level	TMP shall be capable of achieving a vacuum level of less than $1 \times 10^{-7}$ mbar.	Yes / No / Explain		
49	TMP body	TMP body shall be of stainless steel and connected to cylindrical chamber body through CF type flange and shall have an appropriate cooling system.	Yes / No / Explain		
50	controller	Each TMP shall have a standalone controller mounted in a rack, which shall be provided with a voltage stabilizer and spike arrestor.	Yes / No / Explain		
51	2.1.4. Cryo pumping system configuration (Qty.- 1 No.)	-	Yes / No / Explain		
52	a. working	Cryo pump shall be based on G-M cycle for its two stages along with the Helium compressor. The Cryo pump shall be connected to the chamber through electro pneumatic gate valve.	Yes / No / Explain		
53	b. vacuum level	The Cryo pump shall be capable of achieving a vacuum level of less than $1 \times 10^{-7}$ mbar.	Yes / No / Explain		

54	c. Cryo pump control system	The control system shall control the cryogenic pump at its cooling, heating and regeneration & vacuum pumping stages.	Yes / No / Explain		
55	d. Cryo pump regeneration	The Cryogenic pump shall be regenerated using a dedicated dry vacuum pump with adequate water vapour capacity.	Yes / No / Explain		
56	e. Cryo compressor	Cryo compressor shall have an appropriate cooling mechanism (If water cooling is selected, necessary plumbing lines also shall be in the Supplier's scope).	Yes / No / Explain		
57	2.1.5. Vacuum Isolation valve:	Based on the system design, the vendor shall provide appropriately sized vacuum valves as per fig.3	Yes / No / Explain		
58	a) The vendor has to provide additional gate valves, if necessary.	-	Yes / No / Explain		
59	b) Stainless steel body valves with CF interfaces to be provided for pumps having CF flanges.	-	Yes / No / Explain		
60	2.1.6. Water vapour panel	-	Yes / No / Explain		
61	a) Removable water vapour panel to be located between the thermal shroud and the vacuum chamber.	-	Yes / No / Explain		
62	b) It shall be provided with necessary electro-pneumatic valves, temperature sensors with flexible inlet & outlet tubing and a heating system for removing the condensate after the operation.	-	Yes / No / Explain		

63	2.1.7. Material for vacuum pipeline	SS 304L seamless pipes and flexible bellows of 316 L, suitably sized for the highest conductance	Yes / No / Explain		
64	2.1.8. Re-pressurization System	-	Yes / No / Explain		
65	a) For re-pressurizing, the chamber after the test/ process, an air admittance valve EPV7 with 10 µm inlet filters shall be provided. It shall be designed such that the chamber is brought to atmospheric pressure in 10 minutes.	-	Yes / No / Explain		
66	b) Provision for admitting nitrogen gas through EPV 9 to be provided as redundant re-pressurisation system.	-	Yes / No / Explain		
67	3. Thermal system:	When the vacuum chamber is maintained in operational vacuum ( $5.0 \times 10^{-7}$ mbar), the thermal shroud & thermal plate shall be heated or cooled by circulating GN2 to achieve set temperature. Features as follows	Yes / No / Explain		
68	a. thermal system details	The thermal system shall consist of a thermal plate and double-embossed thermal Shroud.	Yes / No / Explain		
69	b. TCU	A single common thermal conditioning system shall supply GN2 to both the thermal shroud & thermal plate.	Yes / No / Explain		

70	C. Thermal plate	The test article will be loaded on the thermal plate. The temperature on the thermal shroud and thermal plate shall be automatically controlled to any set temperature through PLC based control system.	Yes / No / Explain		
71	d. Test article temperature sensor	There shall be provision to use a temperature sensor on the test article as a control sensor (selectable from consoles).	Yes / No / Explain		
72	Temperature profile	The thermal system shall be capable to follow any set linear temperature profile in the range of 153 K to 423 K (with multiple cycles over the entire range) without manual intervention.	Yes / No / Explain		
73	Thermal system layout	The thermal system layout is shown in figure 4 and a typical test cycle profile is given figure 5&6.	Yes / No / Explain		
74	3.1. Specifications of Thermal system	-	Yes / No / Explain		
75	3.1.1. Operating Temperature:	153K to 423 K	Yes / No / Explain		
76	3.1.2. Cooling/Heating Fluid:	Low pressure closed loop GN2 (153 K to 423K).	Yes / No / Explain		
77	3.1.3. Heat load expected from test article:	total heat load 1 kW (active and passive)	Yes / No / Explain		
78	3.1.4. Temperature uniformity on thermal shroud:	-	Yes / No / Explain		
79	a) End closures and on the thermal plate (at steady state):	better than $\pm 2$ K	Yes / No / Explain		
80	b) End closures and on the thermal plate (at transient):	$\pm 15$ K	Yes / No / Explain		

81	c) Control accuracy:	±1 K (difference between set temperature and average of 3 temperatures measured at centre plane of the cylindrical shroud).	Yes / No / Explain		
82	d) Measurement sensor:	3 wire film type RTD as per IEC 60751 class B.	Yes / No / Explain		
83	3.1.5. Ramp rate (hot & cold):	Up to 3 K / minute. Provision for set 1 K/min, 2 K / minute and 3 K / minute (increment of 1 K / minute).	Yes / No / Explain		
84	3.1.6. Mounting of the thermal shroud and thermal plate:	Thermal plate and thermal shroud shall be with demountable circulating fluid inlet/outlet feed lines to enable easy removal from the chamber for maintenance & cleaning purposes. Joints to be easily accessible for the operator	Yes / No / Explain		
85	3.1.7. General requirements	-	Yes / No / Explain		
86	a) There shall be an interlock to prevent the operation of thermal system when chamber pressure is higher than $1 \times 10^{-3}$ mbar.	-	Yes / No / Explain		
87	b) Super-insulated vacuum jacketed lines (SIV) to be used in the thermal conditioning unit to maximum possible extent to prevent heat-in-leak. For certain cases where super-insulated vacuum jacketed lines are not feasible inside the unit (to be decided in consultation with the Purchaser), such lines shall be properly insulated with Aerogel insulation having water vapour barrier.	-	Yes / No / Explain		

