

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

Tender for Manufacture and supply of 3D Printed PRU Hosuing

Bids to be submitted online

**Tender No.: VSSC/PURCHASE UNIT V (MME PURCHASE)/VS202100422701 dated
30-09-2021**

A. Tender Details

Tender No :	VSSC/PURCHASE UNIT V (MME PURCHASE)/VS202100422701
Tender Date :	30-09-2021
Tender Classification:	GOODS
Purchase Entity :	PURCHASE UNIT V (MME PURCHASE)
Centre :	VIKRAM SARABHAI SPACE CENTRE (VSSC)

Procurement of Manufacture and supply of 3D Printed PRU Hosuing

- This Tender is for the procurement of manufacture and supply of 3D printed PRU Hosuing.

- 1.This tender is proposed as a DOMESTIC PUBLIC TENDER. This tender is restricted only to Class-I Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision.
 - 2.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.

 - 3.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.

 - 4.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.

 - 5.Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.

 - 6.The Class-I 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 Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.

 - 7.In cases if the item(s) offered exceed Rs. 10 Crores, the Class-I 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.

 - 8.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.

9. 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.

10. For submission of tenders only through online mode, the prospective bidders who have not registered with our e-procurement system have to register themselves first with VSSC / DOS / ISRO e-procurement portal. The details are available in our website : eproc.vssc.gov.in under new Vendor Registration. For this, Vendors have to submit their credentials for our verification and approval. Unless this stage is completed and approved by VSSC, bidders will not be able to participate in the PT bid.

A.1 Tender Schedule

Bid Submission Start Date : **30-09-2021 16:00**

Bid Clarification Due Date : **15-10-2021 10:00**

Bid Submission Due Date : **25-10-2021 14:00**

Bid Opening Date : **25-10-2021 15:00**

Price Bid Opening Date : **28-10-2021 14:00**

B. Tender Attachments

NA

Instructions To Vendors

1. PROFORMA FOR INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER where the indent value is Rs. 2.00 lakhs & above for indigenous stores items

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

2. 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.

3. 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.

4. 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.

5. 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.

6. TERMS & CONDITIONS OF TENDER

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

documents.

8. 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.

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

10. 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.

11. (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.

12. 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.

13. 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.

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

15. (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.

16. 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.

17. 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.

18. 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.

19. 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)

20. 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.

21. 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.

22. 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.

23. 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.

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

1. 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.
2. 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.
3. The Public Procurement (Preference to Make in India), Order 2017 issued by Govt. of India indicates that if there are any general or specific restrictive clauses to restrict participation of Indian companies in those countries procurement tenders, reciprocity clause need to be invoked as per the order. Hence, if ISRO or Govt. of India come across that Indian suppliers of an item are not allowed to participate and / or compete in procurement by your government, the bid submitted by you will be not be considered and excluded from eligibility for procurement. Please note this point.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.

9. 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.

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

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

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

13. '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.

14. Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: i. Equal to or more than 50%: Class-I local supplier. ii. More than 20% but less than 50%: Class-II local supplier. iii. Less than or equal to 20%: Non-local supplier.

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

16. 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:-

C. Bid Templates

C.1 Technical Bid - Manufacture and supply of 3D Printed PRU Hosuing

1. 3D Printing / Additive Manufacturing (Metals , Polymers etc.) Manufacture and supply of 3D printed PRU Housing component as per dwg. No. GY-SM-VS-FB-CM-STR-01-01-06-001(T) Sheet 1 of 2 and Sheet 2 of 2)

Item specifications for 3D Printing / Additive Manufacturing (Metals , Polymers etc.)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Dwg .No	GY-SM-VS-FB-CM-STR-01-01-06-001(T) Sheet 1 of 2 and Sheet 2 of 2)	Yes / No / Explain		

2	SCOPE OF SUPPLY	<p>a.Manufacture and supply of 3D printed Titanium alloy Ti6Al4V grade SCM Compact PRU Housing components (Qty: 2 nos.) as per drawing No. GY-SM-VS-FB-CM-STR-01-01-06-000 (Sheet 1 of 2 and Sheet 2 of 2) in Annealed condition and 1 set of test coupons also in annealed condition. 3D model of the component in STEP /STL format would be provided on request.</p> <p>b.The entire component has to be printed as a single piece (monolith) through powder fed Directed energy deposition (DED) additive manufacturing (AM) route only. 3D printing of multiple parts of the components and joining of these parts to realize the compact PRU housing as per the drawing is not permitted.</p> <p>c.Machining of the parts and radiographic inspection will be in the scope of the party.</p> <p>Offers of parties offering to print the components in multiple parts and joining the same to realize the final component will not be accepted.</p>	Yes / No / Explain		
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3	GENERAL GUIDELINES:	General guidelines for manufacturing the 3D printed components as specified in AMS 4999A and cross referred international standards will be applicable.	Yes / No / Explain		
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4	PREREQUISITES TO BE SATISFIED BY THE PARTY:	<p>a.Party should have a Powder fed DED machine currently in operation/ regular use.</p> <p>b.Party should have a machine that is capable of 3D printing atleast 750 mm x 600 mm x 400 mm size of components (in 5 axis mode) in Titanium alloy Ti6Al4V.</p> <p>c.Party should have supplied 3D printed components of similar class/ size earlier to Aerospace companies. Photographs of such components in Ti6Al4V have to be sent along with the offer.</p> <p>d.Party has to procure the raw materials (Ti6Al4V powder and Ti6Al4V Plate for substrate) from sources in India only. In case of powder and plates procurement is from mills abroad, the source of powder shall be US/ Europe only. The value addition in the country for the realization of component in any case has to be > 50%.</p> <p>e.The Titanium alloy Ti6Al4V powder has to be as per AMS 4999A or equivalent international standard.</p> <p>f.The Titanium alloy Ti6Al4V plate as substrate has to be as per AMS 4911 or equivalent international standard.</p> <p>g.Party has to forward the mill test certificates of the raw materials</p>	Yes / No / Explain		
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(powder and plate) and get clearance for production of the part from VSSC.