88	c) Thermal shroud and thermal plate with parts such as liquid feedthrough shall be designed for thermal cycling in the range of 77 K to 423 K.	-	Yes / No / Explain		
89	d) Necessary bellows / flexible joints shall be provided for preventing thermal stresses during long-duration thermal cycling operations.	-	Yes / No / Explain		
90	3.2. Specification for Thermal shroud	-	Yes / No / Explain		
91	3.2.1. General requirements:	-	Yes / No / Explain		
92	a) Shroud shall be inflated to form annular gap and to be laser welded/ resistance spot welded. TIG welding at the edges of the shroud.	-	Yes / No / Explain		
93	b) Shroud panels shall be designed for thermal cycling from 77 K to 423 K and internal pressure of at least 2 times the pressure of circulating GN2.	-	Yes / No / Explain		
94	c) The thermal plate shall have an internal channel for circulating GN2 for cooling /heating the test article.	-	Yes / No / Explain		
95	d) The thermal plate should be able to carry test article weighing at least 15 kg. It shall have an array (4 rows x 4 columns of 50 mm x 50 mm) of threaded holes (M6 x1x 10 deep) to mount the test article.	-	Yes / No / Explain		

96	3.2.2. Shape and construction:	: Mouse trap shape, double embossed type, laser welded & inflated/ resistance spot welded & moulded. Each sheet shall be at least 1.5 mm thick.	Yes / No / Explain		
97	3.2.3. Size:	The shroud shall be able to house a test article with a maximum envelope of 600-620 mm (width) x 1000-1100 mm (depth) x 450 mm (height) on the thermal plate. Tentative schematic of Thermal Shroud with Thermal plate as mentioned in fig.7	Yes / No / Explain		
98	3.2.4. End Shrouds:	Two separate active shroud panels to be attached the front and rear dish of chamber.	Yes / No / Explain		
99	3.2.5. Material of construction:	SS316L	Yes / No / Explain		
100	3.2.6. Leak tightness:	a) Leak tightness of the welded joints in the shroud, thermal plate, and feedthrough shall be better than $5 \times 10^{-9}$ mbar L/s of Helium. It will be demonstrated again after thermal cycling at VSSC site	Yes / No / Explain		
101	3.2.7. Painting:	-	Yes / No / Explain		
102	a) Test space environment including the inner surface of shroud, both active end shrouds, and top surface of thermal plate shall be coated with appropriate paint (such as Aeroglaze Z306) with an infrared emissivity of 0.9 meeting the out-gassing requirements for space environment (TML:< 1%).	-	Yes / No / Explain		

103	b) Outside the main shroud, active end shrouds and thermal plate shall be electro-polished.	-	Yes / No / Explain		
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104	4. Auxiliary system details:	<p>The auxiliary system consists of Liquid Nitrogen Storage tank, a gaseous Nitrogen Storage tank (as per the design of TCU), an air compressor, and coolant water circulator. The scope includes obtaining the necessary license from PESO according to prevailing SMPV (U) rules. Super-insulated lines of adequate size shall be used for transferring Liquid Nitrogen from the storage tank to TCU. Adequate pressure sensors shall be provided in the LN2 transfer lines. Safety relief valves shall be provided on the LN2 transfer lines where there is chance for trapping LN2 by the closing of upstream and downstream valves. A tentative layout of the LN2 storage yard is shown in Fig.8 for obtaining PESO License. Space for installing one more LN2 tank of 6 kL capacity shall be provided inside the yard (additional LN2 tank not in the present scope of work). The fencing and foundation/ civil works for the tank is in the scope of VSSC. The design drawings/inputs shall be given by the vendor well in advance for civil works. The specifications for various sub-systems are given below:</p>	Yes / No / Explain		
105	4.1. Specification for Liquid Nitrogen Tank	-	Yes / No / Explain		

106	4.1.1. General requirements	-	Yes / No / Explain		
107	a)The liquid nitrogen storage tank shall be vacuum insulated and designed for an evaporation loss rate better than 0.25% of gross volume/day.	-	Yes / No / Explain		
108	b)All valves, devices, valve handles, tags, etc. shall be SS316L/ bronze.	-	Yes / No / Explain		
109	c)Suitable drain points with blow-down valves shall be provided on LN2 / circuits at suitable locations for initial purging to drive out any resident moisture due to the stoppage of the system for a long duration.	-	Yes / No / Explain		
110	d)Outside surfaces of hardware exposed to ambient environment shall be first coated with zinc chromate primer followed by two coats of polyurethane paint.	-	Yes / No / Explain		
111	4.1.2. LN2 tank	1No	Yes / No / Explain		
112	a) Orientation:	Vertical	Yes / No / Explain		
113	b) Storage capacity:	6,000 litre (Water capacity)	Yes / No / Explain		
114	c) Design Standard tank and piping:	ASME SEC. VIII Division I, ASME B31.3 or equivalent	Yes / No / Explain		
115	d) The outer diameter of Dewar:	2 meters (max.)	Yes / No / Explain		
116	e) Insulation:	Multilayer, super insulation with vacuum	Yes / No / Explain		
117	f) Net evaporation rate:	Less than 0.25 % of gross volume per day.	Yes / No / Explain		

118	Maximum working pressure:	As required for TCU operation (with adequate margin to take care of pressure drop etc.).	Yes / No / Explain		
119	h) Design pressure:	With standard margin over maximum working pressure as per applicable codes.	Yes / No / Explain		
120	i) Automated operation:	Provision for automated operation of LN2 tank from GUI/ SCADA console (Pressurization, Filling, Draining & venting) shall be included. Additional manual isolation valves shall be provided for all these operations.	Yes / No / Explain		
121	j) Safety provisions:	Two Safety relief valves and two burst discs shall be provided for the inner vessel, and one Safety Device for outer vessel. Safety relief valves shall be provided for the lines in LN2 tank circuit where there is a chance for trapping LN2 during operation (by closing upstream and downstream valves).	Yes / No / Explain		
122	k) Filling and drawing lines:	Permanently connected to thermal conditioning unit with SIV lines. Additional drain points shall be provided with necessary isolation valve for drawing LN2 for purposes other than the Thermal conditioning system.	Yes / No / Explain		

123	l) Pressure, level, and flow indications:	Digital readout of level, flow, and pressure gauges with necessary redundancy and facility for automatic logging of data with respect to time shall be provided. This is in addition to mechanical differential pressure gauges and pressure gauges fitted on the tank.	Yes / No / Explain		
124	m) Instruments/ control valves	Instruments/ control valves positioned outdoors shall have an adequate ingress protection rating.	Yes / No / Explain		
125	4.2. Air compressor	(Qty. 1 No.) (to actuate electro pneumatic valves)	Yes / No / Explain		
126	a) A rotary screw air compressor of adequate capacity shall be provided.	-	Yes / No / Explain		
127	b) A compressed air reservoir of adequate capacity and a refrigerated air dryer compatible for the selected air compressor shall be provided.	-	Yes / No / Explain		
128	c) A FRL unit shall be provided at the outlet of the dryer.	-	Yes / No / Explain		
129	d) An automated drain valve with a timer shall be provided for the reservoir and dryer.	-	Yes / No / Explain		
130	e) Compressed air lines shall be of stainless steel. Flexible PU tubes shall be used for short lengths near to actuators & valves.	-	Yes / No / Explain		
131	4.3. Chiller	(Qty. 1 No.) (for cryo pump compressor)	Yes / No / Explain		
132	a) A closed-circuit water chiller unit of adequate capacity shall be provided.	-	Yes / No / Explain		

133	b) Chiller capacity shall be worked out based on all service requirements in extreme test conditions. Detailed breakup of the cooling requirement shall be submitted.	-	Yes / No / Explain		
134	c) There shall be a margin of 50% over the required cooling capacity.	-	Yes / No / Explain		
135	d) The chiller shall operate efficiently in the extreme environment at the VSSC site (40° C & 90% RH).	-	Yes / No / Explain		
136	e) Necessary additives shall be used for preventing corrosion in pump cooling paths/ channels.	-	Yes / No / Explain		
137	5. Control and instrumentation system	The control and instrumentation system of the chamber comprises of the following	Yes / No / Explain		
138	a) PLC modules with its execution software	-	Yes / No / Explain		
139	b) Electrical power distribution and switching panel	-	Yes / No / Explain		
140	c) Control and instrumentation panel	-	Yes / No / Explain		
141	d) Data acquisition system	-	Yes / No / Explain		
142	e) Vacuum gauges/sensors and associated instrumentation	-	Yes / No / Explain		
143	f) Temperature sensors and associated instrumentation	-	Yes / No / Explain		
144	g) Temperature controllers / thermal conditioning system	-	Yes / No / Explain		
145	h) Online UPS	-	Yes / No / Explain		

146	5.1. PLC modules with its execution software:	PLC (Programmable Logic Controller) with associated software shall be used for real time monitoring and control of all equipment in the system.	Yes / No / Explain		
147	5.2 Electrical Power distribution and switching panel:	Electrical Power distribution and switching panel is in the scope of the supplier. Hence supplier shall install it to facilitate power distribution for all the electrical equipment through appropriately sized starters/relays, switches etc. to ensure proper switching of all equipment and safety of personnel and equipment.	Yes / No / Explain		
148	5.2.1 Special earthing:	Special earthing & routing shall be in the scope of the supplier. Earthing pit alone will be in the scope of VSSC.	Yes / No / Explain		
149	5.3 Control and instrumentation panel	-	Yes / No / Explain		
150	5.3.1 vacuum and temperature	All the systems like vacuum and temperature shall be controlled from the control and instrumentation panel located close (3 to 5m) to the chamber facilitating the operators to control and monitor the operation of the chamber.	Yes / No / Explain		
151	5.3.2. Electrical cabling	The electrical cabling to and from the panels shall be done professionally as per industry standards and shall be ensured that the routing and clamping doesn't interfere with routine operations and facilitate periodic maintenance and repair works	Yes / No / Explain		

152	5.3.3. Identification tags	Every input and output cable shall be properly identified and tagged. Detailed documentation of the electrical wiring and interconnections shall be provided.	Yes / No / Explain		
153	The control and instrumentation panel shall house:	-	Yes / No / Explain		
154	5.3.4 PLC	PLC (Programmable Logic Controller) for real time monitoring and control of all equipment in the system.	Yes / No / Explain		
155	5.3.5 . Instrumentation related to.	All instrumentation related to vacuum gauges, temperature sensors, gate valve position indicator, LN2 consumption status monitoring etc shall be positioned in a rack. All instruments shall have provision for automation through an instrument interface like Ethernet/USB etc. The output from all these instruments shall be acquired in a PC through Ethernet/USB interface for monitoring and storage.	Yes / No / Explain		
156	5.3.6. temperature profile.	There shall be provision for generating different temperature test profiles (Time vs Temperature) using graphical user interface (GUI) in the control PC. There shall be provision for storing a minimum of 20 such test profiles.	Yes / No / Explain		
157	5.3.7 PC software:	The PC/computer system in the console shall be provided with suitable PLC/ GUI software along with license in the name of ISRO to fulfil the following tasks:	Yes / No / Explain		