h. Party has to agree to supply the tested samples as per Clause 7b. and test coupons for mechanical property evaluation to VSSC in as-printed + annealed condition as per Clause 6 b.

i. Party has to agree to carryout qualification of the components, test bars/test coupons through confirmatory tests as per the Terms and conditions specified in Clause 6.

j. Party has to confirm that the 3D printed components and test coupons will meet the Chemical composition and mechanical properties specified in AMS 4999A standard.

k. In case the party is an Indian agent and they wish to outsource the 3D printing activity, they have to mention the source/ facility at which the 3D printing of components is proposed to be carried out. The facility has to comply to points 4 a-j listed above. In such case, the value addition in realization of component in the country has to be > 50%.

Party has to confirm that their offer will comply to points 4a-k mentioned above. Otherwise their offer will not be accepted.

5	RAW MATERIAL:	<p>a. Party has to source all the raw materials (Ti6Al4V powder and plates) required for realization and supply of these products.</p> <p>b. VSSC will not supply any consumables required for the 3D printing of components.</p> <p>c. Raw materials (Ti6Al4V powder and plates) have to be from Sources in India/US/ Europe only.</p> <p>d. In case raw materials are sourced from abroad/ within the country, it has to be ensured that the value addition in realization of component in the India is > 50%.</p> <p>e. If any of the above criteria are not met, offer will not be accepted.</p>	Yes / No / Explain		
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6	PROCESSING:	<p>a.The party has to prepare a process plan indicating critical processing check points, test bars/ coupon layout and heat treatment cycle proposed etc., to VSSC for approval before manufacture.</p> <p>b.Test coupons and test samples have to be printed prior to the 3D printing of components using the same build parameters and thickness proposed to be used for 3D printing of components. 1 set (3 nos.) Test coupons to be printed in three different orientations (1 no. each in X, Z and 45° mutual to all three planes XY, YZ, ZX planes. The same have to be supplied to VSSC. Test samples and test coupons shall be in same supply condition as that of the components being delivered. The test coupons should be of 20 mm Thickness x 60 mm Width and 320 mm Length in as printed and annealed condition.</p> <p>c.3D printing of components has to be done with same build parameters as that followed for test coupons and have to meet the dimensional requirements specified in the corresponding STEP file.</p> <p>d.Annealing/ heat treatment of the test coupons, test samples and components have to be carried out together.</p>	Yes / No / Explain		
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7	TESTING AND QUALIFICATION:	<p>a.Chemical Composition: Chemical composition has to be evaluated on 2 nos. samples per component (one sample from each end i.e.- one from top and one frombottom) and on 1 sample per set each representative of test bars and test coupons. Acceptance criteria is AMS 4999A- Table 1 .</p> <p>b.Mechanical Property Evaluation : In addition to 6b, Party has to carry out the mechanical property evaluation (Tensile testing and fracture toughness testing (FTT)) as per ASTM E8M and ASTM E399 respectively on 1 set of samples (1 no. sample representative of each of the three orientations (X, Z and 45 ° to XY, YZ, ZX)- i.e. Total 3 nos. Tensile tests and 3 nos. FT Tests). Mechanical properties (Tensile and Fracture toughness) have to meet the requirements specified in AMS 4999A- Table 2B. Direction of crack propagation in FTT specimens shall be along X, Z and 45° directions respectively.</p> <p>c.Fracture Toughness: In case of invalidity due to thickness, KQ value has to be reported along with the thickness on which it was evaluated. Acceptance criteria</p>	Yes / No / Explain		
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in case of invalidity in thickness is KQ of 66 ksi-in^{1/2}. In case of invalidity due to thickness and crack length (both) or any other invalidity conditions specified in ASTM E399, retest has to be done by the party. The retest values along with initial test values have to be reported.

d. Test coupons: Party has to provide 1 set (3 nos.) of test coupons to VSSC along with the delivery of the components as per clause 6 b.