158	5.3.7.1 Mimic Diagrams	Mimic Diagrams displaying functional status of all system components and safety interlocks.	Yes / No / Explain		
159	5.3.7.2. Mimic diagram features	Display the state of main process regulation loops such as shroud and thermal plate temperature control.	Yes / No / Explain		
160	5.3.7.3 features	Display and storage of all test facility functional data, alarm condition, messages etc.	Yes / No / Explain		
161	5.3.7.4. display of temperature profile	Display of temperature profiles on shroud and test article with proper scaling of temperature profiles.	Yes / No / Explain		
162	5.3.7.5. program generation	Customizable program for vacuum and temperature profiles for its generation, storage and execution.	Yes / No / Explain		
163	5.4 PC based Data Acquisition System	A PC based Data Acquisition System (DAS) shall monitor and display the temperature data from all the thermocouples/RTDs fixed on the test article and the thermal shroud & thermal plate inside the chamber and also the vacuum parameters of the system. The control and data acquisition PC can be the same. Detailed features are as follows:	Yes / No / Explain		
164	5.4.1 data logging	The data logging system shall have a fail-safe mechanism not to lose any test data during electrical power failure/system failure condition.	Yes / No / Explain		
165	5.4.2 A PC based system with the following configuration is in the scope of supplier.	-	Yes / No / Explain		

166	1. Processer	: Intel core i5, 12th gen. or latest	Yes / No / Explain		
167	2. RAM	: 8 GB or higher	Yes / No / Explain		
168	3. Hard disk	: 2 TB (SSD)	Yes / No / Explain		
169	4. Monitor	: LED 26" with wide angle view	Yes / No / Explain		
170	5. OS	: Windows 11	Yes / No / Explain		
171	5.4.3 On screen display feature	On screen displays shall include real time plot of vacuum system, thermal system and auxiliary systems data.	Yes / No / Explain		
172	5.5 Salient features of the control software	-	Yes / No / Explain		
173	5.5.1 operation modes	There shall be provision for 3 modes of operations such as Auto mode, Semi auto mode and manual mode.	Yes / No / Explain		
174	5.5.2 Auto mode:	The temperature and vacuum shall be controlled based on a predefined test profile without any manual intervention.	Yes / No / Explain		
175	5.5.3 Semi auto mode:	It shall allow the generation of a new test profile, edit (change parameters and set points) an existing one and save in its memory.	Yes / No / Explain		
176	5.5.4 Manual mode (Expert mode):	Each sub system shall be operated in manual mode (expert mode) and shall be protected with necessary passwords.	Yes / No / Explain		
177	5.5.5. provision	There shall be provision for switching over to manual mode from the current mode (Auto /Semi auto mode) without any interference in the process of the test.	Yes / No / Explain		

178	5.6 Salient features of the Data acquisition software	-	Yes / No / Explain		
179	5.6.1. details	Real time Data acquisition of temperature, Pressure with respect to Time.	Yes / No / Explain		
180	5.6.2 sailent features	All functions selectable by menus and icons.	Yes / No / Explain		
181	5.6.3. sailent features	Real time graphics and numerical data presentation of selected channels.	Yes / No / Explain		
182	5.6.4 sailent features	Data shall be stored in hard disk periodically for later retrieval.	Yes / No / Explain		
183	5.6.5 sailent features	Data file generation, management and storage.	Yes / No / Explain		
184	5.6.6. report generation	Report generation (MS Word format). VSSC shall be provide standard report template, all the data to be updated based on this template. Extra copy of the software: An extra copy of the software(s) developed for this system shall be provided in installable form to take care of any exigency arising due to software corruption/ / malfunction that may occur.	Yes / No / Explain		
185	5.7 Vacuum sensors and instrumentation	The pressure / vacuum at various locations including inside the chamber is measured using:	Yes / No / Explain		
186	5.7.1. vacuum gauge	Vacuum gauge (Bayard-Alpert Pirani Capacitance Diaphragm Gauge) for monitoring the chamber pressure.	Yes / No / Explain		

187	5.7.2 vacuum readout	Suitable monitoring/display units having standard PC interfaces shall be provided along with the vacuum gauges.	Yes / No / Explain		
188	5.7.3. Number of vacuum gauges	Supplier shall provide adequate number of vacuum gauges integrated to the vacuum system for controlling the entire vacuum pumping chain.	Yes / No / Explain		
189	5.8 Temperature sensors and Instrumentation:	-	Yes / No / Explain		
190	5.8.1. Type of thermocouple	T-type thermocouples (24AWG), 6 Numbers each to be placed on the shroud and Thermal plate for temperature monitoring. T type thermocouples for shroud temperature monitoring to be located on the shroud surface inside the chamber and connections taken through thermocouple feedthrough with miniature T/C connectors at both ends of the feed through harness. Thermocouple and suitable accessories for installing the thermocouples and other sensor shall be sourced from reputed international brands	Yes / No / Explain		
191	5.8.2 Thermocouple feed through	T-Type Thermocouple Feed through-3Nos and K-Type Thermocouple feed through 2 numbers, with connectors on both sides are to be provided for test article temperature monitoring.	Yes / No / Explain		

192	5.8.3. Connector and feed through leak rate	The connectors and feed through shall be compact and sealed (maximum admissible leak rate per feed through: $1 \times 10^{-9}$ mbar l/s) and shall be thermal vacuum compatible.	Yes / No / Explain		
193	5.8.4. sensor location	All the temperature sensors located on the shroud surface shall be installed in such a way that they can be removed for calibration and can be replaced after calibration without affecting the performance.	Yes / No / Explain		
194	5.8.5. Temperature control	The thermal plate/ test article temperature shall be controlled by precise heating or cooling using PLC controller.	Yes / No / Explain		
195	6.0 Online UPS system	The system shall have with minimum 30 min. backup. Within this time all systems like PLCs, control system equipment etc shall be switched to safe mode, in case of power failure.	Yes / No / Explain		

196	7.0. Electrical feed through:	The chambers need to be provided with electrical feed through of suitable rating for routing signals and power to and from the device under test. 120 channels electric feed through for device testing, 10 A rating (for each pin), with mating connectors on both sides shall be provided. Each feedthrough shall be identified by a unique number and tag. Each wire in the harness shall also be tagged. At both the ends the harness of each feed through shall be terminated on to 32 pin ITT D type gold plated connectors.	Yes / No / Explain		
197	8. Party shall specify the following in the bid;	-	Yes / No / Explain		
198	8.1 The design methodology and specific details of calculations.	-	Yes / No / Explain		
199	8.2 Schematic of the proposed vacuum pumping system, thermal system, LN2 storage tanks & supply lines. Details shall be given including make of each component / sub systems.	-	Yes / No / Explain		
200	8.3 Materials used and the standards followed in design.	-	Yes / No / Explain		

201	9.0 Sources details:	The names of some internationally known suppliers for various equipment have been provided below based on ISRO experience and on availability of aftersales support. Vendor shall have to select the equipment/system from the suppliers given below. Equivalent brands are not permitted without prior approval from VSSC.	Yes / No / Explain		
202	9.1 Thermal shrouds:	M/s. Tranter USA ,M/s. VG UK, M/s. Bemco inc, USA, M/s. Ziemannsecathen, France, M/s. Magod Laser machining (P) Ltd., Banglore , India ,M/s. FIC spa , Italy & M/s. Angelantoni test technologies , Italy.	Yes / No / Explain		
203	9.2 Thermal plate:	M/s. Bemco, USA ,M/s. Ziemannsecathen, France ,M/s. FIC spa , Italy, M/s. Telstar, Spain & M/s. Angelantoni test technologies, Italy	Yes / No / Explain		
204	9.3 Thermal Conditioning system:	.M/s CSL, Leige,Belgium M/s Telstar , Spain ,M/s Intespace , France ,M/s Angelantoni test technologies, Italy & M/s. Dynavac, USA	Yes / No / Explain		
205	9.4 Cryo pumps and Turbo molecular pump:	M/s. Leybold vacuum Germany ,M/s. HSR , Germany ,M/s. CTI cryogenics, Japan &.M/s. Pfeiffer vacuum GmbH, Germany	Yes / No / Explain		
206	9.5 Roughing and roots pump:	M/s. Pfeiffer vacuum GmbH, Germany, M/s. Leybold vacuum Germany& M/s. Agilent technologies USA	Yes / No / Explain		

207	9.6 Vacuum gate valves:	M/s.VAT Vakuumventile AG, Switzerland., M/s. Pfeiffer vacuum GmbH, M/s. Leybold vacuum Germany& M/s.GNB corporation,USA	Yes / No / Explain		
208	9.7 Electrical panel / Instruments	1.19" Racks: Rittal 2. Electrical Power panel and switch gear: ABB, L&T, Siemens 3. The PLC/GUI: Siemens, Allen Bradley, Fanuc or L&T.	Yes / No / Explain		
209	9.8 Data Acquisition system:	: Keithley, Siemens, Allen Bradley, ABB, Yokogawa, Schneider, National Instruments	Yes / No / Explain		
210	9.9 PLC:	Siemens, Allen Bradley, ABB, Schneider	Yes / No / Explain		
211	9.10 Vacuum gauges and monitors:	M/s. Pfeiffer vacuum GmbH, Germany ,M/s. Leybold vacuum Germany ,M/s.Inficon, USA & M/s.MKS, UK	Yes / No / Explain		
212	9.11 Hermetic thermocouples, heater and power feedthrough	M/s.Douglas Electrical components inc,USA ,M/s.PLUGin,France, M/s.MDC Vacuum products,USA& M/s. Pfeiffer vacuum GmbH, Germany	Yes / No / Explain		
213	9.12 Thermocouples, thermocouple connector, RTDs and thermistors:	M/s.Omega, USA & M/s.TC,UK, Minco	Yes / No / Explain		
214	9.13 cartridge heater:	.M/s. Electricfor , M/s.Kamenev & M/s.Thermocoax, Minco	Yes / No / Explain		
215	9.14 Temperature controller & power controllers:	M/s.EurothermLtd.	Yes / No / Explain		
216	9.15 Thermal paint:	Make: M/s.Aeroglaze (Z306) & M/s Spefun paintings &coatings	Yes / No / Explain		
217	9.16 view port (as an assembly only) :	M/s. Pfeiffer vacuum GmbH, M/s. Leybold vacuum M/s. Agilent technologies , , MDC Vacuum	Yes / No / Explain		

218	9.17 Sources of supply for compact air compressor:	M/s. Atlas Copco, M/s Elgi compressor, M/s Chicago Pneumatics, & M/s. Ingersoll Rand,	Yes / No / Explain		
219	9.18 water chiller:	M/s Eurodifroid, France, M/s Werner Finley, M/s Huber, M/s Julabo	Yes / No / Explain		
220	9.19 LN2 Dewar:	M/s Inox, India, M/s Shell n tube, India, M/s VRV, India, M/s Super cryogenics System(P) Limited, India & M/s Cryostartanks and vessel Pvt Ltd India	Yes / No / Explain		
221	9.20 Flexible bellows, clamps, claw clamps, centering ring, O ring:	M/s Mawasa, M/s Pfeiffer Vacuum GmbH, M/s Leybold Vacuum, Parker	Yes / No / Explain		
222	9.21 Blowers:	M/s Fima & M/s Barber-Nichols AS PART OF TCU	Yes / No / Explain		
223	9.22 Cryo valves:	M/s Herose, Germany, M/s Burkert, Germany, UAS M/s Habonium, Israel	Yes / No / Explain		
224	9.23 Pressure gauges:	M/s Wika & M/s Emerson, M/s Ashcroft	Yes / No / Explain		
225	9.24 safety relief valves:	M/s Herose, Germany & Rego, USA	Yes / No / Explain		
226	9.25 Differential gauges:	M/s Wika, M/S Dwyer, M/s Ashcroft	Yes / No / Explain		
227	9.26 level transmitter /Pressure Transmitter:	M/s Yokogawa Japan, M/s Hioki, Japan & M/s GE, USA	Yes / No / Explain		
228	9.27 process control valve	M/s flowserve, USA & M/s Burkert Germany	Yes / No / Explain		
229	9.28 burst disc	M/s BS & B	Yes / No / Explain		
230	9.29 Super insulated vacuum jacketed lines:	: M/s cryodiffusion, France, Cryopal, France, M/s Cryo Fab, USA, M/s Inox, India & M/s shell N tube, India	Yes / No / Explain		