e. Test Samples: All the destructive tested Tensile and FTT samples have to be preserved with proper identification and have to be delivered to VSSC along with the components.

f. Microstructure: Microstructure has to be evaluated on 1 sample/ component and on 1 sample per set - each representative of test bars and test coupons and has to meet the acceptance criteria specified in Clause 3.6.2 of AMS 4999A standard.

g. Radiographic inspection as per clause 4.3.1.5 of AMS 4999A: Detailed radiographic shooting sketches and inspection plan has to be submitted by the party along with the QAP. The place at which radiography is proposed to be carried out and details thereof has to be indicated in the

		<p>offer.</p> <p>h. Dimensional inspection of components: Dimensional inspection of the components has to be done after completion of all post processing operations i.e. in supply condition.</p> <p>i. Retest philosophy:</p> <p>i. In case any of the mechanical (tensile) properties are not met during the first test, retest has to be carried out on double the no. of samples.</p> <p>ii. Retest philosophy for FTT samples due to invalidity is applicable as per clause 6c. In case the FTT samples do not meet the minimum specified FT values, testing has to be done on double the no. of samples.</p>			
8	DIMENSIONAL TOLERANCES:	Components have to be supplied in finish machined condition as per the drawings.	Yes / No / Explain		
9	INSPECTION:	Party has to carry out all the testing, qualifications and inspection activities as per clause 7 and provide documents as mentioned in Clause 10 herein.	Yes / No / Explain		

10	DOCUMENTATION:	<p>The following details have to be provided along with the components and the test bars being delivered.</p> <p>a.Details of raw materials used including the chemical composition, batch/ lot number.</p> <p>b.Details of the machine used for 3D printing including the 3D printing parameters</p> <p>c.Product stage chemical analysis (of test coupons, test bars and components) including gas content.</p> <p>d.Heat treatment/ Post processing details of the components and test bars/coupons</p> <p>e.Mechanical Property evaluation report.</p> <p>f.Microstructure report of components, representative of test coupons and test bars.</p> <p>g.Radiography inspection report.</p> <p>h.Dimensiona inspection report of components including all the dimensions mentioned in the drawing.</p> <p>i.Certificate that test coupons/ test bars and components have been 3D printed with same build parameters and same annealing cycle has been followed.</p>	Yes / No / Explain		
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11	DELIVERY:	a. Delivery of the first component and test coupons, tested samples has to be completed within 60 days of P.O placement/ approval of QAP whichever is later. b. Delivery of 2nd component along with test coupons has to be completed within 45 days of production clearance.	Yes / No / Explain		
12	TECHNICAL COMPLIANCE:	Party has to give a Technical Compliance statement against all the Technical terms and conditions specified herein without which their offer can be rejected.	Yes / No / Explain		
13	PROVISION OF 3D MODEL	3D model of the component will be provided by the party based on the confidence that the party would be able to 3D print the component	Yes / No / Explain		

Document : Drawings

Document : Drawings

Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	AMS	4999A	Yes / No / Explain		

Supporting Documents required from Vendor

1. Technical and commercial compliance to terms and conditions

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	3D printed and proof machined condition	Yes / No / Explain	
2	Payment Term: (Our Defalut payment term: For indigenous orders: 100% within 30 days after receipt and acceptance of item at our site.	Yes / No / Explain	
3	Definitions: A supplier or service provider, whose goods, services or works offered for procurement has local content equal to or more than 50% : Class-I local supplier only can participate in the tender.	Yes / No / Explain	
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. Indicate extent of Minimum Local Content in offered product/service and location of such value additions.	Yes / No / Explain	
5	The Class-I 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	
6	PO Ordering Address with Name and Contact Details of Sales Person concerned (e-mail and phone number).	Yes / No / Explain	
7	Any Other Terms	Yes / No / Explain	

8	Taxes and other costs, if any . [Note: VSSC is a Public Funded Research Institution under the administrative control of Department of Space and is eligible for partial exemption of IGST @5% vide Notfn No. 45/2017, 47/2017 dt 14.11.2017 respectively. Necessary IGST EXEMPTION CERTIFICATE shall be issued.]	Yes / No / Explain	
9	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 Indentity Bond in lieu of BG. In the event of non-performance of contractual obligations, SD will be forfeited).	Yes / No / Explain	
10	Delivery Terms; FOR VSSC.	Yes / No / Explain	
11	Delivery Period:Delivery of the first component and test coupons, tested samples has to be completed within 60 days of P.O placement/ approval of QAP whichever is later. b. Delivery of 2nd component along with test coupons has to be completed within 45 days of production clearance.	Yes / No / Explain	
12	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	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
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1	3D Printing / Additive Manufacturing (Metals , Polymers etc.) Manufacture and supply of 3D printed PRU Housing component as per dwg. No. GY-SM-VS-FB-CM-STR-01-01-06-001(T) Sheet 1 of 2 and Sheet 2 of 2)	2.00 Nos.				
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Common charges (Applicable for all items)

Freight charge	
P&F Charges	