231	9.30 Switch gears and circuit breakers:	M/s Siemens, Germany, M/s Schneider Germany, M/s ABB & M/s ALLEN Bradley	Yes / No / Explain		
232	9.31 online UPS:	M/s Schneider, Germany, M/s Reilo, M/s Pillar, Germany & M/s. APC	Yes / No / Explain		
233	9.32 Computer:	M/s Hewlett packard HP & M/s Siemens Germany, M/s DELL, M/s IBM	Yes / No / Explain		
234	9.33 Actuators:	M/s Schubert and salzer, M/s Festo, Germany & M/s Bosch Rexroth, Germany	Yes / No / Explain		
235	9.34 cryo solenoid valves:	M/s Weka & M/s Burkert Germany	Yes / No / Explain		
236	9.35 Pneumatic solenoid valves:	M/s Festo, Germany & M/s Rockwell Automation, USA	Yes / No / Explain		
237	9.36 Pneumatic PU tubes	: M/s Festo, Germany & M/s Legris, France	Yes / No / Explain		
238	9.37 Needle valves/Manual valves:	M/s Festo, Germany, M/s Legris France & M/s Swagelok	Yes / No / Explain		
239	9.38 Ball Valves/Manual valves	M/s Festo, Germany & M/s Legris France	Yes / No / Explain		
240	9.39 air admittance valves:	M/s VAT, Switzerland, M/s GNB, USA, M/s Pfeiffer Vacuum GmbH & M/s Leybold Vacuum Germany	Yes / No / Explain		
241	COMMERCIAL TERS AND CONDITION	Details as follows	Yes / No / Explain		

242	1.0 Scope of supply	<p>The scope of the supply is Design, fabricate, demonstrate main parameters/specifications at vendor's site, transportation to site, handle at site, integrate, test &amp; demonstrate all sub system &amp; total performance, test, install and commission a horizontally mounted Thermo vacuum chamber at ASOE, Vikram Sarabhai Space centre, ISRO Thiruvananthapuram on turnkey basis as per the attached technical specifications. Mutually agreed third party certification from BVQI/LLOYDS is required at design and all stages of fabrication from raw material identification till testing at pre delivery inspection stages.</p>	Yes / No / Explain		
243	2.0 Bidding process	<p>Bidding process: The quote shall be presented in TWO parts namely, Techno – Commercial bid and Price bid. Each bid shall be separately sealed and clearly identified.</p>	Yes / No / Explain		
244	3.0 Techno-commercial Bid:	Techno-commercial Bid:	Yes / No / Explain		

245	3.1 The techno-commercial bid details	The techno-commercial bid shall address each and every specification and shall specify values like chamber size, wall thickness, pump sizing, pump down time calculation, assumptions made, details of the thermal system especially with regard to its capacity, temperature uniformity accuracy, control, and major equipment specification etc. Also sources / makes of individual equipment / parts proposed shall be mentioned in the quote for evaluation of the quality aspects of the components used in the realization of the system as a whole.	Yes / No / Explain		
246	3.2 Evaluation	Please note that the evaluation by the committee will be based on the inputs provided in the bid. Mere statement stating compliance to certain specification is not sufficient unless it is backed up by clear information, catalogs, and proof of achieving the parameters in earlier supplied items to various national as well as international customers. Bid is likely to be rejected if all necessary information is not provided.	Yes / No / Explain		
247	3.3 Bid details	Bid shall contain the following:	Yes / No / Explain		
248	3.3.1 Designs	The design methodology and specific details of calculations.	Yes / No / Explain		

249	3.3.2 Schematic	Schematic of the proposed vacuum pumping system, thermal system, LN2 storage tanks & supply lines. Details shall be given including rating , make of each components / valves / sub systems.	Yes / No / Explain		
250	3.3.3 Material & Standard	Materials used and the standards followed in design.	Yes / No / Explain		
251	3.3.4 Previous experinces	Vendor shall have previous experience in realizing and supplying similar automatic thermo vacuum chambers along with its thermal system to ISRO/DRDO or other reputed firms.	Yes / No / Explain		
252	3.3.5 Details of previous experience	Details of previous experience like, chamber size, type of thermal circulation system used, date of supply, Name, Address, e-mail & phone No. of customer, present working status, specification achieved in the supplied system, especially wrt. temperature uniformity, control accuracy and temperature range of thermal system.	Yes / No / Explain		
253	3.3.6 List of essential spares	List of essential spares which are provided along with the chamber.	Yes / No / Explain		

254	3.3.7 Details of schedule, milestones & Gantt chart	Vendor shall provide details of schedule, milestones & Gantt chart depicting all important stages and time required for each. Realistic time schedule alone shall be given as Liquidated damages will be recovered as per Government norms if the milestones are not achieved within agreed time frame.	Yes / No / Explain		
255	4.0 Price Bid	Price bid: The price bid shall include	Yes / No / Explain		
256	4.1 Cost Breakup of all major system	The cost breakup of all major sub systems viz, Chamber, pumping system, thermal conditioning system, thermal shroud & thermal plate, LN2 Dewar & SIV lines, transportation etc.	Yes / No / Explain		
257	4.2 Cost breakup of essential spare	The cost breakup of the essential spare parts proposed for the trouble-free operation of the chamber for a period of 10 years (minimum). The quantity and price shall also be provided.	Yes / No / Explain		
258	4.3 List & Cost of the item	List & Cost of the items sourced within India.	Yes / No / Explain		
259	4.4 Price for complete system	Price for the complete system	Yes / No / Explain		
260	4.5 AMC	Annual Maintenance Contract (AMC) charges for a period of 7 years after warranty period. This amount will also be taken into consideration for determining the lowest quote.	Yes / No / Explain		

261	5.0 Duty Exemption certificate	For imported parts / systems procured, duty exemption certificates will be provided by ISRO.	Yes / No / Explain		
262	6.0 Delievery Periods	The chamber shall be installed and commissioned by the supplier within 12months from the date of placement of the purchase order.	Yes / No / Explain		
263	7.0 Offer details	The offer shall be for the complete The offer shall be for the complete Design, fabrication, demonstration of main parameters / specifications at vendor's site, transportation to site, handling at site, integrating, testing & demonstrating all sub system & total performance,installat ion, final acceptance testing, and commissioning of the Thermo vacuum chamber. Mutually agreed third party certification from BVQI / LLOYDS is required at design and at all stages of fabrication from raw material identification till testing at pre delivery inspection stage. All equipment and consumables required (except for the exclusions stated in the scope of VSSC) will be in the scope of the supplier.	Yes / No / Explain		
264	8.0 Layout diagram	Vendor shall provide a layout diagram of the proposed system showing major equipment with the minimum floor area / space required for installation along with the offer.	Yes / No / Explain		

265	9.0 Supplid item manufacturing location	Vendor shall specify whether the supplied systems were (a) fully designed and manufactured at vendor's works, or (b) Integrated from outsourced subsystems, if so, provide details.	Yes / No / Explain		
266	10.0 Documentary evidence	Vendor shall submit the documentary evidence from the concerned customers' for the satisfactory performance of the 1000 mm dia X 800 mm depth or higher capacity Thermovacuum chambers without any major breakdown over the past 5 years.	Yes / No / Explain		
267	11.0 Right to Visit	VSSC reserves the right to visit vendor's or his customers' premises where the systems have been supplied, for verification of the information provided by the vendor in the technical bid and other infrastructure facilities claimed. Incomplete technical bid of the vendor, which does not meet technical requirements mentioned in this tender is liable to be rejected.	Yes / No / Explain		
268	12.0 Complete Offer of Total system	Offer shall be for the total system and incomplete/ partial offers will not be considered.	Yes / No / Explain		

269	13.0 Technical Presentation	Vendor shall be ready to give a technical presentation to the Technical Committee formed for the purpose of finalizing the procurement at VSSC Thiruvananthapuram . The vendor shall be intimated 15 days in advance for this presentation. This intimation will be sent to the vendor only after the technical evaluation of the proposal and examining its technical suitability.	Yes / No / Explain		
270	14.0 Details of consumables	Vendor shall provide the details of the consumables, such as liquid nitrogen, helium gas required to demonstrate the performance of the chamber at VSSC, Thiruvananthapuram at the time of installation and commissioning.	Yes / No / Explain		
271	15.0 Service centre	Vendor shall have Service Centre in India for pre/post guarantee/warranty service back up. Vendor shall submit detailed list of Service Centre/s.	Yes / No / Explain		
272	16.0 Acceptance Test Plan & schedule	Vendor shall give full details of his proposed Acceptance Test Plan & schedule of activities: 1.0 At vendor's site and 2.0 At VSSC site, Thiruvananthapuram	Yes / No / Explain		

273	17.0 Third party inspection	Vendor shall confirm compliance to all the specifications witnessed by mutually agreed Third Party Inspection Agency (TPIA) and the inspection / tests reports thus generated and vouched by TPIA shall be provided to VSSC well in advance for scrutiny before proceeding for witnessing tests at vendor's site.	Yes / No / Explain		
274	18.0 Pre-dispatch inspection	Pre-dispatch inspection shall be carried out by VSSC Engineers at vendor's site. As part of pre-dispatch acceptance, Vendor shall carry out and demonstrate salient specifications as per Factory Acceptance Test Plan in presence of VSSC Engineers at their works/site.	Yes / No / Explain		
275	19.0 Vendor responsibilities detail	Details as follows	Yes / No / Explain		
276	19.1 Safe transportation	Safe transportation of total system; warehouse to warehouse insurance to be provided by vendor .	Yes / No / Explain		
277	19.2 Supervise unloading and handling	Supervise unloading and handling of the system at VSSC site, Thiruvananthapuram .	Yes / No / Explain		
278	19.3 Installation and commissioning	Installation and commissioning of total system at VSSC site at Thiruvananthapuram adhering to all safety regulations.	Yes / No / Explain		

279	19.4 Demonstration of total performance	Demonstration of total performance specifications of the integrated system including vacuum chambers, thermal system and other associated system supplied.	Yes / No / Explain		
280	20.0 Training	Vendor shall impart detailed training for operation, trouble shooting and maintenance of the system to Engineers & Technicians at VSSC, Thiruvananthapuram at no extra cost.	Yes / No / Explain		
281	21.0 Guarantee	All the equipment offered by the vendor shall have free guarantee support of at least one year from the date of installation and acceptance of total system at VSSC, Thiruvananthapuram .	Yes / No / Explain		
282	22.0 Technical catalogue,Literature & Data sheet	Vendor shall attach technical catalogs, literature and detailed data sheets of all items offered by the vendor in support of their technical offer.	Yes / No / Explain		
283	23.0 Installation, operation and maintenance documentation	Installation, operation and maintenance manuals of all systems shall be supplied with the system. CAD drawings and circuit diagrams relevant to maintenance shall also be included.	Yes / No / Explain		

284	24.0 Delivery Period	Vendor shall deliver and commission the Thermovacuum system at VSSC meeting the abovementioned specifications and interface requirements within a period of twelve months from the date of release of purchase order.	Yes / No / Explain		
285	25.0 Approval	Prior approval of fabrication drawing: The vendor shall have to submit the fabrication drawing for the vacuum chamber and thermal system and shall get prior approval from VSSC before starting the fabrication works.	Yes / No / Explain		
286	26.0 Warranty	Warranty: The supplier shall provide a performance warranty of minimum 3 years, from the date of installation, commissioning and acceptance at VSSC, for the entire system against any failure or any failure in meeting the overall performance specifications of the system.	Yes / No / Explain		
287	27.0 Maintenance	All maintenance related issues shall be addressed within 3 days from the date of intimation from VSSC.	Yes / No / Explain		
288	28.0 Online support	There shall be provision for carrying out diagnostics remotely through VPN.	Yes / No / Explain		
289	29.0 QA/QC Plan	Necessary QA / QC plan shall be prepared by the vendor and the same shall be approved before start of fabrication.	Yes / No / Explain		

290	30.0 Inspection and Factory Acceptance Test Plan	A detailed quality control plan shall be drawn up by the vendor at the design stage itself and shall consists of:	Yes / No / Explain		
291	30.1 Demonstration of Chamber leak tightness	Demonstration of Chamber leak tightness	Yes / No / Explain		
292	30.2 Demonstration	Six thermal cycles as per the system qualification test profile at extreme temperature levels shall be performed on a dummy test article of rated mass and heat dissipation and the results shall comply with the performance specifications provided.	Yes / No / Explain		
293	30.3 Demonstration of leak tightness	Demonstration of leak tightness on the already proof pressure tested (witnessed by TPIA) thermal shroud & thermal plate after ensuring that it is subjected to a minimum of three cycles of thermal cycling.	Yes / No / Explain		
294	30.4 Demonstration the performance of total system	Provision shall be available at supplier's site for repeated cooling & heating of thermal shroud and demonstrating the performance of the total system	Yes / No / Explain		
295	31 Inspection & Acceptance Test Plan	Inspection and VSSC Site Acceptance Test Plan shall contain:	Yes / No / Explain		
296	31.1 Chamber Leak Tightness	Demonstration of Chamber leak tightness	Yes / No / Explain		
297	31.2 Thermal shroud & thermal plate leak tightness	Demonstration of thermal shroud & thermal plate leak tightness after ensuring that it is subjected to a minimum of three cycles of thermal cycling.	Yes / No / Explain		

298	31.3 Demonstration of all specifications & performance	Demonstration of all specifications & performance shall be done during site acceptance test for a typical full duration test profile as given in figure 2 in specification document.	Yes / No / Explain		
299	31.4 Functioning of all interlocks	Functioning of all interlocks shall be demonstrated.	Yes / No / Explain		
300	31.5 Safe shut down	Safe shut down & revival in the event of electrical power failure shall be demonstrated.	Yes / No / Explain		
301	31.6. Safety alarms	All Safety alarms & its acknowledgment shall be demonstrated.	Yes / No / Explain		
302	31.7 Software re-installation	Software re-installation shall be demonstrated (if is transported to VSSC in Pre-installed condition). Necessary passwords shall be given to VSSC during commissioning of the facility.	Yes / No / Explain		
303	32.0 Liquidated Damages (LD)	Liquidated Damages (LD): LD shall be levied beyond the date of delivery mentioned in this order @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value.	Yes / No / Explain		

304	33.0 Security Deposit	Security Deposit: Upon receipt of this order, you shall submit a Bank Guarantee towards Security Deposit within 2 weeks along with your order acknowledgement, equivalent to 10% of the order value in Rs.200/- NJ Stamp Paper (as per format attached). This shall be valid up to a period of 60 days from the date of supply and shall be returned upon completion of all contractual obligations.	Yes / No / Explain		
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### Supporting Documents required from Vendor

**1. Product catalogue**

**2. Detailed cost splitup including foreign components (Price Bid Related)**

**3. Overall equipment layout including all systems**

**4. Local content declaration**

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	Nil	Yes / No / Explain	
2	Taxes and other costs,	Yes / No / Explain	
3	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	
4	Delivery Terms. (FOR VSSC)	Yes / No / Explain	
5	Delivery Period (Please specify period)	Yes / No / Explain	
6	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	
7	Warranty	Yes / No / Explain	
8	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	

9	Payment Term: (Our Default payment term: For indigenous orders: 100% within 30 days after receipt and acceptance of item at our site. NOTE: CONSEQUENT TO COVID 19 PANDEMIC AND AS PER EXTANT GUIDELINES FROM DEPARTMENT OF SPACE, NO ADVANCE PAYMENT IS PAYABLE TO THIS TENDER).	Yes / No / Explain	
10	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	
11	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	
12	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	
13	PO Placement Address (with Name and Contact Details of sales person concerned).	Yes / No / Explain	
14	Any Other Terms	Yes / No / Explain	
15	Offer Validity (150 days)	Yes / No / Explain	

16	VSSC 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. Confirm Acceptance.	-	
17	Installation & commissioning charges, if any may be mentioned in other charges of price bid template only.	-	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	Thermo-Vacuum System: Fully automated Thermo vacuum chamber as per the attached specification document.	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>AMC Charges for 6th Year after warranty period</b>	
<b>AMC Charges for 7th Year after warranty period</b>	
<b>Spares Cost - optional( Lump Sum Price )</b>	
<b>Any Other Charges</b>	
<b>Any Other Charges ( Amount)</b>	

<b>Other Charges (If any)</b>	
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